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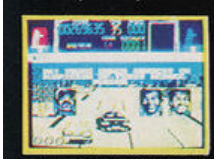


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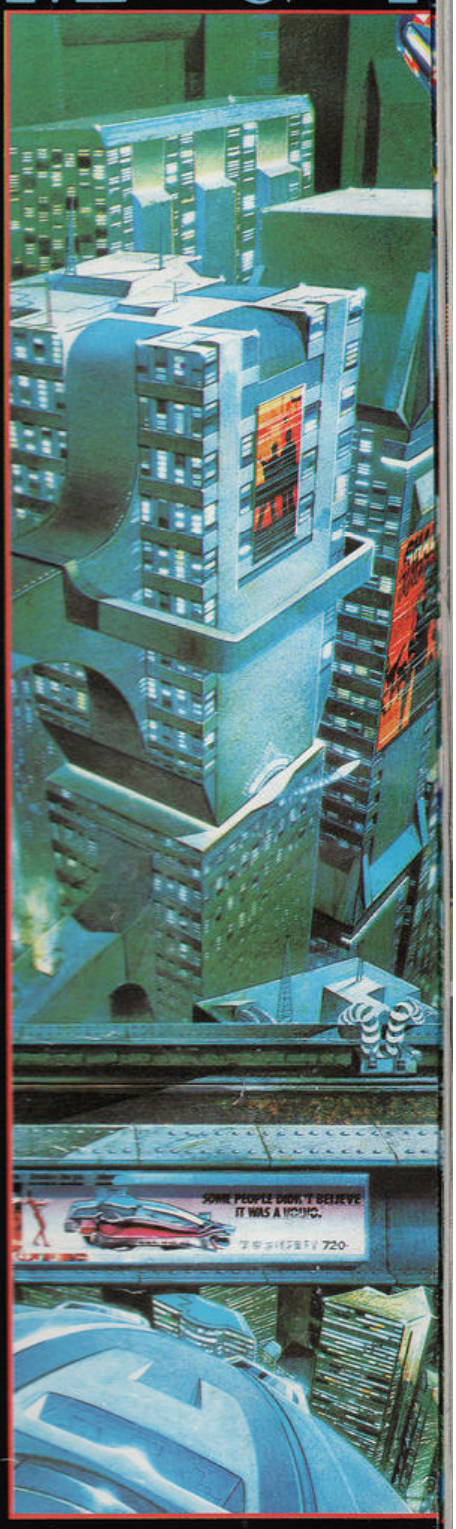


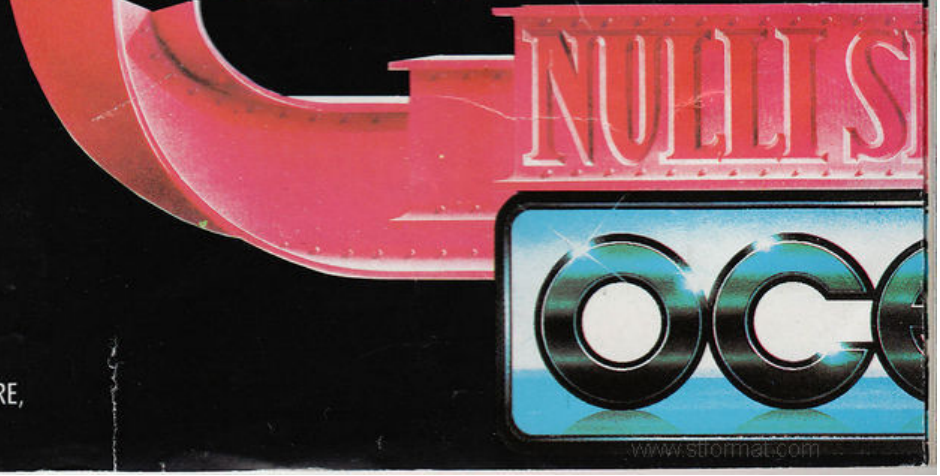




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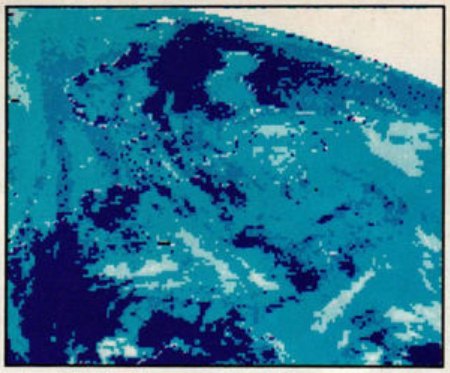
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your first steps in comms 110

So *that's* what ST owners get up after dark! Now you too can join in. *Plus,* on page 118, win a year's Micronet subscription!



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IT MIGHT SEEM to you just a cheap way to get hold of software, but in fact piracy is slowly but surely strangling the life out of the ST, and could end up costing you much more than you save.

We talk to the people who pirate as well as the people who suffer

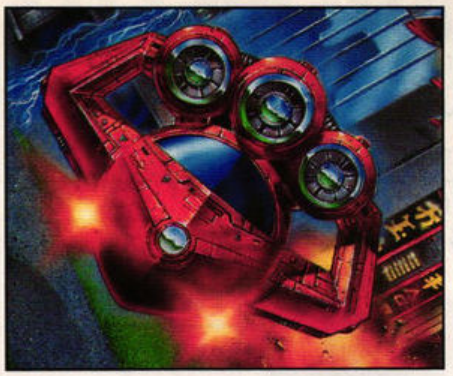
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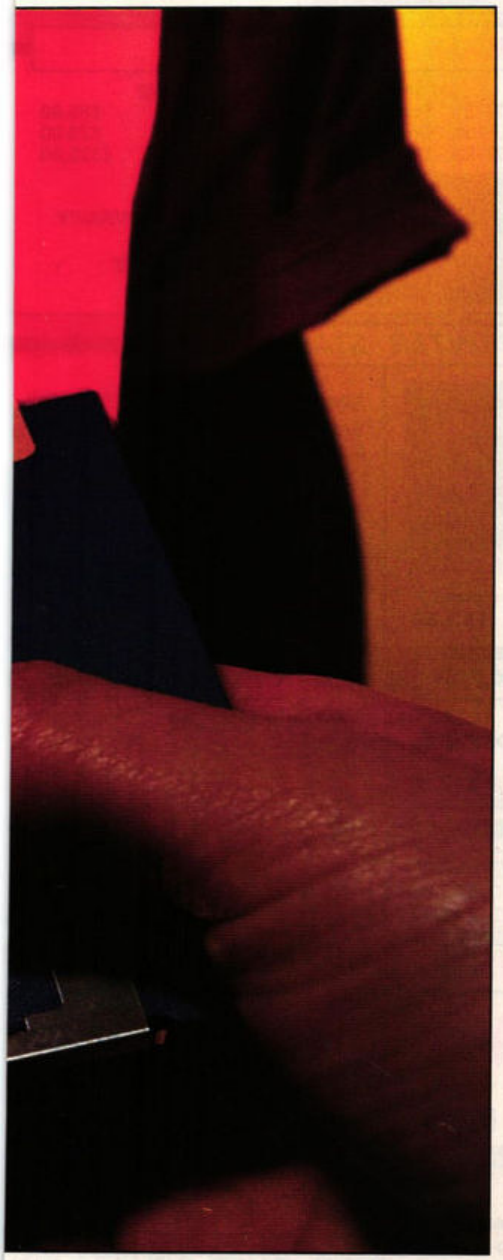
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While we welcome letters for use in Desktop and on our letters pages, we regret we cannot reply to individual enquiries, either by letter or by phone. We're too busy making *ST FORMAT* even better!

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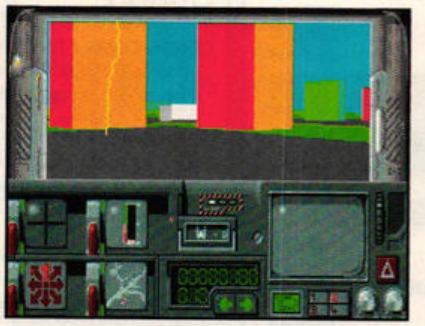
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(Read the full, authoritative review on page 35; and don't miss out on a great opportunity to win a copy of the full game for free on page 60!)

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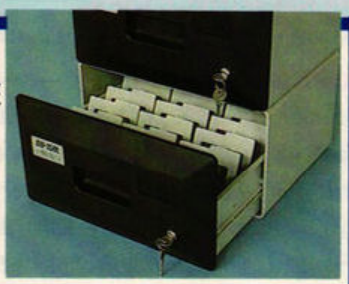
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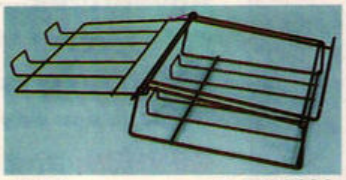
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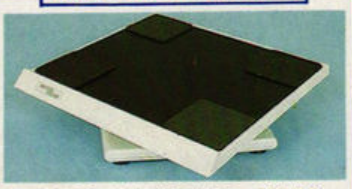
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■ Jack Tramiel, chairman of the Atari board, accuses BSA of failing to stop the real pirates

Taiwan factory raid uncovers theft

Atari faces piracy charges

Atari's Taiwan subsidiary has been charged with copyright infringement. The Business Software Alliance (BSA), which represents leading American personal computer software companies charges that Atari engaged in unauthorised copying of software in their business operations, a practice said to be widespread in Taiwan.

Atari President Sam Tramiel responded with a strongly worded statement criticising the action and accusing the BSA of wasting its time: "Atari has a long standing corporate policy against the copying of software," he said, "and does not permit unauthorised duplicates of software to be used for corporate functions or any other purposes.

"While we support the ideals of BSA," he explained, "we believe that they are misdirected and have blown this matter completely out of proportion." He also stated that any copyright infringement had been carried out privately by workers at the Taiwan plant.

Brother Jack, chairman of the Atari board, joined in the counter accusations: "It is highly unfortunate that time and effort are wasted on such a matter when billions of dollars are being robbed from American companies each year by mass producers of pirate software, computers and consumer electronics right in the middle of Taiwan and the Taiwan government does little to stop that." He claimed that Atari loses millions of dollars in revenue each year through piracy, and accused the BSA of failing to act.

■ We investigate the extent and nature of ST piracy in this issue (page 16).

World's best ST forum hits UK

The world's largest on-line information service for users of personal computers (that's you!) has arrived in the UK. The US-founded service, which boasts over half a million users in 40 countries, provides over 160 special interest bulletin boards – including ones for the ST which our American contacts say are the best there are. Customers can access over 95% of the US services, including the 27,000 public domain and shareware programs that can be downloaded from the data libraries of technical forums.

The cost of UK access has been slashed by more than 50% thanks to new network access methods. Costs, still calculated in dollars, are $22 an hour (about £13) at all speeds up to and including 2400 baud.

"The three Atari forums of interest to ST owners," says Andrew Gray, CompuServe's UK Manager, "are the Atari Productivity Forum, a developers' converence which connects people all over the world; Atari Arts and Entertainment Forum, which has message boards and public domain software for downloading; and the Atari Vendor Forum." This last section provides access to US companies such as Codehead, Grafix, Gajits by Small, SoftLogik and dozens more.

CompuServe ☎ 0800 289 378

■ A new "environmentally friendly" multi-user game has opened on Micronet. *Trash*, the brainchild of Third Millennium Systems, who gave the world the cult classic *Shades*, is a futuristic and none too serious game with a green theme, placing players in the role of Pan-Dimensional Refuse Disposal Officers roaming the universe, solving puzzles and completing tasks on the route to promotion. *Trash* differs from *Shades* in its appeal, however, and should attract the kind of player who likes the idea of MUGs but finds all that mucking about with wizards and warlocks too much to bear.



■ Clean up your act in *Trash*, Micronet's new on-line multi-user game

One of the great things about *Trash*, and indeed *Shades*, is that as you play you can directly affect other players. Up to 64 people can take part in *Trash* simultaneously, with control in the hands of the very capable creator of the game, Matthew Ward.

David Rosenbaum, BT Marketing Manager for Microcomputing and Games, predicts a great future for *Trash*. "Its addition to our games list," he said, "strengthens our position as Europe's leading vendor of quality on-line multi-user computer games."

Trash is available 24 hours a day, can be accessed with the keyword *TRASH≠ and costs Micronet users 2p (off peak) or 8p (peak) a minute, inclusive of network charges. Non-users of Micronet or Prestel can sample the game via Callstream (☎ 0898 100 890), at the usual hefty charge of 25p (off peak) or 38p (peak) a minute.

■ If you like the sound of *Trash*, but haven't the faintest idea how to get started, you need to read our introductory guide to communications and all that jazz on page 110. And there's the chance to win a year's subscription to Micronet, as well as everything you need to get you going, including a modem and software: turn to page 131.

Fair shares for ST

Two new packages take advantage of the ST's computing power to track and predict stockmarket trends. *Market Breaker*, billed as a "share price analysis package and portfolio manager," works with the ST's Microtext *Teletext Adapter* to download share price information from Ceefax and Oracle. Potential investors may read a warning into the fact that the share price listings that come with the package date back to October 1987, the month of the disastrous stockmarket crash...

The second item is *ProShare ST*, a stock market analysis system that aims to "make stock market dealings and monitoring difficulties a thing of the past."

***Market Breaker*, from Jewsbury Software ☎ 0705 595694 costs £69.95, while TC Developments' *ProShare ST* ☎ 0937 611445, costs £49.95.**

WHO ARE YOU? Turn to page 142 and find out

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ST BULLETIN

■ At long last Amiga owners can have their machine running as fast as an ST, almost! Apparently at CeBIT (see our special show report, page 10) an add-on card is now available that speeds up the Amiga. On the other hand, it needs a set of ST ROM chips. Even worse news is that it seems certain to revive that tedious old argument about whether or not the Amiga is nearly as good as the ST (answer: no).

■ ST buffs who get all hot and bothered by the recitation of a sexy spec might care to avert their eyes for a few moments. I mean we are talking 1024x768 resolution, non-interlaced, in 16 colours here, and 1024x768 in "Duochromatic." Yes indeedy, we're talking Image Systems' new Colour (or "Color" as these Americans insist on calling it) ISAC Board. It costs $800, and assuming it becomes readily available here I think it's safe to assume that the dollar sign will be replaced with a pound sign. Meantime get in touch with Image Systems ☎ 0101 612 935 1171.

■ Remaining Stateside: the ST's keyboard, it must be admitted, is not of the finest – though the Mega's is not bad. Now, thanks to an American interface, you can use an IBM or compatible keyboard instead. Costing $60, the unit plugs into your ST MIDI port and comes with an ACC desk accessory. Diverse Data Products ☎ 0101 305 2393.

■ And if you don't like the Mega ST's keyboard (but why not?) you can buy replacement keyboard switches for $64.95 from Best Electronics ☎ 0101 408 243 6950. Sounds like a bizarre way to spend your dosh, but it's a free country.

■ All the best to Paul Bocij and pals working on a new ST compilation, proceeds of which go to help keep a pilot nursery scheme, Child Concern, from expiring because of lack of funds. If you wish to donate programs (no payment, but full name credit and a reserved place in heaven), get in touch with Micro Care 90, 19 Moore St, Normanton, Derby DE3 6SN, or ☎ 0332 367642.

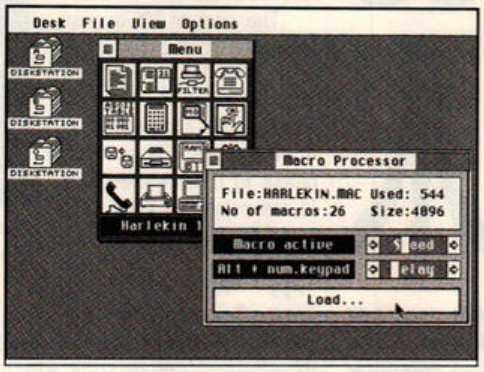
■ Finally, don't miss next month's *ST FORMAT*, out on Thursday 14 June: see page 146 for a special order form.

The ultimate accessory?

HiSoft have announced the release of what may well prove to be the last word in ST desktop accessories. Created in Denmark, *Harlekin* combines the various functions of a wide range of programs in one. There is a simple word processor; a terminal emulator for comms work; a disk utility; memory monitor; clock; calculator; RAM disk; macro processor; ASCII table and more.

At the heart of *Harlekin*, however, is a very smart scrapbook that enables you to create cards and notes of unlimited size. Each card has its own optional icon and can be displayed as a list or as a calendar. In fact, according to HiSoft, it's a "complete information management system which you tailor to your own needs and methods of working."

