ATARI
ST USER

FOOTBALL WINNERS

Challenge the world in thrilling ST soccer action

**No disk!
Ask your newsagent**

CD SPECIAL

Drives and discs tried and tested

PLUS: That's Write 3, Cubase Audio, Quill, Cybersex, voice mail and much more

ATARI ST USER exclus 15 £££-

Atari Joystick

This is an unbeatable offer for all gamers – an Atari joystick for just £2.99.

It's ideal for anyone, but especially for those who would like a second stick ready as a spare for visiting friends. With easy access Fire buttons on both sides of its small case, this model is suitable for left and right-handed players and fits comfortably into the hand.

ONLY £2.99

Atari Robotics

Control battery-operated robots such as Lego from your ST with this powerful and easy-to-use package. It contains an interface card and software, both designed for use by people without electronics experience.

The manual takes users from the basics through to building sophisticated models, with the help of clear diagrams and examples.

ONLY £19.99

Trackball

Ever fancied a mouse alternative, but been put off by poor trackball designs? Well, we've found the answer – the Legend Ball.

This 320 dots per inch trackball has been ergonomically built, putting all controls within easy reach of your fingers and featuring a smooth platform on which to rest your palm.

While the mouse pointer is controlled by your thumb, item selection can be made easily without removing your hand from the device.

ONLY £24.99

GREAT WAYS TO UPGRADE

External drive

An external floppy drive which plugs straight into the back of the ST can benefit every type of user – from games player to publisher.

Disk copying is faster and easier once a drive has been fitted, and there's no need for inconvenient disk swapping when using powerful software.

The advantages of owning a second drive – and what better way is there of expanding your system than choosing this bargain-priced but high quality device?

ONLY £57.99

Mouse

This high resolution replacement for the chunky and sluggish Atari mouse is perfect for use alongside all your leisure and business applications.

Switchable between ST and Amiga use, the stylish Eklipse model features micro-switch technology to give smooth operation, easy use and durability.

ONLY £9.99

Memory

With more and more memory-hungry programs being launched for Atari computers, there's never been a better time to upgrade yours.

Extra memory will enable you to play the most exciting simulation games, use powerful graphics drawing programs or even design colourful pages with the latest publishing software.

We've put together options for all types of Atari enthusiast – and with the STFM boards you'll be able to extend the memory up to 4Mb of memory at a later date.

They're all at really competitive prices, with a service available for buyers who don't feel confident to fit the upgrade themselves.

FROM £8.99

512k STE	£8.99
STE to 2Mb	£49.99
STE to 4Mb	£99.99
512k STFM	£29.99
STFM 2Mb	£74.99
STFM 4Mb	£129.99

ively presents

saving ways to stretch your ST's limits...

Midi Studio Master

This Midi sequencer – which previously sold for £99 – enables you to turn your ST into a fully-fledged music controller.

With this software and compatible synthesiser keyboard you can write, store and playback stunning compositions just like the professionals.

Its features include 100 track storage, 240 PPQ resolution, Midi standard file compatible, real-time mix-down via mouse, real-time scrolling arrange window and pipeline module system.

ONLY £9.99

TOS upgrade

Give your ST the extra features and improvements of the latest operating system but keep compatibility with all your existing programs.

With TOS 2.06 you'll be give your computer a brilliant new look, and have the ability to put frequently used folders and files onto the desktop for easy access.

Extra icons are available for folders and hard drives, keyboard shortcuts make control easier, the desktop's colour can be changed and GEM programs set to run automatically.

Its support for high density floppy drives is just another reason why this bargain upgrade is right for you. A fitting service is available.

ONLY £59.99

Fitting and return delivery

We realise that many ST owners would love the power offered by extra memory or the latest operating system but are put off by the prospect of fiddling about inside the computer.

This is why we've teamed up with a leading Atari dealer who for a small extra charge will be able to fit memory and TOS upgrades, and even arrange for your machine to be sent back.

If you choose this service please don't send you computer just yet – once we've received your order an Upgrade Centre representative will arrange a convenient appointment time.

Internal Drive

Imagine the advantages of upgrading a single-sided floppy disk drive to a double-sided version.

If you're still using the old style single-sided drive, then you'll have already found that most of the latest software doesn't work with your ST. Replace it with this internal model and you'll be able to run all programs, including your existing collection, and have double the storage capacity on every disk.

The drive is easy to fit but because official Atari drives are no longer available, some small alterations will be needed to the ST's case.

ONLY £39.99

UPGRADES ORDER FORM

Fill in this form and send it to Upgrade Centre, Europa House, Adlington Park, Macclesfield SK10 4NP

ATARI ST USER

- ☐ 512k STE upgrade £8.99
- ☐ STE memory to 2Mb £49.99
- ☐ STE memory to 4Mb £99.99
- ☐ 512k STFM upgrade £29.99
- ☐ STFM 2Mb £74.99
- ☐ STFM 4Mb £129.99
- ☐ Internal floppy £39.99
- ☐ External floppy £57.99
- ☐ Mouse......................................£9.99
- ☐ Trackball £24.99
- ☐ Midi Studio Master £9.99
- ☐ Joystick...................................£2.99
- ☐ TOS 2.06 (STE) £59.99
- ☐ TOS 2.06 (STFM) £59.99
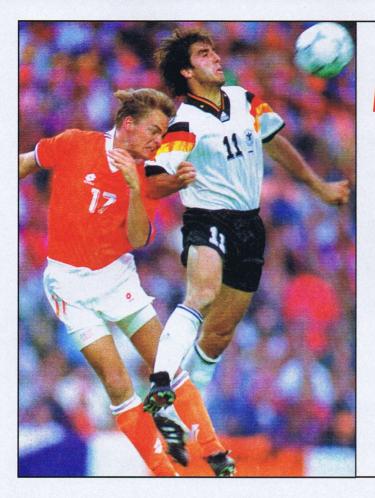- ☐ Fitting and return delivery £19.99

Please add £1 per item for postage and packing within mainland UK – for overseas telephone the Upgrade Centre on +44 772 203166. All products only available while stocks last

I wish to pay by...
☐ Cheque/postal order payable to Europress Enterprise Ltd

☐ Credit Card No ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ Expiry date ___ / ___

Name ....

Address ....

.................................Postcode ....Daytime phone ....

Please do not send your ST to the above address. The Upgrade Centre will contact customers requesting the fitting service with full address and booking details.

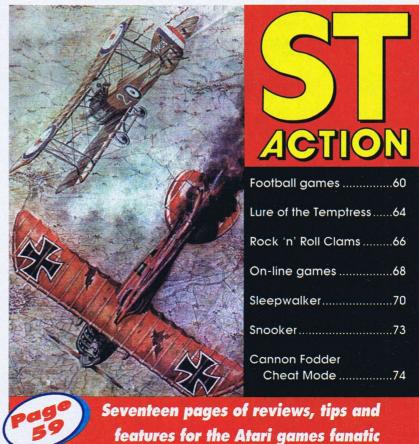☐ Tick this box if you do not wish to receive promotional material from other companies

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ST ACTION

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Seventeen pages of reviews, tips and features for the Atari games fanatic

The CoverDisk

July 1994

MARCEL

Three excellent shareware games – **WingLord, Termodroid and Painter**

ATARI ST USER

Feature-packed word processor complete with spelling checker

PLUS The BBS Directory – Find your local bulletin board with this great utility
Speed 'o' Meter – Which programs are slowing down your multi-tasking computer?

On this month's CoverDisk we have a fully usable word processor called Marcel, complete with spelling checker

PLUS:

- Gamers will find three fun and addictive programs – WingLord, Painter and Termodroid

- The BBS Directory will help you find your local bulletin board

- Discover which programs are slowing down your multi-tasking computer with Speed 'o' Meter

Jaguar games for PC owners

CARDS incorporating Jaguar technology will soon enable owners of PC-compatible computers to play games developed for the revolutionary 64-bit console.

by John Butters

Atari's deal with Sigma Designs is expected to allow more than ten million PC users to play Jaguar games on their machines before Christmas.

The move could make the Jaguar a more secure platform for some software developers who have been reluctant to back the machine until they see evidence of a large user base.

"Atari will once again jump ahead of the market by bringing the world's most advanced game technology to a new group of consumers in record time," said company president Sam Tramiel.

"Knowing there would be great demand for Jaguar on personal computers, we designed the system to talk easily to the leading computer architectures."

A Sigma spokesman enthused: "By combining our MPEG technology with Atari's 3D animation, we look forward to bringing the hottest video game technology and software titles to the desktops of users worldwide."

● As we closed for press, Silica Systems (081-309 1111) announced the availability of Jaguars which had been air freighted into the country.

PC: Cards will enable owners to play Jaguar games

Spokesman Mark Blackham said the extra shipping costs meant they would sell for £249, but later this year the price is likely to fall back to the recommended £229.

Crime unit hunts software thieves

A CRIME unit has just been set up by the computer and video games trade body ELSPA to protect Britain's £960 million electronic entertainment industry from software pirates. Its activities used to be carried out by the Federation Against Software Theft and the new unit will work with police and Trading Standards officials to recover pirated programs.

It is headed by John Loader, who in the last 18 months at FAST helped discover more than £500,000 in illegal software and prosecuted several offenders.

Loader says the unit is mainly involved in investigating illegal copying but will also tell authorities of the existence of pornographic and obscene images.

"Electronic bulletin boards are often used not only to pirate software but also to access illegal pornographic material," Loader claimed.

"As such, the Crime Unit has an important role to play in restricting the flow of obscene materials and, when found, turning them over to the relevant authorities."

The unit's current focus is on pirated compact disc software and illegal bulletin boards and can be phoned on 0386 830642.

Art duo head for Atari

ARTISTS will soon be able to choose from two new packages for use with Atari computers – EZ-Art Professional on the ST and Rainbow for the Falcon.

EZ-Art Professional is claimed to work on all machines in the ST range. It is icon driven and includes a built-in help feature to guide newcomers around the software.

If used on an STE, the program supports the computer's 4,096 colour palette and it can convert between standard Atari, EZ-Art Professional modes and custom-written palettes.

There is separate control for brightness so that a colour tone can be made lighter or darker without the user having to adjust RGB sliders.

More than 20 types of shape can be created, ranging from boxes and circles to arcs, discs and shaded polygons, and there is a good range of effects.

These include resize, scale, remap, rotate, skew, shatter, soften, pixelate and outline.

Up to 10 workscreens are available and there are almost 20 drawing tools and modes to choose from. It costs £29.95 from Floppyshop (0224 312756).

Rainbow is JCA Europe's (0734 452416) addition to the growing range of Falcon art software.

It's claimed to be the only Falcon art package which enables the resolution, monitor type, vertical frequency and overscan to be changed from within the program without loss of work.

Its colour palette can be changed with a mouse click and the user interface rearranged completely.

There is a built-in photo studio, and a bunch of extra built-in studios are promised for the next version.

Eight tools are available, each with an individual set of modes and effects. The price is £29.95.

EZ-Art Professional: One of two new art programs for Atari computer

High Street help for Atari novices

SILICA Systems hope to bring an end to criticisms that High Street retailers do not sufficiently cater for computer novices.

The dealer have joined forces with Debenhams to open a chain of 20 computer shopping areas across Britain. The stores cater for all types of shopper from beginner to expert and feature dedicated areas where customers can get buying advice and technical help.

Specially designed areas also allow customers to try out the latest games, productivity software and hardware – including a large range of Atari products.

Ten stores are already open: Bristol, Glasgow, London's Oxford Street, Manchester and Sheffield and others will open within the next few months.

"We have placed special emphasis on enlarging the market by introducing new people to home computing," commented Silica's retail controller Ken Browning. "By taking our reputation for service and after-sale support to the High Street, we are aiming to become the consumer's primary focus point for the complete computing package."

A Debenhams spokesperson added: "Computers are rapidly becoming an accepted part of the home, so it was logical to include them in Debenhams and to have Silica establish the outlets.

"Silica were chosen as it was crucial that the outlets could cater for our broad range of existing customers – many of whom will be new to computers – as well as attracting new customers."

Silica can be telephoned on 081-309-1111

News briefs

Helping hand

KOBOLD is a new high speed file copier billed by distributor System Solutions (081-693 3355) as a helping hand for any task relating to mass storage.

Installed as an accessory or used while the computer is multi-tasking, the program can be called on the fly to format a floppy disk in any formats.

A number of files and folders can be quickly deleted, renamed or manipulated and a script language enables automation of routine tasks. Price, £59.95.

★ ★ ★

PD packed on CD

TWO CD-ROM discs, each containing hundreds of public domain and shareware files for use with Atari computers, have been added to System Solutions' (081-693 1919) range of products.

Put together by Bernd Lohrum, the discs include a variety of games, utilities, demos and image files from around the world and cost £29.95 each.

★ ★ ★

First go online

LEEDS-based dealer First Computer Centre have launched a bulletin board for their customers. It will provide technical support, details of the firm's product range and news.

Public domain, shareware and driver programs will be available for downloading. Modem users should dial 0532 637988 and those wanting to talk to the firm can telephone 0532 319444.

★ ★ ★

Cheaper comms

US ROBOTICS (0753 811180) have cut the price of their Sportster 14,400 fax modem from £299 to £199 in a bid to increase their market share for high speed modems.

"The price is low enough to make people think twice before they buy an illegal unapproved modem," said the firm's marketing manager Lucy Brown.

★ ★ ★

Faster CompuServe

ONLINE information system CompuServe have added 14,400 bits per second access for UK members, increasing their access speed by 50 per cent. The connect charge is about £6.40 per hour.

★ ★ ★

Swapped shots

SCREEN Shots showing the performance of NVDI and T28 in cache mode were accidentally transposed in last month's 'Full speed ahead' feature.

The T28 in cache mode gives an average increase in speed of 174 per cent and NVDI combined with the T28 gives a speed boost of 801 per cent. Apologies to System Solutions and our readers.

Star send printer prices tumbling

PRINTER manufacturer Star have announced price cuts across their range of dot-matrix, laser and colour thermal models.

The move brings the recommended retail prices of many machines down by £50, and other printers see their prices tumble by as much as £150.

Star's marketing manager Annette Tarlton said: "These aggressive prices emphasise further Star's long standing reputation for value-for-money printers."

Printers: Star models see prices slashed

Music magic at MEMS

MANY instruments and software packages debuted at the Frankfurt Music Fair came to Britain recently for this year's Midi and Electronic Music Show.

Harman Audio (081-207 5050) showed a 16-track version of Cubase Audio for the Falcon. The demos were so popular the crowds were backed up right to the walls.

Digital Village (081-440 34440) promoted the SPEdit DAT editor for the Falcon and demonstrated Falcon d-t-d systems. Atari Workshop aka System Solutions (081-693 1919) were selling full Falcon/Cubase Audio systems for £1,399, complete with PowerUp 2, a 32MHz accelerator.

The company also had CD-ROM kits for the Falcon based on Apple's twin-speed CD300 for £259 and an ST version for £299. There were actually several ST CD-ROM discs too. HiSoft/AVR (0525 718181)) were showing Clarity Falcon sampling/digital recording system which includes drum machine and keyboard emulation software.

Heavenly Music (0255 434217) showed their range of building block disks such as Dr Beat, Rave, Jazz and Techno grooves plus the new Bytes & Pieces.

A new company to the market, Keyfax Software (0491 579645), demonstrated a similar idea called Twiddly Bits, created by world famous musicians.

Hands On (0705 783100) offered song files at £4 each and showed new Rockbeat, Groove Machine and Karaoke titles. Newtronic (081-691 1087) were also playing a selection from the company's vast range of Midi files, including Doop. They also showed Session Partner Pro, a sophisticated accompaniment generator which supports 13 instruments. Drumatix is a new groove designer for drum tracks.

Software Technology (née Gajits) demonstrated the Breakthru 2 sequencer and the latest additions to the PatchKing Editor range which now includes the Yamaha SY35.

As usual, there were hardware and software bargains from ABC Music and BEM and the opportunity to attend free seminars given by various industry luminaries. Interesting exhibits included the MOCLI (Midi Operated Glove Interface) at £345 from FAME (081-889 0616) which proves that gestures speak louder than words.

The MEMS has built on its success over the past few years and already over 50 per cent of exhibitors have booked again for next year's event.

Euro News special

In the absence of the legendary Atari Dusseldorf show, the third party in Germany has taken over with a number of smaller shows. These so-called "parties" usually take place at a shop with participation from Atari companies from the surrounding area. But the real successors to the Dusseldorf show are proTOS and FEZ-a-bit.

ProTOS, held in Ulm, southern Germany, was supposed to be called Atari Show but Atari objected to this, so the name was changed.

However, an official Atari representative has expressed satisfaction with proTOS' organisation and the professionalism of exhibitors. Furthermore, the possibility of Atari's participation in the future was also left open.

The show occupied one exhibition hall almost the size of a football field. Friday was trade-only day with enthusiasts attending the remaining two days.

There were about 35 companies and visitor attendance at the two open days was very high, with Saturday exceeding all expectations. The companies by and large expressed surprise and satisfaction at how well the show went.

Jobis showed the newest version of their Falcon tower including a 270Mb Syquest removable hard drive. The company buy Falcons, then take them apart and rebuild them in an attractive custom tower case with numerous improvements including a new power supply. The customer has a choice of

Compo stand during trade-only day

Jobis tower for the Falcon including 270Mb Syquest drive

Pam Software's Flex Link network Ethernet adapter

options and the price varies accordingly. The basic rebuilt Falcon accelerated to 32MHz and with a detachable TT keyboard costs DM3,498 (about £1,400). Jobis are at Samerhof, 83224 Grassau, Germany.

Pam Software made their name with the PamNet network. New at the show was FlexLink – also available as a card for the Jobis Falcon tower mentioned above.

This is an Ethernet adapter that plugs into TT/Falcon's SCSI port. It's also available for the Mac and the PC making it easy to build heterogenous networks. Both BNC coaxial and twisted pair connections are included supporting IEEE 802.3 standard running at 10Mb.

The cost, including software, is DM918.85 (about £370). Pam also supplies various client/server software such as TCP/IP for DM300.61 (about £120) and X-Window server at DM793.50 (about £320) to name a couple.

Pam also showed VGR-1 and VGR-2 video grabbers which plug into the parallel port. Together with the software, the price is around the DM1,000 mark (about £400). Pam Software are at Carl-Zuckmayer Str. 27, 55127 Mainz, Germany.

Compo and Over-Scan shared a stand like they did at CeBIT. CD-ROM-ROM announced there, was shown running. This cartridge comes bundled with a double speed CD-ROM drive and software for DM599 (about £240), a perfect solution for owners of older STs.

Also shown was Tabby, a small tablet the size of a mouse pad. Priced at DM199 (about £80) it plugs into the modem port and acts as a mouse replacement. OverScan also ran a "hypermedia" presentation using Overlay video titler, going for DM199 (about £80). OverScan are at Elbestr. 28/29, 12045 Berlin, Germany.

TOS POWER
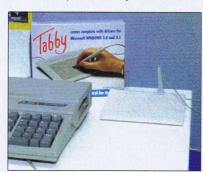
However, the most impressive item at the stand, and the one which drew the crowds and the admiration, was naturally the Medusa TOS-compatible computer.

Medusa sells for about DM8,000 (about £3,200) and is undeniably the most powerful TOS-compatible computer today. (For more about Compo and their new products please refer to Compo profile elsewhere in this issue.)

Janus, the complete ST on an ISA PC card, was shown running. This is a hardware ST emulator for people who wish to have access to the superior ST software on a PC.

In addition, the ST user gets access to various PC hardware to enhance the ST's performance. For example, the ST can run in resolutions of up to 1,024x768x256 as the PC takes over the display chores as well as I/O resulting also in considerable speed increase.

The basic price for the Janus card alone

Overscan's mouse replacement, Tabby

> *Contary to popular belief, German Atari companies are not all work and no play*

with a 16MHz 68000 will be around DM800 (about £320) but, for example, with 2Mb and TOS 2.06 is goes up to DM1,180 (about £470). Janus is available from VHF, Daimlerstr. 13, 71101 Schoenaich, Germany.

BlowUp, adopting the name of their flagship product, have exhibited an amazing array of new products for the Falcon. PSI is a pocket S/PDIF Interface.

This digital interface enables you to connect a CD or DAT player to the Falcon. The sound can then be recorded and played back in digital form! Priced at DM448 (about £180) it plugs into the DSP port. It runs with both Cubase Audio and Digit II. What's more, all software information about the interface will be included in the manual so programmers can expand its features.

Another piece of hardware wizardry from BlowUp is TAsS. It turns the Falcon into a digital answering machine.

The box connects to the audio input/output sockets and works through signals via RCA plugs. Another cable connects to the telephone wall socket.

Stone Age in all resolutions by Eclipse

What's marvellous about TAsS is that you leave your Falcon off. On receiving the call, TAsS turns the Falcon on, pretends to be an answering machine and then turns the Falcon off again. The software runs under MultiTOS and will not interfere with the current task.

In addition to answering machine and voice mail capabilities, TAsS will also support both modem and fax transmissions. TAsS will be available later this year at an estimated price of about DM 300(£120).

Also from BlowUp is the new low-price word processing system Gut 'n' berg. This full-featured program relies fully on Speedo and is expected soon for only DM149 (about £60). BlowUp are at Eslarner Str. 34, 81549 Munich, Germany.

ST emulator Janus on a PC

Although DMC – the makers of Calamus – were not at the show, other third party Calamus support was present in force. Adequate Systems showed a number of new modules, among them Merge and Filter, the latter with frequency modulated rasters. Crazy-Bits showed a colour printer driver for the Primera printers.

A Dutch company called Allround Engineering exhibited CADANS through their German representative. This is the only CAD program for the ST still being actively developed.

CAD in this case stands for Computer Aided Drafting. The images in CADANS can be enlarged up to 5,000 times which was demonstrated with an image of a cruise ship. A few clicks with the mouse zoom to a single table in a room.

CADANS comes in two versions, standard for DM499 (about £200) and AUTOCAD-compatible professional version for DM998 (about £400). Allround Engineering are at PHJ van der Zande, 2181 KJ, Hillegom, The Netherlands.

Contrary to popular belief, German Atari companies are not all work and no

It's in the can: Omikron's PixArt 2.0

play. Eclipse showed Stone Age, a game complete with dinosaurs. This refreshingly non-violent yet intriguing game runs on all Ataris in both colour and monochrome, and even on big-screen monitors!

A built-in soundtracker pumps out eight tracks of sounds. The goal of the game is to help the little dragon out of the prehistoric cave system. There are 100 levels and two skills to choose from. Available from Eclipse for DM79 (about £30). Stone Age is available from Michael Nolte Computersysteme, Vasters Str. 10, 50825 Cologne, Germany.

And last but not least, Omikron, one of the original German ST companies, showed version2 of their paint package PixArt.

It can now process an image up to A0 size and then print it out as a number of A4-sized pages. PixArt runs in all resolutions and uses up to 16.7 million colours. It will also convert images using dithering from colour to monochrome or reduce the number of colours.

Maximum resolution is 32,000x32,000 pixels in true colour and it can import Kodak CD pictures. There is now a totally flexible zoom in one per cent increments. PixArt is available in the UK from the ST Club.
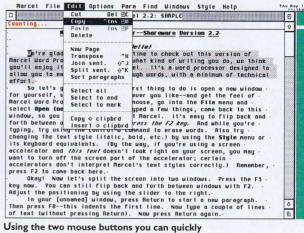
The software comes in a paint can about a foot high which caused quite a few concerned looks on the train as your reporter was on the way back home.

Overall, proTOS reiterated once again the resilience of Atari companies in Germany. In spite of neglect by Atari – currently concentrating fully on the Jaguar – the new developments for the Atari line of computers continue unabated, particularly for the Falcon.

The overall impression is that, after Atari dropped the ball, the third party has picked it up and run with it. And now it's Atari's turn to catch up. Whether they do or not is becoming increasingly irrelevant if third party supporters continue coming out with new software and even TOS-compatible computers at this rate.

This month's disk features a word processer called Marcel, three great games – WingLord, Painter and Termodroid, and much more

COVER disk

Using the two mouse buttons you can quickly highlight blocks of text for easy copy and pasting

Marcel

A feature-packed and versatile word processor, complete with spelling checker

THERE'S no doubting that word processing is one of the most popular applications for the ST. There is a plethora of both commercial and shareware word processor packages available, most of a very high quality.

Marcel is a fairly recent addition to the many shareware packages available and contains lots of features, some of which you usually only find in commercial equivalents.

It also comes with printer drivers for some of the most popular printers, including HP DeskJet and LaserJet printers, Citizen, Epson-compatible and even Atari's SLM804 laser printer.
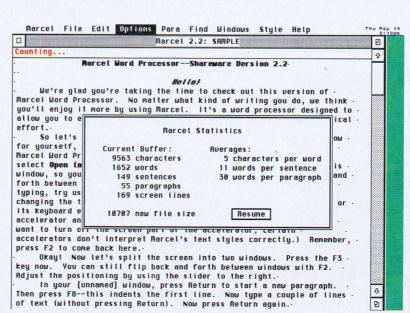
As with all the best packages, Marcel has good block editing functions. Selecting sections of text within a document is easily done by selecting the start and end of the block using the left and right mouse buttons.

You can then cut, copy, delete or paste the text with ease. Marcel features multiple windows allowing up to three documents to be displayed on screen. You can even cut and paste text between the displayed documents.

Statistical information on the currently selected document is available at the click of a button. Information such as the number of words and paragraphs as well as the average

Statistical information, such as a word count, is available on any document instantly

Program	By	Configuration	File/s	Disk space needed to extract
WingLord demo	Victor Bruhn	All STs Low res	X_WNGLRD.TOS - Self extracting archive	446464 bytes
Marcel	Marcel Software	All STs Medium or high res	X_MARCEL.TOS - Self extracting archive X_DICT.TOS - Self extracting archive	452170 bytes 574693 bytes
The BBS Directory Demo	Mark Westguard	All STs TOS 1.62 or lower Medium or high res	X_BBSDIR.LZH - Self extracting archive	254662 bytes
Droid	Below Zero Software	All STs Low res	X_DROID.TOS – Self extracting archive	273912 bytes
Painter	Sinister Developments	All STs Low res	X_PAINT.TOS – Self extracting archive	236286 bytes
Speed-o-meter	Erin Matthew Monaco	All STs All resolutions	X_SPEEDO.TOS – Self extracting archive	5634 bytes
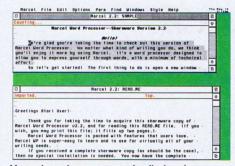
Marcel includes good support for importing documents created in other popular word processors

Up to three documents can be displayed on screen at once, with the ability to cut and paste text between them

number of characters or words per sentence and the number of words per paragraph is useful.

When you run Marcel, you will notice that the time and date are displayed on the menu bar at top right. Marcel has facilities for setting the time and date, a built-in alarm clock and you can even insert the current time and date within the document at the click of a button.

If you use Marcel regularly, you can register your version for a mere £10. Once you have sent off your registration fee, you will receive a user's manual and certificate. The manual

contains complete explanations of all Marcel's features as well as hints and tips on how to get the most from your word processor. Details for registration are contained in the READ.ME file.

Written a program?
Then send it to *Atari ST User* – we pay £££s for quality CoverDisk submissions

On-screen help on the numerous keyboard shortcuts is available from the help menu

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

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

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

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

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

Important: The ST User CoverDisk uses an extended format of 10 sectors and 81 tracks to increase storage space. This means you will not be able to copy the disk using the ST's built-in copying feature.

To make a backup of the CoverDisk, you will need a copying utility, such as FastCopy 3. Such utilities are available from all good PD libraries.

Alternatively, you may use a formatting utility, to format a disk to the same 10 sector, 82 track specification as the CoverDisk and simply copy all files to this.

Using archived files

Note: When copying files, the ST refers to disk A and disk B in its on-screen instructions. Disk A refers to the disk being copied while disk B refers to the disk being copied to (usually a pre-formatted blank disk).
1. Format a disk.
2. Copy the required archived file to the formatted disk.
3. Run the copied archived file. It will now automatically "extract" to its full size.
4. Once complete, delete the X_ filename as this is no longer required. The formatted disk should now contain all the files that were in the archive file.

Normal uncompressed files

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

Highlighting and dragging files and icons

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

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

Formatting a disk

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

Copying files to another disk

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

The BBS Directory demo

If you have a modem and want to get information on your local bulletin board systems then this program can help you out

MANY of you no doubt remember the first days of owning a modem. After hastily unpacking the beast, you quickly connected your ST to the world of comms and then found yourself calling all manner of strange numbers to log onto equally strange bulletin boards.

Many times you may not have known anything about the BBS, such as how far away it was, what system you were logging onto, what speeds, or whether the board catered for any of your interests.

Of course, it wasn't too long before you found that many bulletin boards had text files listing many BBS numbers along with the necessary information on what modem settings and speeds it supported.

The BBS Directory is a utility which contains

To search for BBS systems in London, for example, simply enter the area dialling code 081

Once an area has been chosen, select Radius BBS Search to locate any BBS systems within a specified distance

information on BBS systems throughout the country with versatile search facilities for locating other systems.

When you run the program, a map of Britain will be displayed. As you enter the search data, this map also provides a visual display as to where the BBS is located.

The search facilities include the ability to do a radius search, search by name, telephone number or location. For example, if you want to know about any BBS systems which are local to Manchester, you would simply enter the Manchester telephone dialling code (061).

Clicking on Radius BBS Search will then search for any BBS systems within a specified radius. The size of the area searched can be changed, but British Telecom charges local rates within a radius of 35 miles, so this is the default value used by the BBS Directory.

Once the search is complete, all the numbers found are listed on screen with the option of printing them out. Although not

present in this demo version, you can also get detailed information on the highlighted BBS.

If you want the full version of the BBS Directory, you can register by sending £5 to the author. The complete version has well over 580 BBS numbers in its database, as well as extra information on specific BBS systems.

> If it wasn't for some very talented shareware authors, the ST games scene would be a lot duller. So, a big round of applause goes out to the authors/groups who support shareware.
>
> If you would like to see more shareware games for the ST, be sure to support these people and send off the suggested registration fee. You now it makes sense.

Painter

Outmanoeuvre your opponent to fill in the grid squares in this simple but highly addictive game

SIMPLE ideas seem to be the main ingredient in any addictive game. Painter is no exception.

In this frantic chase game, you must move your player along the grid lines (which will change colour as you move along them) avoiding the computer-controlled opponents while trying to complete square areas of the grid.

Once complete, each grid will fill with a colour and once all areas of the grid are filled, you continue on to the next level. You do have a weapon of sorts though.

Should you find yourself about to get your collar felt by the computer opponents, press the trigger to create a temporary hole in the grid.

Your opponents (and you too) will not be able to pass over this hole, thereby giving you a means of escape from certain capture.

To make things interesting, some levels have invisible grid lines which you have to find in order to complete the level.

When you register for this game, you will get Sinister Developments' next program before general release, as well as 100 extra levels and a level designer for Painter.

It may look like a simple game, but it's fiendishly addictive all the same

Termodroid

Take control of a heavily armed fighting droid and waste the aliens in this manic blast-'em-up

HAVE you ever wondered why aliens haven't contacted us yet? Scientists say that statistically speaking there has to be life out there.

That may be so, but if you think about all the movies and TV series that have been beamed into space depicting earthlings battling it out with invading aliens, it's quite likely that such transmissions have been intercepted by other races.

And what would they think? Probably best to leave a planet full of xenophobic carbon-based bi-peds well alone methinks.

Things are further complicated by the number of computer games in which you try your best to destroy the alien beasties. It just may be that aliens can also pick up computer transmissions, which would give the impression that we also thoroughly enjoy such xenophobic homicide.

Anyhow, enough theories, what's this game like? Well, I have to say it's jolly good alien bashing fun indeed.

The game is a horizontally scrolling affair and your mission is to shoot anything that gets in front of you. Along the way, you can pick up various power-ups that increase your firepower and speed, as well as the odd bonus point object to boost your score. If things start

to get a little crowded and dangerous on the screen, you do have access to a limited number of nuclear bombs that obliterate everything (except you of course) on the screen. Jolly handy indeed.

Termodroid costs a mere £5 to register. For your money, you will be sent Termodroid II featuring loads more levels and enhanced gameplay.

The general rule to this manic game is if it moves, blast it

WingLord demo

REMEMBER the old Atari Joust game which appeared in the arcades many moons ago? It was totally original and differed from anything else around at the time.

The game involved flying around on strange creatures, lance in hand, in a mid-air medieval jousting battle with other riders and creatures.

The overall strategy of the game was to ram your opponents while repeatedly pressing the fire button to make your steed flap its wings and maintains height.

If you were at a greater height than the opponent you hit, he would be destroyed. If however, he was higher than you, you were done for.

Things were complicated by the fact that there were quite a few opponents flying around and you had to have a quick eye and

Do medieval battle on strange flying beasts in this great game of fun and mayhem

equally quick reactions. In this demo of WingLord, the same fun and gameplay has returned with extra features to make it even more fun. For instance, you now have missiles which you can fire at opponents.

The game is divided into waves, with each wave becoming increasingly difficult. Every fifth wave is a survival wave which, if you manage to get through offers 3,000 bonus points. Every 10,000 gives you another life.

Although the game works on all STs, those with STEs will have extra sound effects and

smoother and faster sprites. You can only play up to wave 19 in this demo version, so if you enjoy the game – and you will – you can register for $8 at the address listed in the WING.TXT file.

Classic aerial mayhem in this great game based on the old jouster from yesteryear

Survive the swarm levels and you get lots of bonus points. What's more, you get an extra life every 10,000 points

Speed 'o' meter

When your computer is running, there are certain tasks which will slow it down. Moving the mouse for instance will slow down the computer.

Just how much your computer slows down is shown by Speedo 'o' meter. Once run, a window will open with a bar display indicating the current performance of your computer.
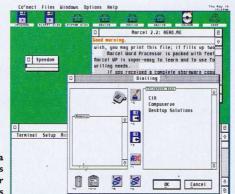
If you then move your mouse around, you will see the bar drop down slightly. This is because your computer is having to process the data coming from the mouse.

In a multi-tasking operating system, there can be many things going on in the background. For instance, you could be using a word processor while a file is being archived.

Speedo 'o' meter will give you a rough idea of the kind of performance lag that is going on due to these tasks. The figures are given in percentages along the bar display.

Want to find out how fast your computer is performing under multi-tasking operating systems such as MultiTOS? Speed 'o' meter is just the ticket

This gives you an idea of how your computer is performing under multi-tasking operating systems

Unless you happen to have been living on another planet for the last few months, you're bound to have heard about the CD-ROM revolution. This isn't new technology but it has suddenly come of age, particularly in the PC and Mac markets where CD-ROM-based entertainment and multimedia is big business.

The good news is that CD ROM has finally arrived on the Atari scene and drives can now be connected quite easily to any model from the 520ST upwards.

CD-ROM drives resemble floppy disk drives but they use standard audio CD size disks that have had data permanently recorded onto them. As a result, the disks are read-only, but as they are extremely cheap to produce and can hold up to 600 megabytes or more of data, that's hardly a problem.

They are used to read data rather than save it and there is a vast range of CD-ROMs on the market with all kinds of information you can use on your Atari.

Atari computers use ACSI/SCSI to talk to other data storage peripherals and CD-ROM drives are no exception, so the first rule is that you must have a SCSI-compatible drive. They can vary in price quite considerably but they're not quite as cheap as the proprietary drives being bought up by PC owners. SCSI is more reliable and faster and you pay for that.

If you have an ST or STE with an existing SCSI (not Atari) hard drive, you can add the CD-ROM drive to your setup. Your hard drive will already have a host adapter either inside the case or outside in the case of The Link and Translator.

ADDING DEVICES

Adding another SCSI device is particularly easy if your hard drive has a SCSI through-port. Even if it doesn't, all you need is a special three-way SCSI cable.

And if you don't have a hard drive, you can attach a CD-ROM drive to the hard disk port with an external host adapter such as The Link or System Solutions' Translator. Falcon owners can dispense with the adapter as it supports SCSI devices directly.

Next comes the question of software. Your CD-ROM drive won't work just because it's attached to your computer. Like a hard drive, or any other device for that matter, it needs a driver so that TOS knows it's there and how to access it.

Several years ago, Atari introduced MetaDOS which was aimed primarily at accessing their own CDAR-504 but as the latter was never launched commercially, MetaDOS support was pretty patchy.

Support was provided recently by ICD with The Link/Pro sets of hard drive utilities but the company later started supplying a MINT driver after the MetaDOS drivers were found to be rather unreliable and didn't work on the Falcon.

WORKING PROPERLY

MetaDOS is now available from many PD libraries (version 2.3 is currently on many BBSs too) but it should be treated with caution. While it does support both high Sierra and ISO 9660 formats, it fails to access some files properly and they appear corrupted when copied to a hard or floppy drive. It is also very complicated to set up and you'll need to edit the CONFIG.SYS file with a text editor.

The MINT driver supplied with the current version of the ICD The Link/Pro utilities (6.5.x onwards) now works properly on any Atari with MINT or MultiTOS installed.
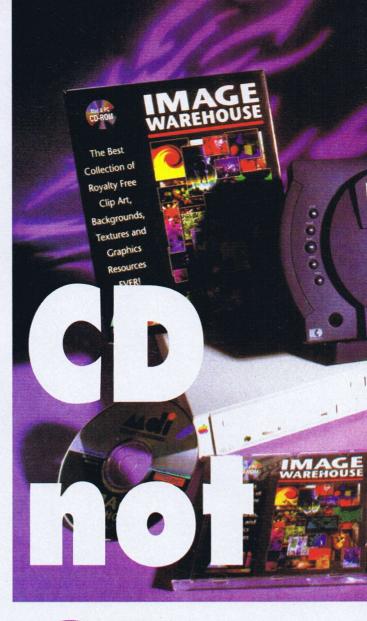
This is a single file with an XFS extension that is copied to the root directory of the boot drive. The filename has to be altered to reflect the SCSI ID of the CD-ROM drive and the drive letter to be assigned, but that's all. Similar drivers are available with Photo Show and Studio Photo (see following pages) if you don't need the ICD utilities.

To CD or not to CD...
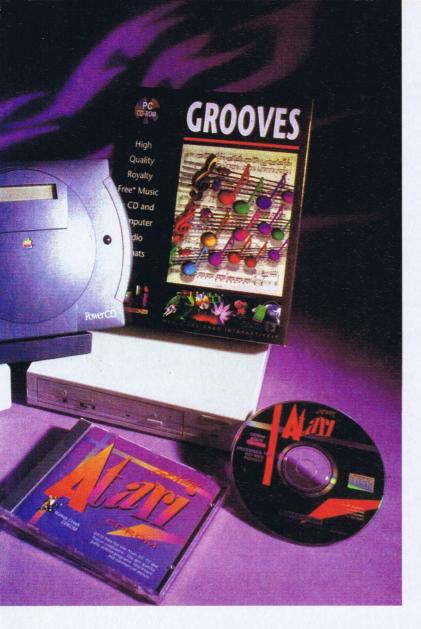
...that is the question. What does it do – and is it for you? Andrew Wright has the answers

Toshiba 4101S

Toshiba have a well-deserved reputation in the CD-ROM market and their new 4101S is a nice-looking, solid, slimline drive with a beige metal case and plastic front which will easily sit on top of a hard drive and support a monitor.

It measures 10ins (250mm) long by 8ins (200mm) wide and less than 2ins (40mm) high. It has a single SCSI-2 port at the rear (no SCSI through facility), standard power socket, an on/off switch and a bank of mode select headers cunningly concealed beneath a plate on the underside. Hardly convenient, but some sacrifices have to be made for the slimline design.

On the front is a volume control for audio play, a 3.5mm headphone jack socket, power-on light and drive activity

Standards
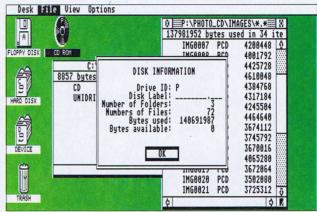
There are dozens of standards around but as with any developing technology the industry is slowly beginning to get it together.

The main **CD-ROM** disc format is ISO 9660 and the vast majority of CD-ROMs now follow this format although there are still some **High Sierra** format discs around. All the Atari drivers can read both these discs.

Reading a **PhotoCD** disc requires two separate drive standards. A drive must be **CD-XA-compatible** to read a PhotoCD but if it is single session, as many old drives are, it will only read the images that were originally placed on the disc. If subsequent images are added, as is common, the drive will be unable to see them in the file structure.

To access these, a multi-session drive is required. Most manufacturers advertise drives as being simply "PhotoCD-compatible" but you should check for multi-session support.

CD-DA is the digital audio standard used on music CDs. Almost all drives will play audio CDs though some may need special driver software.

CD-ROMs offer masses and masses of data on a cheap disk

light as well as a small emergency eject hole.

The SCSI-2 compatible drive unit is a double speed model with a 300k/s transfer rate and 385ms access time through a 64k hardware buffer. It is PhotoCD and audio disk compatible and will even double as a basic audio disc player when disconnected from the computer and attached to a hi-fi or headphones. I say basic because the only commands possible are stop, start, and next track.

Interestingly the Toshiba supports the so-called "CD-DA over SCSI" standard. This means that in theory, with the right software, you could read the data on an audio CD-ROM and save it in a digital format on your hard disk.

The mode select headers – fiddly things that require jumpers to be added or removed – allow any SCSI ID to be selected and also support parity enabling or disabling, audio/data mode selection and termination power on or off. The drive also features a motorised eject system and tray loading and unloading of disks.

Being double speed, the Toshiba transfers large amounts of data very quickly indeed and at times isn't noticeably slower than the average Atari-branded

Megafile hard drive. Despite the fiddly switches underneath, it comes highly recommended.

```
Product: Toshiba 4101S
Supplier: Ideal Hardware, 3rd Floor
          Low Rise, Tolworth Tower,
          Surbiton, KT6 7EL
Telephone: 081-390 1211
Price: £329
Configuration: Any Atari with SCSI host
               adapter
```

ExtenDOS

The most stable driver software is ExtenDOS from System Solutions. It's an extension of MetaDOS but it's much more reliable and performs better despite having no direct support for PhotoCD discs.

The program and accompanying drivers come on a single disc with a 20-page manual. The software works on any Atari in all screen resolutions, including the Falcon and TT, and uses up a relatively small amount of memory (60K upwards), making it suitable for use on basic half-megabyte machines if necessary. It supports any SCSI CD-ROM drive, via a host adapter on STs, STEs and Megas, with or without parity enabled.

CONFIGURED

Although ExtenDOS comes ready configured for SCSI device 5 and booting from a hard drive C, it isn't difficult to alter these with the help of the manual which comprehensively covers all the aspects of installation and the various configurable parameters. You'll need a good text editor like EdHak or Everest, but that's all.

The driver program, EXTENDOS.

➤

PRG, and configuration file, EXTEN-DOS.CNF, are placed in the AUTO folder and the two drivers, CD.BOS for the CD-ROM itself and the other, UNIDRIVE.DOS, specifically for ISO 9660 and High Sierra formats, are placed in the EXTENDOS folder. A third alternative driver is supplied which apparently accesses disks that the standard driver has problems with.

Features include the ability to trace hardware commands issued by CD.BOS using a table stored in RAM; two types of caching to improve performance; and the extremely useful option of having all files recovered from a CD-ROM made read/write as opposed to read only which they would be using the normal MINT/MetaDOS drivers.

One problem did come to light. The caching worked well on the whole, improving performance by

over 20 per cent once the optimum parameters were discovered. But when the cache was increased beyond 12 buffers (out of a maximum of 32) the contents of folders couldn't be accessed on otherwise normal disks.

However, with audio support and PhotoCD compatibility promised and upgrades likely in the near future, this is the one to go for.

Product:	ExtenDOS v1.11
Supplier:	System Solutions, The Desktop Centre, 17-19 Blackwater Street, London SE22 8RS
Telephone:	081-693 3355
Price:	£29.95
Configuration:	Any Atari

Apple PowerCD

There has been a lot of speculation as to why Apple, traditionally selling only the most expensive kit, have offered such well-priced CD-ROM drives. Don't join in – just take advantage of it!

The PowerCD is a fairly old, single-speed drive but that doesn't stop it being an excellent buy for an Atari user. The main advantage is that it doubles as a portable audio CD player when used with headphones or external speakers and a portable PhotoCD player when connected to a TV.

The complete pack contains drive, base, power adapter, infra-red remote control, leads for audio and PhotoCD use and two AAA batteries. As if that wasn't already good value, three CD-ROMs are also included. They are designed for use with Apple Macs but the images are in PhotoCD format and can be viewed

using any suitable ST software or in PhotoCD play mode.

The drive itself is a Philips mechanism built into a decidedly odd case. It looks like a portable CD player but has a fairly bulky stand incorporating the power supply and batteries. At the back there's a single SCSI-2 port and a simple selector switch for the SCSI ID.

CHEAP

On the front of the case is an orange LED window which contains the word 'data' when in use as a CD-ROM drive. There's a mode button to switch play modes between data, audio and PhotoCD and several buttons for controlling the latter two functions with a good many more on the remote control console. The drive also switches mode automatically so PhotoCD discs can be read with ExtenDOS, even though it doesn't directly support it.

All in all, if you want a very cheap introduction to the world of CD as well as a handy home gadget, this drive has to be well worth a look.

Product:	Apple PowerCD
Supplier:	Computer Warehouse, 9 Hatton Street, London NW8
Telephone:	071-724 4104
Price:	£163.32
Configuration:	Any Atari with SCSI host adapter

Editing a CONFIG.SYS file with MetaDOS – this smacks of PCs

Software by the bucketload

Once you've got your CD-ROM drive up and running, it's time to look around for something to put in it. Atari-specific titles are thin on the ground at present so the best source is the PC market. Look at adverts in Atari ST User's sister magazines Multimedia Now or PC Home and shop around for the best prices.

Many titles, such as GIFs Galore (6,000 GIF format images) and Too Many Typefonts (nearly 400 PostScript Type 1 fonts), are often advertised at under £10.

These mags even come with a free CD-ROM on the cover, which you can read on an Atari system. You can't run the software (unless you have a PC emulator) but you can read the text files and view the images and animations.

The first Atari specific disc was the GEMini disk from Walnut Creek released a few months ago. Distributed by System Solutions for £24.95, the disk contains 2,872 Atari specific files – an incredible 616Mb of data in all.

The GEMini CD-ROM is mainly composed of shareware and PD utilities and includes over 50Mb of games and a number of commercial demos, animations, full colour graphics files, sound samples and even 15Mb of assorted fonts for DTP programs like Calamus, Timeworks and PageStream. There are also text files on various topics and some archived online magazines. The software is supplied in ready-to-run and

archived ZIP formats and there's a complete index supplied on the disk as a large text file.

Some of the software is already out of date but even so there is around 400Mb of ready-to-run software to fiddle with. Other disks are under preparation, including two PD discs from Germany. All are being supplied by System Solutions.

If you're into graphics there are several excellent titles to choose from, although many of the clip art disks do contain a lot of poor quality scans.

Image Warehouse is an exceptional title with some 360 files in TIFF format, all in 24-bit colour and ranging in size from a few hundred kilobytes to over 2Mb.

Almost every image processing program will import them and they are completely royalty free so you are welcome to use them in your own designs. The disc contains some backgrounds for presentations, texture effects and images on a variety of subjects.

My only grumble is that there is no catalogue or thumbnail section – each one has to be loaded and viewed individually.

Music is well represented too – Grooves is a CD-ROM packed with royalty-free music files in Windows WAV format that can easily be converted to a suitable Atari format such as AVR. The Falcon's SAM utility can play them directly, of course. These two discs are available from MDI on 0252 737630.

Sounds groovy...

Audio facilities are lagging behind at present but several utilities are on the way, including an upgrade to ExtenDOS. The few shareware titles that have been around for a year or more have all worked with specific drives.

Theoretically it should be possible to play audio CDs by sending the appropriate SCSI commands, but the prospect of dedicated utilities will mean you will be able to program sequences of tracks, play them around in any order and flick quickly backwards through the playlist in just the same way as a hi-fi unit.

TruePaint will also import PhotoCD – one of the cheapest programs to offer the feature

The need for speed

There's no doubt that the PC world is driving the CD-ROM market. The boom started less than two years ago with the introduction of cheap drives with non-SCSI interfaces transferring data at around 150k/s.

These single speed drives have now given way to double speed drives (300k/s), following the advent of motion video in games and other entertainment titles. There are now triple and quadruple speed drives coming onto the market with data transfer rates approaching those of slower hard drives (the average ST hard drive transfers data at between 700 and 1200k/s).

In the Atari world, speed is less important as multimedia titles incorporating video aren't available. Some will want the double speed or faster drives in order to access data more quickly. It doesn't bother me whether it takes 10 seconds to load a PhotoCD image or 20 seconds, as long as I can load it!

GEM-View will read and convert PhotoCD images

Exporting a PhotoCD image from Photo Show's utility

The final analysis

Setting up a CD-ROM drive has several potential pitfalls. First, some drives are supplied with parity enabled, in which case they won't work with some host adapters like The Link.

This has to be changed using either jumpers, dip switches or even electronic surgery. Secondly, problems have been reported when daisy-chaining, such as where to place the Atari laser and how to get termination power to the last unit in the chain.

Added to the other awkward operations like setting SCSI IDs, configuring the software and choosing the right drive letters (some programs can't access logical drives after P), the chances are you'll experience some problem or other.

Anyone with any doubts about getting a CD-ROM drive up and running should look to System Solutions for help. They have invested a lot of time and effort in putting together a working system and are the only UK Atari dealer with expertise in the field.

At present they can supply a double speed Apple CD300 drive including ExtenDOS and Translator host adapter for just £299. Falcon owners can get it for £40 less with a SCSI cable instead of the adapter. We didn't review it because we know it works – we've had one up and running in the ST User office for nearly a year!

What's more, the CD300 reads PhotoCD images in the same way that the PowerCD does, even with ExtenDOS.

Things are hotting up too. As we went to press, Ladbroke Computing announced plans to incorporate a Philips CD-ROM drive in a DataPulse-style case, alongside a SCSI hard drive, which ought to make a neat, budget solution.

At the same time, It's All Relative, developers of Photo Show, have announced a new audio CD playing utility that will work with all SCSI drives. Watch this space!

You can get an awful lot out of a CD-ROM drive. You won't be able to play PC games or access the latest multimedia titles unless new products start to appear specifically for the Atari platform.

However, you will be able to build up a massive library of information and data files ranging from clip art, PhotoCD images and 256 colour GIFs to the complete works of authors like Shakespeare, countless Midi and song files, PostScript fonts and gigabytes of C source code. You might think £300 a lot of money just to add a kind of super floppy drive, but I now have a library of nearly two gigabytes of images for DTP and image processing work and a complete PD library of programs, any of which I can load in a matter of seconds.

All of a sudden, it's easy to see why the CD-ROM has turned the PC and Mac worlds upside down. Let's hope it can do the same for Atari.

Smile, you're on PhotoCD!

PhotoCD is Kodak's method of digitising images directly from film to CD-ROM. Basically you take your roll of holiday snaps or whatever along to a developer with PhotoCD facilities and some time later (usually ten days at outlets like Boots) get handed a CD-ROM all nicely packaged with a thumbnail of each image on the cover.

On the disk there can be up to a hundred or more image files ranging in size from 3-6Mb each. With a suitable viewer you can look at the snaps in one of five resolutions ranging from 128 by 192 pixels all the way to 2048 by 3072 pixels.

Programs like Photo Show, a dedicated Falcon-only PhotoCD slide show from System Solutions, can display the images fairly quickly in succession at

368 by 256 resolution and the Pro version of the program can overlay text using Speedo fonts.

Studio Photo, Compo's image processing software, can load and manipulate the images, though the available resolutions will depend on your computer's RAM. With 4Mb of RAM you can load the 512 by 768 pixel versions but you'll need a Falcon equipped with the Outside virtual memory manager to load in the biggest ones - they require around 19Mb of RAM to load.

Drives like the PowerCD make sense as they double up as PhotoCD viewers so you can hook them straight to your TV and view PhotoCD images in your living room.

Quill is a unique freehand vector drawing program designed to make use of the new low cost Tabby graphics tablet. It emulates natural drawing styles using shaped or italicised nibs and does it far better than you could ever hope to do with your mouse.

That's the theory and as one who has never been able to transfer what little drawing skills I have from pen to screen, I was looking forward to trying it out.

The program itself runs as a desk accessory or as a stand-alone program. It runs in ST high or medium resolutions and on the Falcon in everything but true colour modes. It works on any ST, from the 520 upwards.

The program comes with a 15-page manual and the disk has a personalised registration feature to help prevent unauthorised copying. Also supplied are special Tabby drivers and configuration accessories, as well as a patch program to make accelerator, NVDI work properly.

ATTRACTIVE

Not that you have to own a Tabby, of course – Quill works perfectly well with a mouse, although you lose the fine control of freehand movements that the Tabby pen provides.

Quill features an attractive interface with a representation of the tablet in the centre and various icons above and to the left. There's also a status window at the top which provides some online help.

Clicking on the pen nib icon starts drawing and each stroke is recorded on screen as a vector object. You can alter the nib shape, size and structure by pressing the spacebar or the right mouse button and then pressing the mouse pointer on the nib icon. Clicking on

Rotate or Squash Nib allows you to move the mouse or Tabby pen until you get precisely the shape and angle that you want (the mouse still works while the Tabby driver is installed because the latter uses the serial port).

Once you've drawn your shape you can actually edit it stroke by stroke if you need to. By editing I mean moving or deleting strokes or even altering the structure of the existing graphic by making changes to the pen.

For example, you can draw with a thin nib, then thicken it, slant it or even alter

Quill can export bitmap images at any resolution

Andrew Wright discovers Quill, a new drawing program with a difference

Licence to Quill
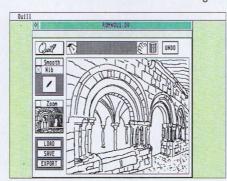
the ink flow after you have finished drawing.

Deleting or moving drawings is easy – simply click on the dustbin and apply a rubber band to the area you want cleared or moved. Perhaps the most interesting feature is the smoothing.
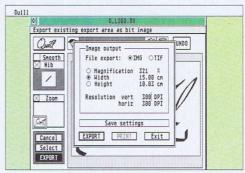
When tracing or drawing slowly, a little shaking is to be expected, so Quill can smooth the strokes in varying degrees. Values between 4 and 16 are recommended and work very well. The only problem with the smoothing algorithm is that it slows down the drawing speed, so it's important to get the balance right.

Obviously you have to do something with your work, and Quill has a handy export facility in addition to its own proprietary vector format that allows you to save partially completed work.

At present only the IMG export feature is enabled, but you can specify the size and resolution of the final image to

get just the right proportions for your DTP or art program. Quill has a few idiosyncrasies.

It's quite easy to lose the pointer, especially in zoom mode and if you accidentally draw above or to the left of the tablet area you won't see anything at all. You can work off the tablet area, by dragging the zoom area right and downwards out of the window but this is for experts only – I got hopelessly confused.

Some screen corruption may occur on the Falcon in colour modes, and conflicts occasionally arise in desk accessory mode where. On the whole though, Quill is pretty stable and causes few problems with other software.

The Quill/Tabby combination makes life a lot easier for artists and the bitmapped results can be imported into colour paint programs or autotraced in programs like DA's Vector and used as clip art. Those interested in handwriting recognition and analysis, font design, calligraphy or lettering, will find it useful too.

Not everyone will want this program, of course, and it is clearly aimed at Tabby owners, although the author, Mousetricks programmer Jonathan Lawrence, is currently working on a version for the mouse.

The magic wand

The Tabby – available from CGS ComputerBild – is an A5 sized graphics tablet that consists of a flat but slightly angled plastic surface, 170x145mm in size, with a pen shaped object attached to it by a thin lead. The two-piece tabby is made of rigid grey plastic with a clip-on pen holder and it plugs into the serial port of any Atari.

The position of the pointer on the screen is relative to that of the pen in relation to the working area of the tablet. It can be used alongside a mouse or can replace it entirely.

Signatures can be signed and look realistic too!

Line drawings can be traced accurately with Quill and Tabby

BOTTOM LINE

FEATURES

A great idea that can certainly enhance computer artwork.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Very easy to use but not quite as easy to get used to.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Doubles the effectiveness of the Tabby without splashing out too much.

Excellent
Good
Average
Bad
Appalling

Product: Quill
Supplier: CGS ComputerBild,
231 Northborough Road,
Norbury, London
SW16 4TU
Telephone: 081-679 7307
Price: £29.99
Configuration: Any Atari

Virtuality

Profile: *British producers of VR games for the arcade industry*

Virtuality have recently released their next generation of hardware and software in the stylish shape of Series 2000. Featuring texture-mapped, 3D colour graphics providing video quality imagery and 32-channel digital sound, all in real time, the company have taken their next step towards the ultimate VR experience.

The three games headlining this leap are Zone Hunter, Virtuality Boxing and X-Treme Strike. In Zone Hunter you are a 21st century urban warrior in a search and destroy mission played against the clock. You move through a futuristic city where the alien-infested streets and sewers need clearing with a deadly arsenal of weapons.

The task is to reach the genetic labs where hideous mutations are being bred before the first wave of the Empire's elite cyborg warriors make an appearance. Featuring power-ups and graphics that put Virtuality's first generation of titles to shame, Zone Hunter is looking like an extremely attractive two-player shoot-'em-up.

Virtuality Boxing puts you in the ring against five computer-controlled boxers or, if desired, against a friend. The virtual boxer must climb up through the ranks to win the ultimate accolade – winning the world

Zone Hunter is part of the latest Series 2000 from Virtuality

championships. One of the game's most interesting features is the use of the joystick – throw a punch and it registers on screen as your opponent is smashed in the face.

All damage inflicted is shown, with eyes becoming blackened, gumshields flying out and lips swelling in full texture-mapped graphics as you force your opponent to kiss the canvas.

X-Treme Strike immerses the user in a battle against the forces of the Empire Worlds where a vital core reactor must be destroyed on the planet of Zenon. The game takes you from the asteroid-ridden depths of space and sets you skimming across the surfaces of alien worlds, shooting and blasting all the way.

While none of these scenarios reeks of originality and wouldn't leap to mind as a possible Nobel Peace Prize candidate, the increase in quality from existing arcade-based VR machines is a significant one. The hardware, in the shape of a headset and joystick, have both undergone a dramatic face-lift – the HMD is lighter and less cumbersome, while the space joystick offers a more reactive interface for the player.

An example of the work under way at Matsushita using Division's software, dVS

Division

Profile: *British company that specialises in providing hardware and software for professional applications of virtual reality*

Division have been busy licensing their equipment to the likes of Silicon Graphics and Virtual Reality Games, a recently formed business that intends to move into the arcade industry alongside the likes of Virtuality.

Last month, Division announced what they claim is the world's fastest commercially available image generation system for VR use. Called the Pixel Planes 6, the system is capable of rendering over five million Gouraud-shaded triangles per second and over four million Phong-shaded triangles per second with spectacular lighting and photo-texturing.

These specs don't come cheap, with a price tag of $200,000 for the basic unit. Matsushita Electric Works, a Japanese firm, have one already installed at their headquarters in the land of the rising sun.

The system will be used in their virtual reality R&D department on a project to improve the home environment by simulating many of a home's basic characteristics including physical structure, aesthetics, acoustics and ventilation.

Exploring

Virtual reality is forever developing and moving forward so Adam Phillips goes back to the future to report on the latest hardware and software in the industry

Silicon Graphics

Profile: *Thought by many in the industry to be at the forefront of graphics technology, this American company have used their talents in film, television, architecture and many other industries*

Although Silicon Graphics are not suppliers of fully featured, immersive virtual reality systems, the company supply the powerful computer systems such as the RealityEngine and the Onyx graphics machine that form the core of VR systems developed by third parties. The partnership with Division has produced the dVS software environment which provides software tools

Love or hate the factious feline, the technology behind it is impressive indeed

for the development of VR applications. The system runs five dedicated servers to manage the functions essential to VR – visualisation, collision detection, 3D tracking, audio and user control.

The uses for the systems are wide, varying from the entertainment market to avionics. At the University of California, sophisticated computer graphics are allowing the communities worst affected by the 1992 Los Angeles riots and recent earthquakes to play a part in the planning and rebuilding of the areas in which they live. A 3D model of LA, which allows people to visualise proposed changes to their own neighbourhood, is being used by the City Council's urban planning department.

The VR cityscape allows the viewer to "fly"

TeleVirtual's TV creation, Ratz, is operated in real time by an actor wearing sensors on his face

StrayLight Corp

Profile: *American VR company producing for the arcade industry*

StrayLight are another company attracting attention with their sorties into the VR entertainment industry. They have developed a system called CyberTron whose most impressive feature is the player's hardware – the head gear and joystick are still present but the user must also strap themself into a large, rotating gyroscope (like that seen in Lawnmower Man) and pivot and tilt the mechanism by using their body weight and inertia. This adds an all important element to the VR process – that of real motion.

At present, there are three titles available for the CyberTron system. In Wing-Nuts, you can team up with a mate and take each other on in a head-to-head shoot-'em-up over the surface of a planet.

Cozmik Debris is described as a theme park where the player is taken on a three-minute trip aboard a Spanish galleon through an underground cavern with dancing dolphins. Events take a sinis-

Climb inside CyberTron's gyroscope and...

...take on a friend in Wing-Nuts

ter turn as dead bodies float up to meet you and climaxes in a finale where you are thrust down a psychedelic tunnel reminiscent of the scenes from 2001. Finally, there's Bonk, a 3D Asteroids where the player must destroy large lumps of rock before they collide into the spacecraft.

reality

After the riots and earthquakes, the citizens of Los Angeles are being helped by virtual reality to rebuild the city

Evans & Sutherland

Profile: *Famous in the industry for their military virtual simulations, this Stateside company have successfully moved into other areas of development*

The new ESIG-4000 produces even more jaw-dropping real time simulators for the military

With so much success in the military market, Evans & Sutherland recently displayed their entertainment wares at the SIGGRAPH show. In the same month, the company further showed their commitment to branching out into new areas by splitting the company into two customer groups – the government sector and the commercial sector.

The former will cover the US government and international business areas and the latter civil aviation, entertainment and educational business interests. E & S have several systems on offer for the discerning buyer – the 2000, 3000 and the recently introduced top of the range 4000 which forms the backbone of E & S's simulators.

Due to the pricing of these systems, the cheaper Liberty range (100, 200 and 400) was introduced at a mere $100,000, with the Loch Ness Virtual Adventure set to invade theme parks this year. With high calibre graphics and fluid real time animation, Evans & Sutherland are set to be just as dominant in the entertainment industry as they have been in the military arena.

through the city streets in real time using SG technology. Buildings have been reproduced to exact levels of detail and the photo-realistic modelling even includes graffiti on the walls.

Bill Jepson, director of computing at the UCLA Graduate School of Architecture and Urban Planning, explains the reasoning behind the project: " The idea is to involve people more fully in the urban planning process.

"The 3D model we have built using Silicon Graphics technology allows the City Council to introduce concepts graphically, in an easy-to-understand format, instead of using complicated jargon normally associated with town planning. The model has helped create a better understanding between the technicians, the engineers, the planners and the people who live in the riot-torn areas."

Meanwhile, over at NASA's Ames Research centre, researchers are using a VR system that

draws on data gathered from satellite. Using two stereoscopic screens and headphones, users are able to look around the surface of distant planets including Mars.

Back in this country, if you've been watching the BBC news over the last year, it's hard not to notice the new look of its virtual reality TV studio which relies heavily on the use of 3D graphics. Using Silicon Graphics technology, everything in the studio other than the two newscasters is computer generated, including the desk.

VERSATILITY

This allows the broadcasting cooperation to save money due to less space and crew being used and allows time saving versatility with the computer operated environment.

Soap opera producers are also looking towards virtual sets to cut costs. The problem is

that soaps are usually in production week in, week out, eating a substantial amount out of the budget due to the prices of studio hire over such a long period of time. VR could change all that.

The presence of the newsreaders and actors themselves could be in jeopardy within the next few years as US-based SimGraphics, another partner in the SG chain, have produced hardware and software that can create virtual actors – VActors.

These computer-generated characters are animated live by the movements and voices of actual actors. The software provides several sensory input devices and gesture recognition facilities to create a unique look and feel that can be used in interactive live entertainment for television presentation or as a means of producing computer animation sequences.

Indeed, TeleVirtual, the holders of the VActors licence in the UK, have already shown the system to the BBC who were highly impressed. If you're a fan – or an interested parental viewer – of either Alive and Kicking or Children's BBC, you can't have failed to notice Ratz, the computer-generated cat that pops up regularly throughout each show.

Created by TeleVirtual, Ratz exemplifies the system perfectly. The actor wears a sensory headset and controls the feline's movements in real time – a versatile and highly useful tool for the television industry.