***Harlekin* works on 1040s and upwards, and as yet only on monochrome monitors, though a colour version is said to be in the offing. It costs £49.95 from HiSoft ☎ 525 718181.**



■ The impressive and multi-talented *Harlekin* from HiSoft

Timeworks new guide

Desktop publishing is all very well. In fact, in the right hands it's wonderful. But the problem is that, to the novice, it can all prove rather baffling. The common or garden introduction to the subject is not always that much help either, since different programs do things in different ways. What is needed, perhaps, is a thorough and well written introduction to one particular DTP package.

Enter *A User's Guide to Timeworks DTP*, one of the best of the sub-*Calamus* packages. (We've used it as the basis of our DTP series, which concludes this month on page 91; and see David Jones' account of its use in education on page 135.) Written for the ST Club by David Smith, it claims to communicate the basics in such a way that each new feature builds on what has gone before. The book is full of examples showing how to produce newsletters, CVs, posters, and books – of which the book itself is an excellent example.

The 270 page paperback costs £9.95 from The ST Club ☎ 0602 410241.



A comprehensive guide to *Timeworks DTP*

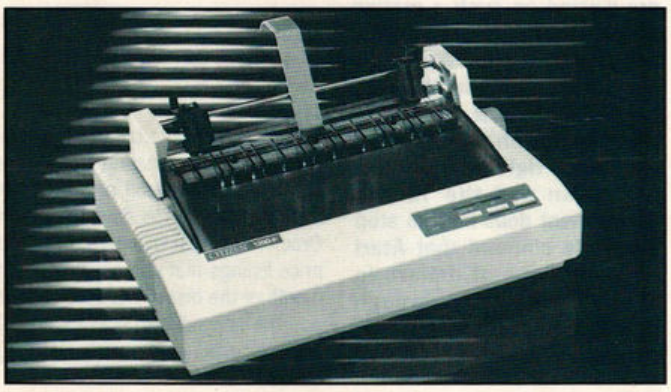
Atari honour Evesham

Mail order specialists Evesham Micros have been presented with the 1989 "Atari Dealer of the Year" award. The presentation, made in Milan, recognising the company's commitment to Atari in general and the ST in particular, was made to Evesham Managing Director Richard Austin by Atari UK's Bob Gleadow.

A spokesperson pointed out that Evesham Micros have been selling, servicing and repairing STs for four years, and explained that one important source of business for them came through the recommendations of satisfied customers. "We sell a lot of STs, we offer a fast service, and turn around our repairs in two or three days," said the spokesperson. Evesham Micros ☎ 0386 765500.

Kidpublisher extra

If you like the demo of *Kidpublisher Professional* on our Cover Disk (there's a specially written tutorial file with it, too – and see the Education column, page 135), you may be interested to know that we have just signed a deal with Brumleve Software in the States that enables us to sell the program in the UK. You are, of course, still free to order direct from the States, but if you would like to buy from us, hold on till next month's Special Offers pages.



■ **Citizen have launched the model that supercedes what is claimed to be Europe's best-selling 9-pin printer for the past four years. The *120D* is said to have sold to 600,000 Europeans, 110,000 of them Britishers. The *120D+*, which like its predecessor costs £199, has two Near Letter Quality (NLQ) fonts selectable from the control panel and pre-set length options via dipswitches. Citizen ☎ 0895 72621**

www.stformat.com



■ ***Fast Fax* straight to your ST**

Microdeal offer the complete fax

If you're serious about business these days you need a fax machine. What could be more logical than buying one that hooks up to your ST? Microdeal have launched just such a machine which, they claim, saves money and paper at such a rate "it could pay for itself in only a few short months."

Fast Fax gets around the awkward problem of loss of quality in both sending and receiving messages by transmitting straight to and from your ST. Create your message on-screen; import graphics, letterheads and signatures as .IMG files; and transmit without having to go via paper at all.

Similarly you receive messages as desk files that can be displayed and read on-screen – or printed out, of course. And if you're a frequent user of the machine, you can schedule transmission to take place during cheap-rate hours – saving up to 50% on such calls.

Software with *Fast Fax*, which includes a 1000 name address book, comes as a 90K memory resident program.

It costs £690 from Microdeal ☎ 0726 68020.

It's awards fever!

Suddenly the software industry has broken out in a veritable rash of awards. The latest, those presented at the European Computer Trade Show, were sponsored by Future Publishing (the company that publishes *ST FORMAT*, among others) and presented in the swanky surroundings of London's Café Royal. Editors of many of Europe's leading magazines – including Steve Carey of this parish – got together to decide the winners. *Populous* did especially well, receiving accolades for Best Strategy Game, Most Original Game and Game of the Year. Best ST Product was the Macintosh emulator *Spectre GCR*, while *Kick Off* picked up Sports Simulation of the Year. Infogrames' *Sim City* was Educational Program of the Year.

And in the States *Sim City* has scooped three awards – Best Sim, Best Entertainment Program and Best Curricular Program – in the prestigious Software Publishers Association presentations, made in San Diego. Watch out for the definitive *ST FORMAT* review on this long awaited release in next month's issue!

Finally, the most coveted awards of all: the Bournemouth and Poole Atari User Group Awards. Best Magazine was – ah shucks, we're overcome with emotion – *ST FORMAT*.



■ **Steve Carey, suave editor of *ST FORMAT*, presents the ECTS award for Best Strategy Game of the Year to Les Edgar of *Bullfrog*, the team behind Electronic Arts' *Populous***

New STOS games guide

The author of the original STOS manual has written a program writing guide for users of Mandarin's *STOS* game creator. Entitled *The Game Maker's Manual: Atari ST and STOS Basic*, the book takes the reader from the first steps of planning through to advanced techniques of animation, scrolling, sound and 3D graphics and assembly language programming.

The 280 page paperback guide costs £11.95 and can be ordered from your local bookshop, or direct from Sigma ☎ 0625 531035.



■ **The new game maker's "how to" guide**

FORMAT MUSIC SPECIAL!

Don't miss next month's *ST FORMAT*, on sale on Thursday 14 June

ST music news

The ST's dominance as the musician's favourite machine continues. Besides such fans as Madonna, Kraftwerk (before your time – and mine) and Fleetwood Mac (before your dad's time – and mine), the ST, or more precisely the Stacy, was used recently in the Oscar-nominated *Born on the Fourth of July*. Apparently the system used was Hybrid Arts' *Adap II*, a new set-up that enables high-quality recording of sound direct onto a hard or optical disk.

Don't get too excited, though, because the memory requirements of such systems are gargantuan – something like 10MBytes to record a minute of 16-bit stereo sound!

Recent implementations of this new technology unveiled at the massive Frankfurt Music Show include *Son* from Dutch company Mopro (£1,650) and *Sound Tools* from US-based Digidesign (£2,000). This latter is a spin-off from a very successful Macintosh version, so the result ought to be polished and stable.

Staying with ST musical innovation, but straying very much towards left field, is the *Jimmy Hotz MIDI Translator*, a device reportedly financed by Mick Fleetwood of Fleetwood Mac (hence, I guess, the name) that you strap to your body and play by tapping the touch sensitive pads (told you it was odd). Fleetwood reckons it's going to lead to a "revolution in the way we make music," but since it's currently being offered in the States as a bundle with the Stacy at an eye-watering $8,000, it seems likely the revolution will have to start without most of us.

Roland have launched a veritable flurry of new projects. Such as? Such as a £100 ten track entry-level sequencer offering score-editing and drum programming functions; an £80 stereo amplifier and speaker module; and a £200 converter that translates pitch and volume of an analogue signal into MIDI data. Roland ☎ 01 568 4578.

Remaining in the music domain, but coming down the financial scale a few notes (get on with it – ed), *Quartet*, Microdeal's very well received £50 MIDI sample sequencer, has just been released in an STE compatible version that takes advantage of the upgraded ST's custom chip to offer true stereo sound. Microdeal ☎ 0726 68020.

www.stformat.com

euro-news

Atari have been showing their wares at the enormous CeBIT show in Hannover. Don Maple was there to bring you all the latest ST news

The CeBIT show in Hannover, West Germany, is now officially the largest computer show in the world. This year, CeBIT was host to more than 3,500 exhibitors from over 40 countries, with a total number of visitors easily surpassing the 500,000 figure.

Atari's presence at CeBIT took the familiar "village" format and was situated in Hall 7. Unlike most exhibitors, Atari chose to combine business with pleasure and hold their press conference after regular show hours at a hotel. In addition to Alwin Stumpf, general manager of Atari Germany, the panel featured Sam and Leonard Tramiel, Richard Miller (VP R&D) and Greg Pratt (VP Finance).

Atari cagily announced new Portfolio-type machines based on both MS-DOS and ST range. "I will not promise and describe the machines, but there will be further developments in our hand-held LCD market place," said Sam Tramiel, though confusion has since surrounded this statement.

Speaking of the TT Leonard Tramiel explained, "TT cheats – it uses 150K of video RAM as opposed to ST's 32K, so to move five times as much memory we use a 64-bit wide data path." Additional speed is also achieved with "burst fill" mode. New VME card expansion will be automatically recognised by the operating system, while the big news on the software side is the "cookie jar" for inter-program communications. Sam Tramiel stressed the international nature of the TT with the USA, UK, France and Germany participating in its creation.

The main Atari stand was buzzing. Exhibitors generally displayed improved versions of existing products with new items only occasionally appearing. This is probably because of the "everything-has-already-been-invented" syndrome prevailing as the ST market in Germany matures. However, with the TT upon us, the creative juices will soon start flowing again and there should be many new products before the Dusseldorf show in August.

One company exhibiting a brand new product was SED-DOC. They displayed their *Silent Drive* box. Although concentrating their sales pitch on the quietness of the drive, what is most impressive is that the drive is removable. In addition to hard disks ranging in capacity from 80 to 250 MBytes, the same box also accepts removable floppy and tape-cartridge drives! The company also showed *Ctree Server*, an accessory for distributed DB applications running across different systems (Apple, VAX) on a LAN.

IBP have been tearing STs apart and reassembling them as rack mountable industrial control computers for years. *MSI 190* is an example, sporting 800x600 resolution with 256 colours. *MSP 190v* is an AC/DC portable drawing on either 12 or 24 volts.

BioNet 100 by Biodata is a network running on a number of different configurations. Using *BioNet 100* an Atari ST user can get access to MS-DOS, Unix, DEC, NFS, Novell and TCP/IP systems.

Omikron, who wrote *ST Basic* for Europe, ventured into hardware with their professional disk copier, *Copystation*. The hopper takes up to 100 disks with automatic master recognition. The device reads a write-protected disk and then copies it to all subsequent floppies until another WP disk is encountered. Omikron also showed *Easy Base*, a database with fast search – 0.2 seconds for 1000 addresses.

In the software field, GFA were well-represented. *GFA-Basic 3.5e* enables usage of STE specific features such as hardware scrolling. The same program runs on all machines by adapting itself accordingly and there is now a new library with extended sound and graphic commands. *Converter-to-C* translates *GFA Basic* source into C, while *GFA-Assembler*, the integrated development package, is now up to version 1.5.

Calamus SL is the colour version of the well-known DTP program, supporting full cyan, yellow, magenta and black colour separation. DMC in cooperation with Atari Germany have shown the package, but it's not yet available for sale.

1st_Card by LogiLex is a *Hypercard*-like, expert system sporting artificial intelligence. Graphics, text and buttons are all easily linked with the built-in editor.

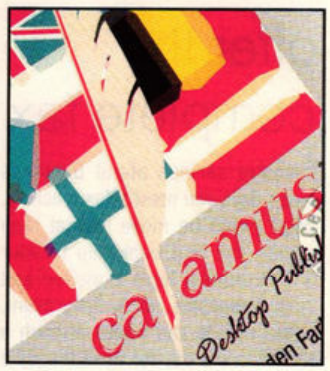
Weide Elektronik, famous for their RAM expansions and other hardware add-ons, are venturing into software. *Address Direct* is a database written specifically for mail order companies. It supports both networks and GDOS, while the mail merge is possible with *Tempus*, *1st_word* and *Calamus* documents. ■



■ **Sam and Leonard Tramiel in Hannover with Richard Miller the British R&D wizard now working in the US**



■ **The multi-national sleek new TT keyboard which eliminates the rhomboid function keys**



■ ***Calamus SL* has full four colour separation and can produce some amazing results (see page 125 for details)**

GRAPHICALLY SPEAKING

The most impressive hardware on display must have been the interface to high resolution, large screen, colour monitors by Maxon. *MGE* (Maxon Graphic Expansion) has long been providing this service for Mega owners. With *MGE II* an ST owner can now drive an array of impressive Matrix monitors. Depending on the model the monitors range from 14" to 21" in size and display up to 16 million colours. The crisp beauty of these displays has to be seen to be believed.

TmS, the graphic programming giant, showed *TmS Cranach*, an image processing system supporting 24-bit colour pictures on large screen multi-sync monitors. Its older brother *TmS Cranach Studio* is the professional version with pictures up to 40MBytes (!) and a 3D simulator. But the real magic is achieved with *TmS 2.5* which converts pixel drawings to vector graphics.

Technobox displayed their professional Drafter and CAD/2 programs. Already translated into English, these are professional tools aimed at designers and architects.

A company called Richter Computer showed off *Sherlook*, a powerful character recognition program supporting both monochrome and colour scanners and automatically recognizing up to eight fonts. Also on the Richter stand was *Chili*, a sophisticated video digitizer working with 65000 colours. Mixing any two video signals, it enables the user to define the "see through" window in any regular or irregular shape down to a single pixel level.

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With the success of Football Manager 2, have come more suggestions for an even better game. Kevin has responded with "Football Manager: World Cup Edition", a game that takes management into the international arena, with all the thrills of world cup competition, a game that takes the unique components of its two ancestors and radically improves them a game that will better the best.

Kevin Toms.

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Amstrad CPC Disk	£14.99		
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previews

Find out now what games you'll be playing over the next month or two, as the all-seeing eye of Mark "The Oracle" Higham reveals the secrets behind Wonderland, Imperium and a host of other promising titles

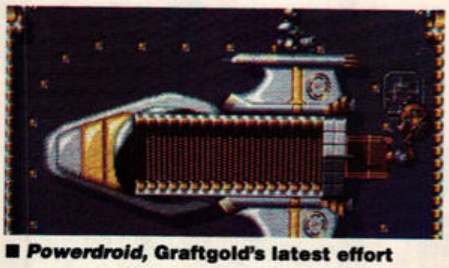
■ F-19 STEALTHFIGHTER (Microprose) With games like *Falcon* and Digital Integration's *F-16 Combat Pilot*, the flight sim genre has become one of the most popular of the lot. *Falcon* was one of the best ever, but even lesser examples, such as *Fighter Bomber* and *Afterburner* still managed to climb the charts. Now Microprose have come up with their answer to the flight sim competition with the impending release of *F-19 Stealth Fighter*.

It was attention to detail that made Digital Integration's game so popular, and Microprose are applying the same care to this one. There are hundreds of missions to complete – combining training modes, air-to-air and strike missions with different levels of war from the Cold War to conventional warfare. In the Cold War you need to sneak stealthily in and out of enemy territory, but conventional warfare is a non-stop blast. The views are represented as 3D polygons which move at a startling speed of 13 frames per second. Microprose are claiming that *F-19* runs at 30-40% faster than *Falcon*, and they're so convinced they've got it right that they're hanging a £30 price label on it.



■ Microprose's *F-19* aims high (as at £30 it should!)

■ PARADROID 90 (Hewson) This is the first Hewson game we've seen since last year's *Stormlord*, but don't expect anything too original. It's a typical space game which sees you jaunting through space stations, avoiding space pirates, picking up objects and so on. The idea is as old as the arcade game, but at least the visuals promise something new: robots are shown in glorious 3D and scrolling is fast. *Paradroid* is in the capable hands of Graftgold, the team behind the chart-topping *Rainbow Islands:* read next the full review in next month's *ST FORMAT*.