Sex has been with us since the beginning. Celebrated, repressed, enjoyed, frowned upon, analysed, suppressed and loved – the subject matter has always had a wide ranging effect on all people throughout the ages.

With each new medium created in society, the sexual act has always found a platform to help express itself – the printing press introduced erotic literature to the masses, photography gave birth to erotic pictures, film moved these images and now, with the coming of the computer age and more specifically, virtual reality, the normally hands-off, voyeuristic experience is going interactive with full blown 32-bit colour, photo-realistic graphics, digital sound... and teledildonics.

Over the last few years, the availability of sex-related material for computers has increased in leaps and bounds all over the world. Explicit images and video footage can be pulled off bulletin boards at the touch of a button now, causing an upheaval of moral panic in Britain.

With new technology beginning to enable the user to involve their bodies as well as their minds, the scoffing hilarity of making love to a computer is becoming a reality.

Teledildonics, erotictronics or cybersex, or whatever name you want to give it, is simply a means whereby the user can involve themselves fully in an computerised, interactive world and, ideally, act out any sexual fantasy they wish.

The main components required to produce the experience are a head-mounted display unit for the visuals and a full-sensory body data suit.

SAFE SEX
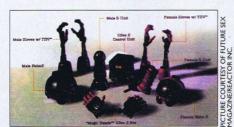
With Aids and other sex-related diseases scaring people away from promiscuity, cybersex is seen as the ultimate in safe sex.

Others see the benefits as more than that – people with disabilities who have little opportunity of sexual contact, could enjoy some semblance of a normal sex life. Teledildonics could also be used in sex therapy to aid patients to overcome their fears and psychoses towards the sexual act.
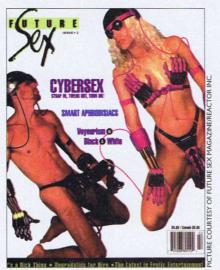
American magazine *Future Sex* believes like many others that teledildonics will eventually end up as a full blown reality and better than the real thing.

Indeed, the virtual reality industry is taking teledildonics seriously – Sadie Plant, a cyberfeminist, wrote a report on teledildonics for the recent VR conference held at Warwick University.

In an interview with Loaded Magazine,

Cybersex – the downfall of the most intimate of human communications or a genuinely useful and important technological development? Time will tell

A suggested line-up of the hardware necessary for the most basic of teledildonic experiences

she says: "The wonderful thing about cybersex is that everybody who has been marginalised or oppressed will have the chance to realise their desires.

"I think women will become far more confident once they've been able to experiment in cyberspace and, as a consequence, they'll be far more demanding of real life sexual partners. Mr 15-pints-a-night doesn't stand a chance."

With all this conceptual discussion, the only thing holding humankind back from disappearing from reality all together is the technology.

While graphic capabilities are advancing at lightning speed, the suit is a harder problem to resolve altogether – the basic principle is to use tiny sensors to let off heat and vibrations and air bladders that apply pressure to the skin as a form of tactile response.
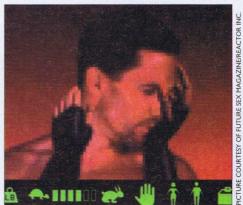
The pictures shown here are of a basic kit that cover the main erogenous zones of both female and male. Although these are merely speculative works produced on a computer, this kind of equipment is well on the way to completion. Meanwhile back on earth, one has

to wonder where all this will lead. *Future Sex* predicts that over the next 200 years, the system will develop into either a multi-user or a solo environment with a seamless physical interface and full visual and audio capabilities.

They believe that way off in the future, these systems will be surgically implanted to include brain-enhancing chemicals and ultimately, the virtual experience will be better than the real thing.

All this excitement and debate just leaves one burning question – is this really going to improve people's lives or simply isolate people from each other even more?

According to Mike Saenz, publisher of the infamous erotic software package Virtual Valerie for the Apple Mac, we want to become more cut off from each other.

In *Future Sex*, he says: "People want to remove excess human contact. Especially as the planet becomes overpopulated. They want that distance, and I think that

Cybersex

As VR continues its steady rise through all avenues of society, it was only a matter of time before sex became part of the virtual agenda. Adam Phillips reports

VR sex could actually give them that."

Hearing a statement like that may sound depressing but with the one-on-one relationship between solo participant and technology becoming more and more popular, it may well be a valid, if sad, point of view.

What we do know for certain is that if you think the press and public outcry concerning sex issues is loud now, wait till cybersex blooms into a full blown industry, then the talking will turn to shouting and, as usual, the enticement of ever more exciting technology will probably win the day.

● *We would like to hear your opinions on the issues raised in this feature. Send any thoughts and comments to the usual address for the attention of Adam Phillips*

● *Special thanks to Future Sex, a magazine specialising in all things cyber and erotic, and Reactor Inc, creators of the best selling Virtual Valerie and Donna Matrix titles, for the use of their concept pictures*

A mock-up of the graphics that would be displayed in the head-mounted display unit

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Organised by David Encil, Neal O'nions and Ray Cross

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There will be three prize draws at each show (11am, 1pm and 3pm), for a £25 voucher to spend at the stand of your choice on any item...

BACK ISSUES

If you've been following a series and missed the last one, or you were looking forward to the next issue but can't find it at the newsagents, you'll know just how disappointing it is to miss out on an issue. Well, never fear! You'll find various back issues on sale at bargain prices at the *Atari ST User* and *Atari ST Review* stand.

☎ FOR MORE INFORMA

Who's there

The leading ST publishers and dealers attending include:

◆ **Atari Workshop** – renowned as the ST hardware specialists. They've promised to bring along enough hard drives so that they don't sell out this time! Also, see Cubase Audio here.

◆ **Best Electronics** – all the way from the US of A! Mr Atari, Brad Koda, will have every spare part imaginable along with some delightful Atari memorabilia.

◆ **CGS Computerbild** – Digital Arts' number one international distributor! DA's Layout, DA's Vector Pro, DA's Picture and all the rest…

◆ **Compo Software** – the biggest Atari specialist apart from Atari itself. Compo expect to have That's Write 3, That's Address 2, MusiCom 2, TrakCom, NeoDesk 4 and lots more – including software upgrades for your current Compo products. Computer repairs and upgrades will be carried out on the spot – they'll fit anything you buy at the show!

◆ **Europress Enterprise** – meet *Atari ST Review*'s editor at the London Show!

◆ **Goodman International and Merlin PD**, two of the main Atari public domain and shareware libraries.

◆ **Titan Designs** – it's rumoured that there will be stocks of the Graffiti Genlock available…

◆ And yes, you will be able to see Atari's world-beating Jaguar games console as well!

Previous success

Here's the report on the last London Atari Show that took place at Alexandra Palace.

"Following on from the previous month, over 600 Atari owners took the opportunity to see the latest products. Crowds gathered around 16/32 Systems to see Xenomorph 2, a superb 3-D rendering program, and Prism Paint 2, possibly the most powerful paint package released on the ST.

Videomaster Falcon also generated a great deal of interest on the HiSoft stand. Using a cartridge interface and the Falcon's 16-bit inputs and outputs, the program is capable of digitising video at up to 25 frames per second, in 64 shades of grey, and recording high quality audio.

Released on the day of the show, Studio Photo, a powerful image retouching and processing package, won many friends on the Compo stand while Club Cubase showed a final test version of Steinburg's Cubase Audio.

With products on view from companies such as System Solutions, Titan Designs, ST Club, CGS and Prospero, along with bargains from Golden Image and Warpzone PDL, this event promises much for the future."

Tickets

◆ Tickets cost £5, £3 for entry after 2pm
◆ Children under 16 are free when accompanied by an adult
◆ Atari ST computers free if being brought to the Compo stand for a repair or upgrade!

Bristol show

To be held at the Hilton International Hotel, Bristol, Saturday July 30, 10am to 5pm.

London show

Taking place at the Novotel, Hammersmith, West London, Sunday July 31, 10am to 5pm.

Maps and detailed instructions will be included next month

THE LATEST MAGAZINES

Save yourself a trip down to the newsagents and make a beeline for our stand instead. You'll be able to pick up the latest issues of *Atari ST User* and *Atari ST Review* at the shows – before they are on sale in the shops!

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Guarantee your copies of the best Atari magazines by taking advantage of the special show subscription offer, only available to visitors to the shows. It'll only take a few minutes to fill in a form and you'll have every issue delivered postage free to your home.

TION PHONE 0487 3582

That's the right address!

Andrew Wright previews a powerful software combo – That's Write 3 and That's Address 2

In the upper echelons of Atari word processing, That's Write 2 has carved itself a niche pretty close to the top with its WYSIWYG screen display, excellent output and high end features.

That's Write 3, soon to be released in the UK, brings with it a redesigned interface and a bundle of new, even more powerful features.

Version 2 enabled users to have more than one window open at once and the

That's Write – multiple windows and a brand new interface

same holds true for version 3, along with additional status and macro windows if required. In each window there's also a new button for hiding or recalling the ruler and the right button now produces a pop-up menu with four main options and scrolling sub-menus, making dozens of commands instantly available.

The most obvious change to That's Write 3 is the use of Speedo format scalable fonts alongside existing That's Write fonts and internal printer fonts.

This easily makes That's Write the most flexible of all the Atari-based word processors when it comes to choosing a typeface, particularly as SpeedoGDOS itself isn't required. That's Write rasterises the fonts and creates its own bitmaps for the screen.

A good selection of fonts is supplied, including Dutch, Swiss, Symbol and Formal Script and new fonts can be added, though not that easily.

The resulting printed output is superb, particularly on 300dpi printers such as lasers and inkjets. The use of scalable fonts

Scalable Speedo fonts can be mixed with printer and That's Write's own bitmapped fonts

doesn't slow the program down in normal use, though loading and rasterising new fonts can be sluggish even on fast computers.

Glossary-style macros are a new feature and an immense productivity bonus. For example, to write this article I defined the words "That's Write" as a simple macro that could be recalled by typing "TW" and expanded by hitting a button. Several things have been improved in the new version. Block marking, previously achieved by rubber-banding, is now much more logical and the same as most

That's Address 2

This is a brand new product – the first version never saw the light of day in the UK.

It is the perfect companion for a powerful word processor like That's Write, particularly as the latter is increasingly being used in small businesses and by professionals at home.

That's Address is essentially a dedicated name and address database management system that has links directly to That's Write to make correspondence many times easier.

For example, you can export a name and address to a That's Write document where it will be laid out in the correct format for a letter. Not only are the

Exporting straight into That's Write 3

name and address exported but the chosen salutation and sign off can be placed in the document too.

That's Address comprises two versions, one a standalone program and the other a desk accessory.

The standalone version also acts as the configuration program where you can alter the four user-definable popup fields and add or remove city codes and countries.

The accessory takes up a lot of RAM – 500k or so by my calculations – so it will only be practical on 1Mb machines and even then you'll be struggling to run it as an accessory alongside programs like That's Write.

The number of entries in the database is limited only by hard disk space. Compo have several thousand names in their customer records – but as only the index is stored in memory, data access doesn't slow down noticeably as the database gets bigger.

That's Address uses NoSystem and the interface matches That's Write so well, you'd think the programs had been made for each other – which indeed they were.

The options include that of specifying a small window or large window when used as an accessory, in order to be able to view documents behind it.

That's Address is a unique tool for

businesses and those dealing with correspondence abroad, mainly, I suspect, because Compo are an international company and needed the program to maintain their own records.

To set up the program you tell the program where the machine that it's running on is situated. This helps ensure that the post-codes and dialing codes are correctly formatted according to the national requirements.
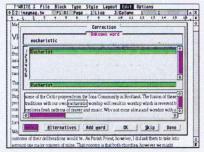
AUTOMATIC

It affects international telephone dialing codes too – move to France and the French telephone number will automatically have the 010 dropped, for example. A globetrotter's delight! Everything is completely automatic once it has been properly set up – if you write a letter abroad, the country is added automatically.

Data can be added at any stage and records amended or deleted as necessary. Even if you make a mistake, there's a safety net whereby you can undelete records that have disappeared.

To kick off a record, you have to select a key word rather than the traditional last name of the subject. To some extent this forces you to think logically about how the database is to be struc-

other word processors, while a useful addition is the ability to copy a marked block to the search and replace fields.

The spelling checker has at last developed some teeth. Instead of the somewhat unimaginative one in version 2, the new checker now displays each word in context so you can see what the original meaning was and then comes up with alternatives and lets you skip the word or add it to a user-definable dictionary.
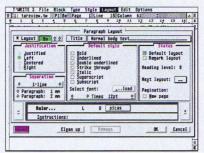
The spelling checker shows words in context

The paragraph layout dialogue has more features too, including the ability to define what the following paragraph will be and define header levels for the outliner

Export facilities are much better than before. That's Write 2 is particularly poor at importing and exporting files in other word processor formats – it won't even load or save First Word Plus files, for example – so it's nice to see this problem addressed in release 3.

Although only ASCII import and export are possible, there are plenty of options for compatibility with other platforms, including the Amiga, Apple, Next, OS/2, DOS and Windows versions of ASCII as well as native versions

The new paragraph layout dialogue

with or without line feeds and carriage returns.

In the same way, the Mail Merge feature has been significantly improved with support for That's Address via the XACC clipboard or directly from a comma delimited file. With this level of functionality and the powerful business-oriented features, That's Write 3 will certainly help keep Compo at the top of the Atari word-processor league.

A whole new interface

Compo have developed a new common interface called NoSystem for all their new products including That's Write and That's Address.

It contains two main elements, the NoLook user interface, which provides smart colour, 3D dialogues that can be moved around the screen, and the Flexiprint printing system.

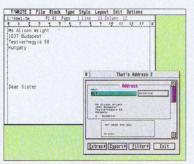NoSystem means that the same code can be shared by multiple Compo applications whether the system is multitasking or not, thus saving memory, making development work simpler and enabling Compo programs to share a common "look and feel" whatever machine they run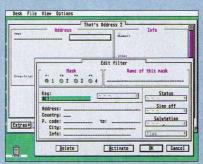 on, from the ST/STE to the TT and Falcon. NoSystem relies on a common library that is loaded from the root directory at boot time and which can be configured in various ways using a special utility.

The new "look and feel" of NoLook

BOTTOM LINE

FEATURES

Many important enhancements and superb quality output.

	Excellent
	Good
	Average
	Bad
	Appalling

EASE OF USE

With the usual quality Compo manual, there should be few problems.

	Excellent
	Good
	Average
	Bad
	Appalling

VALUE FOR MONEY

It's not cheap in Atari terms, but worth every penny.

	Excellent
	Good
	Average
	Bad
	Appalling

Product: That's Write 3
Supplier: Compo Software, Unit 3, Green Farm, Abbots Ripton, Huntingdon PE17 2PF
Telephone: 0487 3582
Price: £129
Configuration: Any Atari with 1Mb or more

tured but it can be strange deciding just what keyword an entry is to appear under. In the end I found myself just inserting the surname if I couldn't think of a decent keyword.

Incidentally, to recall records all you have to do is type the first two letters (or more) of the keyword and a pop-up dialogue shows all the matching records as well as those alphabetically close to it.

More complex filtering is possible too, using the mask facility. Four different masks can be stored and recalled using the relevant function keys, with every field able to be included in the mask specifications.

There are four user-definable fields that you can use for your own purposes. They provide pop-up lists for any

Setting a filter or mask in That's Address

Configuring the data field options in That's Address

purpose, though the recommended setup includes salutation (Dear..., Dear Mr..., My Little Kitten... or whatever) and sign off (Yours sincerely, and so on). These can be altered however and the export format edited to reflect the new purpose. Each record can have a note attached in the form of a text file with 65-character line length.

PRINTING LABELS

That's Address uses the Flexiprint system to print things like mailing labels directly from the accessory and it can mail merge with That's Write 3 without creating an intermediate data file. If data is to be saved or exported, it can be saved in a

proprietary format or the universal comma delimited ASCII format for exchange with other programs or computers.

Modem support is also included – That's Address will actually dial a telephone number for you if it is correctly hooked up to your modem and you have a telephone attached. What more could you want from an address manager?

BOTTOM LINE

FEATURES

Fast, powerful data retrieval when and where you need it.

	Excellent
	Good
	Average
	Bad
	Appalling

EASE OF USE

Hard to say without a look at the manual though it's not entirely intuitive.

	Excellent
	Good
	Average
	Bad
	Appalling

VALUE FOR MONEY

Good value if you want an address database.

	Excellent
	Good
	Average
	Bad
	Appalling

Product: That's Address 2
Supplier: Compo, Unit 3, Green Farm Abbots Ripton, Huntingdon PE17 2PF
Telephone: 0487 3582
Price: £50
Configuration: Any Atari with 1Mb or more

Horse racing became popular in Stuart times and was soon dubbed the "sport of kings" due to its royal connections.

Since then, it has become a mult-million pound industry with many of its participants turning into household names, such as Red Rum, the first horse to pull off a Grand National hat trick and Lester Piggot, who was Britain's youngest race winner at the age of 12.

Of course, the televised coverage of

Oracle has a simple text menu system. A GEM interface would have been much more flexible though

living going to races and betting on horses. These "professional punters" are not in possession of mystical powers of prediction, nor are they blessed with incredible luck.

They are ordinary people who are aware of the many influencing variables related to every race and whose betting habits are bound by simple statistical calculations.

Oracle uses such calculations and also takes into account many of the variables known to the professionals, so it's an ideal tool for the less experienced.

Oracle is also educational. It assumes no experience with betting or racing and is therefore an ideal introduction into this fascinating sport. I certainly learnt a lot, when previously I knew nothing about

time it is to start. You will also find lots of other information about each horse including past performance in other races right down to how old the horse is. Oracle first displays advice about what races you should not consider, such as those where sufficient information on a horse's performance in its most recent races is not available. This process ultimately leaves you with a couple of races per meeting which are deemed worthy of Oracle's continued scrutiny.

You are then taken through a series of questions in which you are requested to enter information gleaned from the pages of the racing paper you are using.

This is where the first problem with the program appears. Many ST users will be used to menus and the mouse, in other

Top tipster

Want to improve your winning chances at the race track? Darren Evans tries his luck with the horse-tipping program Oracle

races at some of today's famous race-courses has helped to bring the "sport of kings" to the general public and thousands of betting offices all around the country are now raking in (and paying out) millions every year.

Many of you out there may well enjoy a bet now and then and you will no doubt realise that there is no such thing as a sure fire winner, even though the odds given by the bookies will show which is the favourite to win.

PREDICTING

If you rely on the actual odds given by the bookies as the sole means of predicting a winner then you will know that this is not a very profitable method as constantly betting on favourites will roughly give you a 33 per cent rate of success.

Nor will the odds give you a very good return on your investment and, as a general rule, you can say that the worse the odds, the more likely the horse is to win and the smaller the return on your stake.

This means that 67 per cent of the time a horse with better odds than the favourite wins a race. The trick is to identify this type of horse as often as possible.

There are people who make a good

betting on horses. There are no wild claims about Oracle being a massive money-making utility. It's simply a very good way of increasing the chances of predicting a winner and is an improvement over the "betting on favourites" method with its 33 per cent success rate.

In fact, the author claims that, simply by rating horses, jockeys and trainers on their past performance – or "form" – alone, gave a 45 per cent success rate. Much better than 33 per cent.

Two excellent papers are The Sporting Life and The Racing Post. Both of these are available from most newsagents and give extensive information on the race course, horse, jockey and trainer, among others.

Armed with the appropriate paper, you then decide which race to bet on. Each race is listed in the paper according to what racecourse it is held at and what

The first thing you must do is tell Oracle which race couse you are interested in

words, GEM programs. But Oracle is a purely TOS-based program, meaning it simply displays text and receives information from the keyboard. The questions about each race are split into stages, each consisting of several questions which require data. It's easy to edit an immediate mistake while entering the data, simply by using the Backspace key.

If, however, you realise you have made an error on an earlier question in the stage, you have to wade through any remaining questions to get to the end of that stage where all the data entered is displayed and you are asked if there are any errors.

CUMBERSOME

If there are, it's back to entering all that stage's data again. Such a linear approach to data input is rather cumbersome and it would be nice at least to have a method of going back to specific questions to correct entries.

This is especially off-putting for those not familiar with the racing papers' information tables, as they will have to search through the information again. Hopefully, the author will address this problem in later versions with a more intuitive interface.

Some of the papers also have informa-

tion related to specific races on different pages. So for each race meeting, say at Carlisle, you will need to refer to a table showing leading jockeys and trainers for that particular course. This is nearly always on a different page. It is therefore advisable to arrange your paper so that such tables of information are readily at hand.

First time users may well find that from start to finish, the entire Oracle process for one race can take over an hour, depending on how many horses you wish Oracle to rate.

As you become more familiar with both the program and the information in the racing papers, the time required for each race should be reduced.

Once you have entered the relevant

```
                  ORACLE.PRG
        ORACLE RACING SYSTEM (c) D.W.S.S. 1991.

      FOR THE PROGRAM TO BE ACCURATE YOU MUST:

(1).....IGNORE ALL RACES FOR CONDITIONAL JOCKEYS OR AMATEUR JOCKEYS,
        LADY RIDERS OR APPRENTICE JOCKEYS.

(2).....ELIMINATE ANY RACE IN WHICH ANY OF THE FIRST FIVE IN THE BETTING
        FORECAST, OR ANY YOU WISH TO RATE, HAS LESS THAN THREE RACE RESULTS.

(3).....ELIMINATE ANY RACE IN WHICH ANY OF THE FIRST FIVE IN THE BETTING
        FORECAST, OR ANY YOU WISH TO RATE, HAVE NO RATING (SEE MANUAL).

              IT IS BEST TO IGNORE.

        (1).... ANY RACE OF LESS THAN SIX RUNNERS (POOR ODDS).

        (2).. ANY RACE OF MORE THAN TWELVE RUNNERS (HAMPERING ETC).

      DO YOU WISH TO ABANDON THIS RACE MEETING (Y/N)?
                          ?
```

Oracle uses a lot of statistical infromation to weed out winners. Many aspectsa of a race, including the season it is held are given statistical values certain horses for certain races.

Also considered is the significance of the opinions of the private handicappers, the bookies and any indications of anything it considers unusual or relevant in its database with regard to this race.

As you can see, a lot of work is done by Oracle and much of it will be confusing to

work? After giving the program to a good friend of mine with an intermediate knowledge of horse racing, he reported a notable improvement in the average number of winners he was identifying.

In one particular instance covering ten races, Oracle identified eight winners.

As any reasonably experienced race goer knows, "inside knowledge" is all part of the racing game. Oracle uses many of the techniques to identify winners which are not widely known to the average betting person.

This is evident from the questions you are asked whilst using Oracle. Also, the program is constantly being updated, with more and more "tricks" used by the professionals being added as they are found and tested. To ensure the database

data for a race meeting, Oracle then makes an analysis of the race course and individual race, using information such as the going (state of ground), date, type of race, prize, distance and how far from the race meeting each trainer is based, as well as why he is at that day's meeting. Oracle also assesses the current and previous form (performance in other races) of each horse in the race, including its previous performance (if any) at this course, distance, today's weight, the effect (if any) of the draw, its stall position and whether the horse is a beaten favourite or wearing blinkers as well as many other factors too numerous to mention.

It then considers the jockeys' and trainers' record at this course and their average performance, current performance, performance this season and over the last five years while looking for any oddities it may have identified in their selection of

the novice. As someone with no prior knowledge of horse racing, I was amazed at the number of variables which can affect the outcome of a race.

There are professional punters out there who make a living at the racecourse. They are aware of all the variables which can improve on the 33 per cent success rate of merely betting on favourites.

SUCCESS

That is the whole concept behind Oracle. It isn't infallible and much of your success will, in part, be due to the combination of your experience and the advice given by Oracle.

It's not a magical prediction program, it's a guide to identifying bets that will provide a good return on your stake.

The manual which came with Oracle states that you do no need any experience of horse racing to use the program. This is true but you must bear in mind that any mistakes made in entering data due to lack of experience with reading the racing papers' information, will obviously lead to incorrect results, so make sure your data entered is accurate.

So, the big question is, does Oracle

which Oracle uses is kept up to date, there are also monthly update disks which are available for £25.

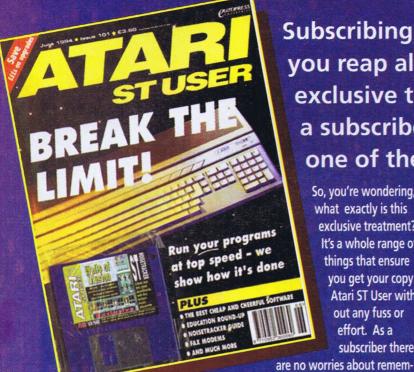At £99.95, I personally feel Oracle will be of an expensive investment for someone with little knowledge of racing. However, those familiar with racing and betting will probably recognise Oracle's usefulness and may well see it as a worthwile buy.

```
                  ORACLE.PRG
        ORACLE RACING SYSTEM (c) D.W.S.S. 1991.

       FAVOURITE STATISTICS AT CARLISLE     AS OF 10.05.1994

              SPRING    SUMMER    AUTUMN
               29%       34%        33%
HEAVY        SOFT      GOOD/SOFT   GOOD    GOOD/FIRM    FIRM
  80%         80%        28%       23%       36%         63%
  SF          SF         6F        10F      12F         14F+
  29%         23%        32%       23%       28%         83%
IS PREVIOUS EXPERIENCE AT THIS TRACK IMPORTANT (EG. A 1ST OR 2ND)
                        YES
         FAVOURITES RESULTS BY RACE TYPE
NON HANDICAP 2YO OLDS.              HANDICAP 2YO OLDS.
     25%                                80%
NON HANDICAP 3+YR OLDS.            HANDICAP 3+YR OLDS.
     44%                                28%

             ENTER SEASONS PERCENTAGE
```

As you progress through Oracle's question stages you will be given various bits of advice on what to look out for in a race

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MORTIMER

Mortimer is a multi-functional accessory for all Atari STs. It is a sophisticated program that has all these functions in one:

- text editor
- printer spooler
- keyboard macros
- virus guard
- flexible RAM disk
- snapshot
- disk functions
- pocket calculator

ZOOL

The Gamer Gold award-winning Ninja of the Nth dimension can be yours absolutely free.

"Zool is probably the best platform title you're ever likely to see on the ST. Neat graphics coupled with a brilliant gameplay make the antics of Zool a winner from start to finish."

Gamer, Atari ST User November 1993

With recent developments in modem technology, the dedicated fax machine can be emulated by your average Atari computer with appropriate modem and software.

Now, thanks to the Falcon's much talked about DSP chip, and voice mail packages being developed by HiSoft and Compo Software, another common office device – the answer machine – looks set to be challenged by computer emulation.

But what exactly is voice mail, how does it work and what advantages does it give you over a normal answer machine?

Voice mail is one of those terms which can mean different things to different people. When talking about answer machines, it's best described as a voice recording system which, through pre-recorded verbal prompts and recognition of dialling tones, allows callers to navigate their way through the different areas of a voice mail system as set up by the owner.

EXPERIENCE

You may already have experienced such a system. Many businesses with several different departments have such systems installed. When you call, you hear a voice saying something like: "Press number 1 for administration. Press 2 for sales department. Press 3 for personnel," and so on.

You would be forgiven for thinking that a voice mail package would be restricted to these big businesses, as it is very complex to set up and costly. This couldn't be further from the truth. The HiSoft product, for instance, should cost less than £90.

This is due to the fact that the Falcon already has the technology built in for handling most of the complex processes of a voice mail system. So the most expensive portion of a voice mail package – the hardware interface between phone line and your Falcon – has relatively simple and low cost electronics.

How is all this achieved at such a price then? Well, let's look at exactly what the Falcon has to do to receive and record a call.

First, the phone line connected to the Falcon will ring. Detecting a ringing line connected to a computer has been possible since the early days of the good

old 8-bit Ataris. Many a modem owner will know that the serial port on a computer has a ring detect pin which signals the computer that someone's calling.

So, there's no extra hardware required on the part of the Falcon, as it already has a serial port as standard.

Next, the Falcon has to answer the ringing line. Again, this is easily done through simple circuitry in the interface, the serial port and software control.

Once the call has been answered, the Falcon must then be able to play the pre-recorded sampled voice of the owner, listen for the telephone keys being pressed and then analyse and act upon those keys and also record any verbal message from the caller.

All these are, again, easily achieved by the internal hardware of the Falcon. Playing samples is no problem and has been used in many ST games for some time.

Recording a sample is also simple. The

where the vast flexibility lies. Once a frequency has been identified, it's then just a case of going to a specific routine according to whatever frequency has been detected.

Of course, time and development costs will restrict what features will be incorporated into the software, but in theory anything you can do with the mouse, joystick or keyboard, you can also do via the phone handset (though it's rather more cumbersome).

With this software control, the advantages voice mail systems have over a standard answer phone soon become apparent. The majority of answer phones work with an audio tape and a simple message, informing the caller to start speaking after the tone.

With voice mail, things become much more powerful. As mentioned before, you can set up separate "mailboxes" for different people in your household or office.

Each person can have their own pass-

Voice mail technology will soon be available for the Falcon. But just what is it and what can it do for you?

Talking

StereoMaster and Replay sampling cartridges have been doing it for years. On the Falcon, it's even simpler because you don't really need a cartridge. Simply plug a microphone into the built-in socket at the back of the Falcon and use the DSP to sample the audio.

Possibly the most complex part of the process, analysing the frequencies of the tones, is a breeze thanks to the DSP, which merely needs to be programmed to do just that.

All that is required then is for the voice mail software to act on whatever frequencies are detected when the caller presses the phone keys.

The software side of the package is

Voice mail on the cheap

Voxmail is a shareware voice mail program which is currently available as shareware. However, the hardware is not available yet

Here you can convert sound sample files. This means that you can use the many samples which are available in the public domain
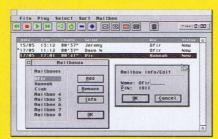
word for accessing their private messages, with various features for maintaining their mailboxes, such as deleting messages and the like.

This makes life much easier and more efficient in a household with more than one person, as you don't have to wade through other people's messages to find

ones left for you. And unlike a standard answer phone, which generally only has one generic message, the voice mail software allows you to have multiple messages to cover many possible situations.

At different times of the day, as indicated by the Falcon's internal clock, you

"Compo's voice mail system is targeted at the professional user and the busy home," said Neal O'nions.

"By professional, I mean someone who has a Falcon and is also working from home or a small office. For our professional kind of user, telephone management can be a real problem as the home/office can often be left unstaffed during the day.

"Voice mail allows for easy and flexible message changing. For instance, you can program the system to give out one contact number between certain hours, another later on, then after 5:30pm, only accept messages."

Ofir described the HiSoft system as being aimed at the home user and small business person alike. Citing a fictional two-person household, he explained the advantages over a normal answer machine:

"Take a couple sharing a phone line – Jack and Mary. You can phone Jack and leave him a personal message which Mary can't listen to. You can also check whether Jack was expecting your call and left you a message.

"When Jack wants, he can check his voice mail and listen to new messages, or

technology

could have different messages, each starting with "Good morning" or "Good afternoon" for example.

You could also have discreet messages to cover impromptu situations. You could have a specific message for someone you are expecting to call, such as: "If this is Mike, press number 9," at which point the message for Mike would be heard.

For business use, all this flexibility is invaluable. If you find yourself out of the office at a different time every day, you can easily plan what messages to leave for callers according to the day's itinerary, such as what time you expect to be back in the office or alternative numbers for callers to contact you at.

VERSATILE

The list of potential uses to which you can adapt a voice mail system are almost limited only by the imagination of the software programmer.

As mentioned earlier, HiSoft and Compo Software are currently working on voice mail systems for the Falcon. We spoke to Ofir Gal, Atari software developer and the man behind the HiSoft voice mail software system and also to Neal O'nions of Compo Software.

We asked them a little about the voice mail packages they are working on.

mark them for later attention. He can also do this from a remote phone." Remote access to the system will be a standard feature in both the HiSoft and Compo packages. This means you can call up the system from outside using your private access codes to control the computer and replay messages.

With the Falcon able to emulate some of today's essential office equipment so easily, an interesting possibility as regards future communication applications arises. At the start of this article, it was mentioned that the average Atari computer could be used in place of a dedicated fax machine.

With the answer machine soon to be emulated on the Falcon, we may soon see a move towards a highly integrated communications machine.

It is quite feasible to combine all current communications applications into one package.

Such a combined communication system for receiving and sending faxes and recording messages, as well as general use as a terminal for logging on to such systems as the Internet, would make for an extremely powerful communications tool.

The DSP in the Falcon is also theoretically capable of emulating the hardware in a modem and we may yet see the modem succumb to Falcon software emulation.

Wild cats pretty sheep

There has been a lot of fashionable talk lately of a developing "tele-cottage industry", with workers foregoing the dubious pleasures of daily commuting in favour of a modem link between their desktop computers and their employers.

I have heard stories of Far Eastern airport schedules being controlled from the Scottish highlands, but my experience of early morning rush hour traffic suggests that this new way of life is still far from the norm. So far indeed, that I could not think of anyone I knew to whom the description of telecommuter could be applied – until I met Jeff Minter, that is.

Now those of you whose misspent youth included endless hours wiggling a joystick to move colourful sprites across a games screen will instantly recognise that name.

Jeff Minter is one of the cult authors of the shoot-'em-up scene, being responsible for a series of some of the best-loved golden oldies: remember Gridrunner, Defender II, Matrix, Revenge of the Mutant Camels or Andes Attack?

REVIVED FORTUNES

On the other hand, miserable business types engrossed in spreadsheets and databases will probably ask: "Jeff who? I thought this series was about serious users of Atari computers." Well, this is serious. So serious in fact that Jeff Minter may well enter history as the man who revived the fortunes of Atari Corporation.
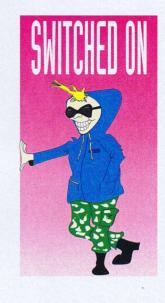
It is no secret that Atari have staked almost everything on the success of their revolutionary new games console, the Jaguar. You may not have had the chance to see one on these shores yet but in the US they are already selling in their tens of thousands.

But like the most technically advanced desktop computers, the Jaguar won't impress anybody without decent software to match its specifications. Games consoles are vitally dependent for their success on the stunning new games that everybody has heard about and want to play.

Now guess who happens to have written just such a game for the Jaguar? Jeff

In his continuing search for people who make their Ataris pay their way, Günter Minnerup visits a man who could hold the future of Atari Corporation in his hands

Minter, of course. And the game? It is called Tempest The rave reviews and previews written about Tempest – dubbed by Gamesmaster magazine the "game of the decade" – have really got people going out and screaming for Jaguar consoles. Just a few minutes' play convinced me that this was indeed true arcade quality brought into the living room: incredibly smooth truecolour effects, a hypnotic soundtrack, fast and furious action and supreme playability.

No wonder the Tramiels in Sunnyvale think the world of Jeff Minter, considering the effect his code is having on the value of Atari shares!

But back to the telecottage and telecommuting bit. For Jeff is not living it up in California's sunshine or old London town, but in a remote Welsh valley. And I mean really remote: even detailed instructions given over the telephone had not quite prepared me for the Odyssey around narrow country lanes which finally came to an end outside what must

be one of the most isolated pubs in Britain.

I don't normally ask any further questions once I find a pub, but since my mission was to track down Jeff Minter's cottage another phone call was needed. A few minutes and another bend in the road later, and I finally arrived at a small white washed house separated from a mountain stream by a patch of grass. Outside, on that patch of grass, stood two sheep about which more will be said later.

RURAL RETREAT

Jeff moved out into the Welsh countryside six years ago, and rarely leaves his rural retreat these days, except for family visits and flights to Atari in California. Nor does he need to, for everything a programmer could want is right there around the cottage.

There are, of course, telephone lines even in darkest Wales so there is no problem keeping Sunnyvale supplied with chunks of newly written code without ever going anywhere near a Post Office.

As for computers, it is difficult to think of a model that it not to be found in corner somewhere, between the collection of arcade machines and gadgets of all descriptions.

The obligatory Windows PC is used mainly for access to CD-ROMs and access to the modem. There's a battered old Mac Plus, an Amiga, some older collector's items and, of course, Ataris.

The Atari logo is everywhere, even on the doorbell (a sticker in case you wondered), and certainly on the Falcon and the TT. Pride of place, however, goes to the two Jaguars, one of them hooked up to a television, the other to the TT, Jeff's main development platform.

SWITCHED ON

Trying to get Flossie to sit still for the photographer

and

Tempest, the "game of the decade"

Ask Jeff how the Jaguar compares to the other machines he has programmed and he says it's like "the difference between riding a bicycle and being strapped to a cruise missile". He should know – few people have more experience of writing for successive generations of computers than Jeff.

He started off in 1982, learning assembler on a Commodore Vic 20, and progressed via the Commodore 64 to the ST and Amiga.

"The Amiga's operating system only works properly if you have a really big machine with lots of memory," says Jeff, explaining why he prefers the ST to the Amiga, "whereas the ST can do the job even with a basic configuration".

SUPERIOR

The one game he has written for the Falcon, Llamazap, is due to be released by Atari any time now, but naturally the superior speed and graphics of the Jaguar will make it hard now to go back to what, in games terms, are inferior hardware platforms.

Jeff's enthusiasm for the Jaguar is infectious and he is firmly in the camp of those who believe that the success of the Jag will be the platform from which Atari can finance their next advance in the computer market: "I know the Tramiels well and I am convinced of their commitment to the future of the TOS machines. If the Jaguar sells anywhere near as much as it deserves, all Atari

Again, when i have 3ds i shall design a "Yak" text to go under this logo.

The yak, Jeff Minter's trademark and electronic signature

➤

users will benefit from the new resources available to Atari Corporation."

So what precisely is Jeff working on for the Jaguar now that Tempest has established the new machine as the hottest games property in town?

Those who have followed his work in recent years will know of his interest in light synthesizers – Trip-a-tron, Colourspace – and it comes as no surprise to find that Jeff is working on such a light show for the Jaguar.

FINISHED

The finished product will, in fact, be built into the soon-to-be-released CD-ROM version of the Jag, enabling its lucky owners to plug the machine into their hi-fis and enjoy a truly mind-blowing visual experience, fully synchronised with the sounds of an audio CD. Jeff's recommendation is Pink Floyd, but then that's what you would expect from a long-haired hippy figure punctuating his speech with words like "psychedelics" and "cool"....

Together with his friends Dave Japp, a hardware engineer, and Dr Ian Bennett, a mathematician well-versed in computer graphics, he has recently formed a separate company for this aspect of his work. His Virtual Light Company have exciting plans to expand into larger systems for clubs and live bands, perhaps incorporating several Jaguars chained together for

Is Floppy really the "prettiest sheep in the world", as Jeff Minter thinks? Molly doesn't agree

some truly awesome effects.

All this high-tech stuff, however, is only one side of Jeff Minter, as is immediately obvious to anyone entering his cottage or even meeting him in his llama sweater covered in sheep and yak badges. Jostling for space amidst the keyboards and monitors is an enormous collection of furry animal paraphernalia, and the quickest way to change the subject from video games is to mention sheep, camels, llamas or yaks.

SHEEP

Games titles like "Sheep in Space" and the plentiful four-legged sprites featured in them are further pointers to the other great interest in his life. Jeff is mad about these beasts, and takes great delight in showing you the llama photos he took on a holiday - or should it be pilgrimage - to the Peruvian Andes, or treating you to appropriate sounds and pictures from his Mammals CD.

Remember the two sheep outside the cottage which I mentioned earlier? They are Molly and Flossie, bought years ago for a few quid from the local farmers to save them from ending up on dinner plates. Molly and Flossie are probably more important to Jeff than his two

Jaguars and he refers to them affectionately as "my girls". Flossie, Jeff insists, is the "most beautiful sheep in the world". Look at the picture on this page and you'll see why only Molly could possibly argue with that!

It would be hard to find someone who is more at peace with himself, living with creatures he adores in peaceful surroundings, earning a decent living doing what he enjoys most.

I asked Jeff how he came to be a games programmer in the first place, expecting him perhaps to be a computing graduate who was hired by a commercial software house and, once successful, setting up on his own. But no, it turns out that Jeff never had any formal programming qualifications or training.

"I just started to write simple games for friends on my Commodore Vic 20 in the early '80s and got chucked off my Physics course at the University of East Anglia because I spent more time coding games than studying," he explains rather sheepishly (no pun intended).

Another attempt at Higher Education at a Polytechnic failed for similar reasons, and he also went through a period of serious illness. Eventually Jeff decided to concentrate on the one thing he enjoyed and was good at – writing games. The Vic 20, and the Commodore 64 especially, were the platforms from which he launched his career, but Atari was to become his fate. "I have always admired the machines built by the Tramiels, first

at Commodore and then at Atari. They were simply the best."

His reputation as Britain's foremost games programmer is based on sheer speed, technical brilliance and, above all, supreme playability.

"Playability is everything", he insists and he has never considered joining the lucrative bandwagon of heavily promoted TV and film tie-ins or gratuitous gore and violence. Although his games fall into the category of shoot-'em-ups, he is in fact a pacifist who has been known to feature the CND symbol in his games.

In his philosophy, coding highly playable and entertaining games is a way of communicating with people. For this reason, he really appreciates feedback from his players and is one of the more approachable megastars of the games scene through email via CIX or the Internet, known to most people there simply as "the yak".

This attitude is also exemplified by his enthusiasm for the shareware concept. Jeff is full of praise for the honesty of Atari users who have richly rewarded his decision to make games like Llamatron available as shareware by a flood of registrations.

Llamasoft, the software house he runs with his parents, used to rely heavily on shareware: "At one time, shareware registrations were our lifeblood and Atari registrations far exceeded those from other hardware platforms".

I was struck by the fact that Jeff hardly ever uses his computers for anything other than games development. The TT, for example, only has Atari's Jaguar development tools on its hard disk.

The PC may drive the modem and CD-ROMs, and the old Mac does some word processing, but mainstream computer applications play virtually no role in Jeff's daily activities and he has never been tempted to employ his legendary coding skills to write applications software.

INTEREST

As a true assembly metal-basher who hits the hardware directly to squeeze it for every ounce of speed, high-level programming languages are anathema to him.

At some points in our conversation, it occurred to me that we were speaking entirely different languages, sharing a common interest in Atari hardware but having totally different ideas about what it is for.
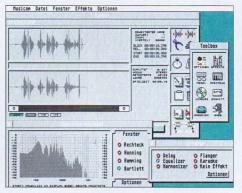
But that, in fact, is Atari in a nutshell: here's some powerful hardware at a good price, do with it what you will. Tempest on the Jaguar today, tomorrow desktop publishing on a personal computer incorporating the Jaguar chipset?

Waving goodbye to Molly and Flossie, my thoughts were with the wild cats inside the cottage. Could it be that I had just seen the future of Atari computing? The friendly hippie whose assembler skills have tamed the beasts was smiling enigmatically. It would suit him fine, no doubt.

Located literally at the border between Holland and Germany, with Belgium only a mile to the south, Compo are the epitome of a pan-European company.

Their building, which used to be the Dutch customs office, now has two addresses, one German and the other Dutch, and telephones have German and Dutch lines. Although Theo Breuers, Compo's managing director, is Dutch there are also Germans and Americans working at the HQ.
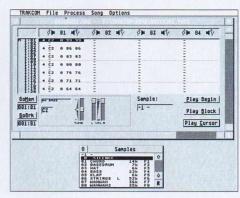
Compo were founded in 1986 to develop interactive medical-training PC software for Universities. The name is the Dutch acronym for Computer Aided Medical And Paramedical Teaching. Poor PC graphics led Compo to first explore the Mac but in the end settle on the ST. Back then the students were not computer literate, so ST's friendly graphical user interface was a big improvement over the PC's command line.

Having made the move in 1987, Compo rewrote their educational software for the ST followed by a program for dentists including digitized X-rays.

![MusicCOM 2 screenshot]

MusicCOM 2 is now fully modular and provides numerous real-time effects from equaliser to Karaoke

![TrakCom screenshot]
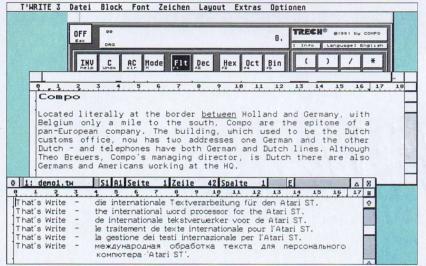
TrakCom is a brand new program that combines individual samples into complete songs

Compo also networked a few hospitals using A-Net, where to this day the Atari system still operates. But none of the software was very successful due to the conservative nature of medicine and its dedication to the PC.

The end result was another change of direction in 1988 when Compo started working on That's Write. This was followed by the biggest Compo success to date and marked their venture into hardware.

PC-Speed came out in 1989 and sold over 100,000 units worldwide thus making it the best sold Atari ST product ever. It was bought from Sack-Electronics with whom Compo contin-

![That's Write 3 screenshot]

That's Write, currently in version 3. That's Write Classic is about to be released in the UK where it will be known as Write On 2

No
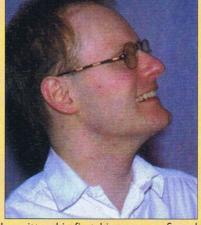
The programmers who say "No"

Actually they say yes, but they are together under the umbrella of "no software". Currently numbering seven, "no software" are a group of independent developers who happen to work closely with Compo who publish and distribute most of their work. We caught up with three of them at the recent proTOS Atari show.

Jîrg Tochtenhagen

Jîrg is another programmer who got hooked on computers thanks to the now legendary ZX81. Having borrowed a friend's ZX-Spectrum back in 1983, Jîrg was so fascinated he decided to get one himself.

Playing games on an Atari 2600 was just not enough so he started programming in Z80 assembler. But it wasn't until 1987 that he got his hands on an ST. A 1040 was given to him as a graduation present.

A year later he had already written his first big program Sound Merlin. Back then there were various sound samplers available for the ST's cartridge port. Jîrg bought one but was underwhelmed by the software. He wanted to use the sampler in a more musical fashion so

he wrote Sound Merlin just for himself as a simple drum machine cum sample editor.

But, as is always the case, he kept adding features and one day he realised he had a full-blown program on his hands. Originally it was written in GFA-Basic with assembler sections for time-critical tasks. But the more he programmed in assembler, the more he liked it and eventually he rewrote the whole program in Devpac Assembler.

This love of assembler extended to other programs such as Convector 2 in 1990 which is 95 per cent in assembler. The remaining five per cent was in C which became the new attraction for Jîrg.

In 1991 he got a TT and at the start of 1993 a Falcon, the two computers he still uses for all his developments. Jîrg also wrote a number of smaller programs including two modules for MegaPaint, GEM-Metafile and accessory modules.

However, his main program is Arabesque, originally written by Shift but not kept up to date. Jîrg worked on a major overhaul resulting in a complete rewrite which is to be released as Arabesque 2.

Today Jîrg's setup includes a TT with a 19in Eizo monitor and a Crazy Dots graphics card. All of his programming is done in Pure C and Devpac Assembler. Pure C used to be Borland's Turbo C but was renamed in Germany after Borland pulled out of the ST market.

Although he was taught Pascal at school, Jîrg likes C because it's very close to assembler and yet very easy to program. Another reason for switching to Pure C is its excellent source level debugger. Interestingly enough, Jîrg does all his programming not under TOS but under Mag!x, a multitasking OS from Germany that is only now beginning to spread to the UK. He uses MultiTOS only for testing.

ued to improve it, resulting in AT-Speed in 1991 and culminating in Falcon-Speed last year.

Another milestone was Compo Script, a PostScript interpreter, which was the first time an Atari company had worked with a leading US giant to port software technology over to the ST. This involved using BitStream fonts and working with Lincoln, a company famous for their work with Adobe.

GROWING

The British branch – now one of the most active – was opened in 1990 under the guidance of Neal O'Nions. Theo knew Neal when he used to work for GST. The original idea was to cooperate more closely with GST but instead

When it comes down to dedicated Atari programmers there ain't no competition to Compo. Don Maple tells us why

Compo's building is literally on the Holland/Germany border

Compo UK were born.

Around the same time, Atari Holland attempted to bring all major developers under one roof. Compo opened a second office at Atari HQ in Viannen with other Dutch companies such as Technobox and Calamus B.V. They all paid rent to Atari and in return got instant access and superior support. The US branch was opened in June 1992 and this year Compo also opened a French office.

Compo have always cooperated very closely with Atari. Back in 1991 a joint project in Dallas resulted in 50 prototypes of a 1040 with built-in AT-Speed and an IDE drive. However, the machine never came out. Theo still regrets this because the timing was definitely right for an ST with built-in hardware PC emula-

tion. Compo don't develop everything in-house but rely on outside contractors. This often results in buying the product from original developers and then continuing together. Compo are also willing to buy and develop ideas.

"Our competitors are not Atari companies but the Mac and Windows," said Theo. "We've been telling this to other Atari companies for months. We want to work together with them because that's the only way to survive."

Theo was very forceful on this point.

➤

COMPOtition

Ralf Becker

Ralf too owes his introduction to computers to a British-made machine. It was a Schneider CPC664 which is what Amstrad computers were called in Germany. Having seen a friend's 464 with the built-in tape recorder he decided to get the 664 in 1984.

In the beginning it was only used to play games which Ralf typed in. This turned out to be boring in the long run, so to satisfy his creative urge he started writing his own games. But Basic is not exactly the fastest of languages and this led to the inevitable slide into Z80 assembler.

Many smaller programs followed, including tools and file filters but the whole setup eventually became "too old fashioned" and Ralf moved over to the ST in the guise of a 1040. This proved quite a shock because the ST was so different.

After a brief flirtation with GFA-Basic he settled down with Omikron Basic, another popular German program. He wrote some labyrinth

adventures games and demos. Eventually Ralf migrated to Megamix C but then switched over to Turbo C like most German ST programmers. In the beginning he found C a bit cryptic. At the time he also did his national service so he attended some C courses which were on offer there. Slowly he started appreciating C more and more.

While studying computer science, he got in touch with his current partners. He wrote a calculator accessory which perked up the interest of his contemporaries. The same calculator called Trech still runs in That's Write.

In the meanwhile Ralf tried out all sorts of languages from Turbo Pascal and Modula to all sorts of Basic dialects. His main language remains C, "although C requires a certain amount of discipline otherwise it becomes unreadable," he said. However, due to this structured environment he developed a style which he likes.

In terms of hardware, Ralf moved over from his 1040 to a Mega STE and then settled on a TT with a graphic card and a 17in monitor. In terms of software he uses Pure C and runs a desktop replacement program called CoCom which he calls his "no desk".

Ralf also co-wrote with Jeremy Hughes a Calamus-to-GEM font converter called C-font, used to import Calamus fonts into That's Write.

He also wrote the no installer, a program used to install various "no" programs and he completely rewrote the That's Write 3 user interface. Finally, he wrote the printer module called Flexi Print which is a part of both That's Write and That's Address.

➤

➤ Such cooperation also facilitates standard-isation. For example, "no interface" would be accepted if it were a Compo product but as a cooperative effort, other companies are more likely to adopt it.

Compo also work closely with Brainstorm from France, another major player in the Atari market, and have just formed a joint distribution company "ATTAC" with Overscan, a well known German developer, to market the products resulting from this cooperation.

"Compo were always on the serious side of the Atari market," said Theo. "But now we are moving into other areas, in particular music and communications."
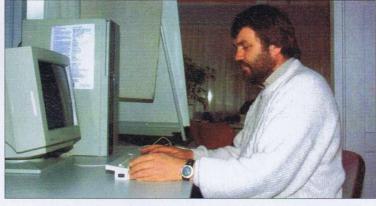
Compo were also the first to support the Falcon, even before it came out. A Compo program called Hard-Chord was used by Atari at the end of 1992 to demonstrate the Falcon's capabilities at a show in Cologne, Germany. The visitors received it very favourably, so Compo reworked the user interface and released it as Musicom.

RUNNING FAST

The hottest hardware product today is the Medusa. This DM8000 "TOS computer" – as Theo calls it – outperforms even the TT by several orders of magnitude.

"Medusa is a sign to the market that it's possible to build a TOS-compatible computer. It's 100 per cent compatible with all programs that run under MultiTOS." Medusa runs a patched TOS 3.06 under licence from Atari. "The patches were needed because the only two original chips we use are DMA and AJAX. The rest are all normal PC parts."

Theo explained the main concept

Theo Breoers at the new high-end TOS-compatible computer

behind the Medusa: "We don't have a lot of overheads as Atari do and we don't have to make money with the Medusa. What's important to us is that there is a new machine. It's a sign to the high-end market in Germany that even without Atari a developer can come out with a new TOS-compatible machine and that the development continues."

An advertising company at the recent CeBIT show compared loading times of Calamus under Windows NT on an Alpha – a DM35,000 machine – at 19 seconds, with Medusa's 22! "I also hope that the Eagle comes to the market to complete the line: the TT, the Eagle and at the high-end the Medusa," said Theo.

Looking to the future, Compo have several interesting projects about to be released. CD-ROM-ROM is a DM599 cartridge and double-speed CD-ROM drive package for any ST.

Afterburner, expected to cost between DM1600 and DM2000 is a 68040 accelerator card for the Falcon. Moving to software, the latest program is TrakCom, a DM199 synthesizer. Musicom 2 at DM199 started shipping to the UK at the time of

this interview. But perhaps most interesting was the new Falcon voice mail system called T-Phone, priced at DM399. Theo pulled out a small box with a number of ports.

It connects to the Falcon's microphone and speaker ports providing through-signals for both. An American-style phone socket is used to connect it to the phone system and there is also a connector to the serial port. The device is currently being approved and will come with very powerful software.

If anything can be learned from Compo's success it's that the European idea is very beneficial for business once people look beyond the narrow-minded parochial view.

The recipe for success is to support the Atari market vigorously with new developments like Compo do, instead of the wavering and flirting with the PC prevalent among some other companies. It's thanks to this forward-looking attitude that Compo are clearly a market leader and innovator consequently and deservedly prospering in the process.

The programmers who say "No"

Jîrg Zabell

Jîrg is currently one of the managers of "no software", but he too started computing as a hobby. His first computer back in 1982 was an Atari 800. He got it after a long search and detailed evaluation of what was available at the time. Six months later he followed up with a cassette recorder and eventually a floppy drive.

The main reason he chose the Atari 800 was because of the paddle ports and their analog-to-digital converters. The only close runner was a Belgian computer called DAI that has since disappeared into oblivion. It had many input/output ports but was just too expensive.

Jîrg held on to his Atari 800 until the advent of the ST in 1985. He bought one of the very first STs to be imported into Germany. He liked the computer so much he became an Atari dealer. During this time he also got into programming and did work for his customers but this was using PC databases such as dBase.

While managing the store, Jîrg was constantly in touch with customers and one of the subjects that kept coming up was word

processing. It turned out that users were not happy with what was available at the time, so he started considering developing something himself.

During this time Jîrg got in touch with a number of ST programmers, both through his store and the University. One of them wrote a disk copy program in the original ST Basic. Others worked on various tools and utilities such as Key Click – a keyboard macro recorder – and LQ Font – a program to transparently produce letter quality output on non-LQ printers. Both of these ended up as commercial programs.

It was this group of programmers that worked on the StarWriter to address all the feedback Jîrg was getting in the store. The program was taken over by Compo for distribution and Jîrg abandoned the store and focused solely on software development. Today Jîrg is the managing director at "no software".

No future!

With programmers like that, it's no wonder (sic) that "no software" have big plans for the future. This comes in addition to an already long list of current programs such as That's Write, That's Address, That's Pixel, WordPlus 4 and ComBase to name but a few.

"no software" also worked in part on MusiCom, CompoScript and ScreenEye software. On the immediate horizon are three major projects scheduled for release later this year: Arabesque 2 – a CorelDraw lookalike, Formula-X3 – a powerful formula editor, and LDW PowerCalc 3 – a Lotus 123-compatible spreadsheet.

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PUBLIC SECTOR

Adam Phillips boots up and reviews the latest PD releases for your machine

Borganizer Etc.

Programmed by: Various
Available from: Goodman International
Disk No. GD 2268

One of the public domain's main strengths is the diversity of software on offer – whatever your tastes, there is invariably going to be a package to suit your delicate computing palette. Borganizer Etc is no exception to this carved-in-stone rule, offering six utilities and oddities to spend time with.

Among the line-up is the main program, Borganizer. While the title may seem a little obscure to say the least, the actual utility – a book, magazine and newspaper database – is extremely simple and easy.

Details about any literature you're reading – from books to individual items taken from pamphlets and other sources of the written word – can be entered into the comprehensive catalogue. Comments and dates can be typed in to provide a highly useful and effective filing system for anyone needing a detailed database to work from.

After cataloguing your novels, load up the Astro program for a quick tour round the

Keep notes and detailed records of book, magazine and newspaper collections

different star signs and the types of personalities normally associated with each. Also listed are the various Chinese years over the last century and their respective animal symbols.

For those looking for a little guidance in finding the perfect partner, a compatibility guide has been included for lost romantics.

As well as these two programs, there's a label printer called NoFrills that lives up to its title – it's very basic looking. An address book program for storing useful names completes the package, the only problem being that it's laid out in the American address format with zip codes. Despite this, the computerised address book is a handy addition.

On the whole, the package works well, despite some scrappy presentation of a few of the programs featured. If you can see a use for any or perhaps all the software then Borganizer Etc is well worth a look.

Muzzy

**Programmed by:
Enigma Software
Developments**
Available from: Holburn Software

Muzzy, apparently, has a great lust. This desire takes the form of a craving for shiny objects.

Why this should be is a question that is never answered and perhaps only the likes of Freud would be able to drum up an appropriate answer.

Or perhaps, it's just a way for the programmers to create the old scenario where you grab as many valuables as possible and try to add a spark of freshness to the proceedings.
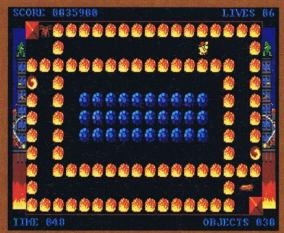
Our Muzzy was in fact made specifically for this purpose – to travel from screen to screen through four different elements, Earth (gold), Fire (gems), Water (rocks) and Air (balloons... eh?), and grab every shiny object. Once done, it's time to move on to the next screen.

Rocks can be pushed round, switches flicked and enemies blocked off or destroyed by setting off bombs near them, making your travels through the four different worlds a challenge. Graphics are basic but serve their purpose adequately, as does the sound which boasts an attractive title theme.

To dispel fears of having to plough through all the levels each time "game over" is declared, a useful password system has been provided.

For £5.99, Muzzy may not look or sound anything particularly special – it's all a little reminiscent of Boulderdash, with faster gameplay - but after the initial misgivings, this is actually a reasonably addictive little title.
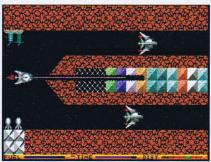

Lust after shiny, silky objects in Muzzy, an offbeat game with an addictive edge

Side Long

**Programmed by:
Gary Wheaton & Kathy Steinbach**
Available from: Goodman International
Disk No. GBU 123

This month seems to be one huge blast from the past, and Side Long is no exception. Looking remarkably like the arcade
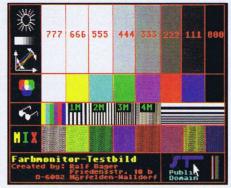

Hurtle through caverns and space complexes to escape from certain death

HP Chrome 2.5

Programmed by: Rufus Developments
Available from: Various

Hewlett-Packard printers would appear to be the most successful in their class. They are cheap, reliable and well supported, and the DeskJet series is apparently the best selling range of printers in the world.

The HP range now has another string to its bow with the arrival of HP Chrome, an extremely useful utility for users of the Desk Jet, DJ+/500, 500c, 500b and the 550c. The basic function of HP Chrome is to enable the user to print as many differing picture formats as possible – Degas, Neo, Gif, TIFF, Tiny, RAW, Spectrum and (X)IMG to be precise.

Any image can be viewed, via a main menu, then cropped and positioned precisely where you want it on the page. Once done, it's possible to alter the colour, brightness and contrast to suit your own specific requirements. For all owners of Hewlett-Packard gear, this is a very useful and well structured piece of software that shows off what the PD market can offer the individual.

HP Chrome is an ideal tool for getting the most from your Hewlett-Packard DeskJet

Art For Kids

Programmed by: Wizard Software
Available from: Goodman International Disk No. GD 2277

If keeping the kids occupied is one of your least favourite pastimes then computers can offer the parent a helping hand. Unfortunately, most of the time this results in multiple pixelised body blows and hacking the flesh off undead corpses.

For a more constructive use of their time, Art For Kids offers an ideal solution. Despite only being a demo, the package offers an entertaining and creative tool for children to while away a few hours.

An excellent package that should help keep the kids busy and creative for many an hour

Starting with a drawing board with icons littered liberally round the outside, the youngster is able to draw with pencils, brushes, stencils and various other facilities to create a work of art or, at the very least, something that's supposed to look like an elephant.

Each function is accompanied by sound effects - use an eraser and the action is accompanied by the sound of a squeak as the picture is eaten away. Patterns can be added and mystery images loaded in which need to be "erased" to be revealed from the background.

Another nice touch is the use of stamps where the user can choose from a large selection of pre-drawn images and place them all over the screen. Just to show how kids-orientated this title is, the various important functions such as loading, saving and quitting require the use of certain keys, ensuring that a wandering mouse pointer won't accidentally wipe out a picture and cause a screaming tantrum.

It's these touches that make Art For Kids an excellent buy for kids (and adults!) alike and comes highly recommended.

classic Scramble, you're in control of a ship fleeing from a space station on the verge of explosion. With space installations and craggy cavern stalagmites constantly hampering the craft's progress, the game is no walk over.

Using the on-ship lasers and missiles, a path can be cleared to allow your vehicle to make its way out before the countdown reaches zero or your fuel runs out. Graphics and sound are effective and the scrolling is excellent, adding that all important touch of professionalism.

The gameplay is simple and it's addictive stuff trying to reach the exit within the time limit. To add to the tension, if you keep getting killed on a certain stage, the computer puts you further and further back. This develops a frustrating but suspenseful tug of war as you try desperately to get past a particularly tricky lump of rock.

As if all this excitement and life fulfilling action wasn't enough, the real gem on the disk is Cyberstorm, a top class Defender clone. Shoot along a wrap-round landscape, blowing up anything that moves, add a healthy

Cyberstorm, this month's recommended buy for the best in highly addictive and playable action

amount of power-ups for better weapons and differing scenery including lethal spurting volcanoes plus large enemy spaceships and you have a minor PD classic in your disk drive.

These games aren't simply two average titles thrown together to make them easier to sell but are worth playing in their own right. This comes highly recommended.
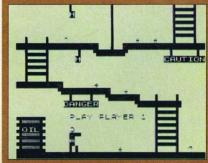
ZX81 Emulator

Produced by: Christoph Zwerschke
Available from: Goodman International Disk No. GD2203

By 'eck, them were days when I was a mere whipper-snapper of a lad, watching me dad stooped over that terrible keyboard deep in concentration over his latest programming masterpiece. That doorstop, the half way point between the ZX80 and Spectrum, heralded an age of home computing that we take for granted today.

This program may seem to serve no other function than a nostalgia trip but it's certainly a worthwhile trip for all computer veterans who can't quite remember what it was like to use one of those state-of-the-art machines. The user is provided with the ZX81 operating system and over a hundred games all on one disk, plus utilities and other assorted golden age goodies to play around with.

Confronted with that many titles to sort your way through, it makes you realise the restrictions programmers had to work with all that time ago – the likes of 3D Labyrinth and Kong make you wince in nostalgic embarrassment at what must have been a hell of a programming feat at the time of writing .

The ZX81 Emulator, for what it is, is a highly worthwhile buy for old computer addicts and newcomers alike to see what things were like not so long ago. Recommended.

Featuring over a hundred programs and the original operating system, the ZX81 Emulator is a must buy

Attention all PD libraries

If you wish to feature in *Atari ST User*, just send any of your titles which you feel worthy of review to: Public Sector, Atari ST User, Europress Enterprise, Europa House, Adlington Park, Macclesfield SK10 4NP.

Please include a list of the contents of each disk detailing the program name/s and what they are. This ensures quick assessment and inclusion into the magazine. If you are a shareware author, send in your latest creation along with a list of libraries who will be distributing your program/s thereby achieving maximum publicity.

Counter Attack

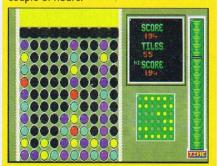**Programmed by: Angus Muir**
Available from: LAPD Disk No. G354

Counter Attack is one of those games which, like Connect 4 and Othello, appear deceptively simple but on closer inspection and playing, take the unprepared grey cells by surprise. Presented in a similar style to the "drop 'n' rack" system seen in Connect 4, the player has to fill a grid with different coloured tiles.