■ *Powerdroid*, Graftgold's latest effort

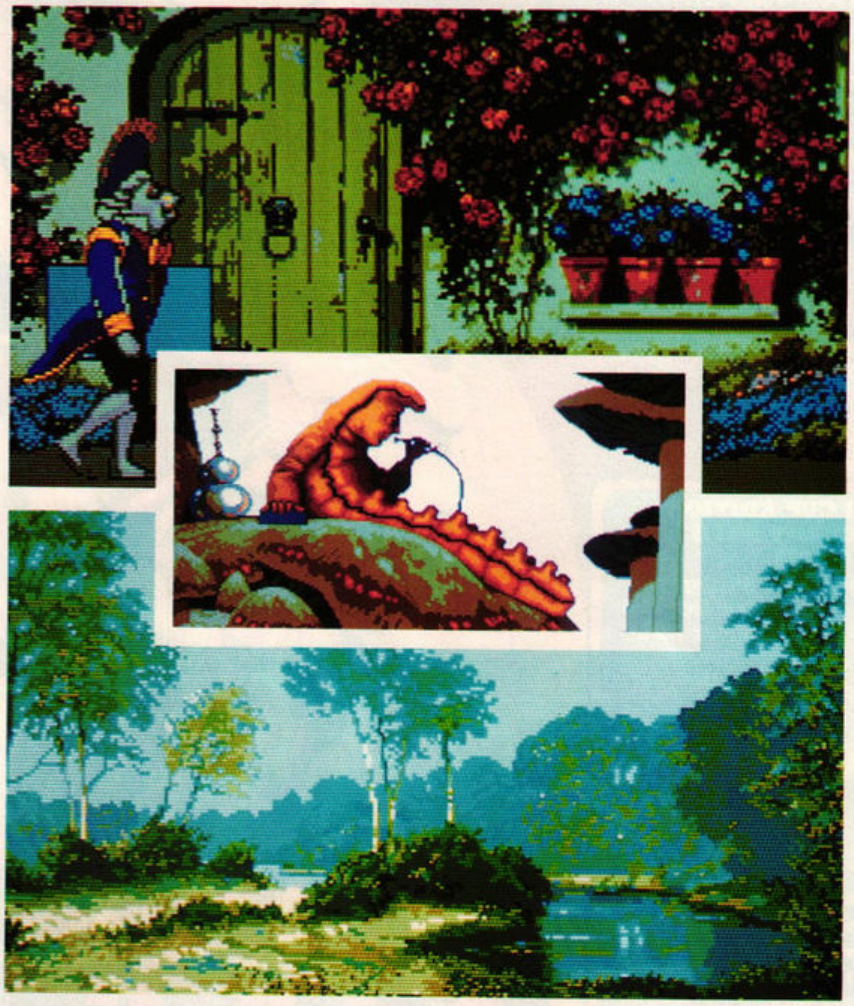
WONDERLAND

MASTERTRONIC

Magnetic Scrolls are very big in the adventure/fantasy role-playing field, and they've just signed a big long-term licensing agreement with Mastertronic to distribute their games. The first under the new label is *Wonderland*, based on the Lewis Carroll classic.

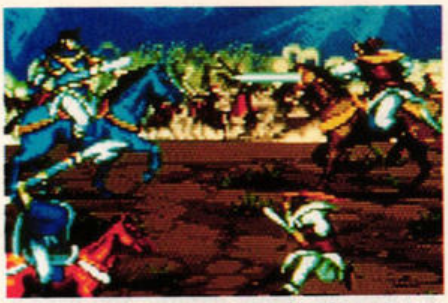
This presents a new adventure environment by mixing over 100 illustrations with challenging puzzles and the bizarre logic of Wonderland.

Multiple windows, pop-up menus and icons for every item in the game make this the most unusual Magnetic Scrolls adventure ever. There's a great deal riding on this one, so stay tuned for the definitive *FORMAT* review.



■ This is a brief taster of *Wonderland*, the first Mag Scrolls since signing to Mastertronic. It's bound to be big, but is it also going to be a *FORMAT* favourite?

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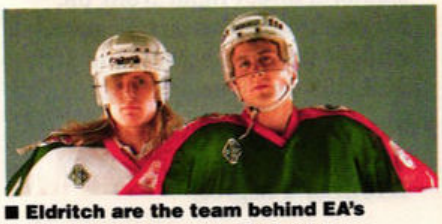


■ **The arcade game was a visual treat – but how close is the ST version?**

■ **DYNASTY WARS (US Gold)** The Han Dynasty has been overthrown by rebellious warlords! Violence is the only language they know! China is in chaos! It sounds like the plot for a Spielberg movie! But it's actually the conversion of Capcom's non-stop mega-blast! *(Oh do calm down – ed)*

Dynasty Wars is eight levels of action, played with a choice of four characters. Each has different skills and weapons and when you get bored fighting by yourself, you can find a friend and enjoy the two-player mode. After *Strider* and *Black Tiger*, US Gold have shown that this type of horizontally-scrolling action adventure is what they do best. Find out how it compares in next month's full review.

■ **PROJECTYLE (Electronic Arts)** The last big futuristic sports game was *Cyberball* from the Bitmaps – a manic combination of steel balls and fast-paced action. It was an enthralling game, but it had its limitations. You couldn't, for instance, smash your best friend round the head with a cannon ball. *Projectyle*



■ **Eldritch are the team behind EA's futuristic sports game *Projectyle***

aims to satisfy that primeval urge by enabling you to compete against two other friends at the same time and eight others in a full match.

Each game is played on a pitch of five sections – a centre one, surrounded by four others. The puck is set in the centre section and must be knocked into any one of the other four. In three of these, one player defends while two attack and in the fourth, each team has a goal to defend.

With eight-directional scrolling and eight different soundtracks, it's guaranteed to leave you starry-eyed and dripping with sweat.



■ ***Projectyle* most unusual asset is the 3-player simulataneous mode**

IMPERIUM

ELECTRONIC ARTS

You sit at your ST and drop your favourite wargame in the drive. It loads in an instant and an atmospheric introductory screen appears, setting the scene for what follows. You watch, goggle-eyed as enemy troops advance and you respond quickly by arranging your own armies to maximise the strength of your front line. The war is on and you aren't just watching it, you're a part of it. The enemies aren't tiny pixelated characters appearing on a monitor screen – they're real. You're facing an opponent who lives and breathes, who can adopt new strategies at any time, and who you deserately need to wipe out.

It sounds an absorbing scenario, but wargames have sadly fallen short of this mark. The designer of *Imperium*, Matthew Stibbe, believes he's recognised the problems in other strategy games and has solved them all. "I looked at other wargames but received only negative influences from them... I wanted to write a game to follow on from the rest."

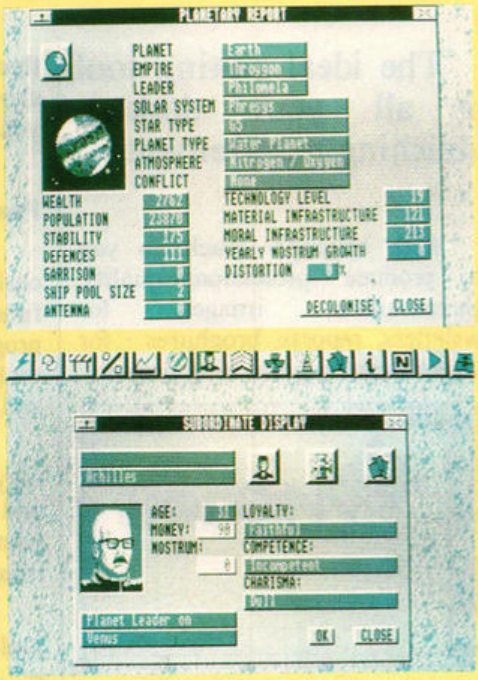
Of course he would say that, but when you listen to Matthew talk about *Imperium* and compare it to other big hits of the same genre you begin to get the impression that it really is more than a standard strategy game.

"Balance of Power was very linear. There are about ten different things you can do to get even, and after that you can keep applying the same rules over and over again and win." Nevertheless, Stibbe still rates *Balance of Power* highly, and although he doesn't think it hit the mark he does praise designer Chris Crawford, calling him his "hero."

Imperium isn't your typical wargame. For a start it's set in space. Being something of a historian, Matthew considered giving it an historical past. "Space has been done before, but you can write your own rules," he explains. The objective of the game is to build up fleets and use them to invade new planets in search of the life-preserving drug, Nolstrum. Unlike *Elite* and *Starflight* which sets you up as the divine leader, *Imperium* gives you elections to face and even the prospect of rebellion by your underlings. You can influence taxation levels, set trade embargoes or even subsidies planets.

The user interface has been one of the hardest sections of the game, occupying considerable programming time. Special routines to handle windows have been developed, with the emphasis being on reducing any delay encountered by the player.

In *Reach for the Stars* you have to wait a full minute for the AI (artificial intelligence) routines when the computer takes its turn. But in *Imperium* the AI routines are very fast, even when making movements which affect the trading between hundreds of planets.



■ **The beauty of *Imperium* is the attention to detail. One of the most sophisticated and intense wargames ever? – So designer Matthew Stibbe would have us believe**

One surprising bonus is the way it can be played on a monochrome monitor with the graphics looking even more impressive than they would on a Mac.

Matthew hopes that extras like these will lure people away from the traditional action game. "We've really tried to give something to everyone." Find out if he's succeeded when *ST FORMAT* reviews the full game next month.



■ **Imperium game designer Matthew Stibbe (right) with programmer Nick Wilson. "We've tried to give something to everyone." But have they succeeded, though?**

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For the first time on the Atari ST, you can now work with scanned and painted images larger than your screen. That's because Touch- Up is a "virtual page" graphics program. It can handle bit mapped images of any size and resolution, not based on your computer's available memory, but the amount of room on your hard drive, as Touch-Up now supports Hard Disk Caching.

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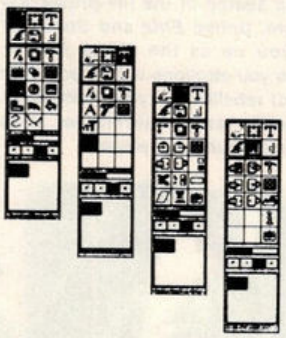
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Touch-Up is easy to learn and easy to use, and Touch-Up imports and exports a wide variety of file formats - making it easy to share images with other programs.

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- **Desktop publishing compatibility.** Touch-Up files load easily into your favourite programs, including Calamus, Page Stream, Publisher ST™ and Supercharged Easy-Draw™
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- **Versatile file formats.** Touch-Up exports monochrome images in these widely used formats:

  IMG, IFF/ILBM, TIFF, GIF, MacPaint, Printmaster, Degas, and PCX.

- **Drawing Tools galore.** You have a full selection of drawing tools at your command, including Bezier and B-Spline curves. Four writing modes let you be creative at various zoom levels.
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- **Creative text options.** Use scalable outline fonts in 10 typefaces to create headlines of up to 35 characters, and fill text with patterns.
- **Scanner support.** Touch-up now supports direct input from the Migraph hand scanner. Scanned images may be imported in 100, 200, 300 and true 400 dpi.
- **Image rotation.** Touch-up allows the rotation of the clip box by 1/10th of a degree.

Atari Explorer Magazine:

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- Speed indicator light for accurate scanning of images, (light blinks if scan speed is to fast, and light goes off if scan speed is to slow).

Software:

Touch-Up, being a full-blown image editing program has hundreds of features not contained in any of the other simple scanning packages. Features include:

- Virtual paging to hard drive for images larger than available RAM. This is the most important feature for Atari ST owners with a limited amount of RAM. It allows 1040 owners to work on the same images that only Mega 4 owners could work on in the past. (User configurable RAM usage for resident images).

NOTE: While Touch-Up does not require a hard drive, it is strongly recommended if you will be working with images that use more memory than your computer has (especially 1 Mb systems). Caching only works well with a hard drive and not a floppy based system.

- Works on ALL monitors (including Viking 1 and colour).
- Loads and saves images in a variety of formats, these include Degas, Degas Elite, Neochrome, Macpaint, Tiff, PCX, .IMG, .GEM, IFF, Printmaster, and Tiny allowing files to be interchanged between Atari, Amiga, Apple Mac, and PC environments.
- Includes full paint program, with extensive drawing tools, including Bezier curves, scalable outline typefaces, and special effects.

User Interface:

- GEM dropdown menus
- Icon panel interface
- Tear-away menus

Draw Mode:

- All commands work at all zoom levels, including full zoom.

Clip Mode:

- (All commands work at all zoom levels, including full zoom).
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- Load .IMG or .GEM into clip area
- Save clip area in any of the supported formats.
- .IMG file previewer

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- Full selection of user defined brush tools including box, circle, polylines, sketch, B-spline and Bezier curves.
- Special features including, Lasso, FatBits and Airbrush.

Scan Mode:

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- Scan to clip area (Also uses writing modes).



Images created with Touch-Up can be loaded into Desktop Publishing programs, including Calamus, Fleet Street, PageStream, and Publisher ST, and others that support the listed file formats.

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what price this disk?

Despite the high profile of the Federation Against Software Theft, illicit copying of ST software remains rife. Neil Jackson and Steve Carey report on the extent of the problem and new approaches to solving it

The advertisement, in the classified section of a well-known magazine, looked innocuous and contained nothing obviously illegal. "ST contacts desperately wanted," it read. "Definite 100% reply. Send game list." Checking the rest of the page showed nearly 50 similar ads, all with the same basic theme.

Innocent? Maybe. A letter, an SAE and a not altogether successful attempt to write like a 14 year old told a different story. The list was immense, but by no means untypical: hundreds of programs available for no more than you'd pay for public domain software. Only this wasn't PD, but cracked copies of everything from the very latest games – downloaded from bulletin boards, often before the games were even on sale – right up to DTP and CAD packages costing hundreds of pounds.

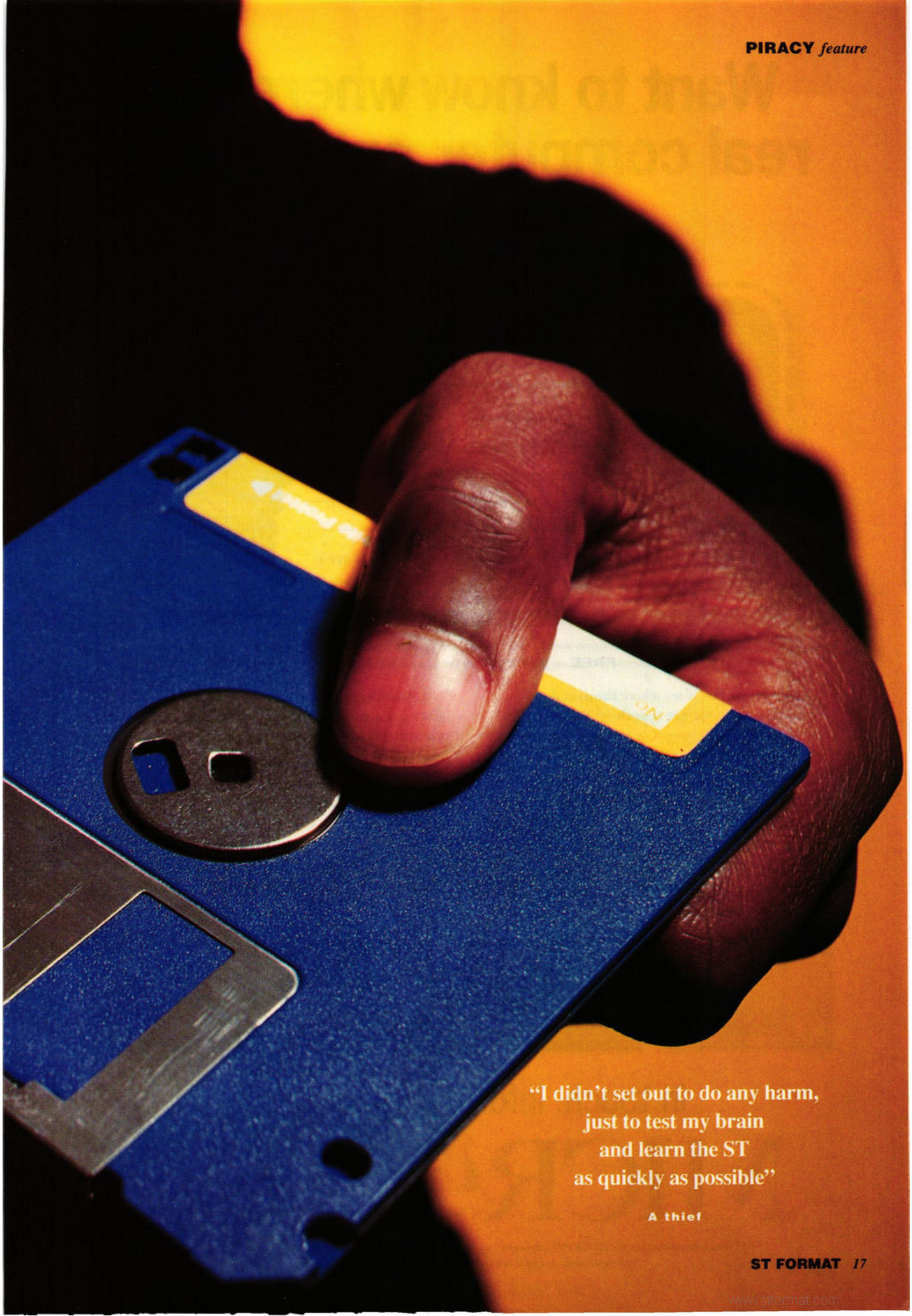
Facts and figures are of course virtually impossible to discover: it's an underground crime. "I think we would probably sell three times as many games as we do if there were no piracy," estimates Domark boss Dominic Wheatley: others put that figure even higher. It is clearly a deeply rooted problem that is not about to go away.

Pirates fall into two main categories. The first category is the organised cracking team. Most are groups of seasoned hackers and crackers working together for long hours breaking protection systems, adding fake loading screens which name themselves as the authors, and the familiar scrolling messages. Some even go so far as to duplicate entire packages to be sold off as originals.

The second is the casual copier and swapper who passes hacked copies of games to friends in return for more of the same. These small-time pirates usually work from home, breaking into their latest ST games and perhaps adding an infinite lives mode, before taking the now copyable disk to his school or club. The disk is copied by friends, or swapped for another.

The two groups have differing motives. The casual types do it for fun or to save their pocket money, whereas the sole desire for the organised groups is to make money. ➢

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➢ Despite their fundamental difference, however, the effect, and in some cases the operating methods, are the same. Both groups deprive the industry of its income, and both use various forms of deception to achieve their objectives (see box, "How pirates get away with it").

But if money isn't the sole motive, why don't such people put their creative energies into writing original programs, instead of ripping off other people's – fellow programmers' – work? Dominic Wheatley of Domark stresses the wasted intelligence and work of pirates and hackers: "If they have aspirations, they should not do it illegally, they should do it legally: come along and be published if you are that clever! Do not spend your time hacking – write your own. After all, it's not a difficult industry to get into."

Attempting to discover just why people do crack and copy software, *ST FORMAT*, by promising anonymity, was able to track down a man who termed himself an ex-hacker – but then, he would say that, wouldn't he? (By the way, most of the "interviews" you read in magazines with hackers and pirates are made up in the office: this one is genuine.)

Mr E, as he shall be known (Mystery – geddit?) first started pirating about six years ago as part of a small club, using the "Group Purchase" idea. "We justified it by declaring the software we bought as the property of the club, so it followed that we were entitled to copy it." E's involvement in what started out as a small-time operation is worrying, as this is precisely how many, and maybe even most, young hackers begin.

Once a group is formed there is a great deal of internal pressure to be the best hacker in the team. This can lead to more and more hacking, and often takes over as the main motivating factor. "It's an unbelievable challenge. That's the whole thing about software protection: if there's something there it's just got to be mastered. If someone else in the team is unable to crack the code and I can, then it's a wonderful feeling, a buzz. It's like doing a giant puzzle, a huge logic problem. If someone can be bothered to create a really difficult protection system, then it makes me all the more eager to try and take it all out."



"Piracy is keeping prices higher than necessary, and that's what keeps this industry a minority interest"

Rod Cousens, Activision

But E claims that many pirates have other reasons for wanting to break protection. "Lots are out to get the software houses," he says. "They see publishers as yuppies, rich kids and fat cats, and are basically just jealous. There's a running battle, a rivalry between them. The worst thing a publisher can do is to hide a rude message to the hackers in the protection code. It's like waving a red flag at a bull – one hell of an incentive to pirates."

But Activision's head man in Europe, Rod Cousens, dismisses this fashionable argument. "It's nonsense. The real losers in this situation are the developers, the programmers, artists, musicians and designers who work so hard to bring you new and exciting games. This industry has lost a lot of creative talent, because they know they are not being properly rewarded when their works of art are being abused by pirates. Developers see the efforts of their last year instantly wasted, and as a result some cannot consider this a viable career any longer, and are lost to other industries."

The exodus of talent may seem an odd one to blame on the pirates. It revolves around the amount of money a publisher can put aside for developing a program, and that in turn is based on the projected revenue said program could generate. If the danger of piracy hitting sales is high it follows that publishing budgets are reduced. The ST suffers, like most computers, because of the lack of adequate protection that can be implemented. So if a large, well-organised software company like Activision estimates sales of about 15,000 copies of an ST game (generally regarded as a good quantity – but still tiny compared to the 250,000-plus STs in this country) then the development cost is worked out accordingly.

"Clearly that puts a constraining influence on the amount any developer working on a project can earn," explains Cousens. "We can't attract new talent unless we can guarantee sufficient reward for their work, so piracy also affects quality as well as price." Cousens believes that in some cases as much as £25,000 is being indirectly stolen from developers (and five times that from the publishers), on an ST version alone. In an industry where developers are dependent on future royalties from a product to keep their team or business afloat, that kind of loss cuts very deep indeed.

The software industry, says Cousens, is only making about half its expected turnover (not profit), on the ST overall. This is because the sales are decimated by piracy, at home and abroad. "We'd like to think that reducing the ST game retail price to £14.99 or £9.99 would increase sales to around 50,000," says Cousens. "But some have tried it, and found that the volume of sales does not increase significantly at all. 10-20,000 is good on the ➢

THERE IS NO COPY RIGHT LAW

Contrary to popular belief, there is absolutely no automatic right in law to back up copyrighted software, even for archival purposes. Some publishers allow you to do it, others recommend it and some expressly prevent it. You have legal rights if disks are damaged or won't work, but these do not include copying unless the copyright owner states that you may, in writing.

HOW PIRATES GET AWAY WITH IT

ONE OF THE OLDEST forms of piracy is falsely thought not to be piracy. A group of users club together to buy a game which is then hacked and distributed around the group, arguing that the sale of the first disk would not have happened had it not been for the pooling of the group's resources. But it has been estimated that for every single disk sold, 10 pirate copies are made. If this figure is even anywhere near accurate – and statistics are notoriously difficult to come by on the subject – then "Group Purchase" does at least as much damage to the software industry as the commercially organised cracking teams.

PERHAPS THE MOST spectacular operation of all is the copy party. A relatively new invention, they involve large numbers of infamous hackers assembling at secret locations. Such copy parties were held late last year in the Netherlands, for example, and earlier this year on a small island off the coast of Denmark. Crackers are invited from all over Europe and spend an entire weekend cracking and copying software. At the Danish meeting, competitions were organised for cracking the largest number of programs, and prizes awarded to the winners. After the party, which offered bed and board to the pirates, the organisers and those who attended had amassed a huge collection of compressed, hacked and generally well dodgy software, ripe for distribution to users only too happy not to ask questions. Such a party could cost the software industry £1,000,000 in lost sales.

THE SCALE of such operations means that the pirates have to be well-organised to prevent discovery. Distribution of vast amounts of software is something which won't go unnoticed, especially if conventional routes from country to country are used. Customs officials require import documents for goods, and software is no exception.

THE RESULT IS the use of telephone lines as a distribution channel. Using secret telephone numbers, modem links and bulletin boards, pirate networks can access a wide area using only one version of an illegal program. The recipient, who may be in another country, is then able to mass produce his own copies without arousing any unwanted interest from the port authorities.

THIS IS POTENTIALLY the most damaging operation, as it is hard to detect, and even harder to eradicate. The law enforcers have to be at least as able to hack into the networks as the hackers themselves. This takes time – enough time for the damage to be done. But it doesn't stop there. Some network operators include the telephone systems as further targets in their quest to make money. The fact that international computer to computer calls can cost a great deal of money has led to the invention and use of specially-made devices which prevent the call-metering systems from operating.

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➢ ST, so we shall be keeping the prices where they are until we know we can reach all the market directly. Piracy is keeping prices higher than necessary, and that keeps this industry a minority interest."

Yet, according to pirates, the majority of hackers are just out for a good time, and besides, investigating programs is the best way of increasing your knowledge of complex systems such as the ST. "I didn't set out to do any damage," asserts our Mr E: "just to test my brain and learn the ST as quickly as possible." That may be so. Yet the fact remains that copying and swapping games is costing someone a great deal of money. How can this be justified? "Most hackers don't have the time to distribute large amounts of cracked software, they're too busy hacking. But if a hacker gives a copy of a game to a friend, especially one who is not a programmer, then that's often the beginning of the pirate chain. These people don't understand the skill involved, either in the original creation, or the hacking job. They're the worst kind of people, the real philistines, especially if they make money out of it. Even I think they should be stopped."

But surely this doesn't make the original hacker any the less guilty? After all, the theft started with him. But E denies that piracy is theft. "Theft means to take an item from someone, so you can't call it that. Software isn't an object, it merely exists on one – the disk. If I give someone a disk, and it just happens to contain a game I've cracked, then it can't be termed theft, because I *gave* them the disk."

The sheer idiocy of this argument has done little to prevent its widespread currency as an argument in favour of copying. After all, on the same basis it's hard to see how electricity could constitute an item, and the entire concept of intellectual property and copyright – which protects songs and books, for example – depends on the notion that theft extends much further than mere physical objects.

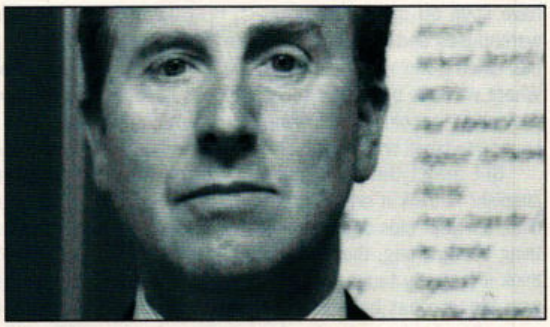
And, of course, the law does not accept the cracker's argument either. Illegal distribution is specifically precluded under the criminal provisions of the new Copyright Act. Despite E's attempts to justify his actions, either he really has no idea of the extent of the damage he is causing, or he does not care.



■ **Two examples of ELSPA's latest anti-piracy advertising campaign. "I think we need to get the message to people before the age of 14 or so," believes co-ordinator Dominic Wheatley**

The task of tracking the crackers and bringing them to justice falls to FAST (the Federation Against Software Theft), a non-profitmaking organisation funded by the software industry. The funding is done on a pro-rata basis, with the more modest companies paying less than industry giants like IBM. Its role is to uncover piracy and amass enough evidence to bring about a legal prosecution, assist software companies in formulating a case and provide them with legal advice. FAST is also charged with the task of publicising the anti-piracy cause, using adverts and leaflets, and providing helplines to enable the public to take an active (and anonymous) role in the hunt for pirates. The organisation gets information from magazines, from the software industry itself and from the general public.

A vast amount of piracy occurs in foreign territories, and makes its way over to the UK via networks. Malta, Germany, Sweden, Holland, Italy and Denmark all have major problems with piracy, and most have no organisations like FAST to clean up for them. Consequently FAST has become something of an international watchdog, and has very good contacts in Europe, the USA and even Saudi Arabia. "The first problem is the lack of legislation in some of these countries," says Bob Hay, the man in charge of FAST. "In Italy, there has been no copyright law covering software, and so the situation is literally out of control there. So much so that the US Government has threatened to take reciprocal action against the Italian industries by denying them Favoured Nation status, and therefore access to the US markets. In Italy the news vendors on the streets are the sellers of illegally copied software, and it's properly packaged, sometimes in compilations which make no reference to the original copyright owners."



■ **Hot on the heels of pirates: head of FAST Bob Hay**

As evidence, we were shown two copies of *Afterburner* on the ST. The disks are indistinguishable, the documentation has been incredibly well reproduced, and only tiny, but unmistakeable, tell-tale marks give away the fact that one is an illegal copy. The box artwork is exactly the same, in full colour, and even the promotional *Afterburner* sticker had been reproduced and placed in the box along with the disk. This is no casual, small-time copying operation. But Hay is optimistic. A new European Commission directive comes into effect soon requiring member governments to introduce legislation to deal with criminal breaches of copyright in the software market. When these are in place, FAST should become more effective.

As well as the low sales that result from piracy, there is also a "cost of prevention" effect too. Almost all ST software is protected in some way, and it costs. Cousens believes that interactive packaging is one way forward. This technique, pioneered by Infocom in adventure games, requires the disk user to possess all the original packaging, badges, leaflets and so on. But although this may be effective in keeping out the pirates, it also pushes up the cost of the game. This is not good news, not only because this hits sales, but also because high prices are an incentive to copy.

Currently, the most cost-effective defence against piracy is to use low-level disk technology to literally "encode the code" and tie the program up in knots, squeeze it out of all recognition, and generally make it as unreadable as possible to a hacker and his copy systems. The man most widely acclaimed in this field is a man *ST FORMAT* readers know: Rob Northen, creator of the disk format for the Cover Disk now nestling in your drive. He has also designed ST protection systems for almost all the UK's top publishers at one time or another. "Protection has to be changed, modified and constantly improved," Northen explains. "There's always going to be someone who can hack it out. I feel sad when I see so much effort spent on removing protection, when it could have been spent on more constructive tasks, such as writing *new* software." The real task is in making the protection as difficult as possible to *find*, let alone hack. This takes a great deal of time and cooperation between protectors, programmers and disk master-makers, and is therefore an ➢

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A UNIVERSAL PROBLEM

THERE'S A TENDENCY to assume that games are the pirates' only object of desire, and there's no doubt that games are widely pirated. But serious software – graphics, DTP, programming languages, utilities – also fall victim to the thieves, as HiSoft's David Link is aware from bitter experience. "Yes, our products are pirated – and fairly heavily, I suspect." But his problem is that he cannot take the simple step of protecting disks: the user of a language or a utility simply won't stand for it. "The way we try and minimise the problem of piracy," he explains, "is by providing high quality manuals and upgrades. We make sure that each copy of the software bears a unique serial number, so that only those people that register are entitled to upgrades and technical support. So we encourage people to register officially to get all those extras: we're adding value to the software."

LINK FINDS THAT he does not need to go looking for evidence of piracy. It comes to him. "People ring us up saying, 'Did you know the company I just left has 20 pirate copies of *Devpac ST*?' Or, 'My mate next door (who I've just fallen out with and I want to beat up) has a pirate copy of *Devpac ST*.'"

HISOFT HAVE EVIDENCE too of the kind of blatant mass piracy that occurs overseas and which, in the absence of tough legislation, is virtually impossible to control. "It was a company called Ofites in the north of Spain, San Sebastian, about 18 months ago. We licensed software for sale to them – and they then promptly disappeared! We couldn't contact them, and then a customer in Spain sent us a Spanish copy of the program with the Ofites logo all over it *which he'd bought in a store!* We never received any royalties, and we never managed to trace them. They were selling it in fairly large quantities in stores in Spain. If they still exist, by the way, we'd like to track them down!"

A COMPANY IN ITALY licensed *Devpac ST* and never paid HiSoft a lira in royalties. "Those sort of things are very difficult without using expensive solicitors," Link sighs. As to how much such losses might amount to, Link can only guess: "I suspect in Italy we must have potential sales for *Devpac* of quite a few thousand, at a licence figure of anything between £2-£10 perhaps, so it's thousands of pounds it's costing us. It's not hundreds of thousands, though if you look at the total number of household products that are not bought from us in the world it could be up to five figures."

AND AS LINK points out, the only way a company can keep going is by selling software: it's no good people using what they have not paid for. "For our sort of software it's not as big a problem, because most people, if they are going to use it seriously, want to come back to us, for a new manual, an upgrade, support or whatever."

➢ expensive process. "If you can keep most of the hackers guessing for three months," Northen estimates, "there might be enough shelf-life in the game to make it pay for itself."

Zareh Johannes, programmer of *Super Hang On* ST, has dealt with protection from all angles. He not only creates games, but uses little-known hardware tricks to protect them. "You cannot stop a hacker," he admits. "All I aim to do is stop copiers. If protection wasn't such a problem, then it would possible to play games from hard disks more easily, or multi-task them. But it's just too dangerous to leave any operating systems in place."

An important new player in the anti-piracy war is the rather grandly titled European Leisure Software Publishers Association, ELSPA. Last Christmas you may recall having seen a number of advertisements, all placed by ELSPA and claimed to be worth over £100,000. Now another campaign of similar scale is about to break: you're going to be seeing a good deal of Smithy, Mr Jones and company *(see page 21).*



"I think we would probably sell three times as many games as we do if there were no piracy"

Dominic Wheatley, Domark

The new campaign is aimed very much at what the computer industry calls the "young home user." Dominic Wheatley, the Dom in Domark, who is leading the ELSPA initiative, explains the thinking: "FAST have managed to clamp down on most of the commercial pirates – the chaps who have spun off thousands of disks, held them in warehouses and sold them all over the place. It has taken a while, but it is beginning to bite now. Where we have been less successful has been in preventing people from pirating from home, and I suppose small time pirates."

But aren't the new ads, well, just a little childish? "I think if one can appeal to the eight, nine, ten year olds and give them a sense of this thing being wrong, they will carry that through. I think it is pretty tough to try and tell a 15 or 16 year old who has been pirating games for three years that he is a naughty boy and he should stop it. I mean it might have an effect and you can try, but really and truly we should talk to the younger kids, who are impressionable and who want to be good, and they are not yet at a rebellious age where they have to go out and prove things.

"We need to get them before the age of 14, so they do actually believe as they grow up that it is a bad thing, a wicked thing to do."

So how do the ads work? "One is at the school, one is in a street market and one is in the changing room after football, when two kids are reading a magazine where there is a small ad offering tapes for sale. So each of these ads is showing them an absolute example of where they might find piracy so that they can become watchful in those areas." The kids depicted in these ads are not bespectacled, goody-goodies who sit at the front of the class.