The main catch is not to put two tiles of the same colour next to each other horizontally, vertically or diagonally – if you do, it's game over and back to the beginning. It all sounds rather undemanding but even a slight lapse in concentration as the board builds up, spells instant failure or the time limit running down to zero.
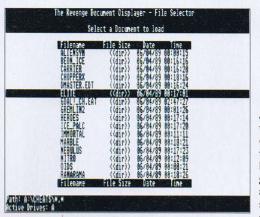
Graphics are effective but the sound is of a very high standard – voices and other samples regularly ring out to add to the proceedings.

Also included on the same disk is 3D Maze, a basic update of a very old game which can be found in the ZX81 Emulator. In a basic-looking 3D labyrinth, the player must use the "hot 'n' cold" coordinates to manoeuvre to the exit.

Neither game is what you would call spectacular but Counter Attack offers enough to keep gamesters happy for a couple of hours.

Slide the tiles in to the right positions in Counter Attack

With over 600 tips, pokes, advice and psychiatric help, the Ultimate Cheaters Guide has something for everyone

The Ultimate Cheaters Guide Database

Produced by: Ijaz Hussain
Available from: Jazzbox Inc

As long as people have been playing games, there has been a market for solutions, cheats and pokes to help soothe the frustrations of everyday players. We receive regular bundles of letters from struggling gameplayers asking, pleading and begging for advice how to get past the guardian on level six or where to use the corkscrew in the gents toilets.

Here, for those frothing at the mouth for tips, is the Ultimate Cheat Guide, boasting some 600 ST and Lynx cheats. Games advice ranges from R-Type and Zynaps to Elite and Goal. Complete solutions are also available for such epics as Ishar and codes are provided for Lemmings and Populous to help make your way past those fiendish levels that have no apparent solution.

A database program means you can enter your own tricks of the gaming trade for future reference. The author has promised to provide updates on all the latest titles, so coupled with *Atari ST User's* invaluable cheat section, this is an ideal package for all gamesters.

Rumbo

Programmed by: Facade Software
Available from: Floppyshop
Disk No. GAM 4162c

Grab your guns and head off in to those catacombs in this average platform adventure

We've had hedgehogs, plumbers, androids, moles and foxes featuring in platform games. Now, in a Rick Dangerous spin off called Rumbo, the ST's first squirrel hero bursts onto the screen.

Revolving round the rather stale plot of rescuing the muscle-rippled rodent's kidnapped girlfriend, the player must guide the sprite through various screens, leaping, shooting and avoiding obstacles and enemies.

The gameplay is hardly spectacular and the look of the whole game is crude on the whole. The sprites stutter across the screen instead of moving smoothly and the player is regularly put back to the beginning of a section when killed, so several screens have to be traversed all over again.

Die-hard Rick Dangerous fans will probably glean some enjoyment from Rumbo but the rest of us will be left with the distinct feeling that the little furry creature should've stayed in the woods where he belongs.

Creative Titler 2

Programmed by:
Justin Orton & Richard Padgett
Available from: Various

Creative Titler 2 is a useful, well presented utility for budding videographers

While the Amiga is the ultimate machine for videography and animation due to the huge array of programs and hardware add-ons available for it, the ST is known primarily in professional circles as an excellent music tool and is a little starved of decent video software.

With the arrival of Creative Titler 2, that imbalance has been redressed somewhat. The package allows you to take text, pictures, images and animation frames created on other packages and have them displayed on a monitor or TV, or recorded onto video. Whatever material you're using is loaded into the memory in groups of 14 individual frames.

From there, various special effects can be used to shape the presentation to fit your own particular creative requirements. Picture in picture, full loop control, instant view options and many other effects are at your disposal.

For anyone who has seen the delights of Scala on an Amiga 4000 and envied its versatility, Creative Titler 2 offers a highly professional and tempting glimpse into how the ST can produce attractive audio visual presentation with the right software.

System Solutions

Computers

520 STfm - 1,2,4Mb	£Call
1040 STe -1,2,4Mb	£Call
Printers - Deskjet etc.	£Call
TT 030 - 32Mhz, 2Mb	£899
Matrix 32Bit Graphics Card	£999

Please call for System Quotes

CD-Rom Systems

ST System, CD-Rom, Translator, ExtenDOS, power cable	£299.00
Falcon System, CD-Rom, SCSI II Cable, ExtenDOS, power cable	£259.00
ExtenDOS	£29.95

CD Rom Disks

Lohrum Vol 1 (PD/Shareware)	£29.95
" Vol 2 (PD/Shareware)	£29.95
Gemini (Atari PD/Shareware)	£24.95
Clip Master Pro (Clip-Art)	£34.95
Midi files and .Mods (Music)	£TBA

Falcon Add-ons

Falcon Wing 0Mb	£49.95
Falcon Wing 4Mb	£179.00
Falcon Wing 14Mb	£Call
BlowUP 030 - Software	£15.00
BlowUP 030 - Hard 1	£49.95
BlowUP 030 - Hard 2	£69.95
14" Monitors	from £99.95
NEW 15" & 17" Monitors	£Call
Clarity 16	£99.95
Cubase Audio	In Stock
FDI - Falcon Digital Interface	In Stock
FA-8 Falcon Analog In & Out	In Stock

Communications

Comms Software

CoNnect v2.4x	£29.95

Includes printed manual and registration

Fax Software (requires Fax Modem)

Straight Fax v2.10	£79.95
Straight Fax upgrade to v2.1	£26.00

SyQuest Drives

NEW - FAST, 14.5ms access, 105Mb

SyQuest Exchangeable HDD System	
105Mb Drive, inc. cartridge	£399.00
105Mb Cartridge	£59.95

Specials

T28 Mhz Accelerator	~~£197.95~~	£189.95
1.44Mb Floppy Drive Kit	~~£89.95~~	£79.95
The Translator		£69.95
HD Driver Software		£19.95
ICD Link II		£89.95
ICD Pro Utils		£39.95
ST(fm/e) Tower	~~£197.95~~	£189.95
Falcon Tower	~~£175.95~~	£159.95
Tabby		£49.95
Falcon 030, 32Mhz, 4Mb Hdd, M/Tos Speedo Gdos, Works		£795.00
As above, 120Mb Hdd		£895.00

Monochrome Monitors

The award winning SM14 is a perfect replacement for the Atari SM124/5 monochrome monitors: it exceeds Atari's original specifications. The 14" high resolution, paperwhite FST (Flatter, Squarer Tube), gives a perfectly centred, crisp, sharp image without blurring at the edges. The SM14 comes without, and the SM14s with, a speaker. The SM14f is for the Falcon. A Tilt and Swivel stand comes as standard.

The special version for STfm/Mega ST installed with Overscan, the screen enhancer, gives a 40% bigger display.

All monitors come as a plug-in-and-go unit, complete with Atari plug, and no adaptors are necessary.

"Essential Buy, 90%" ST Review, May 93

without audio	SM14/f	£129.95
with audio	SM14s	£149.95
OverScan ST		£39.95

MiniS – Hard Drive System
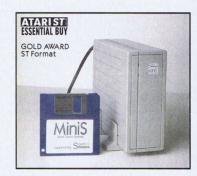
The MiniS Hard Drive System comes with drive capacities ranging from 40Mb up to 1800Mb. This full SCSI system is hardware compatible with all Atari computers, Amiga, Mac, PC etc. They are unrivalled in size, noise, speed, and style and come with a thru port for expansion.

It is the only Hard drive awarded an **Essential Buy of 92%** – Atari ST Review Christmas '93, and a **Gold Award of 93%** – ST Format Feb. '94

★ Quiet fan ★ Dual SCSI port ★ Device Number Switch ★ Internal Power Supply 100-240v ★ Small (2.5x6x8.5in) (WxHxD) ★ Smart and tough plastic case ★ 2 Year Warranty on all drives ★ **Now with HD-DRIVER FREE**

	TT/Falcon	ST(FM/e)
40Mb	-----	£199
80Mb	-----	£259
120Mb	£249	£289
240Mb	£299	£339
270Mb	£359	£399
540Mb	£599	£639
1080Mb AV	£899	£939

Please add £20 to ST(FM/e) if the ICD Link II is required. Heavy Duty professional cases with 60W Power Supply, add £50. All Prices include VAT

Falcon 030 Systems – 32Mhz

The Falcon is fast becoming the preferred choice for 8 track digital recording, with powerful programs such as Cubase Audio using it to its full potential. The DSP chip opens up a whole new world of Sound and Graphics. System Solutions now supply 32Mhz Falcon 030 computers from stock.

PowerUp2 is a brand new 32Mhz accelerator for the Falcon, available now. PowerUp2 doubles the CPU clock speed and does not take up the internal expansion slot.

We supply systems for Music, Desk Top Publishing, Image Manipulation, Animation, Desk Top Video, fax & modem use etc. Please phone for your personal quotation of a tailor-made Falcon 030 System.

PowerUp2 kit	£59.95
PowerUp2 fitted	£99.95
Falcon 030, 4Mb Ram, with PowerUp2 fitted	£599.00

Magic – Multitasking Operating System
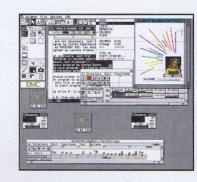
Definitely the most exciting product this year is **Magic** - Multitasking Operating System. Written by the same programmers that brought you NVDI and the replacement desktop EOS, **Magic** is likely to become the standard by which all other Atari operating systems are judged.

Magic runs on all Atari ST/STe/Mega and TT computers with 512Kb, but 2Mb Ram is recommended for a useful working system. Not only does this system run several programs at the same time, but it has been so highly optimised that running one application under **Magic** is actually faster than under normal TOS.

The Falcon version is expected for later in the year.

Magic (Intro price)	~~£69.95~~	£59.95
Magic and NVDI	~~£119.95~~	£89.95
Magic and Kobold	~~£129.90~~	£99.95

NVDI

NVDI replaces the Atari display routines. Screen updates with NVDI are 3-10 times faster. Works with all TOS versions on all Atari ST, MegaST, TT, and Falcon 030 computers. **Cubase and Notator compatible.** Compatibility is remarkable and we have yet to find a program that is not compatible with NVDI'.

ST Review Issue 16, August 1993.

NVDI version 2.5	£49.95

Kobold

Kobold is a high speed file manager. It's unique handling of the Atari file system gives unrivalled speed when copying, moving and deleting files. Copies 1000 files, (10Mb) in 45sec, (GEMDOS 5:35min) Use Kobold for Backups, Formatting Floppies, Move/Copying, Updates, Timed Jobs, etc.. It also includes a script learn function to automate repetitive functions. Can be run as an .ACC or .PRG

Kobold 2.5 (Intro Price)	~~£59.95~~	£49.95

To order and for further information telephone or write to:

Mail Order Telephone 0753-832212

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

or come to our London Showroom at:
The Desktop Centre
17-19 Blackwater Street,
London, SE22 8RS.
Tel: 081-693 3355 Fax: 081-693 6936

For small items under £50 please add £3.50 P&P
Large items over £50 add £10 courier charge
All prices include VAT

Repairs and Upgrades

All repairs are carried out by qualified personnel. If you would like a quote, please ask for an estimate. Need it back in a hurry? Then ask for our professional next-day service. Call us to discuss your upgrade requirements. We fit all quality upgrade products available. We can collect and deliver by courier.

Atari Workshop is the only UK company with TWO full-time Atari Service centres.

Windsor Service Centre: off Duke Street, Windsor, SL4 1SE. Tel:0753-818816

London Service Centre: 17-19 Blackwater Street, East Dulwich, SE22 8RS. Tel:081-693 1919

Call the professionals now for your personal quote.

ATARI WORKSHOP

Write Now

Ridiculous copyright

I write this letter with a few things on my mind – to start with I believe copyright on items within the public domain is ridiculous.

I have a Robocop demo, a Star Trek demo and a Tom and Jerry demo.

These programs and any that use samples and animation like the Snowman demo are a fantastic way of advertising the hardware, the software and the movie, or whatever.

TV/video people spend thousands of pounds on adverts, yet when offered free adverts complain.

I know that when my kids see the Snowman demo they go and watch the video, or in the case of Robocop cannot wait until they are old enough to watch it.

I also want to say to Atari, pull your fingers out. I was at the trade show in April and asked MicroProse, Microdeal and Europress Software whether they still supported the Atari.

The answer came back "no we're only doing Amiga and PC". What's going on – are Atari owners being dumped?

Atari magazines are now published by those companies producing Amiga titles and carry adverts for Amigas and PCs.

Does this indicate to you, like it does to me, that Atari are going the way of Sinclair C5 – a collectors' piece? I hope not.

I hope to start my own public domain library/digitising service to get me employed and to keep a channel open to all the new/old users of the Atari ST.

I digitise photos and save them on disk, as well as scanning images and grabbing sound sample. This is all done within the PD library which I hope to get up and running soon.

A Robson, Digi_View, 21 Queens Road, Oakham, Rutland, LE15 6ED.

Whether you agree or disagree with putting samples of chart sounds or digitised images from movies into the public domain is irrelevant.

In the eyes of the law it's illegal. The fact that music is replayed through a computer speaker rather than hi-fi doesn't really matter – it's still been copied.

When the ST was selling well, Atari didn't seem too concerned about who was developing software and hardware for the platform.

One of the biggest grumbles from developers was always the lack of support they got from Atari. I don't really expect the manufacturer's attitude to change now they are putting most of their effort into the Jaguar. *The fact that Atari magazine publishers also produce Amiga titles doesn't imply anything, except that they want to make more money.*

Publishers of news-stand Atari magazines also produce magazines for Amigas, PCs, games consoles and a whole range of other formats.

Moving on up

I have swapped by Mega Drive for an Atari 520STFM, which I upgraded to 1Mb. Please could you answer some questions?

Are Atari STs going out of use and is the Amiga better? And I would like to know why the Atari is renowned for good music but the Amiga has better sound.

What can I do to make the sound better? Is it possible to amplify the music with an amplifier? What cables would I need to do this?

R Cowtan, Gwynedd

The fact that you swapped your console for a computer suggests that you want to do more with the machine than just play games.

The ST is an ideal introduction to home computing. It's got an easy to use interface, and a huge catalogue of software applications available.

Its popularity is waning, however, and the few new machines coming into the country are usually only sold by specialist computer dealers.

That doesn't mean that yours won't serve you well for many years to come, or that the Amiga is better. The machines are different and are better at different things.

In the music industry the ST has ruled for many years – but I think you have a slight misunderstanding as to why this is so. The STFM's built-in sound chip is not as good as the Amiga's but the ST can be connected straight into Midi equipment used by professional musicians and makes the ideal studio companion.

Going on-line

I am interested in joining the increasing number of people going on-line, mainly so that I can keep up to date with my computing hobby.

There are many types of modems and bulletin boards, available but I really don't have a clue about what I should be looking for before joining. Can you give any advice?

P Summers, Derby

There's never been a better time to get hooked up to a bulletin board. Modem prices have tumbled during the last year, and telephone charges have also been cut.

Fast modems will cost you more in the short term, but as time passes and you spend less time on-line as a result of their speed, you will see savings in phone bills.

As for the system you choose to access, that's really down to personal choice. There are plenty of bulletin boards that are free to access, but expect to pay for big on-line databases.

Of these, CompuServe have a vast range of conferences, news sections, financial reports, travel information – in fact practically anything you could want to get hold of.

But for a more comprehensive read about how to get on-line and what you'll find once there, check out our special communications feature due in next month's issue.

Group support

Atari user groups are, in my opinion, valuable resources that seem to be disregarded as sources of both assistance and inspiration.

Assistance because many of the questions that seem to crop up regularly in the problem pages can be best answered by a simple "hands on" demonstration.

Inspiration because you can be sure that there are as many different ways to do things as there are members at the meeting.

There's an easy way to see if there is a group near you by ringing Ken Ward of the Association of Atari User Groups on 0603 661149.

Derryck Croker, Watford

£25 Prize Letter

There are many user groups across the country offering excellent support for the ST. If you want to meet up with some fellow enthusiasts why not get in touch with Ken?

Calamus calamity

I recently managed to obtain a second-hand copy of Calamus 1.09 from a computer sale at my local social club.

The package is totally legitimate with the serial number on the disks. However, I am having a few problems with importing graphics and printing.

I tried contacting the Signa address in the manual but I haven't received any reply from them. Have they moved and, if so, what is their new address and (preferably) telephone number?

P Moore, Glasgow

Signa are no longer around, having disappeared some time back. The current distributors of the Calamus range are JCA Europe. You can contact them on 0734 452416.

Be sure to have the serial number on your disk ready and ask if you can register your copy with them. That way, you will receive news updates on the latest Calamus products and developments.

New keys please

I think the keyboard of my STFM is very boring. A friend of mine once had a computer which she spruced up by buying replacement keytops which were coloured.

Are there any replacement keytops available for my computer? If not, I'll have to see what I can do with some felt tips.

Sarah Hampton (aged 12), Sussex

Hold the felt tip plans Sarah. The ink will not "stick" very well to plastic and you will end up with multi-coloured fingers and a messy keyboard.

Ask your parents to give System Solutions a call on 0753 818816. They have colour coded keys to replace every key on the STFM's "boring" keyboard. They cost £29.95.

Auto errors

After reading about AUTO folders and running programs from them, I still have problems with some programs which crash my machine when I try to run them automatically.

One of them is First Word Plus, which always crashes if I run it from the AUTO folder, but works fine if I double click on it. What am I doing wrong?

P Selby, Yorkshire

You mustn't put GEM programs in the AUTO folder. GEM programs are any programs which use windows and menus.

Check the documentation of any programs you wish to put in the AUTO folder as they usually state whether they will work from there.

Essentially though, only TOS-based programs (those that do not use GEM) should be put in the AUTO folder. This confusion is not helped by the fact that programs in the AUTO folder have to end with .PRG and not .TOS.

Falcon buyer

I am thinking of buying an Atari Falcon in the near future. I am particularly interested in its graphics capabilities for use with 3D graphics rendering programs.

However, I'm not sure which is the right Falcon model for me. I know the 1Mb is the cheapest but I'm not sure if this is the right choice. Can you give me some advice?

L Taggart, Devon

I would forget about the 1Mb version if I were you. It just doesn't have enough memory to run any serious applications that deal with graphics. In the higher

screen modes, such as 256 colour, the screen can take up 700k plus of RAM just to display the screen, thereby leaving next to nothing for any graphics programs.

Ideally, for serious rendering work, you should look at getting the 4Mb model, with future plans to buy a 68882 math co-processor and memory upgrade, such as the FalconWING 14Mb upgrade from System Solutions (0753 818816).

Stuffed shifter

I have a big problem. I am 21 years of age and have just bought an Atari 520 STFM. I had just about got to know what most things did and meant, when I decided to upgrade my ST to 1Mb.

I had to remove the shifter chip (No. C 070713-602) but one of the pins has broken

and it's now useless. I tried the supplier where I got my upgrade from and they told me it would cost about £30. I can't afford that kind of money for a chip, but I really need one. Can you help?

S Slater, Leeds

Sorry Mr Slater, but £30 is quite a good price and you won't really find it any cheaper.

However, one of our readers out there may be in possession of such a chip and may be willing to do you a deal.

So, if anyone can help Mr Slater, get in touch and I will pass on the information.

Star printer

I have recently acquired a second-hand 520STFM. All I really want it for is word processing. I need a printer and have seen a Star LC10 9-pin at a reasonable price in the shops.

Is it compatible? The salesman said I needed a disk. Where would I get it and how do I go about getting it to work?

Can you recommend a word processing

package? I would be very grateful for any help that can get me started.

S Corbett, Dartford

Go ahead and get the printer. The Star range of printers is totally Epson compatible, which is what you should look for when buying any printer.

All word processors worth their salt support Epson or compatible printers so you should have no problem with the Star LC10.

The disk the salesman mentioned is irrelevant, and somewhat confusing. You simply need to ensure that the word processor you decide on getting for the ST comes with Epson printer drivers. There should be no worries here as nearly all word processors do.

As for choice of word processor, it

Advice

Reader solutions

We had many replies from readers with a solution to the problems Mr K Blake from Manchester was having in extracting a 800k archive file with only a floppy drive system (March '94 Advice Service).

All the solutions involved installing as large a RAMdisk as possible and extracting it from there.

All letters were passed on to Mr Blake whose reply to you jolly helpful lot is printed below.

I would like to thank the many people who responded to my archive dilemma via Atari ST User's Advice Service.

Unfortunately, I only had 2Mb in my 1040STE and was unable

to extract the complete archive, but I did manage to extract a number of files before the RAMdisk filled up.

To end on a happy note however, I met another ST enthusiast who lives no less than 16 doors away on my treet and who also read my letter in your magazine.

Much to my delight, he has two massive 240Mb SCSI hard disks connected to his equally impressive 4Mb Mega STE and he happily extracted everything for me. The archive actually contained over 3Mb of programs!

Again, many thanks to both Atari ST User and all their helpful and knowledgeable readers. Keep up the good work.

K Blake, Manchester

Hadley hassles
Oh dear, things aren't going too well on the ST front at the Hadley household

Dodgy lead

I own an Atari 1040STE with external drive and Citizen printer. I use a TV as my monitor with the lead supplied but it keeps falling out.

Is there another lead on the market which will fit the Atari socket better? Also, I am thinking of buying a hard drive for my computer. Can you give me any tips on what to look for?

A Hadley, Fowey, Cornwall

It seems your lead is just a little too loose. If you look at the bit which plugs into the ST's socket, you will see that it has a small "pin" surrounded by four metal "bits" which form the shielding.

These metal bits also provide some grip when the lead is plugged into the ST's socket. I would guess they have been slightly pushed outward, causing the connection to be less than snug.

Try gently pressing them towards the centre using a pair of pliers (be careful not to push them too far). This should hopefully make the connection more secure.

Drive disaster

I own an Atari 520STFM with an external drive and for the past few months, any new software which I have ordered hasn't worked in either drive. I have either been given the message "Drive not responding" or it just won't work at all. The games work perfectly on another 1040STE. Also, when I try to make a back-up copy of some disks, they refuse to copy. Is there any PD program that will allow me to copy them.

P J Hadley, Fowey, Cornwall

Oh dear, you seem to be having a more serious problem than Adrian and his dodgy TV lead. Thanks to the use of Adrian's 1040STE, you have managed to eliminate the possibility that the actual software disks are at fault, which means the problem is with the hardware.

The problem could be caused by dirt on the drive heads, but this is unlikely to happen to two drives, especially considering I have never had to clean the heads of my Mega ST's disk drive in four years! If cleaning the heads doesn't get rid of the problem, the components inside your ST that handle floppy drive access may be at fault.

You may have to send it off to an authorised Atari service centre. Check out our advertisers, such as Ladbroke Computing and System Solutions, who both offer Atari-approved repair and upgrade services.

Your copying problem is probably related to the same fault. However, should you get the drives fixed, look for FastCopy 3 in the public domain. It's one of the fastest and easiest to use ST copiers.

SERVICE

depends on your needs. For fast production of text documents with excellent spell checking and thesaurus features, Protext v6 is the choice.

However, Protext does not use alternative fonts, so if you want a range of quality fonts to choose from as well as WYSIWYG feature and spell checking, That's Write 2 (with That's Write 3 imminent) is a good buy.

WYSIWYG is an acronym for "what you see is what you get", meaning that your documents displayed on screen will show the different fonts and styles (bold, italic etc) and will print exactly as you see it on the screen.

That's Write 2 is available from Compo Software and costs £129. Protext is available in two versions. Version 4.3 is the cheapest and less sophisticated costing £49.95, while v6 is vastly superior and costs £152.75 from Arnor (0733 68909)

Hard drive cleanup

I have a Mega STE with a recently acquired 240Mb hard drive. I wish to know of some useful utilities for backing up and generally maintaining the data on my hard drive in case of problems. Also, a friend suggested I get a boot manager utility. What exactly is a boot manager and what will it do for me?

My hard drive is a Quantum model and I use Atari's latest hard drive utilities.

G Sutherland, Swindon

Two essential utilities for backup and main-

tenance of hard drives are Diamond Edge and Diamond Back, both from HiSoft on 0525 718181.

Diamond Edge is a powerful package offering management, optimisation, repair and diagnostic tools for maintaining your data on both floppy and hard drives.

Diamond Back is an equally powerful back-up utility packed with features which make the back-up process painless and easy. It's also very fast.

Alternatively try the ICD Pro, a hard disk driver with numerous tools including a utility called Cleanup, which does a similar job to Diamond Edge.

On the cheaper side, there are two hard drive back-up programs in the PD called Turtle and Vault. I've never had experience

with them but I have heard good comments from people who have, so check them out if you are on a budget.

The boot manager utility is a program that simplifies the organisation and loading of specific accessories and AUTO folder programs which you may have.

Two of the main programs in this area are Superboot, a great shareware utility and the commercial program Xboot, again from HiSoft.

They are useful because you may wish to load certain combinations of accessories and AUTO programs for different sessions and applications.

Doing this without a boot manager would involve tedious renaming of accessories to .ACX (so it won't load) instead of .ACC and the same with AUTO folder programs from .PRG to .PRX.

The boot manager will allow you to assign certain sets of accessories to specific applications as well as provide a menu system for quickly loading programs.

Got a problem?

Are you at the point of taking an axe to your ST? Do you want to pulverise your printer? Well just count to ten and relax. Then, jot down the problems you are having, along with a detailed description of your setup.

Include information on the type of ST you have, the TOS version (if known), what peripherals are attached and any extra hardware that lurks inside your computer (accelerators, graphics cards and so on) and I'll do my very best to come up with a solution.

For those who have had problems and overcome them, chances are that someone somewhere is having the same problems and would benefit from your advice.

So get in print and send any tips or suggestions that other users may find helpful to: Darren Evans, Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

The key

Ever since the advent of the Atari ST one thing which was universally and instantly disliked was the keyboard. Almost everyone agrees that, in spite of all the wonderful things that can be said about the ST, its keyboard leaves a lot to be desired.

The keys are too close together because the key tops are too wide and this often results in the user accidentally pressing two keys together. But the worst shortcoming is that there is no tactile feedback – the finger does not "feel" the click when the key is pressed.

Instead, one gets a "mushy" feel which is why the ST keyboard is often described as "rubbery". This was remedied somewhat with the TT and the Mega STE but the majority of ST owners are still left with an unsatisfactory keyboard.

There were several attempts by third party companies to provide replacement keyboards but most did not do this in a transparent fashion.

The most common method involved plugging an adapter into one of the external ports, such as the Midi, and loading driver software to fool the operating system and get the keys from this alternate source. This never really worked because – besides loosing a port – many programs do not cooperate with the OS.

Galactic take a different approach with Perfect Keys by actually replacing the keyboard itself. The new keyboard plugs into the keyboard port directly for a totally transparent replacement.

On the one hand this means no fragile software drivers are needed and the ST is not even aware that there is a different keyboard attached to it. On the other hand this also means the computer may have to be opened. However, with no soldering involved, the result of this approach is very satisfactory.
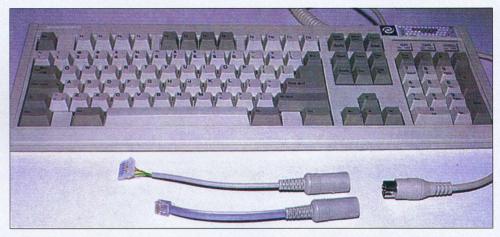
If you have a Mega STE or a TT, the computer doesn't even need to be opened because the Perfect Keys interface simply plugs into the external keyboard

The complete Perfect Keys 2.0 package contains a modified Cherry keyboard as well as two connectors; regular ST connector on the bottom and Mega ST(e)/TT connector on top

port. The procedure of installing a new keyboard, on a 1040 for example, involves opening the computer by removing the screws on the bottom. The computer must then be turned over right side up. Be sure, however, to remove all screws or you will watch in horror as they scatter all over the place.

Once the computer is right side up, its top must be carefully eased off. This is particularly tricky around the floppy drive area on a 1040 type housing, as the floppy eject button tends to get in the way.

REVEAL

Removing the top will most likely reveal the RF shield. It may or may not be necessary to remove this as well depending on the ST model you happen to have. The RF shield is held in place by an irrational number of screws and there is also a number of twist clamps which will have to be straightened out.

Because of all this hassle, many people leave this shield permanently off which improves air circulation and keeps the computer running cool. However, if you or your neighbours start experiencing interference on their TV, for example, you may need to put the RF shield back in.

The ST keyboard itself is not fixed to the housing of the computer and may simply be lifted off. However, you will notice a multi-strand cable leading from the right side of the keyboard to the motherboard.
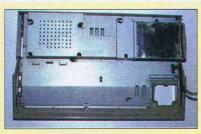
This cable is quite short so you may need an extra pair of hands to hold the keyboard or place the keyboard upside down next to the computer. Unplug the keyboard connector from the motherboard. This connector varies on different ST models and may have between 6 and 18 pins. You can then safely remove the keyboard.

All that is left now is to plug in the Perfect Keys keyboard cable. This is a fairly short cable which and is threaded through the mouse/joystick hole. There are two of these cables supplied depending on the type of ST computer you have. One has a 6-pin flat connector and this is what you plug into the motherboard. The other is for TT/Mega STE which has a telephone-style connector and is plugged in without opening the computer.

If you wish you can now put the old ST keyboard back in but, naturally, leave it disconnected. This may require you to cut a small opening for the Perfect Keys cable. Following a brief test to check that everything is functioning correctly you can then close the computer and screw the top on.

Pluses:
+ no soldering
+ no ports occupied
+ no software drivers
+ full transparency
+ easy access to mouse/joy ports
+ Microsoft mouse
+ auto fire built-in
+ detachable keyboard

Minuses:
- may have to open computer
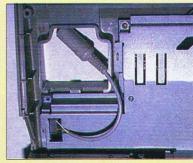- slightly modified keyboard layout

Installing Perfect Keys involves, first of all, removing the cover

Next step is to take off the ST keyboard. This is done by first lifting the keyboard to get access to the keyboard connector

After you have removed the keyboard connector insert the Perfect Keys connector. The guide pin helps with plugging it in correctly. Thread the cable through the mouse port

facts

Fed up of getting your fingers caught in the ST's clumsy keyboard? Perfect Keys could be the answer, says Don Maple
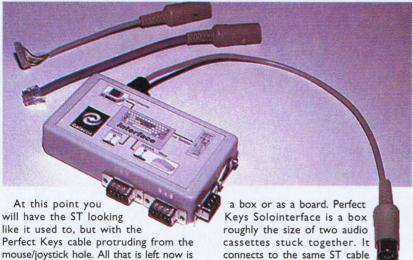
Also available is a standalone unit for people who already have an AT keyboard. The Perfect Keys Interface has all three mouse/joystick ports

At this point you will have the ST looking like it used to, but with the Perfect Keys cable protruding from the mouse/joystick hole. All that is left now is to connect the standalone interface to this cable or – if you have an integrated Perfect Keys model – connect the keyboard directly. In the case of a standalone interface you then plug into in any AT-style keyboard of your choice.

CONFIGURATIONS

Perfect Keys comes in several different configurations which can basically be divided into two groups: with the interface already built in or with it provided externally. Galactic offers two types of AT-style keyboards with the interface already built in: Perfect Keys 2.0 AT-keyboard and Tracky.

Perfect Keys 2.0 AT-keyboard is a standard AT style keyboard which has been modified by Galactic not only to include the interface but it contains three ports at the back. These ports are the usual Atari mouse and joystick ports plus a third which is a Microsoft-compatible mouse port.

Tracky is identical to the Perfect Keys 2.0 except that instead of the cursor block it contains a trackball. This trackball can be used as a replacement mouse and rolling the ball moves the mouse pointer.

The external or standalone models of Perfect Keys include the interface either in

a box or as a board. Perfect Keys Solointerface is a box roughly the size of two audio cassettes stuck together. It connects to the same ST cable as the keyboard models.

There are four ports on the box, one for an external AT-style keyboard of your choice and the three mouse/joystick ports identical to those on the integrated version. Two of these are Atari compatible and the third is, again, Microsoft mouse compatible.

The Solointerface board alone – without the box – is intended for people who have put their ST in a tower case and contains all the necessary adapter cables.

Which version of Perfect Keys you choose depends on your current setup. If you already have an AT keyboard lying around or have your eyes set on a particular keyboard you should get the Solointerface.

This is also recommended if you already have a PC-compatible, since you can then use its AT keyboard for both computers. If you also get a keyboard switch box you needn't even do any (un)plugging when switching between the two computers. You'll also save a considerable amount of desk space by using the same keyboard for both computers when safely tucked away.

On the other hand if you just want a detachable keyboard for your ST, the PF 2.0 or Tracky are more appropriate. This will also give you a self-contained, all-in-one unit. Once you start using the new AT-

style keyboard the only difference you will notice – other than much more comfortable typing – is that some Atari-unique keys are not immediately apparent. For example:

Help - [Print screen]
Undo - [Pause Break]

The Alternate and Control keys are swapped on an AT keyboard but everything else is by and large in the same place. The manual explains the differences in detail.

You also get access to high resolution mouses (NOT mice!) as the interface supports more than 200 dpi. And you can use a Microsoft-compatible serial mouse if you so choose. This means you get access to all those fancy mouses available for PC compatibles.

The mouse and joystick ports are easily accessible instead of being "access protected" as is the case on a 1040. The interface also helps you play games by having a built-in auto-fire with adjustable firing speed! What more could you ask for?

BOTTOM LINE

FEATURES

Fully compatible ST keyboard with additional Microsoft mouse port and

Excellent	
Good	
Average	
Bad	
Appalling	

EASE OF USE

Simple installation without soldering. Deviates slightly from ST layout but provides

Excellent	
Good	
Average	
Bad	
Appalling	

VALUE FOR MONEY

Taking into account features and ease of use, this is very good value.

Excellent	
Good	
Average	
Bad	
Appalling	

Product: Perfect Keys 2.0
Supplier: CGS ComputerBild, 231 Northborough Road, Norbury, London SW16 4TU
Telephone: 061-679 7307
Price: Perfect Keys £139
Tracky £149
Interface £69
Solointerface £69
Configuration: Any STE, TT or Falcon

Replace the ST cover. The original ST keyboard, now disconnected, can remain in place. However, if you do that you need to drill a hole for the Perfect Keys cable

All that is left now is to attach the mouse and the joystick. Both connect to the keyboard directly and you can safely place the computer out of the way

Looking at the back, Perfect Keys keyboard reveals the standard ST mouse and joystick ports as well as a Microsoft-compatible mouse port

We've looked at several direct-to-disk recording programs for the Falcon over the last year or so, but Cubase Audio for the Falcon is the first to integrate d-t-d with a fully-fledged sequencer. The package is, in fact, a version of Cubase Score with the addition of eight tracks of audio recording.

As you may know, the Falcon's DSP (Digital Signal Processor) allows it to perform direct-to-disk recording without the need for any additional hardware such as the digital audio card required by a Mac or a PC.

Given the relatively low cost of the computer itself, this makes the Falcon a prime candidate on which to base an affordable d-t-d system. And that's exactly what Steinberg have done.

There's simply not room here to look at the Midi sequencing side of Cubase in any detail. Suffice to say the program has been one of the leading sequencers for many years.

One of its main attractions is the pattern-based Arrange screen in which sections of music appear as oblong blocks which can be dragged around with the mouse to create a finished song. It's very easy and intuitive. What's really good about Falcon Audio is that it lets you work with audio data in much the same way.

Cubase Audio is the first direct-to-disk recording sequencer for the Falcon and, says Ian Waugh, it's the one by which the others will be judged

Let's face the

The first thing you need to know is that the program is protected by a dongle which plugs into the cartridge port – a nuisance, but there you are.

There is also a CAC (Cubase Audio Clock) device which plugs into the Falcon's DSP port. This allows the program to record at 44.1kHz, the standard CD recording rate, which the Falcon alone cannot do. If you opt for the FDI (Falcon Digital Interface), you plug this into the DPS port instead.

Let's run through a typical recording process. To record an audio track you simply select a track and use the track type column to make it an audio one. Bring up the Monitors window, select the channel you want to record on and enter a filename for the audio data.

You can also start recording by clicking on the Record button, in which case the program will prompt for a filename. You can record additional tracks in the same way and existing tracks – both audio and Midi – can playback during recording or you can mute them.

You need to assign tracks to one of the eight audio channels for playback. You can record in stereo by setting the channel number to 'any'. In this case the recording always uses channels one and two but you can play them back on two other channels.

Audio tracks appear alongside Midi ones and can be edited in much the same

way using the same set of eight tools which pop up when you press the right mouse button. You can set punch in and out points, and cut, copy and paste sections of the track.

You can have any number of audio tracks in a song although only eight can play back at once.

FLEXIBLE

In fact, you can record as many files as your hard disk will hold and these can be shown in a window called the Audio Pool.

From here they can be dragged onto the Arrange page so you can use any

audio file in any song. Great! Each file can actually be made up from several smaller segments so the system is very flexible indeed.

After laying down a few tracks, you may want to edit them, and the program has an excellent Audio Editor which works much like a sample waveform editor. If you've used one of the ST Replay samplers you'll be on familiar ground here. You can see several audio tracks in the editor at the same time.

You have a set of eight tools to work with similar, although not identical, to those on the Arrange screen. You can cut and paste between tracks, delete

Disks and data

To run Cubase Audio on the Falcon you must have an external SCSI hard disk – you cannot record to the internal IDE drive. Depending on your requirements you'll need a large disk and a fast one.

A mono recording will use 5Mb of disk space per minute. A stereo recording (using two tracks) will use 10Mb per minute. Add up the number of tracks you need and you will find, for example, that a four-minute, six-track recording requires 120Mb of disk space.

In practice you will probably not need this much as there will probably be gaps in the audio data, but the figures provide a good indication of the size of disk you should be looking for.

The speed of the disk is also important in determining how many tracks the program can play back at once. To be able to play back four tracks you need a disk with an average access time of 22-23ms and a true DTR (Data Transfer Rate) of at least 800k/s. To play back six or eight tracks the disk needs an access time of 12-15ms and a DTR of 1600k/s.

Some hard disks have an Automatic Recalibration feature which performs internal adjustments at various intervals. This can result in a 'HD Too Slow!' message popping up. You should avoid such drives if possible otherwise hiccups may occur.
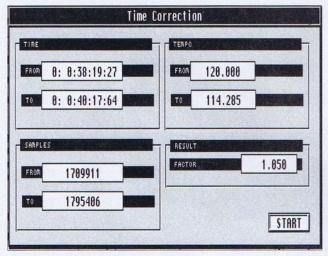
Audio tracks blend seamlessly with Midi tracks in the Arrange screen

The Audio Editor lets you cut, copy and paste sections of audio tracks and you can work on several tracks at once

The untouchable FDI

The FDI (Falcon Digital Interface) plugs into the DSP port in place of the CAC and has both optical and digital Ins and Outs for connection to a DAT, a sampler or other digital device.

If you have a DAT you will probably get better sound quality if you record through it instead of the Falcon's audio sockets, as the DAT will likely have better Analogue-to-Digital converters.

The FDI does not currently support the 48kHz rate used by many DAT recorders but this is promised – along with support for other samples rates – in the next update.

The FDI comes with a couple of useful utilities. One converts an .AIF file from stereo to mono and vice versa. The other is one of the most vital parts of any d-t-d system – it lets you stream audio files to and from a DAT recorder.

If you don't opt for an FDI, you must consider what you are going to do with the audio data on your hard disk. Do you trash it when you start a new song? What if you want to do a remix a few months on? Do you back up to floppies? Rather you than me.

Falcon music

The Time Stretch function will change the length of an audio track without altering its pitch

The Audio Pool lists the audio files and segments which you can drag into the Arrange page and Audio Editor

The Midi Mixer lets you automate the mixing process. This shows the Filter section which offers three-band EQ, pan and volume control

events and import sounds from the Audio Pool. The program creates a file of the audio data and also a file which contains a graphic representation of it, so scrolling through the waveform is very fast indeed.

It's quite easy to build up a library of sounds, rather like those you might create within a sampler, and use them in several songs. This is ideal for Dance and similar styles of music which use short repetitive samples.

As with Midi tracks, you can create ghost copies of audio tracks. Any changes made to the original are auto-

matically applied to the ghosts, too. Another excellent feature is the ability to draw volume curves under the audio data. This is in addition to controlling the volume from the mixer (coming up in a moment).

One of the problems with manipulating Midi and audio data is keeping them in sync. Audio data in the program has a 'Q' marker which is used for snapping the event to a musical position during move and quantise operations.

You can match Cubase's tempo to a recorded track and you can time lock

►

Falcon mods

Before you use your Falcon with Cubase Audio, you need to make a couple of modifications to it. The first is a CPU clock buffer mod which is an essential modification for virtually all Falcons.

Without it, under certain conditions distortion can occur and the computer can hang. The other mods remove the bass boost and make the audio sockets Line level which will improve the sound quality.

These mods are suggested by Atari themselves and may eventually be incorporated into new machines. The manual gives brief instructions on the latter mods but you are advised to contact a dealer to perform the first mod or if you don't want to mess around with the insides of your machine.

➤

tracks, too, which is useful if you need to sync to video. This is not only useful for music but also for syncing to sound effects. The program can also generate SMPTE timecode.

One of the unique aspects of Falcon Audio is that you can specify three ways of handling the audio data – hard disk, RAM and sampler. Hard disk is the normal setting which we have already discussed.

Audio files assigned to RAM are automatically loaded into RAM when you open a song. Unlike hard disk files, they can reside on the Falcon's internal hard disk.

Sampler channels let you trigger audio files in real-time from a Midi keyboard and record your performance for playback later on. Sampler channels playback from RAM, too. You really need rather more that the standard 4Mb of RAM to make full use of these facilities.

The program has many more interesting features. For example, you can mixdown several audio tracks into a single mono or stereo track. This isn't reversible, however, so make sure your data is backed up first.

A built-in mixer allows you to automate any mixing process. It can also add three types of digital effect – reverb, chorus and EQ. Each channel has its own effects-send, pan pot and volume control. The EQ lets you adjust Hi, Mid and Lo frequencies and is very useful for

tweaking a recording. The effects aren't quite up to those you'd find on a stand-alone unit but that's to be expected.

The program also has a Time Stretch facility which alters the length of a recording without changing the pitch. It works directly on a file on the hard disk, actually making a copy of it using the Falcon's DSP. You can change the length of the file by a percentage or based on its tempo, time code length or the number of samples it contains.

It's a fairly quick process and takes abut two and a half times the length of the file – about a minute and a half for a 30 second file, for example. Short stretches sound fine but if you take it to extremes, the quality will suffer.

The manual is large and extensive, covering both the audio and the sequencing sides of the program. Basic operation is easy but the program houses a wealth of features and you will need to take time to sit down with the manual to discover them all.

The main niggle – more an observation really – is that the program can seem to run a little slow at times. NVDI, the screen driver, helps, but you could always add a hardware accelerator to the Falcon.
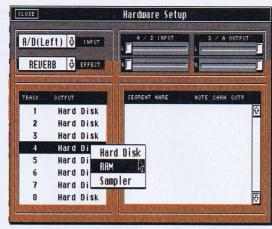
Some of the program's functions could be improved, and added to – more digital processing, for example – but no doubt improvements will come with future upgrades.

DREAM
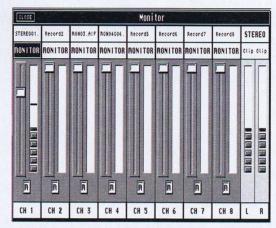
Falcon Audio is the sort of package which low-cost computers, inexpensive hard disks and digital audio technology promised the musician a few years ago. Slowly but surely we've been heading down a rather long road and at last we can see the light. No – we are actually standing underneath it.

Falcon Audio is a home studio owner's dream – a totally integrated Midi and audio sequencing package and all the bits will still leave you change from £2500. Expensive? Not really when you consider that a quality four-track tape-based portastudio could set you back £700 and most four or eight-track d-t-d systems for the PC cost about £2500 – and that's without the computer!

There's currently nothing else like Cubase Audio on the Falcon although Emagic's Logic Audio will be arriving

In the Hardware Setup window you can assign tracks to the hard disk, RAM or sampler. You can also specify reverb, chorus or filter effects

The Monitor window lets you monitor and balance the audio tracks during playback

very soon. But Falcon Audio is the first and it will be the one by which the others will be judged. For anyone already using Cubase it has to be the most desirable upgrade this year.

● *Many thanks to Ladbroke Computing for the loan of a LPS270S drive for the duration of this review. The 270Mb drive has a Quantum mechanism with a 256k on-board cache and an access time of 16ms. For the Falcon it costs £389.99 including the connection cable. Ladbroke can be contacted on 0772 203166.*

Sixteen-track recording

As mentioned in May's Frankfurt Music Fair report, Falcon Audio will soon support 16 tracks of digital audio, probably by the time you read this. The update will simply become part of the program although existing users may have to pay a nominal upgrade fee of around £40.

Pushing 16 tracks through the system will take its toll and you may notice a very slight drop in quality, although for most users the trade-off will be more than acceptable.

To make the most of 16 tracks – or even the eight tracks Falcon Audio already has – check out the FA-8 (Falcon Analog 8), a hardware plug-in which provides eight individual outputs and costs £449.

● *For more information contact System Solutions on 081-693 3355*

BOTTOM LINE

FEATURES
Currently the most powerful digital audio recording system for the Falcon.
Excellent / Good / Average / Bad / Appalling

EASE OF USE
Anyone familiar with Cubase will find that the Audio section slots in seamlessly.
Excellent / Good / Average / Bad / Appalling

VALUE FOR MONEY
Some may think it's a wee bit too much, but you pay for the innovation.
Excellent / Good / Average / Bad / Appalling

Product: Cubase Audio
Supplier: Harman UK, Mill Street, Slough, Berks, SL2 5DD
Telephone: 081-207 5050
Price: £799
Configuration: Falcon, 4Mb Ram (14Mb recommended), fast external hard disk

July 1994

ST ACTION

DIAL A DOGFIGHT

How cheaper comms prices are leading to an on-line gaming boom

FOOTBALL FEVER

Football. Love it or loathe it, there's no way of escaping it – especially with all the current fuss over the World Cup.

Not even your ST can provide shelter as the game bombards its way into your home via this medium, but this does mean that you can see England through to World Cup glory this time round.

You can beat Italy 4-1 and see Germany smart as you thrash them 5-0, all through your favourite computer football game and a little joystick dexterity.

But it is understandably hard for your average games player to know which one to choose from the abundance of titles on the market, ranging from the management/strategy types to arcade/simulations

All manner of football titles continually hit our shelves as software companies compete for our cash, resulting in vastly differing standards from the good, to the bad to the very ugly.

A multitude of simulations have been released, stretching back into the distant past and many contenders have fought to be the

definitive game. The major players, however, were brought to us by Sensible Software and Dini and Dini productions, namely Sensible Soccer and the Kick Off series (including Goal).
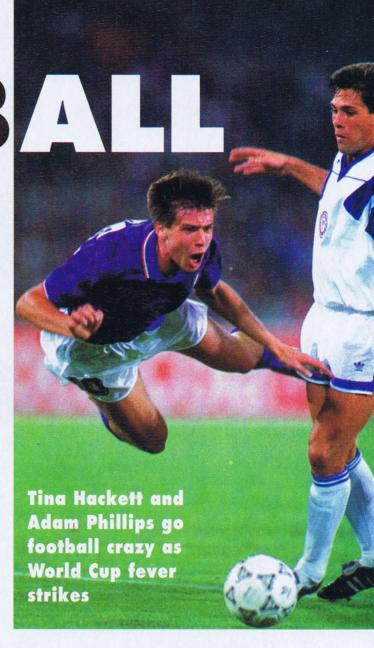
Other contenders in the fight were Krisalis' licensed releases, the Manchester United titles and others, like Rages' Striker.

Not to be outdone by each other, software companies bombarded us with sequel after sequel, along with many updated versions and data disks.

The management genre also came under this barrage of releases with the likes of Gremlin's Premier Manager and Domark's Championship Manager.

This plague of football games has left us with a wealth of classic titles, all boasting great playability, highly addictive properties and fine graphics.

So not wanting to miss out on all the footy hype of the moment, STA investigate what's hot and what's not on the football scene. It's time to grab your Red Cards, whistle and boots and read on to see how you can do a better job than Terry Venables...

Tina Hackett and Adam Phillips go football crazy as World Cup fever strikes

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ST Action's most wanted... the football games we wouldn't want to be without

Kick Off/Kick Off 2/ Goal

Dino Dini shot to fame as the man behind the Kick Off series. The first offering set new standards in football gaming as we knew it. The second proceeded to better this and wowed many a games player with its sheer controllability.

Things went from good to very good for Dino Dini with a third Kick Off in the making, but with Dino parting company with Anco, publishers of the previous Kick Offs, the licence was taken up by Virgin and given the new moniker, Goal!.

A recent addition to the ST games scene, Goal! came complete with rumours that it was heavily bugged but Virgin recalled it and ironed out most of the hitches.

Bugs such as top-of-screen flickering and sprites' legs disappearing still remain but don't happen often enough to spoil what is otherwise a brilliant game. Graphics have

been improved in that larger sprites have been used to allow for some nice animation and game view can now be changed from a wide overhead view to a close, zoomed-in mode. A clever scanner feature allows you to see all the pitch at once.

New to Goal! is the option to change the pitch from the conventional, vertical view to a left to right, horizontal one presenting the player with some unusual and challenging gameplay.

The options in Goal! make this an excellent title in that many aspects can be changed to suit your particular preference. From levels of difficulty to pitch type.

Although Goal! is at first not as easy to control as Sensible Soccer, after a little practice you can produce some very rewarding moves.

Being able to "trap" the ball and then kick it in the

required direction results in very accurate shots.

A great deal of thought has gone into making the game as realistic as possible. Players' speeds build up and slow-down gradually, as in the real thing.

A great, pacey football sim.

Sensible Soccer

Sensible Soccer came on the scene to challenge Kick Off 2. Dubious though the gamesplaying public were at first, it became for many their number one football sim.

The appeal of Sensible Soccer lies in its many options and authentic football atmosphere. Samples of chants, gasps and boos, along with sirens and drums create that all-important match feel.

The game is viewed from a clever, slightly elevated posi-

The original Kick Off changed the face of football games

Keep track of match statistics in Goal

Make tactical decisions through this Sensible Soccer screen

Also available on an ST near you...

STAR RATING (scored 1 to 5)

1. Leeds Utd ★★
2. John Barnes ★★★
3. Man Utd Europe ★★★★
4. Graham Taylor's Soccer Challenge ★ (accompanied with plenty of jeering and booing - who says we're bitter?)
5. Championship Manager ★★★★
6. Premier Manager ★★★★
7. Gazza's Super Soccer ★ (comedy plastic breasts not included. A shame- it may have given some value to this rubbish)
8. Striker ★★
9. Football Manager 3 (no-one can actually remember this one – must be good!)
10. Player Manager ★★★★

Glory, Glory Man Utd and a darn good game to boot

World Cup trivia

1. The first World Cup took place in Uruguay back in 1930.

2. In 1966 when England played host, the World Cup trophy was stolen. The situation was rescued by a mongrel dog, no less, called Pickles. The dog sniffed out the cup from its hiding place!

3. The highest score in a World Cup match was New Zealand's 13-0 victory over Fiji during a qualifying round

4. Geoff Hurst is the only man to have scored a hat-trick in a World Cup final.

5. A total of 60 players have received sendings off in World Cup finals – the South American nations having the worst record.

The management

If all this football arcade madness is already becoming too much there are alternatives. Management games are becoming increasingly popular with those who prefer a game that requires a bit of thought and strategy with their football.

The Premier Manager duo, and Championship Manager are among the most popular of this particular genre. The idea behind them is to take on the role of team manager and lead your squad to success.

Things such as keeping your ground, squad, and money under control become part of your job. In short, you take on all the responsibilities of a manager.

Premier Manager 2

Premier Manager, released around a year ago, was met with much critical claim. A highly realistic management sim, it was thought that things couldn't get any better

But the chaps at Gremlin not content to rest on their laurels are striving for perfection once again with Premier Manager 2. Starting your managerial role in the Vauxhall Conference you aim to lead your team through to the Premier League and ultimately win the European cup.

However, this task is not easy, as you start with the same resources as any other manager in the Vauxhall Conference, with the same amount of cash and the same depth of squad.. You'll need to perform all the jobs of a manager-from ground improvements to arranging loans to the all important match day tactics.

If you can't wait for this highly engrossing management sim, keep your eyes pealed for a demo appearing soon on our CoverDisk.

Premier Manager 2 comes highly recommended. Taking on the role of manager you will need to make decisions such as which new players to buy

Premier Manager 2 promises to be another excellent management game. Taking on the role of manager you will need to make decisions such as which new players to buy

tion, so there is no need for a radar or scanner.
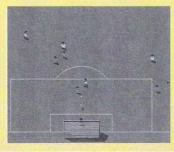
The Sensible Software team are a wacky bunch indeed and have a tendency to use small sprites in their games (Megalomania, Cannon Fodder) and Sensible Soccer is no exception.

But despite the small dimensions, they still pack some great animation and allow for superior gameplay and controllability.
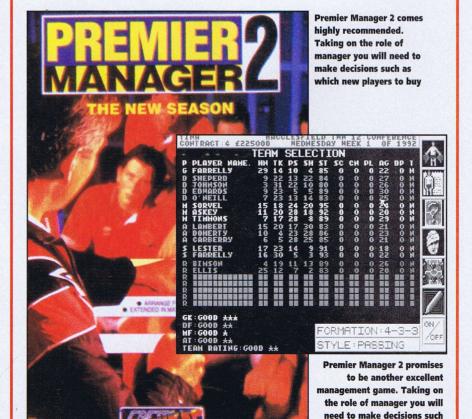
Game pace is another secret to this title's success. Neither too fast nor too slow, the game allows you to plan and take shots, giving a greater feeling of control.

The many options include novel ideas such as seasonal weather, match length and fully changeable data to customise teams.

A brilliant game, made even better by the billions of options and the remarkable control of the little sprites.

Pitch type can be changed in Sensible Soccer

Cup Fever

Stockport County fantasy football

Who better to give their football insights on some of the better footy titles gracing our screens than the lads who play the game for a living?

Stockport County Football Club can boast several trips to Wembley and the tallest player in the football league – a healthy 6ft 7 in.

With this in mind, the ST Action team made their way with heads held high (about six foot) to the ground for the ensuing tournament.

Before plunging into this clash of the titans and to give the players a warm up, we presented them with titles from the current crop of football games to flex the hand muscles with.

Goal!

The latest offering from Dino Dini only managed to stir an "It's all right" from Lee Todd, Stockport's right back.

The players warmed to it after a while though, as Darren Ryan, right/left wing, claimed that he preferred Goal! to everyone's favourite, Sensible Soccer.

Sensible Soccer

Most players found this classic their favourite, a fun, action packed and easy-to-get-into footy experience and without further ado, this title was selected to be used in the final tournament...
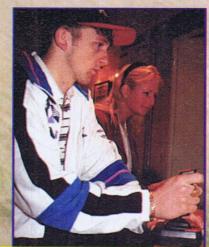
The tournament

After this brief reviewing session, the tournament began in earnest. Lee Todd and Darren Ryan stepped forward to take on the STA team in a vicious game of Sensible Soccer.

Match tension was high as, fingers flexed and focus at maximum, Stockport prepared themselves for the first semi-final.

The STA team in the meantime put on a brave face while fumbling with the Beta Blockers in a vain attempt to hold themselves together for the first match.

Tina, STA writer and Lee, footballer extroardinaire, meet head to head in the semi-final

LeeTodd... winner and lucky holder of the STA joystick

Lee Todd, SCFC vs. Tina Hackett, STA

Lee made his intentions clear from the beginning – after a close call at Hackett's goal right from the off, he had the ball for the majority of the game.

In the meantime, Hackett resorted to fouling at every given opportunity. Despite this, Todd had the ball in the back of the net by the end of the first half with a sharp crossover from the left that left Hackett blushing in shame.

The second half held few surprises – although STA managed to take a few pot shots on goal, Stockport drove the ball into the net once again, producing an unequivocal result: 2-0. Todd was into the final.

Lee Todd, SCFC vs. Darren Ryan, SCFC

After proclaiming that he'd be happy with a draw, Ryan's dream was shattered by Todd as he carved his players round the field, putting the ball into the back of the net by the end of the first half.

Ryan fought back in a desperate attempt to nail his fellow player to the wall. Yellow and red cards were in abundance and Ryan had his moment of glory with a resounding goal scored from a corner.

But all this hard work was to no avail – Todd pushed another one into the net and the tournament was over. 2-1 to Lee Todd, the winner... it was time for a handshake and the photocall.

The winner and loser shake hands after a match well played

Lee Todd gives his approval to Sensible Soccer

Looking to the future

With the two classics, Goal! and Sensible Soccer in your collection, do you really need any more footy sims? Well, if neither of these takes your fancy or you're just plain greedy, read on to see what the future has in store...

Sensible World Of Soccer

Renegade and Sensible Software are looking to release the Sensible World Of Soccer on the ST sometime later this year and the game also looks set to make an appearance on the Jaguar.
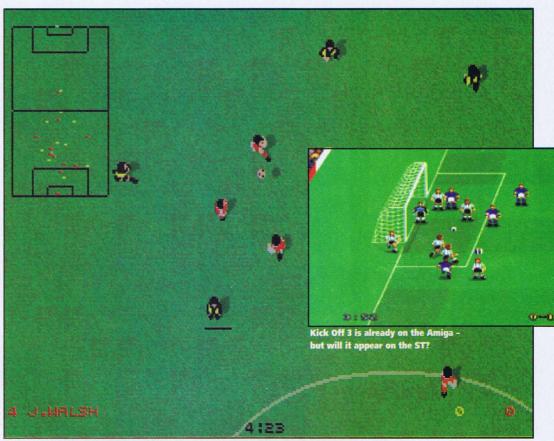
This title promises to be different in that it will combine all aspects of a good management game as well as retaining its original playability. As team manager, the player can choose from 1,500 world club sides, from any one of the world's main leagues. Try your hand at either manager, player or a combination of the two.

Thus the game should appeal to both management/strategy buffs and arcade players.

Kick Off 3 on the ST?

Decisions are also being taken as to whether Kick Off 3 will appear on the ST.

Steve Screech, one of the original programmers of Kick Off 2 is overseeing development and from the look of things on other versions, it could be rather impressive.

Kick Off 3 is already on the Amiga – but will it appear on the ST?

4 J.WALSH

4:23

Kick Off uses nicely animated sprites

The next generation

With all the leaps in graphics and sound appearing across the gaming genres, the question on most footy fans' lips is – what's the next generation of Sensible Soccers going to look like?

The Sega Saturn, to be released at the end of this year, could give a solid hint to the direction that the genre is moving in.

Saturn Soccer is from the makers of the much touted Virtua series (Racing, Fighters) and from the early preview shots that we glimpsed at the recent CES show, it looks like the World Cup of football games.

Featuring multiple imaginative views of the action and full polygon graphics, this is shaping up to be quite a title on the visuals side.

Whether it can match the playability of the likes of Sensible Soccer is another question altogether.

Likewise FIFA Soccer on the 3DO features panning, zooming and digitised players, producing breathtaking results.

But as Steve Dunn, the programmer of Sierra Soccer, says: "The playability [of the next generation] could be fractionally better but not desperately better."

Tim James of Krisalis is adamant about putting playability before

graphical enhancements. He sees the next step heading towards more individuality for the players' techniques – how well they run, kick and handle. He hopes that bringing more managerial skills to the game will produce a more rounded and varied experience.

If you ball out a player, you'll be able to see the results the next match – he may well be better on pitch and move faster or, alternatively, sulk and not play to the best of his abilities.

Virtual reality is regarded by some as the ultimate way forward, a very viable option for the future.

Could it be possible that, a few years down the line, we'll be able to slip a VR head unit on and take part in the ultimate football experience as we run round Wembley stadium with the roar of fans echoing in our ears?

The one important factor that has been present in many of the classics of the computer football yesteryears, is sheer playability.

It must be one of the most consistently addictive genres, providing the player with hours of fun and frustration.

Diermot has a burning desire to get out of here

LURE OF

It's big! It's brassy! And by jiminy, it's back! A "proper" adventure game from the vaults, at a price you can easily afford

Picture the scene. You want to move house, and for reasons that I'm not at liberty to divulge, you opt for a nice little shack, slap bang in the middle of an enchanted kingdom. Enchanted kingdom, I hear you thinking to yourselves, what a strange, yet oddly appealing idea. And so, gullible fools that you are, you flog your current abode and trundle off to this enchanted land. And here the problems start. But it's too late to turn back now. I've got you and your little dogs too.

Problem number one: You can't pronounce, or even spell, the name of this enchanted land. Odds are it's got at least three consonants to every vowel in its name, and requires five litres of phlegm to say the first two syllables. The post is going to be very slow, I'm afraid. Problem number two:

Enchanted kingdoms are notoriously backward. Most of them think that a spoon is an extravagant piece of technology. Expect dirt tracks, disturbing aromas and lots of things made of wood. Much like Scarborough.

Problem number three: Enchanted lands always, and I mean always, get conquered by an all-powerful evil force. Trust me on this one. Do normal realms such as Earth ever get conquered? Not that I'm aware of, matey. No sorcerers down my street. No demonic invasions on the telly news. And why? Because we've got big guns, scary music and no time for people who ponce about in cloaks and talk cobblers. That's why.

Lands of the enchanted persuasion, however, are full of unicorns, cute things and a baffling array of wood-derived products. And that's why they get their teeth kicked in. In

computer games at least. So it's no surprise to find that the village of Turnvale has been taken over by a beastly sorceress called Selena who, I have reason to believe, is both a temptress and, er, a bit of a lure.
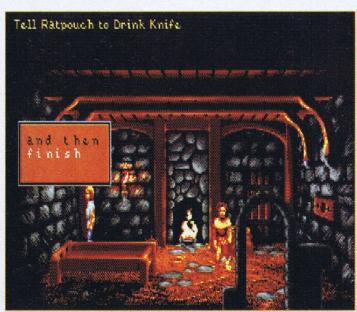
What is surprising is that you start the game locked in a prison cell with no visible means of escape. No pottering around twee leafy lanes here, just cold, hard stone and a bit of tatty straw. So any softies out there had better ride out of town because this is adventuring for people who are as hard as proverbial nails.

You take the part of Diermot, a flimsy excuse for a hero who was captured when the King tried to take Turnvale back from Selena and got his royal head caved in. Using an intuitive and easy-to-get-the-hang-of point and click system, it's now up to you to sort out this so-called Selena. So what's it all about then? Lure of the Temptress stands

out because of its rather fruity Virtual Theatre system. This means that every character in the game operates independently and will do whatever they feel like doing, regardless of your attempts to free them from slavery.

While this is both rude and unhelpful, it gives the game a very "real" air. You get the feeling that you're interacting with characters rather than just sprites on a screen. There is a downside to all this, and that's the fact that it can make it hard to find certain characters, because they're very likely to toddle out for a stroll or a pint just when you need to find them. But that's a minor niggle really as the Virtual Theatre concept works very well, especially when you can peek through windows to spy on people and watch them go about their business.

There's also a nice amount of humour in the game, mostly from Ratpouch, your weasely sidekick who you pick up along the way.

Nice to find some Guinness down here

Just be careful what you do with the knife!

Diermot requests Ratpouch's party piece

THE TEMPTRESS

LotT is full of spooky gateways like this, but how can you bluff your way through?

Even world-saving adventurers need to get the groceries

His attempts to get served in a pub raise a smile or three, as does his insistence on calling the monks "Madam" because they wear dresses. Combined with the atmospheric mood created by that Virtual Theatre thingy, this makes for an appealing and convincing game. So all's well and good there then.

The graphics are well drawn, and each character is instantly recognisable, which is just as well as there are plenty of people to choose from in the game. Each location conceals billions of objects to be examined, and there are tiny clues and hints all over the place so keep your eyes peeled. I t's just a pity that there's precious little sound. A clanking noise from the blacksmiths is about all I remember hearing, so dig out a BBC Medieval sound effects album

and stick that on. As I said, this isn't really a good game to buy if you've never played an adventure before, as it requires quite a lot of brain strain right from the start, and assuming you manage to escape from the prison there'll be a lot of aimless wandering before you latch on to the task at hand.

There are just so many characters and possible courses of action to digest that unless you can keep your head about you you're likely to flounder.

But if you can handle all the people milling about and all the clues and information then this will keep you happy for a hefty chunk of the foreseeable future.

Once you are on the right track, the clues will lead you from one puzzle to another, so if you do end up wandering about blindly

then you know you've missed something. Sudden death is also kept to a minimum, unless you insult the wrong people, which, of course, our nice polite readers would never do.