The objective is also to put off street traders and schoolteachers – the latter group "very, very big pirates," according to Wheatley: "they encourage pirating among youngsters, people who put in small ads and so on."

Despite the obvious lack of subtlety of the campaign, Wheatley is optimistic. "If I was a market trader and I saw those ads, and saw that there was £1,000 on my head, I might think twice about being obvious about the thing. I might lower my profile, because I do not want some snotty-nosed kid coming up, looking at me, remembering the ad, going off and making a phone call that will result in a visit from the police. Good! We have achieved something immediately. As soon as they lower their profile, so they lower their business. And that is the objective of this campaign."

Are you angry yet? You should be. The tired old arguments – "Everybody does it," "I don't do it, so it doesn't affect me" – just don't wash anymore (and that's why they stink). High prices, delayed release dates, low quality: these are all symptoms of the disease. Piracy is theft, and in the long term the pirate is stealing from *your* pocket. We are all of us ST owners and games players, and we are all of us missing out on a world of excellent, cheap ST software.

Think twice before you accept that dodgy version of *Degas*, or writing a scrolly message to go in front of *Midwinter*. And then, don't do it. Instead, put your creative effort into original work of which you can be genuinely proud. Once you do, you'll understand even more clearly why everyone of any note connected with the ST – *ST FORMAT*, software houses and above all programmers – despise pirates.

If you're still not convinced, just consider for a moment the implications of two recent advances in computer technology, CD and consoles using cartridge software. Both formats, unlike the ST's disk-based software, are difficult if not impossible to pirate.

And ask yourself why software houses should bother to waste their effort on the ST, knowing that their sales could be much more effective on CD and console-based hardware. We are facing a future, in fact, in which the ST is considered too dangerous to write and sell games for... ■

WHAT YOU CAN DO

If you know *anything* about piracy, and in particular about an organisation from the Netherlands known as QUARTEX, let FAST know (☎ 071-497-8973 – their helpline for the Entertainment and Leisure Software Publishers Association, ELSPA). Or write and tell them: FAST, 132 Long Acre, London WC2E 9AH. Remember too there's a £1,000 reward for information leading to a prosecution and conviction!

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You've just bought your Atari ST, you flip through the manual, you start it up and stare blankly at the screen. The salesman handed you the system disk with the same seriousness that you father once gave you the keys to the family car. You spend a week working at it; the disk is in worse shape than the Ford.

It takes you hours to print out a single page or to understand the desktop while your neighbour's kid can program a flight to Jupiter - the whole thing looked easy in the shop, computers can't really be that hard.

Well, the good news is that they're not when you have Your 2nd Manual - the hitchhiker's guide to the ST. Y2M is packed full of useful hints and tips on the whys and wherefores of the ST, where to get the best programs, information on magazines and user groups and everything else you need to know as a proud owner. It even comes packaged with a free disk containing some essential PD programs.

Your 2nd Manual is ideal for anyone who wants to get the most out of their Atari ST and costs only **£14.95** inclusive of book and free software.

New Titles

Harlekin and Your 2nd Manual are just two of our growing range of products for the Atari ST. Other titles include: Lattice C 5 (£99.95), KnifeST (£29.95), HiSoft DevpacST (£59.95), HiSoft BASIC (£79.95), Power BASIC (£49.95), HiSoft C (£49.95), FTL Modula-2 (£99.95), TurboST (£34.95), Tempus 2 (£39.95), CRAFT (£49.95), WERCS (£29.95) and many more.

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ST FORMAT cover disk

Side A

RESOLUTION 101– every dog has its day in Millennium's **fully playable** vigilante sci-fi demo
KID PUBLISHER – get 'em while they're young! A brilliant DTP package for young computer users
MIKKI MOUSE MONITOR (MMM) –the very latest version of our German correspondent Don Maple's superb machine language monitor
MOUSE TOOLS – a utility that boosts your mouse pointer's acceleration to breakneck speed

Side B

VANTERM – invaluable comms package **(see introduction to comms, page 110)** with support for everything from ASCII file transfer to ZModem
BALLZONE – a brilliant multi-level *Arkanoid* clone!
ANIMATION – winning entries from the *ST FORMAT/Cyber* animation comp **(see page79)**
C TUTORIAL – all the source files and demos you need to follow the fifth instalment of Warwick Grigg's fascinating C series **(see page 121)**

■ Delve into the delights of this month's *ST FORMAT* Cover Disk which comes crammed with over 800K of demos, games and utilities.
■ Unfortunately not all STs have double-sided disk drives as standard. For that reason a special format has been devised which can be read by both single and double-sided drives. Single-sided drive owners can still only access the top side of the disk.
■ Rob "the sector skew every 10th track was slightly out, so I decided to do a new format" Northen is the man responsible for the disk format which allows everyone to access *Resolution 101, Kid Publisher* and the *Mikki Mouse Monitor* on side A of the disk. And lets those with a double-sided drive get at *Vanterm, Ballzone* and Warwick Grigg's C source files on side B.
■ You can get to side A of the disk if you've got a double-sided drive by double clicking on the folder SIDE_B.
■ A warning message appears telling you there is data damaged on the disk if you have a single-sided drive and try clicking on the SIDE_B folder. The disk isn't damaged; it's just your ST's way of saying it only has a single-sided drive. Click on the CANCEL button and all will be well.
■ Ensure you back up your Cover Disk before running any programs. And remember to write-protect the disk before putting it in the drive.

RESOLUTION 101

Resolution 101

BY: MILLENNIUM
SIDE: A
MACHINE: ALL COLOUR STs
FILES: 101.PRG, 101.DAT, 101TITLE.PC1

Since the passing of Resolution 101, no criminal is safe. There was a time when you could turn to a fellow crook and know that you shared a common desire to pervert truth, justice and the (ahem) American way.

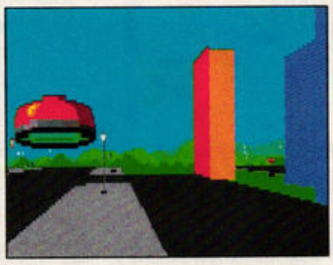
The new 101 law means any small-time villain can miss a jail sentence by becoming a bounty hunter and tracking down hardened criminals. But where is the line drawn? Who determines who can be given a shooter and who gets shot? Don't ask – just be glad you were handed a gun and not a bullet.

Your objective is to drive around the city in your armed hover car and blast drug runners and their evil henchmen off the roads. Bonuses can be picked up in the form of illegal contraband from the exploding wreckage of vehicles. Of course, an honest citizen wouldn't do such an immoral or illegal deed – but, then, you're not an honest citizen.

Climb into you car. And pray no-one is going to pick you as their ticket out of jail!







■ Government warning. Don't drug and drive! The contraband you pick up by blasting pushers off the road in *Resolution 101* can seriously impair your driving

GETTING STARTED

Ensure you switch the machine off for several seconds before running *Resolution 101*. Make sure you don't run anything else before running the game demo. Double-click on 101.PRG in the 101 folder. You'll be shown a rolling demo of the game. Simply press the joystick fire button, space bar or right mouse button to play for real.

Control the car with joystick or mouse. Joystick controls are left/right to steer with forwards for thrust and back for brakes: fire button acts as your trigger. Moving the mouse left/right turns the car and the right mouse button fires your gun. The left mouse button switches on your engines. Pressing F3 pauses/restarts game; F6 switches the sights on/off. HELP terminates the game.

■ Don't miss the definitive review (see page 35)!

DON'T BE DUMB! BACK UP YOUR COVER DISK NOW! How? **See page 30**

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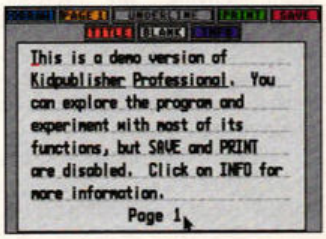
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Kidpublisher

BY: D BRUMLEVE
SIDE: A
MACHINE: ALL COLOUR STs
FILES: KP_DEMO.PRG, KP_DEMO.DOC, KIDPUB.FNT, STORY.DAT, 1.CL1, 2.CL1, 3.CL1, 4.CL1

With desktop publishing becoming ever more accessible to home users, it's little surprise that toddlers are screaming for a slice of the action. You can only go so far with *Fun School 2*, so make DTP a part of *your* kid's staple diet.

Kid Publisher is a desktop publishing system that enables you to create simple documents and diagrams. A series of options are



■ **Training 'em young. The example story from *Kid Publisher***

available across the top of the screen which are activated by clicking on them with the mouse. Clicking on the document itself allows text to be altered, entered or deleted via the keyboard.

Features include:

■ fast word processor with word-wrap and underline;
■ automatically-loaded user-definable font set;
■ expanded drawing program with options like LINE, BOX, CIRCLE, FILL, and the all-important UNDO;
■ automatic loading of any title, story, or picture previously saved to disk;
■ movement of text cursor with mouse or arrow keys; drawing with mouse or arrow keys;
■ controlled keyboard repeat rate to prevent accidental over-deletion by heavy-handed young typists;
■ title-page option with automatic centring of title, author, and illustrator;
■ picture icons and colour-coding to speed program learning;
■ limited alert boxes and options for ease of use.

This is the demo version of *Kid Publisher* and as such has had the save and print facilities removed. Virtually all other options can be used though. Highly recommended for ages 5 to 11. Further instructions are available in the file KP_DEMO.DOC.

GETTING STARTED

Ensure you switch the machine off for several seconds before running *Kid Publisher*. Double-click on KP_DEMO.PRG (can be found in the KIDPUBL folder) to load the program. Click on Start when the prompt appears. Enter text from the keyboard or click on one of the options. It really is that easy.

■ **See the review (page 135).**

MIKKI MOUSE MONITOR

Monitor

BY: DON MAPLE
SIDE: A
MACHINE: ALL STs
FILES: MMM.TOS, MM.DOC

It's frustrating when your programs don't behave as they should, don't you find? With *MMM* you can delve into the depths of your code to find out why your programs act in such a disdainful manner. You can also examine the ST's memory and other people's code.

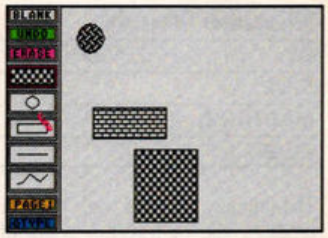
GETTING STARTED

Double-click on the folder *MMM*. Once inside, double-click on the file MMM.TOS. Don't worry when an error message appears straightaway – it's supposed to happen. Type in help and press Return to get a list of available commands.

MMM is packed with program monitoring features, including:

help	displays list of all available commands.
x	exits back to Desktop.
m <ffffff> <tttttt>	displays memory from f to t.
g <tttttt>	updates registers and then executes routine from t monitoring for breakpoints.
j <tttttt>	jumps to a routine at t.
= $hhhhhhhh	converts hex to binary and decimal.
= %bbbbbbbbbbbbbbbb	converts binary to hex and decimal.
k <ffffff> <tttttt>	displays memory from f to t in ASCII.
?	shows all 68000 register contents.
d ffffff tttttt	disassembles from f to t.
l filename ffffff	loads a file at address f.
t ffffff	starts trace (single step) from f.
b <#> bbbbbb	sets specific breakpoint (0 to f).

For fuller details on the commands present in MMM, read the extensive documentation file MMM.DOC on the disk.



■ **Pictures can be drawn to supplement the stories**



■ **The latest issue of *ST FORMAT*, produced by *Kid Publisher***

VANTERM

Vanterm

BY: PD
SIDE: B
MACHINE: ALL STs
FILES: VANTERM.PRG, VANTERM.DOC, VANTERM.CFG, VANTERM.HLP, WXYTR.TTP

To coincide with the comms feature on page 110 in this month's *ST FORMAT*, we include *Vanterm* on the Cover Disk – the very best public domain comms package.

Vanterm enables you to upload and download material from bulletin boards and keep in touch with friends and family electronically. You can also patch into the growing number of play-by-modem games.



■ **Virtually every protocol you'll ever need is supported by *Vanterm*, the cream of the public domain comms crop!**

Vanterm is so comprehensive that it would take the whole of the disk pages to describe its numerous functions. Find out for yourself how amazing *Vanterm* is by reading the documentation file VANTERM.DOC and using its on-line help facilities. (But, of course: no modem, no use.)

GETTING STARTED

Switch off your machine for a few seconds before running *Vanterm*. Connect a modem to your machine and double-click on the SIDE_B folder. Then double-click on the VANTERM.PRG in the VANTERM folder. Use the mouse to select the options from the pull-down menus. Select the on-line help to find your way around the package.

www.stformat.com

Mouse Tools

BY: ANTHONY DERVISH
SIDE: A
MACHINE: ALL STs
FILES: MOUSEY ACC

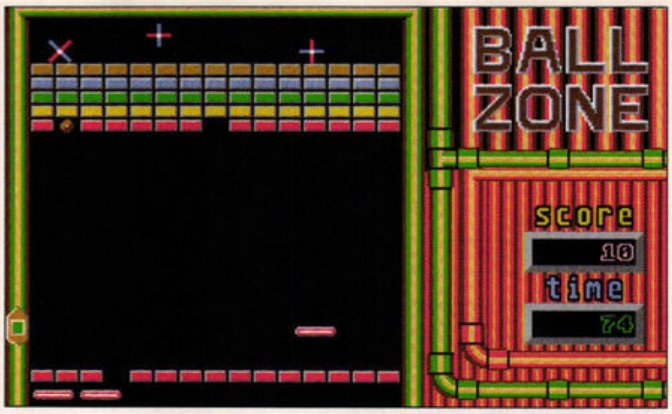
The mouse supplied with the ST requires you to traverse acres of desk space to move the pointer from one side of the screen to the other. This is because the mouse has relatively low resolution. In addition, the mouse's linear characteristic (cursor displacement directly proportional to hand movement) is not necessarily the most comfortable.

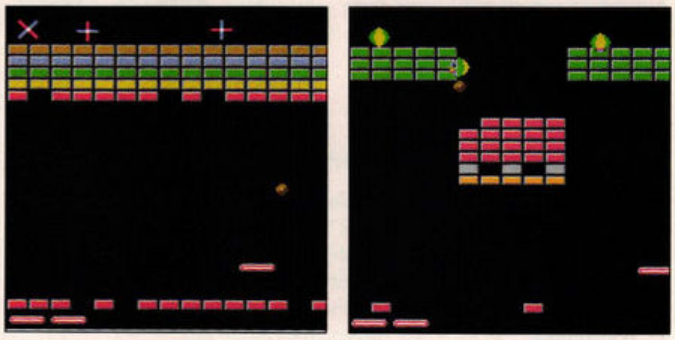
By far the best arrangement would be a combination of pixel-fine resolution when the mouse is moving slowly, and much larger steps when you want to cover larger areas of screen. Short of buying a special mouse you'd be stuck – if it wasn't for Anthony's excellent utility!

Not only does it make the pointer whizz across the screen, but the pointer actually moves in small steps when you move the mouse slowly and in large steps when you move the mouse quickly!

GETTING STARTED

Before you can use *Mouse Tools* you must copy it onto another disk as it will not work while inside a folder. Prepare a blank disk by formatting it – make sure it's a blank disk and not the Cover Disk!





■ **Sound effects jolly along Budgie's *Breakout* clone**

Insert the Cover Disk in drive A and double-click on floppy drive A icon. Double-click on the MOUSEY folder that subsequently appears. Drag the file MOUSEY.ACC onto the drive B icon and, when prompted to insert the disk for drive B, put in the ready prepared disk. Follow the on-screen prompts. Put the Cover Disk in the drive when asked for the disk for drive A.

When the disk copying is completed put the disk with MOUSEY.ACC in the drive and reset your ST. When the Desktop appears you will find that MOUSEY is automatically activated. By going up to the Desk menu at the top of screen and selecting *Mouse Tools*, other options can be set.

Ballzone

BY: PD
SIDE: B
MACHINE: ALL COLOUR STs
FILES: ALL FILES INSIDE THE BALLZONE FOLDER

To prove that compiled Power BASIC can be used to produce quality games software, Budgie put HiSoft's language to the test. *Ballzone* is the result. While *Ballzone*, being an *Arkanoid/ Breakout* clone, wins no points for originality, it's a very playable version of the classic bat and ball game.

The twist in this *Breakout* version is that there's a wall behind you as well as in front of you. The wall to your rear stops the ball from leaving the screen. Unfortunately the wall behind is not very thick and soon disappears. You have a bat with which you can deflect the ball and three lives to complete the game.

Hitting a flashing brick results in a capsule falling. Picking up a capsule provides you with a bonus.

GETTING STARTED

Make sure there's nothing in memory before running *Ballzone*. Get to side B of the disk by double-clicking on the SIDE_B folder. Double-click on BALLZONE.PRG in the BALLZONE folder. You control the bat by moving the mouse from left to right. Release the ball by clicking the left mouse button.