All in all then, a spankingly good re-release that deserves shelf space in any adventurer's home. It's a bargain in every possible sense of the word.
DANIEL WHITEHEAD
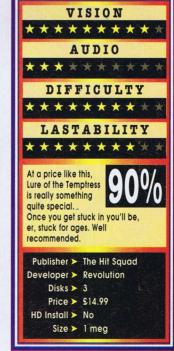
Is there a use for this mysterious goat? Diermot's about to find out
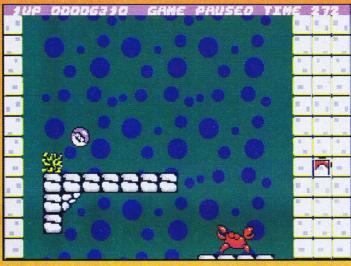
Among the monsters and corruption, lies this rustic little abode, the owner of which will be very helpful

VISION									
★	★	★	★	★	★	★	★	★	☆
AUDIO									
★	★	★	☆	☆	☆	☆	☆	☆	☆
DIFFICULTY									
★	★	★	★	★	★	★	★	☆	☆
LASTABILITY									
★	★	★	★	★	★	★	★	★	☆

At a price like this, Lure of the Temptress is really something quite special. Once you get stuck in you'll be, er, stuck for ages. Well recommended. **90%**

Publisher ➤	The Hit Squad
Developer ➤	Revolution
Disks ➤	3
Price ➤	£14.99
HD Install ➤	No
Size ➤	1 meg

The motion in the Ocean provides problems for Caspar

Don't be crabby if things get difficult

The clam comes second only to the fly in the 'completely useless creatures' stakes. They serve little or no purpose, sat there at the bottom of the ocean. Not particularly cute or endearing, with no facial features or limbs even, they just sit meaninglessly on the sea bed, of no use to anyone.

That was until an independent software house from London decided to make them the subject for their new Atari-specific game. So it's extra Brownie points to Caspian Software for 1) making an excellent puzzler out of a totally naff creature and 2) making a game that is compatible with all Atari machines and takes into account the capabilities of your computer. As if all this wasn't enough, Rock 'N' Roll clams features Blitter-enhanced graphics, DMA sound, Power Pad compatibility and can also be installed onto your hard drive. These days, as developers start abandoning the Atari, it is a very positive sign indeed for ST owners that there are companies like this producing top notch software specifically for the Atari.

And so onto the game... The storyline, though verging on the completely rubbish side (mind you, how many good stories are there about clams?) results in some very unusual and refreshing gameplay. The story goes that Caspian the Clam, bored with listening to Classical Music on a school trip, and hearing groovy music from the shore, decides he and his friends should investigate.

The naughty truants set off to find the source of this funky beat when suddenly Mackerel Mac, out on a day's fishing, catches them in his nets (there's a moral in the story there, kids!). Mac plans to sell the Clams to Clams 'U' Like and carries them off in a paper bag.

Luckily for Caspar, a small hole appears in the bag and he makes his escape. This is where the game begins and it's now up to you to guide Caspar around the levels in search of his friends before they are turned into chowder and to find that Rock 'n' Roll beat.

Before you clam up completely at the atrocious storyline and write the game off completely, don't be misled. Despite the kind of game background that sounds more at home on Playschool, the actual game is a very taxing, brain-bashing effort, that requires a great deal of skill and dexterity with the joystick as well.
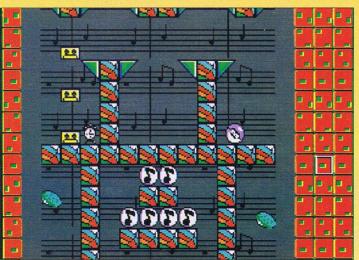
Gameplay takes an unusual line – it's a cross between a gravity game and a pinballer. 100 huge levels are available for one or two players, a massive 3,200 screens in total.

All the levels are easily accessible through the useful 'Skip Level' feature – so you don't get frustrated just being stuck on one level and not being able to get anywhere – just go on to another level and try it again later! The pass-

Rock 'N' R
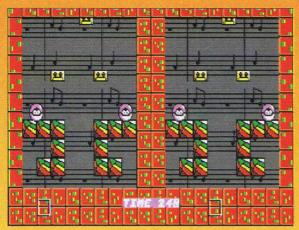
Sand everywhere as Caspar makes his way through the Sandy Shore level
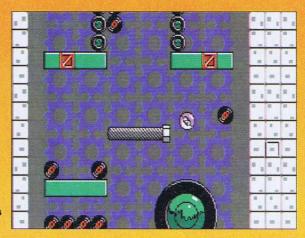
As the theme of the game is music, what else would you expect but natty notes?

Novel graphics provide a refreshing change

Two-player mode provides frantic fun

Caspar has to search through all manner of locations for his friends

Roll Clams

which will take eons to complete, especially considering the millions of levels plus hidden screens available. The two-player mode is a great laugh and the gameplay a brilliant novelty. High quality software just for Atari users – what more could you want?

TINA HACKETT

Fish jokes abound as Tuna Haddock scuba dives with the musical clams

word system also allows you to access specific levels within the Worlds. Collect gold and silver tapes to cash them in for passwords.

Start Blocks are another excellent feature, meaning you don't get the frustration of starting from the beginning of the level each time.

Caspar is also helped out by the hats he can find. These enable him to carry out special moves. These include Propeller Hats giving him the ability to fly; Gun Hats – they speak for themselves really and enable you to shoot your way out of trouble; Crash Hats, to bash your way through the game; and Viking Hats to spike your way out of things!

To play the game you need to guide Caspar through a vertically scrolling screen before your time limit runs out, avoiding nasties, finding your way through objects and collecting bonuses. Gravity makes up a large element of gameplay as you attempt to spin and roll Caspar in all directions against the force of gravity. This makes for a very tricky task and joystick dexterity is the key to success.

GUIDING

To control Caspar, press your joystick (or joypad) left or right to spin or roll him in these directions. The longer you press, the faster Caspar will spin. Accurately guiding him off objects and away from baddies becomes an integral part of the game. The way he bounces off objects will depend on the object itself, the speed you are spinning and how you have hit it. Caspar can also remove the effects of gravity to travel up a level, as it becomes necessary to do, by pressing up.

On early attempts you may become so frustrated that the temptation just to give up becomes unbearable. But perseverance soon pays off and after a little practice it becomes a very rewarding game.
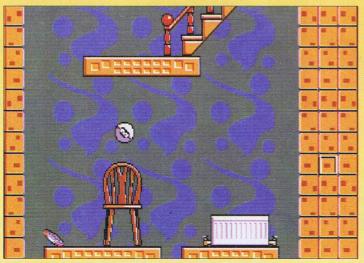
With all this going on, it's easy to forget about the excellent two-player mode. You and another player can race against each other to be the first to form your band. As well as having the same objectives as the one-player game you also get to bash your opponent to bits! Find a heavy weight and drop it on them – the only defence to this is to collect a protective umbrella or move quickly out of the way.

Top all this great gameplay off with bright, appealing graphics, smooth scrolling and plenty of attention to detail. Don't forget to add the amusing sound effects and jaunty music and you are left with one brilliant title. The controls take some getting used to though (incidentally the joypad control works with the game nicely) but practice makes perfect.

And don't think that just because the story contains a cute clam that life is going to be easy – far from it in fact. Rock 'N' Roll Clams is a hard but very enjoyable game

VISION
★★★★★★★★★☆
AUDIO
★★★★★★★★☆☆
DIFFICULTY
★★★★★★★★★☆
LASTABILITY
★★★★★★★★★☆

This highly entertaining puzzler will hold a great deal of longevity. A reasonable first game from this new software house. **80%**

Publisher ➤	Caspian Software
Developer ➤	Caspian Software
Disks ➤	2
Price ➤	£14.99
HD Install ➤	Yes
Size ➤	1 meg

The many levels and different backdrops add variety

Vertically scrolling backdrops work well

Get yourself connected

Modem gaming is growing in popularity as communication equipment continues to fall in price, and companies like On-Line Entertainment develop state of the art multi-user software. Simon Clays investigates

The computer user, the computer gamer, call him what you like, but he's always regarded as a solitary figure. These sullen creatures of the night can often be seen in the monitor-lit shadows of bedrooms all over the globe in pixelled isolation.

But is this lonesome reputation that the gamer has inherited justified? In truth it is not, because all over bedrooms in the UK, sales managers and shop assistants alike are coming home from the office to dial into an electronic gaming community.

This online phenomenon has been popular in the United States for quite a few years now, and has built up a huge user base.

EQUIPEMENT

Implementation is simple enough. All a user needs to go live is a computer and a modem that can send and receive information down a telephone line.

As a user, all you have to pay for is the telephone bill and maybe a subscription fee to the BBS (Bulletin Board System) operators. Several years ago, the idea was imported into Britain by On-Line Entertainment, and it has since attracted thousands of users.
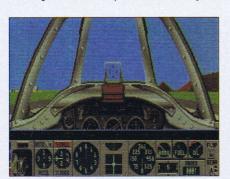
The brains behind On-Line Entertainment are Michael Hodges and Clem Chambers. Having spent time in the US, they were both convinced that modem gaming had vast potential for Europe. Michael Hodges reflects: "We'd been dealing with some American networks for some time and saw how they'd been expanding. Meanwhile in Europe there was no game comms activity. So we started

to create a market over here, and it's been slowly growing ever since."

The gaming environment created by On-Line Entertainment is the result of the latest in software and hardware technology. The games are specially written to run on communication equipment which allows more than one user to log in and select the game they wish to play.

The equipment needed to achieve this level of sophisticated gameplay consists of a network of Unix multi-processor systems which

users log on to. The equipment and services are offered by On-Line 24 hours a day, but the majority of people tend to phone during cheap rate hours to keep their bill down.

Michael is quick to defend the costs

Air Warrior allows players to customise their cockpits. Here we see a customised Spitfire

The main menu allows you to choose from a wide range of planes

A typical training mission in an American P-47

Flying tonight?

Air Warrior allows users to join one of three nationalities who are constantly at war with one another. The countries have a variety of primary and secondary airbases dotted around the war zone, and also have use of aircraft carriers to take off from.

The warring countries own various surplus aircraft which means the user has a wide choice of American, British, German or even Soviet planes to fly.

Once you've logged on to the Air Warrior menu, you can access instructions and help. Help comes in two shapes: a training area where users can carry out a little target practice, and weekly training sessions run by expert pilots.

Once your wings are a formality, you'll probably start hanging around the conference rooms. Here, players from all nationalities can talk to each other or see who is flying.

It's in these rooms that teams are formed and tactics formulated. For example, a team wanting to fly a B-17 bomber have to assign crew to various gunning and bombing positions. Besides the general conference rooms, each country has a room at its headquarters, where more sensitive tactics can be discussed.

Also, each major airfield has a briefing room in which pilots ready for take-off can chat. To add further realism, there's even a radio facility enabling users to communicate with other players on the ground or in the air. The radio comes equipped with 999 different channels and a squelch facility to block out unwanted ears.

But this is just the beginning, because the world of Air Warrior is truly massive with a number of different locations and combat terrains to fight in. European and Pacific environments come complete with rivers, bridges and ground installations such as radar towers and ack-ack guns.

There are also a number of strategic installations such as refineries, cities and supply convoys to attack. Destroying these targets affects the opposition's war effort, and they suffer inconveniences with things such as ammo supply.

Air Warrior is a truly massive and sophisticated simulation which is full of detail and realism. Options such as controlling ground or air-based machinery give it a long and entertaining shelf life.

But by far the most addictive aspect of Air Warrior gaming is the totally unpredictable nature of your opponents. Being 100 per cent organic, they provide gameplay that will never ever become tedious or repetitive.

Air Warrior creator Michael Hodges sums this dimension of play up to a tee: "Each time you play it's different, different people to play against in different situations and in different moods. If someone's had a bad day at work then you know it."

"There's no such thing as a predictable computer opponent, just real people that want to win."

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though: "People think the phone is more expensive than it really is. A local call only costs about 86p an hour, which is a lot less than a pint of beer."

Many readers will be familiar with and have taken full advantage of multi-player link-ups like Falcon and Stunt Car Racer. But in comparison with the titles On-Line can generate, they pale into insignificance.

Michael is also acutely aware of the other merits of modem gaming: "To use a computer can be a lonely thing. Also, computer opponents in traditional computer games can be very predictable and boring.

"The only way to change this was to get other people to join in. This is where we came in. We want people to change the way they look at their computer – there's a world out there where people can play, talk and be friends."

FLYING

The most popular example of On-Line's games is their flight simulator Air Warrior. This allows more than 40 people to pilot planes and jets from various eras in aviation history.

Other titles include Federation 2, an adult fantasy role-playing game where players interact in a simulated galaxy; Multi-User Dungeon (MUD 2), the original multi-user D&D game from the early '80s updated; and Internecine, a huge text-based adventure.

Work is in progress at On-Line on more advanced multi-user titles like Battletech, where players team up in huge droids travelling around a play area attempting to blow each other up.

Although modem technology hasn't really exploded yet in the manner it has in the States, the next five years could see a massive swing as technology and modem costs fall in Britain. This is a fact that On-Line knowingly acknowledge.

"We are in the process of expanding our service in terms of product and availability," says Michael. "Recently we switched on a new game called Land of the Crown, and now we offer a full Internet service giving our users access to a wealth of information and software.

"We are expanding our service into Europe with direct links to other countries. We also have a new link going into Finland, so we'll soon see squadrons and adventurers from Finland playing."

Clem and Michael have also been quick to seize other opportunities that CD technology has made possible, and are confident that they can contribute to a multi-playing future.
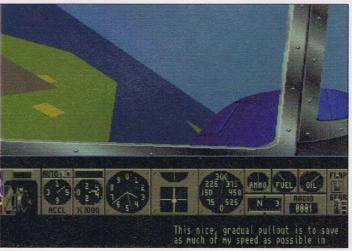
"All of our products are available on CD-ROM. This medium is about to take off in a major way and when recent developments such as MPEG become generally available we will be able to go beyond the boundaries of TV or film."

"At that point we won't be restricted to computer graphics and sounds, but we will deal with real images and sounds – maybe even create the mystical interactive TV that people have been talking about for years."

Michael Hodges, co-founder on On-Line Entertainment

One of the On-Line computers that handle dog-fighting callers from across Europe

AUTO X 1
ACCL X 1000
300 225 375
150 450
75 525
N 3
AMMO FUEL OIL
RADIO 0001
FL-AP
GEAR

This nice, gradual pullout is to save as much of my speed as possible in

Press the correct key and you can take a glance out of your side window

300
225 375
150 450
75 525
AMMO FUEL OIL
RADIO 0001
5 2
FLAP
GEAR

> Ha-Ha!I have shot you in the flaps!

Players communicate via the keyboard and one of the 999 radio channels

For further details contact:
Michael Hodges
On-Line Entertainment
642a Lea Bridge Road
London E10 6AP
Tel: 081 558 6114
Host: 081 539 6763

The sewers are deadly, with water everywhere. If one drop touches Lee then he will wake up instantly and you'll lose a life

One quick doggy paddle and Ralph finds one of the bonus icons. Find another four and you'll be whisked off to the bonus stage

Sleep

Dog is, apparently, man's best friend. I know many canines that fetch slippers and catch sticks, but I don't know many that guard you from danger when you're sleepwalking. But that didn't stop Ocean using this idea for a platformer and the Manchester-based company have now re-released it on their Hit Squad budget label.

Ocean are renowned for releasing games that contain great graphics and superb sonics, but are desperately lacking in the playability departments. Now and again, they do produce an absolute stormer of a game that is good in every department.

Sleepwalker was originally created for Comic Relief and at the time of its release the whole world seemed to be going "game" crazy. With the eyes of just about every man, woman and child on them, Ocean had to produce a good game because with all the publicity flying about, failure could do the company real harm.

In Sleepwalker, you control Ralph the dog and guide around the various levels making sure that his master, Lee, doesn't come to any harm.

Ralph has been give some super-canine powers enabling him to be squashed, zapped, bashed, run over and even roasted without doing himself any permanent injuries. Lee is, unfortunately, not blessed with the same powers and will wake up (remember that it's very dangerous to wake a sleepwalker) if he bumps into any hazards.

The object of the game is to guide Lee safely through the six varied and hazard-packed levels making sure you get Ralph's master out of the exit without waking him up. The levels range from the traffic-strewn city streets to a creepy graveyard to the local zoo and all have their own kind of dangers hidden within.

WAKING UP

The sleep bar at the top of the screen shows how deep Lee's sleep is. He begins the adventure in deep sleep when the bar is to the far right. It moves gradually to the left as Lee walks into hazards. The amount it will move depends on what kind of hazard Lee encounters. When it moves all the way to the left, Lee will stretch, have a yawn and wake up.

Water has the greatest effect and may wake Lee up completely. When Lee awakens, you lose a life and must restart the level again from a point near to where he awoke. Do this three times and it'll be game over.

Scattered around the levels are various icons that give Lee or Ralph special abilities. The whoopee cushion makes whoever picks it up invulnerable for a short period of time, while a pair of novelty ear muffs will put Lee into a deeper sleep.

Also placed strategically around each of the levels are five bonus balloons. As you collect the balloons, the word "Bonus" is spelled out on the right-hand side of the score panel. The word used to be "Comic" in conjunction with the charity comedy event, but Ocean seem to have dropped this from the budget release. The letters don't have to be collected in any order, but once you've found all five you can enter Ralph into the bonus level.
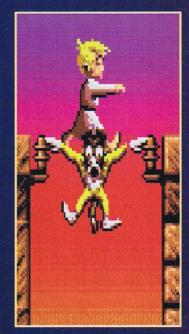
Ralph may be man's best friend, but it seems that he's not too fond of his master's sleepwalking capabilities and wishes him a nice painful death! The bonus levels take

Ralph has a minor disagreement with the club bouncer which inevitably leads to violence

A shot from the marvellous animated introduction sequence which tells the story of Ralph and Lee

Ralph can be used in various ways. Here he makes quite a useful bridge for his master to walk over

The start of the adventure and already Ralph is running ahead of his master to check for any dangers

Ding ding! Going down! Ralph takes Lee for a ride on a lift making sure his master doesn't wake up

ACTION GOLD

walker

The game that did a lot of work for charidee - but didn't like to talk about it - is back! Courtesy of Ocean's Hit Squad label, join Ralph the dog for a manic bout of budget platform fun

Pushing your master into the road when a car is coming is probably not the best idea in the world. Where's the Green Cross Code man when you need him?

One of the many fates that can happen to Ralph is being burnt to death, though in true cartoon style no permanent damage is done

place in a similar landscape to the main levels. Ralph must run around and collect red balloons. Every 20 red balloons collected generates an extra life for the fearless mutt.

There are extra icons featured in the bonus level that, when collected in the correct order, spell out one of the hazards that Ralph would like to see happen to Lee. For instance if you collect the lamp, plus, post-box, minus and box icons you get a visual sum. The answer of course is lamp post and then a fate involving that object would befall Ralph's master. When the time on the bonus level runs out, if Ralph has man-

aged to collect any special bonus hazards you get to watch what might happen to Lee.

Sleepwalker is an incredibly simple game that will take you a long time to master. Control of Ralph the dog is, at first, very hard and you will need a lot of practice, but once you've mastered that, Sleepwalker turns into a such a dreamy game that you will want to run off and live with it in platform heaven for the rest of your days... erm probably.

The graphics are really bright and colourful and some of the animation, including the introduction sequence, is

superb. Not a lot to sing and dance about on the sound front, apart from the introduction which features the vocal talents of Lenny Henry, but what is in the game is more than adequate.

Ocean games tend to be top-heavy in the visual and audio departments and tend to neglect playability. But do not fret because Sleepwalker is jam-packed full of stuff. It is a game that takes a while to get into, but once you're there it is very hard to put your joystick down and turn off your computer.

I rate Sleepwalker because it's an original concept and you don't get too many of

those these days. Taking its brand new budget price into account, there isn't any reason why you should not have Sleepwalker in your games collection because it is one of the best platformers you can get for your machine.

JONATHAN MADDOCK

VISION
★ ★ ★ ★ ★ ★ ★ ★ ★ ☆
AUDIO
★ ★ ★ ★ ★ ★ ★ ☆ ☆ ☆
DIFFICULTY
★ ★ ★ ★ ★ ★ ★ ★ ☆ ☆
LASTABILITY
★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Sleepwalker is packed full of top-notch graphics and contains a wealth of playability and addictiveness. One of the best platformers you can get for the ST. Buy it now or forever hold your peace.

92%

Publisher ►	Hit Squad
Developer ►	CTA Developments
Disks ►	1
Price ►	£9.99
HD Install ►	No
Size ►	1 meg

Snooker, as a rule, is perhaps one of the most boring sports to watch in the whole world. Don't get me wrong, I like snooker, but watching two players pot balls into pockets into the early hours of the morning is just not my idea of a fun time.

Actually playing snooker is a whole different kettle of fish though, but you must have an opponent to compete against and this is where a slight problem occurs. Most people will quite happily challenge you to game of pool because it's a much quicker game and thus a more enjoyable experience. Challenging someone to play snooker is a bit like saying "Hey! Fancy coming to watch some paint dry?".

This problem can now be solved thanks to the wonder that is, Jimmy White's Whirlwind Snooker. Well, to tell you the truth the problem was first solved when Jimmy White's emerged in 1991, but for ST newcomers and those who missed it first time around it has re-appeared in budget form courtesy of Ocean's Hit Squad label.

Remember I said that finding someone to play snooker against is a bit of a problem, well in Whirlwind Snooker there are a whole abundance of computer players to break off against including the maestro of the green baize himself, Jimmy White.

For those with lots of snooker-loving chums there is, thankfully, a two player option, but perhaps one of the most fun aspects of Jimmy White's is the trick shot feature. You can set up all the balls exactly how you want them and then adopt a John Virgo-like beard and happily amaze your friends with your cueing expertise.

Jimmy White's Whirlwind Snooker is one of those games that should be in everyone's collection of software simply because it is the ultimate snooker experience. There will never ever be another snooker game because there is no possible way that it will be better than Whirlwind Snooker.

The graphics are brilliant and are highly realistic. There are some nice touches when you leave the game to its own devices. Flies start to appear on the screen and the balls start to pull faces at you and wave flags in the air! For those gamers wondering about that last sentence, I am completely sober.

Those people who don't like snooker obviously won't be too keen on the idea of playing it too often, but I heartily recommend Jimmy White's to every ST owner on the planet. Buy it now, if not sooner.

JONATHAN MADDOCK

Chalk that cue tip and prepare to break off into 3D snooker heaven!

Jimmy White's Whirlwind Snooker

ACTION GOLD

Jimmy White's Whirlwind Snooker is perhaps the fastest, smoothest snooker game ever created and it's just about as close to "real" snooker as you can get. The reason for the realism is the superb 3D ball routines expertly programmed by Archer Maclean. You really have to play Jimmy White's to find out just how good the balls are because words will not and never will do it proper justice.

Control of the game is via the mouse and a series of icons which can be placed at either the side or top of the screen. Clicking on the icons will allow you to position your cue, select spin, set the power level and even chalk your tip.
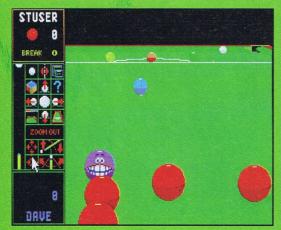
The other icons give you access to a whole range of views from which you can watch the hot potting action. You can view the table from any angle and zoom in on any ball.
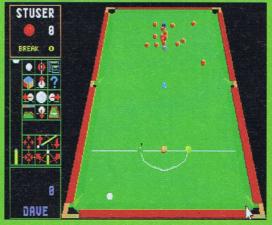
There are a whole bunch of computer players to compete against

Jimmy White might not have ever won the World Snooker Championship, but he's the fans' favourite and just to prove it he stars in this, his very own ST game

It's a comedy moment! Leave the ball to its own devices and it will start to pull faces at you

The table can be viewed from any angle. This is achieved by clicking on the set of icons found at the side of the screen

VISION	★★★★★★★★★☆
AUDIO	★★★★★★★☆☆☆
DIFFICULTY	★★★★★★★★★☆
LASTABILITY	★★★★★★★★★★

Jimmy White's Whirlwind Snooker literally shines in every department. A great and highly playable game.

94%

Publisher ▶	Hit Squad
Developer ▶	Archer Maclean
Disks ▶	1
Price ▶	£14.99
HD Install ▶	No
Size ▶	½ meg

Welcome warmongers to the third installment of our excellent guide to killing and maiming computer pixels in Virgin's top blast-'em-up

cheat mode

CANNON FOI

Reports from local residents indicate that the enemy have set up various barracks along the riverside at mount Jukania. Through this they have been able to cut off all supplies to neighbouring villages and have also affected our back-up troops.

Unless this river is freed from enemy presence, our troops will either starve or be killed by overwhelming enemy forces.

The helicopter will fly you in during the morning. Instead of beginning at the top of the mountain where it is inaccessible due to the large presence of enemy soldiers, you will start from the foot.

You will proceed from this location to point one where an enemy foxhole is situated. All enemy army personnel must be eradicated from this area.

At point two you will find a strong resistance from two barracks. Reports indicate that there is a bazooka guard at the northern most hut and he should be eliminated first before the buildings.

Area three holds another bazooka guard but he's only there during the day, so make the most of it. Before swimming the river to ascend further up the mountain, be sure to destroy the other bazooka installation at point four. Failure to do so will probably result in your death.

Across the river is another enemy building full of soldiers. Minimise the danger factor by throwing a grenade at the building from the other side of the river. Then when the coast is clear, go across.

The hut at point six should be tackled from the foot of the precipice, because at point seven there's a rocket installation. Try to take out the rocket launcher from the south side of the river before ascending the last part of the mountain.

At the top of the last mountain you'll find the heaviest resistance, as the enemy up here have witnessed your events and are on full alert.

In the top north-east corner there's a box of grenades if you need them. If you are successful in eliminating all buildings and enemy soldiers and the phase hasn't ended, then there's more than likely to be a large squad of men to the south near the foxhole, so retreat back to said location to deal with them. Then radio in and we'll come in and pick you up.

Jungle warfare is the next mission in our campaign men. Hidden around the jungle in South America are lots of army operatives that need to be wiped out.

The enemy have learnt from their past mistakes and are now taking more caution than ever before. They have set more booby traps and increased the capacity of the barracks. Your overall mission is to find 'em and drill 'em. Details are as follows.

The chopper will fly you in close to the nest. Move with stealth through the jungle avoiding point one. Inside this bush is a single soldier who will attempt to shoot you with a bazooka shell. Fortunately for us, he doesn't quite know how to use such hardware and will without a doubt kill himself in the process, but be sure not to leave any of your men nearby as the explosion can kill you, as you well know.

Area two will contain a group of three crack soldiers who will keep watch until they have spotted any enemy forces – namely you. Two of them will then rush forward and attempt to

ODER

thwart your plans while the the third raises the alarm.

So move quickly and kill them and attack the guard at point three before destroying the huts beyond location five.

Take care near point four as the bridges have been tampered with and have a multitude of hidden mines and spiked traps. If this area has been successfully completed, you can move up to point six to wipe out the remains of the enemy forces in this area.

Area seven contains a large amount of missiles to use against the enemy. It's tempting to collect these before completing the other objectives but if you do, you'll raise the alarm too early and enemy forces will be overwhelming for your much smaller group.

Although this phase appears easy, We can tell you now that you have never had it so hard. Report to H.Q. when this mission phase is completed.

Unfortunately for us, the enemy's r main barracks resemble the local residents homes, so we can't afford to take chances. Every igloo must be demolished, providing they're in operation as we speak.

Secondly, in the hut to the east, several enemy captains are in a meeting discussing future war strikes against us and it is imperative that they are also eradicated.

Leave the drop-off point and head towards point one. This is the first operational igloo that you'll encounter. Destroy it at all costs.

Point two is hazardous and should not under any circumstances be breached. Kill any enemy on sight from a distance, but do not attempt to engage any closer.

In this enclosure at point three there is another igloo. The two surrounding structures are derelict and shouldn't need to be damaged further.

The action will certainly begin to get a bit heated now as you move in to the heart of their secret operation. As you make your progress through this area, be sure to demolish the building at point four before commencing an attack on the hut at point five. Make sure that everyone is killed in this area. We don't want anyone spreading word of our mission.

This leaves the two buildings to the north at point six and seven where all enemies should be eliminated. The same applies to the civilian building too. Even though they're not enemy army, they are dangerous to our groups and will attack with whatever means they possess, quite often a spear of some description that they use for fishing.

If all is quiet up here, go down to point eight and there's a foxhole full of soldiers. Be sure to wipe the whole group out as they can and will send a message out for help. Oh, and one more thing: don't kill the seals – they're not doing any harm and any man caught doing so will be instantly court martialled and demoted.

OK men, you're already familiar with the controls behind the enemy's skidu, so get ready to employ those skills once more as you need it to complete the mission.

The mission is as follows: during the last phase, the enemy caught a civilian listening in to the captains' meeting. It is believed that this civilian can provide all the information about the enemy's next strike against our forces. It is important to a lot of men's lives that we learn of this plan.

Your task is to breach the enemy defences and rescue this civilian. Security is very tight in the last sector, so it should be approached with caution. Unfortunately we regret to say the civilian will attack you, if only because he won't know who you are.

Move your team up to location one. Here you'll find a skidu being guarded by a single soldier. However, he's also armed with a bazooka and he will use it to protect the enemy vehicle.

With the vehicle acquired, you should drive the skidu around the forest until you see the ramp at point two. Use this ramp and the vehicle's top speed to jump over the line of trees ahead. Keep the steering tight as the skidu will explode and kill your men inside if you hit any trees when you land.

At point three there's another bazooka guard. Be sure to waste him before attempting the second jump. If the second jump is a suc-

cess then proceed to kill the guard standing in the corner. Be quick or be dead.

The skidu is now no longer needed and should be discarded. Points four, five and six have guards posted who should be eliminated from a distance with the shells you have been issued. Attempt to cross the river without their extermination and you are surely going home in a bag. Be sure to kill the guard at point

seven before the final assault.

The final assault should be quick and precise, the civilian is roaming around this enclosure somewhere so take great care with your guns.

Use the grenades to destroy the buildings as they won't break the surrounding fence down, allowing the enemy near you. Radio in when all objectives have been met.

REPLAY 16

At last, a low cost 16 bit sampling system for the Atari ST, featuring full 16 bit input and output in the same unit. The system comes complete with a sophisticated sample making/editing program, superb digital Drum machine program, and a powerful MIDI keyboard emulation program which gives the user the ultimate in MIDI sample control.

HARDWARE – The 16 bit sampling unit plugs into the cartridge port of the ST. Audio connections to and from the sampler are provided via standard Phono connectors. An Input volume control is also provided.

SOFTWARE – EDITOR – The sample editor is a highly flexible 'WIMP' style program which allows conversion or editing between any AVR format 8/12/16 bit, Mono or Stereo samples. Sampling rates of up to 48Khz can be used, but the program can re-synthesise samples to practically any other speed.

Features include: ▪ Volume control ▪ Digital filtering and 3D frequency analysis ▪ Cross fade looping ▪ Record ▪ Play ▪ Fast Forward/Rewind with VCR style controls and much more...

DRUMBEAT – A 4 voice polyphonic Drum machine with full MIDI control. Up to 30 different samples can be loaded into a kit at once and 50 patterns can be programmed in either realtime or steptime. Samples can be up to 1Mb in length each.

MIDIPLAY – Flexible keyboard emulator which can cope with up to 128 samples in memory at once. Any sample can be assigned to any note or range of notes in a 9 octave range. Midiplay can play up to 4 VOICE/NOTE polyphonic with 3 levels velocity sensitivity while in single voice mode. An advanced sample loop point editor with AUTOLOOP (Zero Crossing) detection is also incorporated to ease loop point editing.

The system runs on any ST or STE with 502K (1Mb min is recommended), and comes complete with hardware, software and comprehensive manual.

ONLY £99.95

Product	Price	Order No.
Replay 16	£99.95	9156

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Save money and the environment with Re-Ink Spray and bring back life to your exhausted printer ribbon. Simple and cost effective, it can save you up to 90% on ribbon costs and gives cleaner, blacker print with no blotches and it works for all fabric ribbons. Just open the ribbon case, spray Re-Ink onto the ribbon and hey presto!

ONLY £12.95

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COVERDISKS
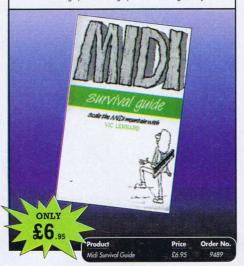
Did you miss out on any 1992 **Atari ST User** CoverDisks? If so, now is your chance to obtain our pack of 12 CoverDisks for 1992, and packs of 6 CoverDisks from January to June and July to December 1993.

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Whether you're a beginner or a seasoned pro, the Midi Survival Guide shows you the way. No maths, no Midi theory, just practical advice on starting up and ending up with a working Midi system.