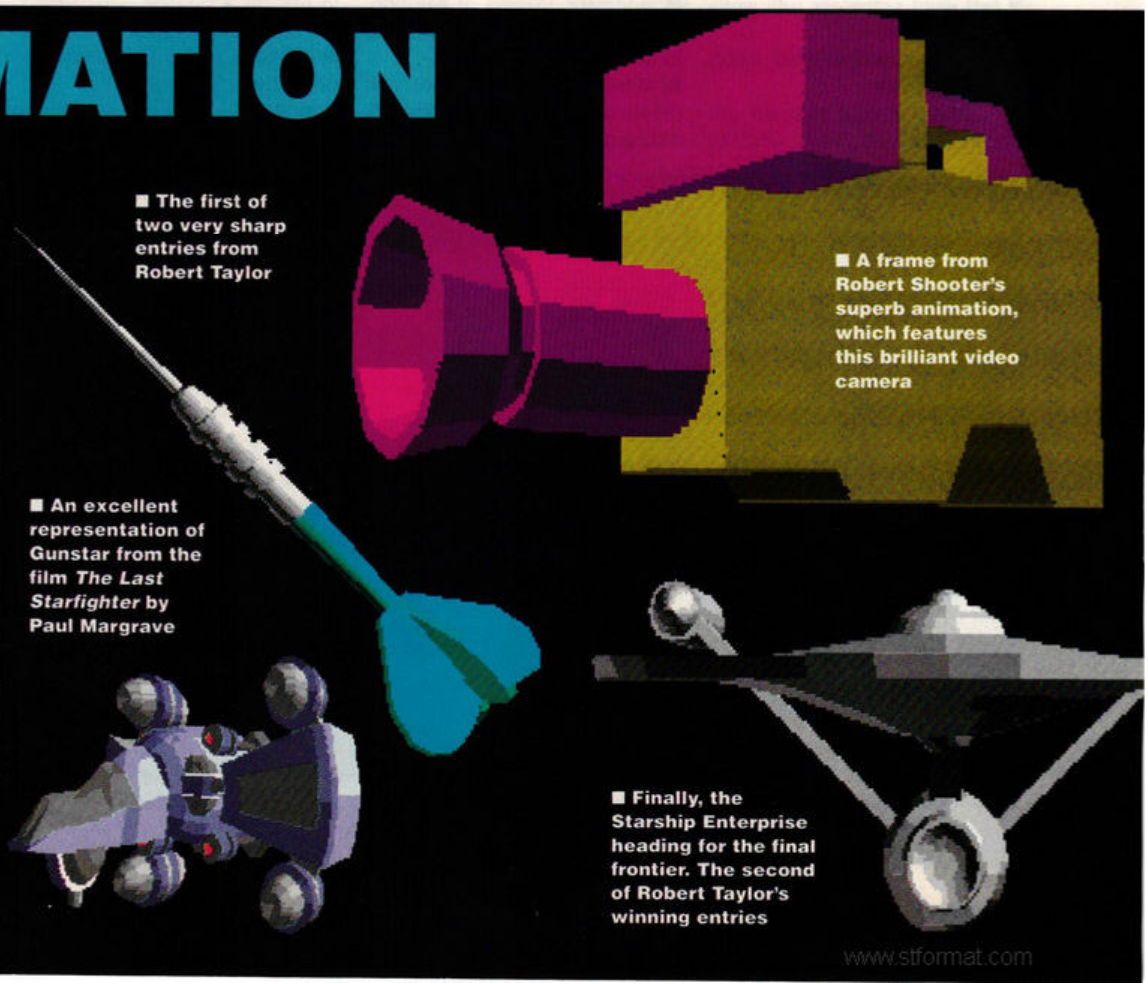
ANIMATION

Animation

BY: VARIOUS
SIDE: B
MACHINE: ALL COLOUR STs
FILES: DSLIDE.PRG, COMP_1.PC1, COMP_5.PC1, COMP_6.PC1, COMP_7.PC1

Some amazing stills from the winners of the *ST FORMAT* animation competition (see page 79).

Double-click on the SIDE_B folder. Then Double-click on the ANIMATE folder. Finally, double-click on the program DSLIDE.PRG. The pictures are loaded and displayed on screen. Pressing space holds the image on screen while pressing space a second time continues the slideshow. Exit the program by hitting UNDO.



■ **The first of two very sharp entries from Robert Taylor**

■ **A frame from Robert Shooter's superb animation, which features this brilliant video camera**

■ **An excellent representation of Gunstar from the film *The Last Starfighter* by Paul Margrave**

■ **Finally, the Starship Enterprise heading for the final frontier. The second of Robert Taylor's winning entries**

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C Tutorial

BY: WARWICK GRIGG
SIDE: B
MACHINE: ALL STs
FILES: ALL FILES INSIDE THE C_TUTOR FOLDER

All the files you need to follow Warwick Grigg's C tutorial (see page 121). To save you the time and hassle of typing in reams of source, Warwick has provided the lot on disk. A compiled version of the program is also on the disk, so you know what to expect once you've compiled the source.

GETTING STARTED

Double-click on the file PINBALL.PRG in the C_TUTOR folder to see the compiled program in action. The demo works in all screen resolutions.

To compile the program copy all the files except PINBALL.PRG, into the WORK folder on your Sozobon C compiler disk.

Run GULAM and type MAKE. This compiles and links the program using the information contained in the file named MAKEFILE. ■

COVER DISK HOTLINE 0225 765086 (2PM TO 6PM) WEEKDAYS

Flummoxed by files? Dumbfounded by disks? Perplexed by Cover Disk programs? If you have a problem with the disk – and you're sure there is no corrupted data – phone 0225 765086 between 2pm and 6pm on weekdays with your query. You'll be through to Richard Monteiro, our Disk Editor.

Before you call have ready the info Dickie needs to help you: the model of your machine; the version of GEM/TOS you're using; and anything you've got attached to (or plugged inside) the computer. Have the disk handy and your ST up and running, and a pen and paper handy to take any notes.

TO B-SIDE OR NOT TO B-SIDE

You single-sided drive owners don't have to miss out: get hold of the B-side by sending your name and address with a cheque or postal order for £1.75 to:

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Bath, Avon BA1 2AP

BACK UP YOUR DISK!

Because the oh-so-delicious *ST FORMAT* Cover Disk is non-standard and squeezes in a whacking great 400K plus of data per side, the back up procedure is not simple. Follow these steps, though, and you won't encounter any problems. Do it any other way and you could knacker your Cover Disk.

1. Format a couple of blank disks – single-sided if you've got a single-sided drive, double-sided if you have a double-sided drive.
2. Write-protect the Cover Disk and insert it into drive A (if you have two drives, you lucky devil, insert the Cover Disk into drive B). Double-click on the drive B icon. If you're still saving up to buy a second drive, a message appears requesting you to put disk B in drive A. Simply click on OK.
3. Insert a freshly formatted disk into drive A. Double-click on the drive A icon.
4. Pick up a folder at a time from the Cover Disk window and plonk it into the drive A window.
5. If you have one drive then you'll be asked to insert disk A and disk B at regular intervals. Don't mix the two up! Disk B is the Cover Disk and disk A is the freshly formatted disk.
6. When you get a "disk full" error message, recopy the last folder – and subsequent folders – onto the second freshly formatted disk.
7. Double-sided owners, double-click on SIDE_2 once you've finished copying all the folders from side A of the Cover Disk. Job done!

READING DOCUMENTATION FILES

In virtually every folder on the Cover Disk you'll find a file with the extension .DOC. This is a help file and contains instructions on using the program. Ensure you read all help files before running any program.

To read a help file (or .DOC file) simply double-click on the file. Click on CANCEL if you don't wish to read the file; click on PRINT to send the document to a printer; click on SCREEN to send the text to your monitor.

After each screenful of text the display halts. Pressing return will scroll you up a line while pressing space will scroll up a complete page of text. Pressing Q or Control C will return you to the Desktop.

Future Publishing CANNOT be held responsible for improper use of any programs on the Cover Disk. Basically, if you wreck your disk collection because you failed to read a help file, it's tough. Your problem, etc etc. Be sensible, follow the instructions, and you won't have any trouble.

Next month: "American Special" the scandalous inside story of why the most powerful nation in the world didn't win the World Cup

THE DISK NEEDS YOU!

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Program title _____

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What's so brilliant about it _____

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JUMPING JACK SON









Music to your ears Rock'n'Roll is back in town!



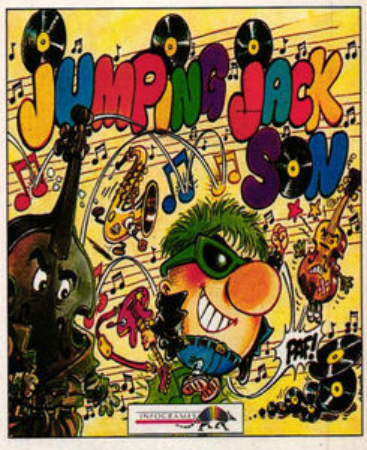
In a deluge of colour and music, save the Earth from a classical catastrophe. Classical music (yuk !) in its most tortureous form has overrun the world. With monsters so hideously hideous, so exaggeratingly evil, so barbarously bad, it's slowly destroying the last traces of the only great music... Rock'n'Roll. JUMPING JACK SON is our only hope.

As quick as a flash, find out the "timeless classic", the "golden oldie", the records which made Rock'n'Roll. And, of course, the first 45 cut by the King himself, Elvis Presley. All these records must be placed where they belong... THE JUKE BOX.

JJS is the fulfilment of technical performances. More than 27 colours on the main game screen (on both Amiga and Atari !), and up to 100 colours on the other screens. And don't turn a deaf ear ! JJS also has 400 kb of Rock'n'Roll and FX sounds.

JUMPING JACK SON is a Magical, Musical, Visual, Mystery Tour... An ear splitting, eye popping adventure.
JUMP at the opportunity and JIVE into the action.

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WARHEAD

"The most disturbing aspect of this conflict is that we do not know our enemy. We do not know their reasons for attacking us. We do not know who they are".

It is the middle of the 21st Century and Earth has been violently attacked by an insect-like alien nation, from a near star system, killing billions of humans, swiftly wiping out countries and collapsing world states, throwing the Planet into the merciless hands of a nuclear winter.

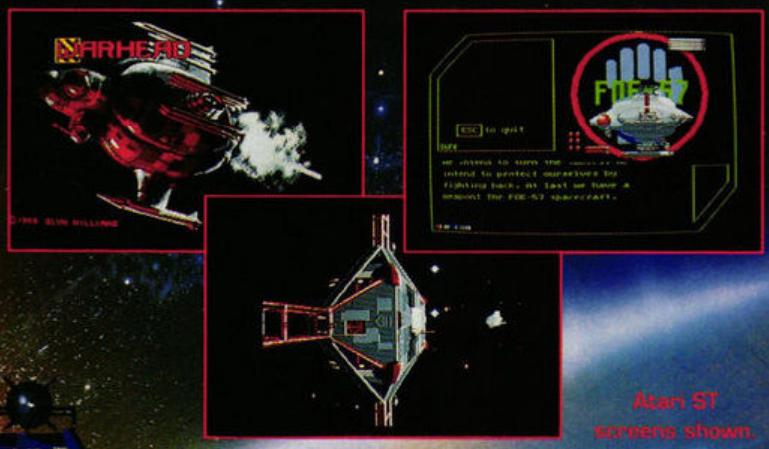
"We intend to turn the tables. We intend to protect ourselves by fighting back. At least we have a weapon: ***the FOE-57 spacecraft...***"

As the remaining humans turn to each other for combined strength and support, the Fist of the Earth world government turn to you to lead the ultimate battle.

"The safety of the peoples of Earth rests in your hands..."

WARHEAD

- **A most challenging space simulator combining strategy and arcade action**
- **Over 30 hours of solid play**
- **39 missions of space adventure**



Atari ST screens shown.

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DESIGNED AND WRITTEN BY GLYN WILLIAMS

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ST FORMAT

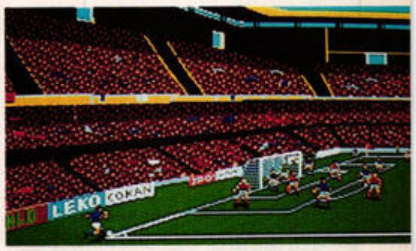
Surely the ST has never had it so good. Every month there are dozens upon dozens of games released, and that can only be great news for joystick freaks everywhere. But without actually playing them all, how do you know what to go for? Simple: leave it to Mark Higham and the Format team, who between them have notched up thousands of hours playing every ST game ever released. Welcome to...

screenplay



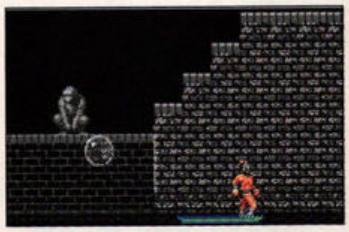
RESOLUTION 101

Hunt down evil drug barons and pick up illegal contraband in Logotron's high-speed 3D extravaganza (page 35)



FOOTBALL SPECIAL

As the World Cup looms ever closer, we put all the latest soccer sims to the test **(page 63)**

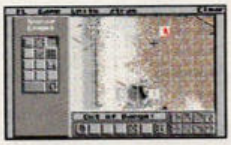


THEME PARK MYSTERY

Visit the theme park and tackle a myriad of unusual puzzles – the wackiest ST game yet? **(page 63)**

FRONTLINE

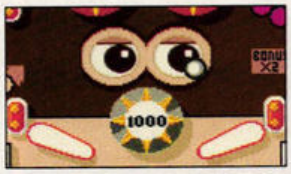
A wargame of Turcan-like quality? **(page 55)**



WARHEAD

Load up your missiles and head into space for some of the fiercest all-action missions ever **(page 58)**





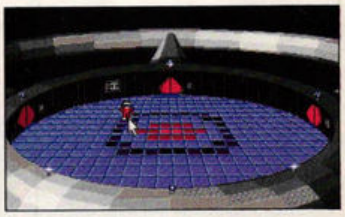
PINBALL MAGIC

Go mad with steel balls and flippers in this great pinball simulation **(page 56)**



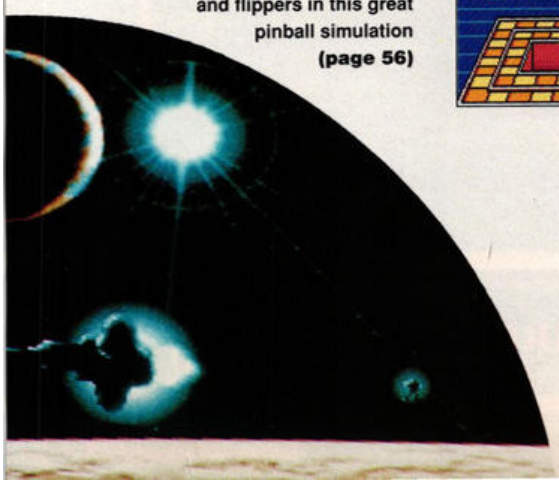
KLAX

Pick up *Klax* and you'll never be able to put it down again – *totally* addictive! **(page 41)**



STARFLIGHT

Assemble a crew, fit out your ship and take to the stars in this classic pacifist adventure **(page 45)**



FIRE AND BRIMSTONE

Wage war against an angry mob of witches, dragons and gods in Microprose's horizontal action challenge **(page 52)**



INFESTATION

After months of delay, *Infestation* is finally here – but is it up to Psygnosis standards? **(page 42)**

STARBLADE

GENOLYN IS PREGNANT AGAIN...
..AND JUST WAIT TILL YOU
MEET THE KIDS!







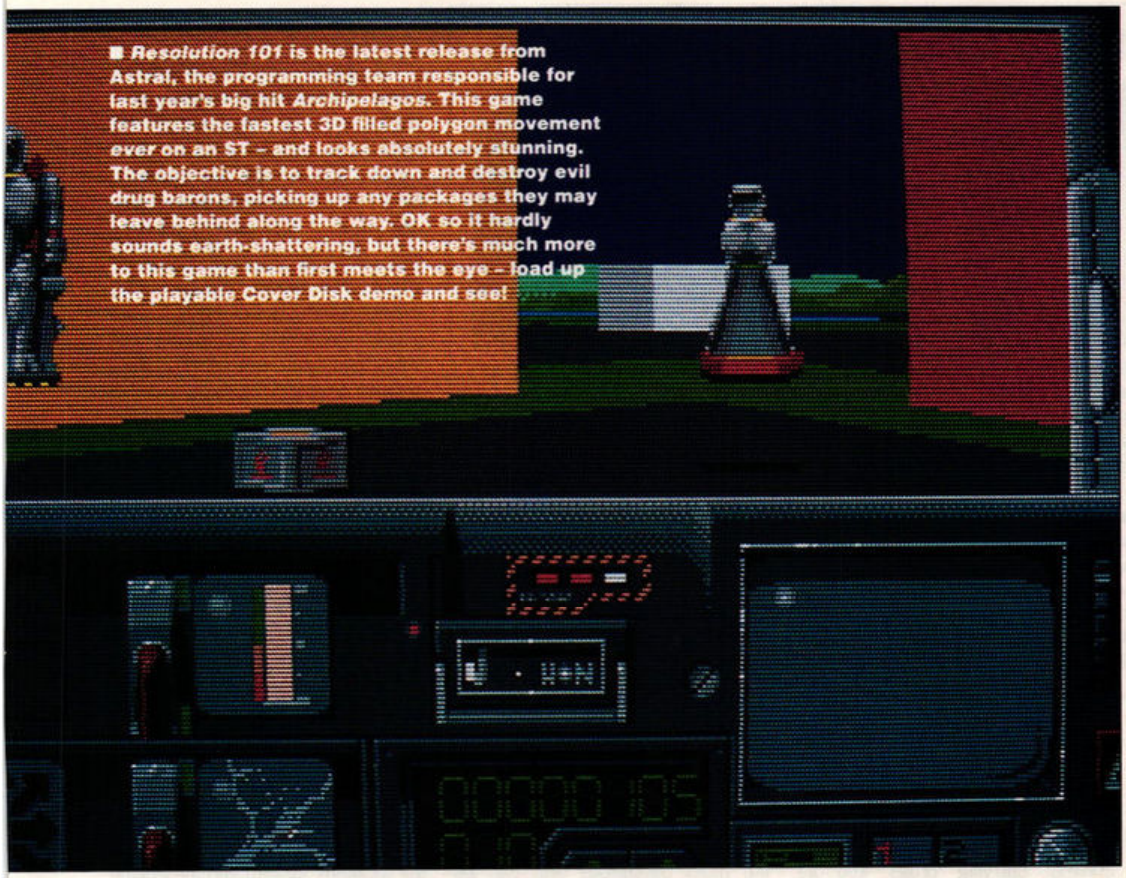
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resolution 101

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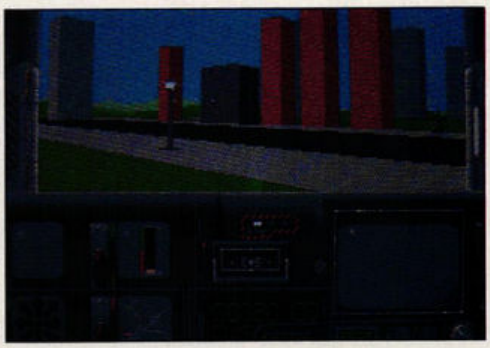
■ *Resolution 101* is the latest release from Astral, the programming team responsible for last year's big hit *Archipelagos*. This game features the fastest 3D filled polygon movement *ever* on an ST – and looks absolutely stunning. The objective is to track down and destroy evil drug barons, picking up any packages they may leave behind along the way. OK so it hardly sounds earth-shattering, but there's much more to this game than first meets the eye – load up the playable Cover Disk demo and see!

Shrouded in mystery ever since Logotron first showed off demos late last year, Resolution 101 boasts the fastest 3D routines *ever* seen on the ST. Speed freak Mark Higham dons his helmet, climbs into his skimmer and signs up for the war on drugs. But is this baby really any more than just another good-looking ride?

Games such as *Populous*, *MidWinter*, *Gravity* and *Space Ace* are constantly proving that the 16-bit arena in general – and the ST in particular – is where it's all happening. Just when you see a game you believe can't be bettered, another comes along to prove you wrong.

Programmers are constantly surpassing past achievements. A few years ago it was games like *Virus* and *Falcon* which were considered state-of-the-art, but now they're archaic and forgotten.. They're certainly not in the same league as *Resolution 101*.

Defying any neat categorisation, *Resolution 101* is an all-action romp in which you spend your time squashing iniquitous drug barons.



■ ***Resolution*** **is played in a city. As you advance through the game and more areas of the city become available to you, so the challenge gets ever harder and the drug barons fiercer. Can you hack it?**



Set in a city, the objective is to pick up parcels of drugs and blast the drug runners from the skies. However, this is no excuse for an unremitting attack on the local bovver boys. For you play the role of a convicted criminal suddenly offered the chance of freedom because of a new article of law – *Resolution 101* (hence, I suppose, the title: Depeche Mode have a lot to answer for!).

To earn your freedom you must blast the drug runners and pick up their illicit contraband before it can be used for illegal purposes.

The city consists of houses and shops, represented as 3D rectangular blocks. Using either the mouse or joystick to control your direction and speed, you steer around the city in search of the drug runners. At the start of the game large areas are out of bounds, but as you work your way through the levels, more areas



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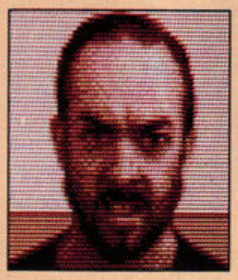
BEWARE OF THESE MEN – THEY'RE DEADLY!



Ian Downend – full-time programmer at Astral: responsible for coding the PC version, poor chap



Paul Carruthers – programmed the ST version of the game (as well the Amiga games machine one)



Kevin Bulmer – inspired freelance graphic artist who came up with the brilliant visuals



Stuart Gregg, also of Astral, but not directly involved in *Resolution 101*, poor chap!

On the dashboard of your screen is a special monitor which shows the faces of the four dangerous criminals who each run a quadrant of the city: Johnny Psyclops controls the Eastside, Toby Komazuki heads the Southern Boulevards, Lord Camamile looks after the West End and Jake Joukowski rules the Northern Suburbs. As you proceed through the game their responses tell you how you're doing.

In fact these four faces are actually digitised pictures of the programming team behind *Resolution 101* (see the boxes above). They work for a company called Astral, involved in the coding of *Archipelagos*, one of the biggest games of '89.

become accessible and the game steadily gets more difficult.

The city is divided into four quadrants with each controlled by master criminals, who fly above the city roads in distinctive red/orange craft making city-wide drug runs and setting up deals for illegal consignments of contraband. As with any self-respecting drug ring, it's not Mr Big who gets caught with the nasties. Instead, he has a series of minor criminals working for him who transport the contraband around the city. Your duty is to follow them and do your utmost to steal the drugs. The contraband is represented in the game as coloured balls. Hit a criminal carrying drugs and he drops his stash: quickly you drive over it to pick it up before anyone else does.

Occasionally the drug runners drop contraband from the skies. In the first few levels of the game this is confined to standard red packages which are inert and can easily be picked up, but in later levels they're more of a problem. Booby-trapped bombs (represented as black and grey consignments) are the most dangerous and can kill you on contact. If you see a consignment like this, wait for another drug runner to come and pick it up. Now *blast* that runner, and when he drops the consignment it's transformed into a safe package. Bonus packages are represented as yellow balls. Collect four and you gain an extra life.

A score on the dashboard keeps you informed of how much contraband has to be collected before you can go after the drug barons. The barons are protected by a host of intelligent bodyguards who roam all over the city pursuing their dastardly deeds. If you try to attack their leader, however, they quickly return, lasers ablaze. They usually ignore the occasional pot-shot from you, but start making serious attempts to wipe out the leader and they descend on you like a plague of armed locusts. If you succeed in killing the leader, all the bodyguards turn on you. The answer is therefore gradually to take out the bodyguards until only the leader remains – he's easy prey when he's in such a vulnerable position. In later levels the bodyguards themselves have craft assigned to protect them – so you can be in for some major headaches!

To move around the city you have a skimmer which comes equipped with a whole host of expert gadgetry designed to make your job easier. In the beginning, the weapons system and the engine type are fairly basic models, but by picking up drugs and making money, you can visit shops located in the city to buy extra supplies.

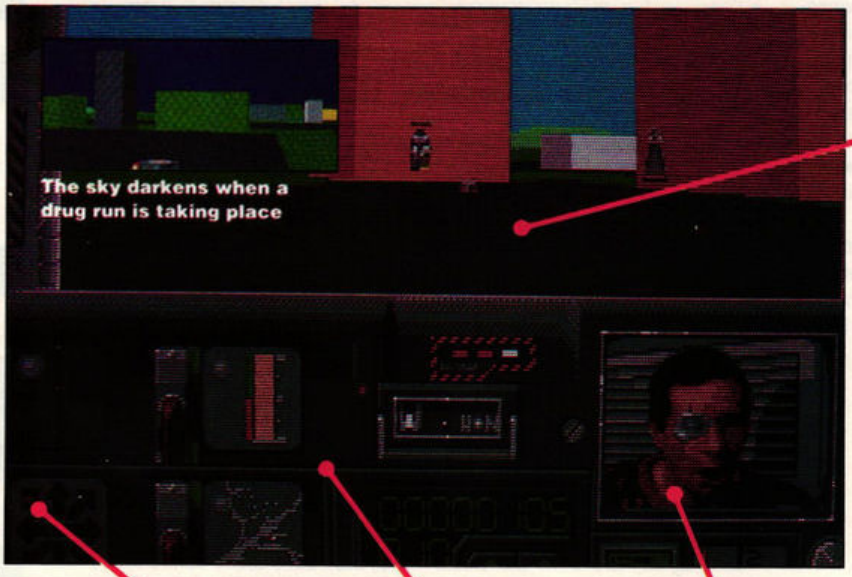
The craft comes equipped with a shield to absorb hits from the drug-bearing enemy craft. If you're

■ Your craft is a highly sophisticated machine. If you know how to use the dashboard gadgets properly, they can provide invaluable information to help you track down and destroy the wicked drug barons.

Gun sights, radar detection, shields and map all provide you with invaluable information.

When *Resolution* begins you have the full range of dashboard accessories, but these can be destroyed when you come under attack from the drug barons, often putting you out of action for a time.

To replenish your stocks you need to visit the shops where, apart from dashboard gadgets, you can also pick up additional weaponry to help in your quest





There are many enemies. Some drop parcels of drugs...



– others act as body-guards around the master criminal...



Radar detection can pin-point shops or the master criminal



Your shields and weapons are indicated. More can be bought

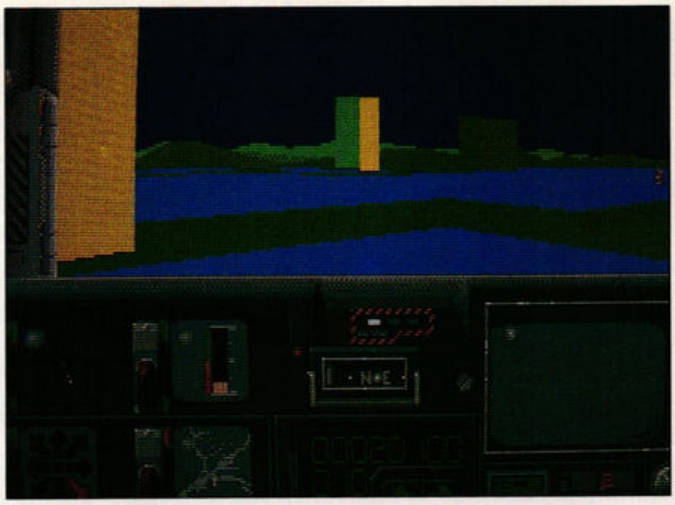


The monitor shows the baron when you kill one of his team



– and still others drop bonus packages for you to retrieve

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■ **There are a large number of lakes and rivers in the city and the skimmer can pass straight across these like a hovercraft. Try stopping in the middle of a stretch of water and the skimmer makes a nosedive into a watery grave**

attacked or crash into buildings, your shield starts to deplete. It can be restored at the shop with a shield booster pack, but if you allow it to sink too low, you lose a life. If the shield is functioning at less than quarter strength, you may lose one of your dashboard gadgets. This can mean kissing goodbye to your radar, shield gauge, pointer or map – any of which causes massive probs and may be missed so much that you lose a life. Once lost, the gadgets can be replaced at the shop – always provided you have found enough contraband to give you the necessary cash, of course!

EFFECTS

Start sweeping the mouse from side to side and the first thing to grab you is the speed of response: this game isn't fast, it's bleedin' *supersonic!* All the action is played through a small window, your view out of the skimmer's windscreen. The landscape and buildings are represented as flat areas of colour, with planes effectively shaded to give the impression of depth. When you start steering your craft through these buildings they hurtle towards you at lightning speeds – keeping the action immensely challenging.

With a host of extra touches such as the digitised faces on your dashboard monitor and the frustrating enemy craft, you are convinced that enormous effort has gone into giving *Resolution 101* a polished and sophisticated feel.

Sound wasn't available in the version we reviewed (last minute problems inevitable in finishing such a vast project – hence the silent Cover Disk demo), but spot effects and a musical track using the ST's sound chip are promised.

VERDICT

Until now Logotron – or Millennium, as we must now learn to call the – haven't ever produced a really *big* game. They've had success with *Eye of Horus* and *Kid Gloves*, of course, but nothing which you could say, with your hand on your heart, that was really state-of-the-art. *Resolution 101* has put them right up there with the big boys.

Although *Resolution 101* is aimed at the action enthusiast, it defies any standard game category – and that's part of the secret of its success. It's utterly original in appearance, scenario and gameplay. Couple this with breathtakingly super-fast 3D routines and you have something which is not only uniquely enticing but also enormously, sickeningly addictive.

Marry these factors with a huge amount of variation between levels and *Resolution 101* is without doubt one of the games of the year. Don't miss out!

MARK HIGHAM

GRAPHICS	9
SOUNDTRACK	N/A
INTELLIGENCE	5
INSTANT APPEAL	9
LONG TERM INTEREST	8
OVERALL	**93%**

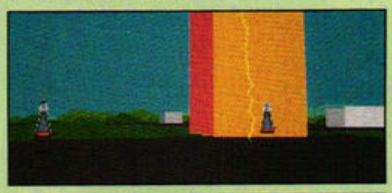
JOINING THE VICE SQUAD

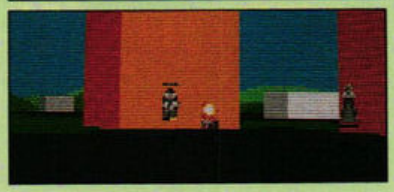


As *Resolution 101* begins you are presented with the front option screen. From here you choose whether to load an old game or start a new one.

In this example you're preparing to move into level one. This is a relatively easy level, designed to teach you much of the theory behind the game before meeting the more ferocious drones of later levels.

At the start you have only limited weapons but as you build up your score by blasting drug runners, so more cash becomes available to buy new armoury.





Here you're facing three enemy drug runners. Initially you have a shield which protects you from their firepower, but it doesn't survive too many direct hits. You send out a shot and instantly hit the centre runner. He explodes and then drops a package which you need to pick up by driving your skimmer over it. If you wait too long, another drone comes along and picks it up. You cannot go after the main drug runner until you've retrieved ten of these packages.

Having defeated these characters and accumulated points, youre next step is to track down a shop. Shops are an orange colour but you don't need to scour the entire city to look for them. The directional compass in the bottom left of the dashboard can be used to track down either shops or the master criminal. Simply select your target and then steer your craft so that the red arrow points north. As you move around, so the arrows shift. Always keep it facing north and you get there in no time...



This lets you buy extra dashboard gadgets



This one offers even more gadgets...



– and this sells additional types of weaponry

With extra weapons in your possession you can collect the remainder of the drug packages in no time and then go out after the master criminal, using your radar once again to locate him. In this case you amassed enough points to buy the heat-seeking missiles in the shop and then go after the master drug baron. With these you stand a great chance of success. Simply fire a couple of shots at his tail and eventually he explodes into a million different pieces.



In later levels you need to beware of the drones who act as bodyguards around the master criminal and protect him from your fire. Here you are so successful at wiping him from the city that a message appears informing you of your success and leading you into the next level.



As you advance through each level more of the city becomes available to you, and the game becomes progressively harder. The drug barons are trickier to locate and are protected by more bodyguards. And the red packages can become booby trapped.

You've got a lot of work to do...