ONLY £6.95

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In addition to UK features, Pro Punter 2 contains unique course/going/class editors and will configure to metric weights/distances, thus allowing configuration for racing worldwide.

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Pro Punter 2 + (1Mb req)	£75.00 (RRP £99.00)	9110

BINDER & BACK ISSUES

If you've missed any of these issues, now's your chance to put things right, by either buying an individual issue or a full six months' worth. But hurry – stocks are limited! Keep all your back issues in pristine condition with the **Atari ST User** binder a must for any serious Atari user.

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Atari ST User Binder	£5.95	9478

Rockin'

With a song in his heart, Ian Waugh turns his attention to rock and pop files, the key suppliers and their musical catalogues

We often look at building block disks but I've received a few letters over the past few months from readers asking why we don't feature rock and pop Midi files in the same way.

The answer is simple – there are so many out there that it would be impossible to cover them in any depth. Even listing new releases is impractical as they would fill several pages.

So I've done the next best thing and compiled a list of Midi file suppliers. And what a lot there are. I thought I'd find six or perhaps seven but I've discovered over a dozen.

All companies will send you details of their files and most add to their catalogue every week, so if you want the latest rock and pop songs it pays to keep in touch.

Virtually all the files are configured to General Midi (the exceptions are noted in the text) and are, of course, available on ST disks.

The only thing you might want to check is the file format. Many companies supply both format 0 and format 1. If your sequencer can demix by channel, format 0 is fine. If it can't and you want to edit the file, it isn't.

● Midi Magic (0792 644820) have over 250 files, created mainly by two programmers. Most of the catalogue is rock and pop with some medleys and special 10-pack collections.

One song is £6, five songs are

Part of Heavenly Music's arrangements of Mars from Holst's Planets Suite

£25, 10 songs are £45 and medleys are £10, the 10-packs are £30. Postage costs £1.50.
● If you're looking for classic rock and pop songs, HMK (0292 317398) have over 100 titles, with new material being added every week.

Most are programmed by HMK (Heather M. Knox) herself. One song is £4.50, five songs are £20, 10 songs are £35 and 20 songs £60. Lyric sheets are available at £1 each. Add £1 p&p.
● Sound Image Productions (0501 825109) will program any current chart song for the regular price, plus any custom song, providing it's not too obscure.

SONGS
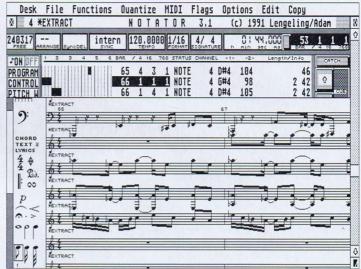
They also have over 300 rock and pop files, over 30 medleys and collections consisting of four or five songs.

Most are programmed by Scott A. MacAlister, and new files are added every week. Songs are £4.90 each, collections are £15 and a custom song will cost you £16. Add £1 p&p.
● The appropriately named Hands On (0705 783100) have over 2,000 files programmed by the Hands On team and the American Tran Tracks company.

Most are rock and pop files but there are some classical files too,

An excerpt from Hands On's Axel F

plus a selection of building block and utility files such as Roland GS setup data, Groove beats and Rockbeats.

Song files are £4.95 each plus p&p and the utilities are individually priced.

Hands On also have a bulletin board (0705 783400) containing free demos of all the songs. Downloading a file from the board costs £1 less.
● Files from Midi Music UK/USA (0602 633117) are produced by members of The Associated Midi Programmers' Guild, and Midi Music pledges the quality of the files with a money-back guarantee.

There are over 600 files in the catalogue. They are mainly rock and pop files but there are some classical pieces too, and new titles are added every week. Some disks

are available from around 800 retailers and the company have a bulletin board (0602 641176), making the files instantly available to registered users.

Most songs cost £5 to £6 each but there are discounts for orders of five or more. Midi Music also have several Midi Albums containing around three songs for £9.95. Add £1.50 for p&p.
● Some files are specially tweaked to suit particular instruments. Labyrinth (0254 678915) have over 1,500 files programmed by the company's own team of programmers.

For example, the Korg M1 files have been programmed to make the most of the M1's distinctive sounds, as have the Korg i2 and i3 files.

Other formats include the

Which Midi file format's right for you?

There are two Midi file formats – 0 and 1. Format 0 files contain all the Midi data in one homogenous track.

This format is most often used with stand-alone Midi data players as the device has less work to do – it simply reads the stream of Midi data and plays it.

Format 1 files have each Midi channel on a separate track. This is most convenient for sequencer users who may want to edit the parts.

Some Midi data players can read format 1 files, but not all. You can prepare a file in your sequencer for playing on a data player as long as your sequencer can save format 0 files.

If not, you need a format conversion utility of which there are two – Hands On's Zero Gen (£14.95) and Heavenly Music's MidiScope (£12.95). Both do the job simply and without fuss.

Hands On's Zero Gen converts Standard Midi File format 1 files into format 0 files

along with Midi

Roland Sound Canvas and GM/GS files. Songs are £5 each with a 20 per cent discount for orders of 10 or more. Postage is £1.50 per order.

● Bands and gigging musicians will be familiar with London Orchestra arrangements. Protracks (081 763 2225), run by Dave Tanner, are part of the London Orchestrations group.

Songs are divided into two groups. Category 1 contains over 600 chart hits past and present.

THEMES

Category 2 contains over 50 rock and pop medleys, TV and film themes and big band standards. Five Category 1 songs or three Category 2 songs cost £30.

● Best known as one of the leading publishers and distributors of music books, Music Sales (0284 702600) have recently released several books containing a disk of the music therein.

There are several categories to suit everyone, from beginner to professional, at prices ranging from £8.99 to £14.99 for about eight songs.

The files are all in format 0, optimised for a Midi file player. The packs should be available from all

Instrumentation for Bach's Brandenburg Concerto No. 2 as arranged by Oscar Music

good music stores.

● The Newtronic (081 691 1087) catalogue boasts over 3,000 Midi files, mainly programmed by German musicians.

Most are pop and rock but there are also some classical files and disks of drum patterns and techno grooves. One song costs £6.50, 10 songs are £59, 20 songs £99 and 100 songs £400.

● If you've read these pages before, you'll be familiar with Heavenly Music (0255 434217).

As well as the range of building block disks such as Dr. Beat, Ram Jam and Beat 'n' Bass, HM have over 750 songs in the Megga Tracks series.

The majority are programmed by HM's Joe Ortiz and most are pop

and rock but there are some classical disks and albums such as Tubular Bells and The Essential Jarré.

Songs are £4 each and the other disks vary in price from £10.95 to £19.95. £1.50 p&p.

● Words & Music (091-529 4788) specialise in classical music, with six disks of assorted classics typically containing 20 to 50 files per disk, a disk of Bach's Well-Tempered Clavier, one of Ragtime tunes and a disk containing 160 drum patterns.

All disks cost £10.95 each plus £1 p&p, with discounts for orders of two or more.

● Classical music specialists, Oscar Music (071-377 6294) have recorded their files 'from the score'.

The current catalogue contains only three works – Mozart's 40th Symphony, Bach's 2nd Brandenburg and Beethoven's

Egmont Overture – but they are expertly programmed.

They are, however, arranged for Yamaha's SY77, not GM, and you need two SY77s to play the Egmont! The Mozart disk is £49.99, the others £24.99 each.

● The Proteus Communications (0642 300903) catalogue currently contains nine disks of classical music, again 'from the score', by composers such as Vivaldi, Tchaikovsky, Rossini and Mozart. Disks are £12.95 each.

● No strangers to these pages, Station Records (0787 311500) specialise in guitar riff building block files. We've looked at these in this column over the previous year or so.

REALISTIC
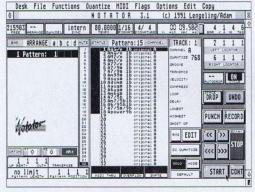
Electric Busker and Acoustic Busker contain guitar patterns recorded with a Midi guitar so they are extremely realistic. The Busker disks cost £14.95 each.

● Realfeel (071-241 0621) are a 'real music' specialist company with drum patterns recorded 'live' using Midi drum pads. The Realfeel disk is £13.95.

● One particular newcomer to the Midi file market have come up with a great idea – twiddly bits.

Keyfax Software (0491 579645) supply a disk containing licks and riffs for guitar, drums, percussion, string, brass, bass, synth, piano, organ and woodwind. They have been culled from a team of professional players.

All you have to do is lift out the grooves and drop them into your own songs. It includes a full Arranger's Manual and costs £19.95 plus £2 p&p.

This is the first twiddly bits collection. Future releases promise to include orchestral twiddles, country twiddles and jazz twiddles.

Eighteen tracks of guitar riffs which you'll find on Station Records' Midi Busker Electric Guitar disk

The Midi Music Bulletin Board lets you download files 24 hours a day

Music update

● Steinberg have announced the implementation of a Cubase upgrade path. If you're thinking of trading in your ST for a Falcon, you can upgrade to one of the Falcon Cubase programs for a nominal fee. More from Harman Audio on 081-207 5050.

● Steinberg have also announced that the full range of Synthworks Editors are now available for the Falcon. The editors support a wide range of popular synthesisers including those from Yamaha, E-mu, Korg, Roland and Kawai.

If you already have a Synthworks program for the ST, you can get a Falcon version free.

Simply send your original disk marked for the attention of Robin Pearce to: Harman Audio, Unit 2, Borehamwood Industrial Park, Rowley lane, Borehamwood, Herts, WD6 5PZ.

As this will be the final Emulation Aspects column, at least for the foreseeable future, it may be an appropriate time to take stock.

No other computer has ever been as versatile as the ST with its chameleon-like qualities, and I suspect that more people have been persuaded to buy an ST precisely for its abilities to run non-Atari software than is the case for any of its rivals.

From the very beginning, the emulation of other operating systems has been a key part of Atari's marketing strategy.

When the ST was first launched, there was so little software for it that Atari commissioned a CP/M emulator to be bundled with it, so people could run what was then the business-standard operating system and have access to such software classics as WordStar and dBase II.

In Germany, where the ST was a truly phenomenal success – which is why so many PD and shareware programs come up with cryptic messages like "Nicht genug Speicher" – you could buy thick volumes entitled WordStar on the Atari ST.

Then there was PC-ditto, a much-admired marvel of software engineering. It could run most MS-DOS programs at a third of the speed of a real PC, just about fast enough to take home your WordStar or Lotus 1-2-3 files from work and impress the boss with your dedication to get things done on time.

Really adventurous designer types would play around with the

Are emulators still cost-effective? Are they still necessary? Günter Minnerup assesses the state of the art

Bundled with the original ST, now all but forgotten – the CP/M emulator

A milestone in PC emulation: PC-ditto. And it was all done in software only!

Be thyself

Magic Sac or Aladin (much more reliable) to run Apple Macintosh gems like Aldus PageMaker or Microsoft Word.

Things really took off when hardware DOS emulators featured real Intel chips and Spectre GCR sported the ability to read Mac disks.

The ST could now be something close to the universal personal computer: a PC-AT, Macintosh Plus and – if you insisted – CP/M machine all in one box, in addition to its increasingly impressive capabilities in native TOS mode.

Spectre GCR was so good that nobody ever attempted to compete with it, but on the PC front several rival products

soon vied for the ST owner's custom.

PC/AT-Speed and ATonce were so similar to each other as to make little difference, but the maverick SuperCharger had a few special tricks up its sleeve, such as its own RAM (which could be used as a RAMdisk in Atari mode) and the potential to use real PC expansion cards.

AWAITED

Pity it never really made it in the UK because of the collapse of its distributors – it is, after all, the only hardware PC emulator to work with all Atari computers including the TT.

The long-awaited American counter-attack to German hegemony in the DOS emulation market flopped disastrously when PC-ditto II, the hardware successor to PC-ditto, didn't fit into ordinary 520/1040ST cases and turned out to be riddled with unpleasant bugs.

For the last few years, therefore, the choice has been pretty much narrowed down to PC/AT-Speed or ATonce for DOS and Spectre GCR for the Mac. The Falcon has

acquired its own DOS emulator in the shape of FalconSpeed which at last offers VGA colour screens, but otherwise there is no denying that the emulation scene has been marked by stagnation.

The sharp fall in PC and even Mac prices has made the economics of emulators less attractive: even if a brand new 386 or 486 clone or Mac Classic is still beyond your reach as a second machine, second-hand 286 ATs and Mac Pluses can now be picked up at little more than the cost of an emulator.

Software developments, too, have made emulation a less attractive proposition.

Running Windows on anything less than a 486 with a full-colour VGA screen is not much fun, and few STs have the amount of RAM and hard disk space required for Microsoft's memory-hungry user interface.

Add to that the cost of memory expansion and hard disk upgrade to that of the emulator and a trip down to your local Dixons for a cheap SVGA Windows clone appears ever more attractive.

The most powerful of the hardware PC emulators: ATonce 386. It's the only one to offer multi-tasking Windows, but sooo slow

Accessorise your file transfers!

Many communications programs provide internal support for uploading and downloading files, but there are several that have taken the alternative route of allowing the user to specify an external program to handle file transfer operations.

There are a number of such programs available, mostly in the shareware or public domain arenas. Until recently XYZ.TTP was the most common, but a German newcomer, GSZRZ.ACC, just translated into English, is starting to prove a very attractive alternative.

TRANSFER

It supports the common X, Y and Zmodem transfer protocols, so it should be compatible with most online systems that you might wish to use.

The general design philosophy is much more orientated toward today's complex multitasking environments, and it can even run as a neatly windowed desk accessory rather than as a separate program, thus removing the need to re-load

André Willey links up to a neat little German file transfer program

it each time it is required. This improves online session times considerably, especially when working from floppy disk. Of course, it can still be used as an ordinary program if desired.

Another big plus is that it understands and supports all of the new serial ports found on more modern Atari machines such as the TT and the Falcon.

Speed-wise, GSZRZ.ACC seems to have a slight edge over XYZ.TTP, although there is not a lot in it. However, it does seem more resilient to line noise and is faster at re-syncing if an error does occur.

Its internal clock seems a little less precise than I would have liked. A one-minute transfer was dis-

played on screen as having taken nearly two minutes!

The calculated CPS (characters per second) figures seemed accurate enough though, which tends to rule out interrupt problems which

can often affect such timing calculations.

Anyway, the bar-graph display, showing the proportion of the file transfer remaining, is a lot more useful for estimating the time to completion.

GSZRZ is now available with English documentation and UK support for a registration fee of £13 from Joe Connor's 'Supported Shareware' scheme on CIX.

Software	Quoted CPS	Transfer time	Actual CPS
XYZ.TTP v2.02 (Upload)	1120	1:05	1098
XYZ.TTP v2.02 (Download)	1095	1:06	1081
GSZRZ.ACC v4.5 (Upload)	1137	1:03	1133
GSZRZ.ACC v4.5 (Download)	1093	1:06	1081

Timings for Zmodem uploading and downloading a 71,349 byte file, using a V32 modem with data compression disabled for the test. Download speed appears to be limited by the remote Zmodem software, but GSZRZ's upload speed appears to be slightly faster than that of XYZ, possibly due to better streaming

```
CixComm  File  Auto  Cixread  Usenet  Info
☒█    CixComm v2.02 - Copyright © André Willey 1994
         Executing E:\COMMS.BIN\XYZ2028.TTP...
    /            XYZ Version 2.02 BETA May 10 1992  11:51:44
  / * / Starfall Software  Copyright ©1992 by Alan Hamilton
 *   *               GEnie: STARFALL
                     Shareware, run with -h -p options for details
To abort, press UNDO at any time

Buffer size = 1404700 bytes

ZMODEM file transfer

Receiving file "uscratch", 81805 bytes
File created on Thu Apr 14 23:24:47 1994
Bytes transferred   CPS: now / avg   Time left
  36864 ( 45%)         1137  1119     00:00:40
```

The older XYZ.TTP file transfer utility displays simple BIOS text progress reports, caring little whether they fall within a window

The Shareware Solution

Shareware releases of software are becoming more and more common these days, with an ever-growing range of excellent programs coming from Germany and the USA. Unfortunately, shareware registrations to overseas authors are always a problem – have you got 50 Deutschmarks lying around the house?

Anyway, sending cash in the post is not exactly the safest of activities, so many people prefer to send a bank draft or cheque of some sort, which will cost you around £15 to arrange at the Post Office, or upwards of £10 via a bank.

Most people come to the conclusion that it's simply not worthwhile to pay a £10 shareware fee.

A number of CIX users felt the same way, and after discussing the problem for some time, the idea of arranging a UK bulk-registration facility for some of the best foreign shareware was proposed.

Long-time CIXen Joe Connor (jconnor@cix.compulink.co.uk) now handles a range of CIX-supported registrations, and can also assist with technical queries and setup problems, a big plus when the alternative is a phone call to Germany or the United States!

The currently supported programs include: Egale (a file comparison utility), Everest (a powerful text editor), Idealist (with IdeaForm and IdeaBook), Kandinsky (vector art), Selectric (a truly wonderful alternative file selector, which I now couldn't work without), GSZRZ (comms file transfer utility) and Two-In-One (an archive system which supports all popular formats).

GEMView, the image viewing utility, is also supported via CIX, by Graeme Rutt (sabbath@cix.compulink.co.uk).

If you don't yet have access to CIX or internet mail you can also send your UK registrations to Joe by 'snail mail' at 65 Mill Road, Colchester, CO4 5LJ, or to Graeme at 4 River Terrace, Washbank Road, Eynesbury, St Neots, Cambs, PE19 2TE.

As with all shareware, the PD or unregistered versions are available for downloading from CIX, other bulletin boards, and PD libraries.

```
CixComm  File  Auto  Cixread  Usenet  Info
☒█      CixComm v2.02 - Copyright © André Willey 1994
              CixComm v2.02 Ready
CIX Supported Shareware (most include UK support & registration)

Some CIX users run UK support and registration schemes via CIX.
The following software is currently supported:

Filename     Size    Description

gszrzsv47.zip  69554  Shareware version of GEM ZMODEM v4.7 (see #Z255)
egale126.zip   84442  File compare utility (German)
everst22e.zip  86137  Everest vI.2e text editor (See #Z98)
gbnch399.lzh  125869  GEMBench 3.99 beta, for registered users ONLY
ideal_4.lzh   448248  Idealist 1.4 with IdeaForm and IdeaBook
kandi57e.zip  223902  Kandinsky vI.57e Vector art package (See #487)
slctl10e.zip   77327  Selectric vI.1De alternative file selector
2in1186e.zip   99727  Two-In-One vI.86e, Archive manager, all formats

Gemview files, supported by sabbath@cix

gvwinst.app    47862  GEMView v3 installation program
gvw_uk.reg      4158  GEMView UK Registration Info
```

Part of CIX's 'supported shareware' file list. Once registered, you may receive more up-to-date copies of the software and documentation

Body building

Andrew Wright turns to the issue of body text and discovers a new way to put the colour into DTP

We've covered the topic of choosing a typeface for a given situation in previous issues, but the relationship between typeface, point size and leading is a complex one and newsletters often have peculiar requirements, so it's worth a second look.

The first requirement for the body text typeface is that it should be easy to read. To be easy to read a typeface has to be plain and simple, unlike display faces which can distract the reader. Serif faces are better than sans serif, simply because the serifs aid letter and word recognition, thereby speeding up reading.

MODIFIED

However, there are some modified sans serif typefaces such as Optima and Shannon which could be used if needed (modified sans serif faces are slightly thicker towards the ends of the stems and often look as though they are about to sprout baby serifs).

The best serif typefaces have moderate stress – which affects the thickness of strokes – even width, and moderate x-height. Transitional typefaces like Caslon, Century Old Style and Times fall into this category.

Old Style faces like Garamond tend to have less stress, creating rather grey text although Garamond is undoubtedly still a good choice for legibility.

Modern typefaces like Century Schoolbook are worth considering though Bodoni has too much stress and can get a little tiresome. If you're outputting to an inkjet or an older laser printer, it may pay to look at typefaces designed specially for low resolution work. These include Bitstream Charter and Nimrod, which are clearly legible even when printed on poorer printers.

The best way to proceed is to create a dummy based on approximately the same column widths that you will be using. Print it out in all your available typefaces and scrutinise the result. If you're not happy, it's a trip to the font shop for you!

Narrow the options down if you can and then make suitable alterations to the leading and point size. If you have a face like Bookman with a large x-height, you'll have to use more leading than with say Times, although you can often get away with using it at a smaller point size.

In fact, if a typeface has too much or too little of anything – stress, x-height, width or serifs – it will need more leading as a general rule of thumb.

If you find yourself preferring what seems to be excessive leading, don't worry. Timeworks, for example, generally adds a couple of points of leading by default but quite often a newsletter will look much better if it has three, four or even five points of leading. Whatever you do, don't be strait-jacketed by convention!

Clever way to colour
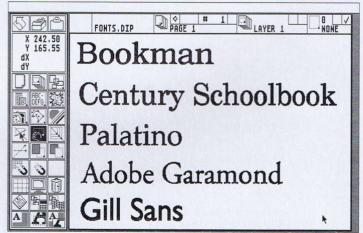
In the May issue I mentioned a way of using colour cheaply by preprinting paper with a colour other than black. In the meantime, another method, potentially even more cost effective, has come to light for those with laser printers.

An American company called Paper Direct have launched a UK operation. Their 50-page catalogue lists all kinds of pre-printed paper and forms which you can use as the basis for your own designs. If you imagine a four-colour letterhead without any text, you've got the idea.

Dozens of designs are available, from trendy and ultra modern to classical and traditional, all printed on good quality 100gsm paper. The list doesn't stop at letterheads either – there are preprinted mailers, leaflets, business cards, posters and even matching envelopes.

A box of 100 sheets will cost you £17.56 which sounds rather pricey but there are special offers on complete stationery and presentation sets. If you're starting out in business or running a home-based DTP operation, and need small quantities, it sounds like just the job. For a free catalogue, call paper Direct on 0800 616244.

DTP on the Atari ST

The Annual ST User Conference

Birmingham

May 23rd 1995

The right body text typeface is a balance between x-height, leading and point size

FONTS.DIP PAGE 1 # 1 LAYER 1 0 NONE
X 242.50
Y 165.55
dX
dY

Bookman
Century Schoolbook
Palatino
Adobe Garamond
Gill Sans

All of us in business can do with help in some area or another – advice on marketing, taxes, invoicing, or how about a little extra cash to help your fledgling company really get off the ground?

These things and more are available to many of us, and the really good news is that they don't need to cost the earth – some of them are even free.

So this month I've come up with a list of 15 ways in which you and your company can be helped along with advice and financial help that won't break the bank.

● **The Enterprise Allowance Scheme:** Training and Enterprise Councils (TECs) or their equivalents were set up by the Government to oversee training for budding entrepreneurs in the community.

If you've been unemployed for six months and have access to £1,000, a start-up grant of £100 every fortnight for six months is available.

TECs can also provide training and on-going help for two years.

● **Information and advice from your local Enterprise Trust or Agency:** These are veritable warehouses of advice and information about starting up and running small businesses and obtaining grants, but give no financial help themselves.

INDEPENDENT

They are independent bodies funded by local industry. Most areas have one and if there's one in your area, make sure you take advantage of its services.

● **Free publications and video loans from the Department of Trade and Industry:** Produced for the *Managing in the '90s* programme, this comprehensive list of titles includes business planning, new product introduction, marketing, production, buying and supply, and quality control.

All titles are listed in a free directory called *The Route Ahead*,

Something for nothing

Richard Williams reveals fifteen free – or very cheap – ways of helping your business

and you can keep up to date with the programme with a free quarterly newsletter, *'90s News*. To obtain your copy, contact Mediascene Ltd on 0443 821877.

● **Free information from the Inland Revenue on income tax and National Insurance matters, and from Customs and Excise on VAT.** If it's of benefit to you, you may be able to register for VAT even if you haven't reached the £45,000 threshold for compulsory registration.

● **Shareware demo version of Sales Controller:** A professional quality invoicing and stock control system, available for £2 or less from many ST PD/shareware libraries.

Speeds up invoicing and stock control. Demo unfortunately has no save facility, but gives a good overview of the package. Good help system tells you everything about the program.

Registered version costs £30 from Andrew Brown at 2 Ullswater Drive, Wetherby, West Yorkshire LS22 4YF.*

● **Shareware demo version of Personal Database Plus,** by Bay Computers, 3 Teasel Walk, Morecambe, Lancs LA3 3QQ

(0524 831162). Locate contacts quickly and easily with this one. £19.95 for full registered version.*

● **Demo of Invoice and Statement Generator,** also from Bay Computers (see last item for address). If you want a simple system without the stock control, this could be the one for you.

INVEST

This demo version will tell you all you need to know about it before you invest. Telephone for registration deals of this one.*

● **The Small Firms Loan Guarantee Scheme:** If you wish to take out a loan to start a business but have no form of security, you could qualify for this scheme under which the Government guarantees a large proportion of the loan.

● **Regional Selective Assistance Grants** from the Department of Trade and Industry can be used to buy equipment. You have to prove that product will safeguard or create jobs, and that, without the grant, it could not be bought.

● **Regional Innovation Grants from the DTI** are for small busi-

nesses introducing technology which is new to the company but not necessarily new to the world.**
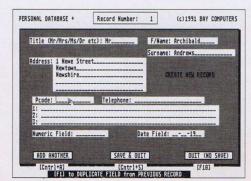
● **Regional Investment Grants,** again from the DTI, are available only in certain priority areas of the country.

For a firm with fewer than 15 employees, this grant is for up to 15 per cent of the cost of equipment, up to a maximum of £15,000.**

● **Shareware version of On Schedule, by David Becker:** A monthly calendar creator that will help you organise shifts and work schedules.*

● **Shareware version of ZeST,** again by David Becker, featuring an excellent graphical interface, and comprising calendar, address book database, typewriter and paint program.*

● **The Prince's Youth Business Trust:** Low interest loans and grants are available to young people otherwise unable to raise loans to start their own businesses. Call 071-321 6500.

● **Free credit from your suppliers:** If you don't pay suppliers until you've sold what they have supplied, your cash flow will be far healthier. Negotiate with your suppliers, or look for new ones – it can be hard work, but not many of them want to lose a customer.

* All shareware disks were supplied by Goodman International (0782 336222). Cost per disk £1.95, plus one-off p&p charge of 50p.

** For details of DTI schemes and/or the number of your regional office, call 0800 500 200.

Invoice Statement Generator - a simple system which could help make your operation more efficient

Personal Database Plus - locate information quickly and easily

Sales Controller - professional quality invoicing and stock control system

Atari ST User back issues and binder

Have you missed one of our past issues? Well now's your chance to bring your collection up to date – but hurry stocks are limited!

JUNE
FEATURES: Graphics packages compared, fixing faulty STs and Atari in Europe
REVIEWS: Slave Driver, TruePaint, NeoDesk 3, NeoDesk CLI, Convector Professional, Musicom and Arabesque
ON DISK: Devpac ST2 VALUED AT £60

JULY
FEATURES: Multimedia explained, monitor round-up, picture viewing utilities and how to compute safely
REVIEWS: Mouse Tricks 2, John the Composer, DataPulse Plus, Retouch/Didot, NameNet, DataLite
ON DISK: Video Master software and TruePaint demo

SEPTEMBER
FEATURES: The world's greatest hacks, replacement desktops compared, software buyers' guide and Atari printing bureaux
REVIEWS: Direct-to-disk recording software, MultiTOS, Pad 2 and SpeedoGDOS
ON DISK: STOS Compiler and STOS VALUED AT £50

OCTOBER *Limited Stocks*
FEATURES: Improvisation programs, professional Atari support and DTP guide pt.1
REVIEWS: Video Titler, Falcon Speed, View II, scanning solution and NVDI 2.51
ON DISK: Word Writer VALUED AT £50

NOVEMBER
FEATURES: Ray-tracing for Atari computers, music on the Thames, printer round-up and DTP guide pt2
REVIEWS: Atari Works, HP Portable printer, Microvitec Cub-Scan monitor and Supermon
ON DISK: Prodata VALUED AT £80

DECEMBER
FEATURES: Genlocking, home accounting, how software reaches the shop floor and jargon buster
REVIEWS: Protext 6, Chagall, Sweet Sixteen and Ultimate Virus Killer 5.9
FREE: 32-page ST Action games supplement
ON TWO DISKS: Demos of Protext 6 word processor and MicroProse's Dogfight air battle

CHRISTMAS
FEATURES: Best software and hardware recommendations and hardware buyers' guide
REVIEWS: Omega II, Tabby, Studio Photo, Raystart and Vidi ST (12)
FREE: 64-page booklet
ON DISK: Prism Paint II demo
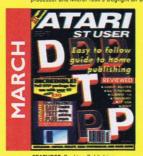
JANUARY
FEATURES: Transform images using morphing techniques
REVIEWS: Harlekin 3, Easy Text Vector, Chroma 24, Mortimer and Geneva
ON DISK: Vidi ST (12) software

FEBRUARY
FEATURES: Memory upgrades, information transfer, how to avoid mail order misery
REVIEWS: Jaguar, Digitape, UVK 6, Video Master Falcon, DA Vector Pro, EdHak 3, Mag!x 2
ON DISK: Tempus 2 VALUED AT £40

MARCH
FEATURES: Desktop Publishing guide, Virtual Reality, Data Compression
REVIEWS: Audio Master, DA's Picture, Clarity 16, Thought!, CP-GEN, Digit
ON DISK: Easy Text Plus VALUED AT £20

APRIL
FEATURES: 25 Essential Utilities, Education, Atari Computers at Birmingham University
REVIEWS: Copyist DTP, GEM-View, Pixart
ON DISK: DA vector demo, Photochrome v4

MAY
FEATURES: Video Vitals, Frankfurt Music Show, CeBIT, Education round-up
REVIEWS: Breakthru 2, True Images, Papyrus
ON DISK: GIP Image Processing, Violence

JUNE
FEATURES: Speed, Noise Tracker guide, education software, Digital Arts profile
REVIEWS: SJ144 printer, fax modems
ON DISK: Walls of Illusion, Noise Tracker

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All prices include VAT.
Please place your orders using the Readers' Offers form on page 77

Faster Falcon flies in North

One of the most intriguing Falcon products at the recent enthusiasts' shows in Newcastle and Glasgow was to be found at the Best Electronics stand.

US developer Wizztronics had provided a mock-up of the new Barracuda board, a replacement 16MHz 68040 processor for the Falcon giving a performance boost of up to 500 per cent.

At least that is what is claimed – I haven't been able to test out the board, unfortunately, and there is, as yet, no UK distributor.

The Barracuda plugs into the computer's expansion port and requires only a little soldering, although the metal shielding will have to be modified slightly.

The basic 16MHz version costs $650 although for another $150 you can get a switchable 33MHz 68040 version.

In theory the upgrade should be highly compatible but I certainly wouldn't take anyone's word for it. Let's hope a distributor can be found soon.

Speed hungry users who want it yesterday can opt for a low price upgrade from specialists System Solutions that doubles the clock speed of the existing 68030 processor to 32MHz.
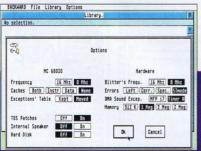
This £59.95 upgrade represents an excellent way to speed up CPU-intensive tasks such as raytracing, compiling and image processing, though the fact that the bus still works at 16MHz

John Hetherington discovers some intriguing accelerators to boost the Falcon's speed

means that not everything is twice as fast. The GEMBench utility shows a small increase in screen-related operations of between 6 and 14 per cent, memory access up 25 per cent and pure CPU functions doubled.

Bearing in mind it is fitted and supported by the UK's foremost Atari experts, PowerUp looks very attractive indeed.

The latest version of Backward, the ST emulator, is on the FOG cover disk

Troubles clear for FOG

The Falcon Owners Group seem to be getting over some initial teething troubles and emerging as a useful group for the growing band of users who want to exchange ideas and swap software.

I was recently contacted by the chairman who assured me that all memberships would be honoured in due course – apparently the workload has far exceeded expectations.

FOG issue a regular printed newsletter in the form of an A5 hard-backed booklet with 56 pages on Falcon-specific troubleshooting, news and software reviews.

Issue three of Falcon Update has just been released and it contains articles on screen resolutions for scanning, SpeedoGDOS, the Flash II comms package and direct-to-disk recording, among other topics of general interest and chit-chat.

The FOG also run their own PD library and each issue has its own cover disk, which is available separately. For more information contact Richard Davey at the Falcon Owners Group, PO Box 353, Stafford, ST17 9US.

My own current colour palette – it'll change next week but that's what's fun about the Falcon!

The 16 colours used for the desktop and icons – make sure you change the right ones!