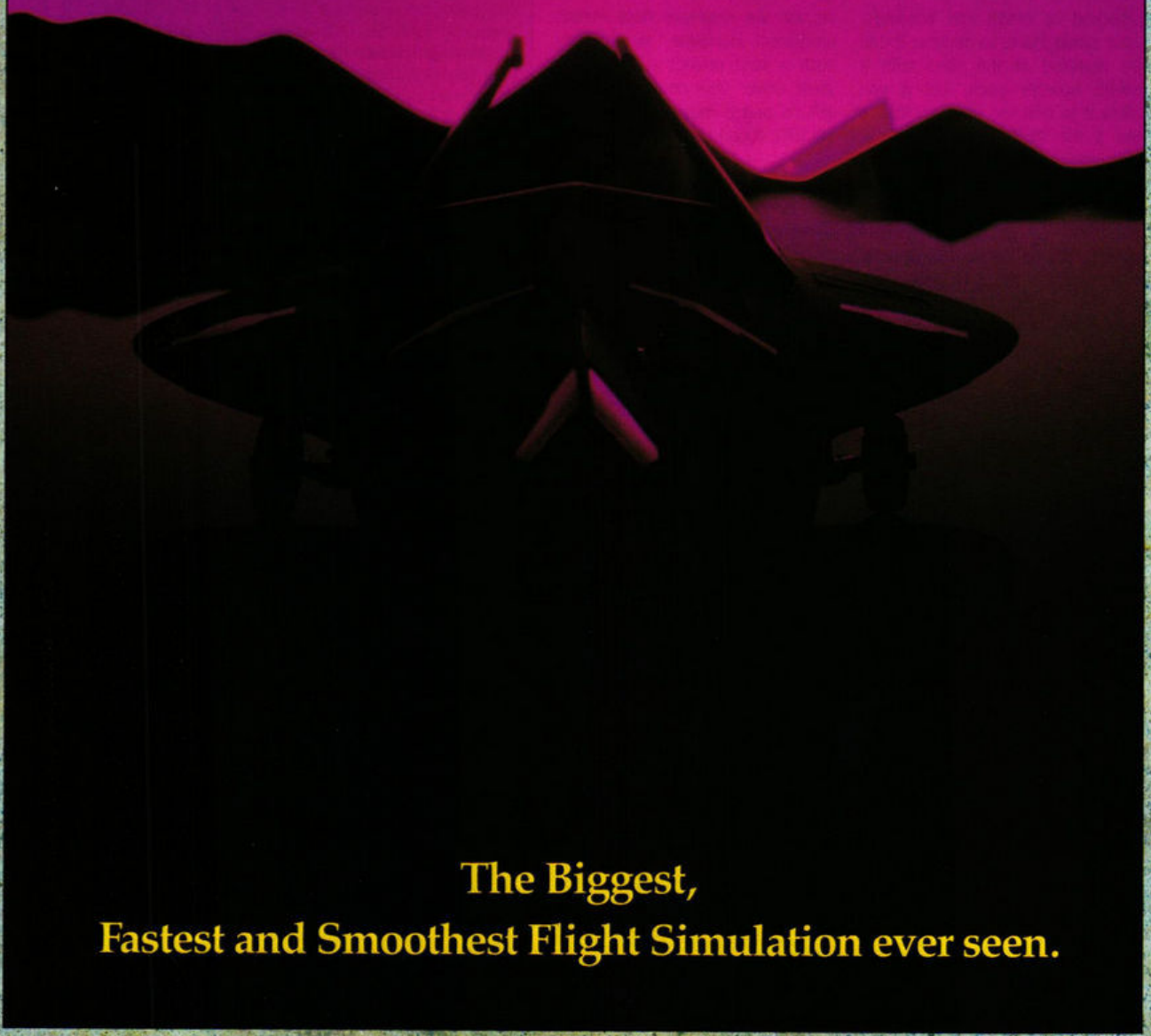
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MICROPROSE

IBM Screen shots shown. Actual screens may vary.

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The beast was present in the land and from tower to tower the sorcerers voice called upon him. As night encroached and set the sun to flight, so his legions made ready to conceal the tablets that would see daylight banished forever.



So, as the same last bloody light drained from east to west, the paladin came forth, ready to do battle against the legions of the night, using all his might and skill in this tale of swords and sorcery.



Screenshots from Amiga version





Atari ST, Amiga, IBM PC and compatibles.

BISLEY 89

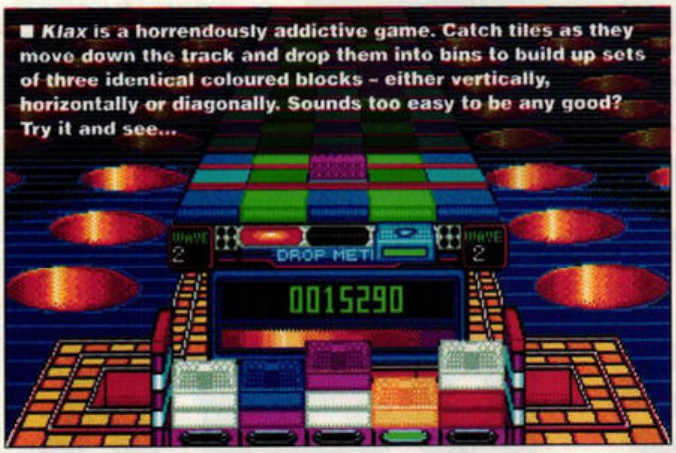
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klax

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■ *Klax* is a horrendously addictive game. Catch tiles as they move down the track and drop them into bins to build up sets of three identical coloured blocks – either vertically, horizontally or diagonally. Sounds too easy to be any good? Try it and see...

Mirrorsoft came up with a winning formula when they released *Tetris* several years ago. The aim of the game was simply to line up different shaped blocks. Graphics were primitive and sound was paltry, but the simplicity of the game and the ease with which early levels could be mastered, introduced droves of new people to computer games.

Klax has made some gargantuan leaps forward in the graphics department, sound has been enhanced, and though the game style has undergone radical alteration, the theory is still the same. The objective is to catch tiles and arrange them in a certain way to advance to the next level. Tiles roll towards you down a coloured track and you move a baton left and right to catch them. There are five different bins and by hitting the spacebar you can throw the top tile into the bin underneath the baton. A maximum of five tiles can be held on the baton at once and then dropped into the bins at will.

The purpose of collecting the coloured tiles is to build up a Klax. This is defined as a set of three identically-coloured tiles laid vertically, horizontally or diagonally. As you toss the tiles into the bins they form coloured rectangles, laid top to bottom. When you've laid three of the same coloured tiles and formed a Klax, all three are removed. Any tiles which lay on top of these drop down to fill in the gaps.

At the start of a level you're presented with a title screen which informs you of the objective for that level. In the beginning the objective is just to build up three Klaxes, but later on you must build diagonal Klaxes or amass a specified number of points. Diagonal Klaxes are worth the most points, but they are also the hardest to create. Fulfilling the objective of creating 13 Klaxes in the level printed alongside can be almost impossible – at least until you learn to think fast enough to keep pace with the game.



■ This is the second of three backdrops. Things only get harder from here

EFFECTS

It's the special effects which make *Klax* so much fun to play. There are three levels of action which become increasingly more difficult. As you advance through these levels, you're treated to three different backdrops, each illustrated on this page. The movement of the tiles down the coloured track is the same in each level with an increased range of colours for the harder levels. The movement isn't particularly realistic, but it's convincing enough to keep you returning for more. Sound effects are limited to lively tunes and the noise of rolling tiles – all achieved with the ST's sound chip.

VERDICT

Drop *Klax* into your disk drive, switch on your ST and launch yourself into one of the most challenging and addictive games released this year. The different objectives for each level constantly keep you on your toes. Some are easy, others insanely difficult, but there's always the feeling that if you're a little faster or a little more perceptive, you could complete the level. It's that kind of feeling which has you returning to the game over and over again.

Klax doesn't have enough variation to rival *Tetris* and there's just too little depth to make it a long-term classic, but that's going to make no difference to the immediate appeal of the game. *Klax* is fiendishly addictive and you won't be putting it down in a hurry.

MARK HIGHAM

GRAPHICS	7
SOUNDTRACK	6
INTELLIGENCE	4
INSTANT APPEAL	9
LONG TERM INTEREST	7
OVERALL	**87%**

■ In level 12, you need to form 13 diagonal Klaxes to advance to the next stage



■ Your objective is revealed at the beginning of the level. Forming one diagonal Klax is hard enough, but you have to build 13 of the tricky things



■ First lay down a set of blocks on which to build your diagonal. Make them all different colours and you won't lose any when you add your diagonal



■ You place your first cyan block, but other blocks are heading towards you and they're definitely going to interfere with your strategy



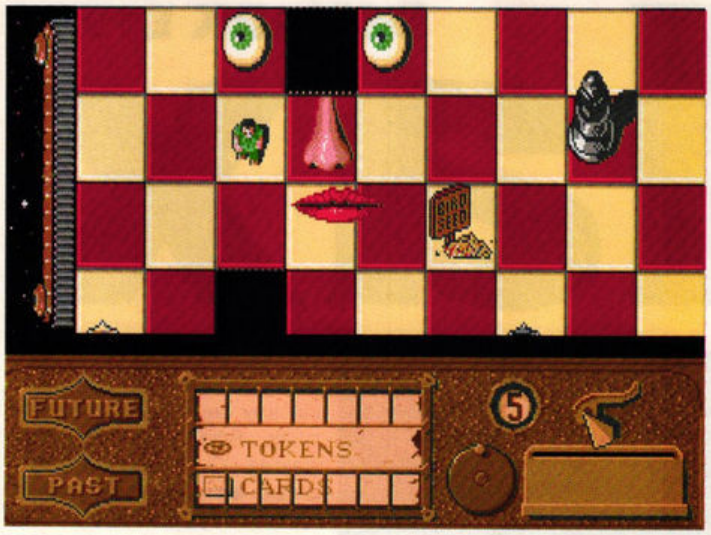
■ You've missed one of the previous blocks so the drop counter has gone up. If you miss another four, you can kiss a life goodbye



■ Lay down the third and final block to build up the Klax. That's one done successfully – only another 12 more to complete

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Mirrorsoft have been pulling stunningly original releases out of the hat for so long now that the interminable delay of Theme Park Mystery had Mark Higham wondering whether the bubble might finally have burst



■ ***Theme Park*** **is made up of four startlingly bizarre levels. From the mystic atmosphere of Yesterday Land to the perilous misery of Future Land it's one ultra-weird adventure. To survive you need to move back and forth between the levels, collecting essential items.**

Here you're in the surreal Dreamland where you need tokens from the bagatelle machine in Yesterday Land to buy you time. If you don't have the tokens you need to go back and get them

MIRRORSOFT £24.99

theme park mystery

INSIDE THE THEME PARK



■ ***Theme Park*** **programmer Brian Howarth (left) and graphics man Teoman Irmak**

Unlike many big games released now, *Theme Park* wasn't written by a big team of programmers, sound men and artists. In fact just two people were involved – Brian Howarth (programming) and Teoman Irmak (graphics). Howarth started programming adventure games on the Tandy in 1981, creating an impressive 11 titles. In the middle of the 1980s he teamed up with Irmak to produce games such as *Spiderman*, *Robin of Sherwood* and *Gremlins*. His last game before *Theme Park Mystery* was the AD&D game, *Heroes of the Lance*. Recently he's composed and recorded music for audio-visual projects, including an editor program for the West German company Steinberg, of Steinberg 12 fame.

Teoman Irmak has a fine art background and became involved with computers after tinkering with paint packages. He's done graphics for *Gauntlet*, *Black Tiger* and *Personal Nightmare*.

Ocean were the first software house to develop games made up of completely unrelated levels. *Batman* and *The Untouchables* consisted of a series of levels featuring generic game types all tossed into one package. Whether this was to achieve maximum variety or the result of an incoherent narrative is up for debate. The levels were so different that separate programming teams were even used to code them. Nevertheless, their meteoric rise up the charts proved that it was a successful formula. *Theme Park Mystrery* has been programmed by only one team, but each of the four levels is still a game in itself.

You've inherited the Magic Canyon Theme Park from your grandfather. The park is haunted by a ghostly presence that not only made your grandfather lose his marbles, but has also sent the entire staff and customers packing. Your job is to solve the mystery and make the park safe again.

Although categorised as an adventure, this is much more of an action game that requires thought to overcome the problems.

The four levels are split into Yesterday Land, Dragon Land, Dreamland and and Future Land and you must visit each one in turn, solve the mystery, and pass onto the next.

Yesterday Land is the first to be tackled. Set in a railway station, it consists of three arcade games dating back to the 1900's. Before you can leave the station and proceed, you must collect a pass from Zoltan who is found in the first of the machines. You can't collect a pass without inserting a token into the slot. The question is, *how do you find the token?*

Theme Park comes with only very limited instructions because the objective of the game is to solve these puzzles for yourself. In this case, you go to the second arcade machine which has a series of tokens waiting in the reject slot. You can opt to play the machine or simply take the token back to Zoltar who, after some dramatic visual effects, offers you the pass. If you play the bagatelle machine, you can collect extra tokens which come in useful later.

Complete this problem and you take your pass to the station plat-

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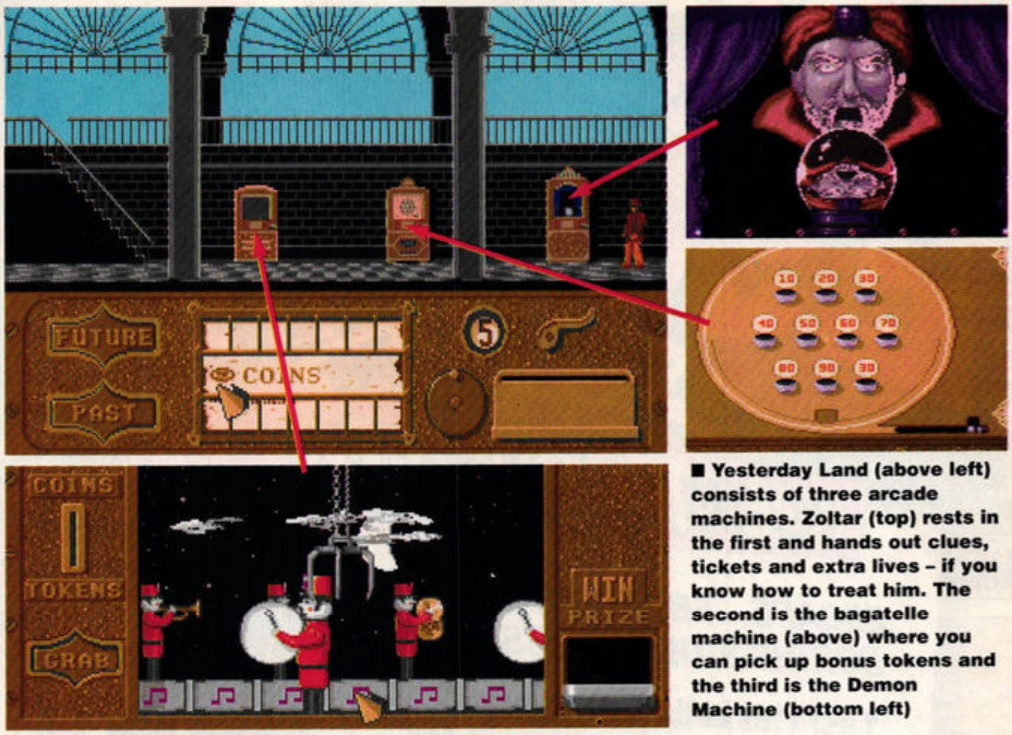
form where a train comes to take you to **Dragon Land.** This is a horizontally-scrolling platform arcade section where you collect the fire and water demons and a casket. To proceed onto the next level you require the sleeping potion and though you don't need to have collected anything else to continue, you cannot complete the game without the extras. You spend a lot of time in this level avoiding a series of apes perniciously tossing balls. Once you find the sleeping potion you sink into a deep sleep and drift off to Dreamland.

In **Dream Land** the tokens collected in the first level become important because they're used to buy you sleep time. Without them your visit is so brief you might as well not have bothered.

This level is an animated adventure which takes place on a chessboard. The aim is to collect two demons. You need keys to succeed at this level and they can either be brought with you from Dragon Land or purchased by tossing gold coins to entice Origami birds to lay eggs and leave keys. As you scour the land you come across the ticket to Future Land.

Reach **Future Land** and you're straight into a non-stop blast. This is an unashamedly trigger-happy shoot-'em-up section where you need to blast everything that moves while trying desperately to collect the floating balls and deposit them in the storage hold.

At any point in the game you can catch a train back to Yesterday Land and pick up a hint card from Zoltan. Since instructions are very limited, these provide cryptic clues to help in your quest. Zoltan can even hand out the occasional extra life, but you have to weigh up your need against the nuisance of replaying other levels.



■ **Yesterday Land (above left) consists of three arcade machines. Zoltar (top) rests in the first and hands out clues, tickets and extra lives – if you know how to treat him. The second is the bagatelle machine (above) where you can pick up bonus tokens and the third is the Demon Machine (bottom left)**

EFFECTS

There is enormous potential for exciting visuals in a game set inside a theme park, and to a large extent this game delivers. Special effects such as the gradual, magical appearance of Zoltar and the unusual and varied playing sprites in Dreamland are certainly a visual feast.

In other areas, the game is severely lacking. In Yesterday Land and Dragon Land, for example, the playing sprites are tiny and poorly animated. That's not to say they affect the gameplay to any great extent, but considering what might have been possible, it's a big let down that more hasn't been achieved. Using a technique known as palette switching, more than the standard 16 colours appear on screen at once, but the effect hasn't been used to any great advantage so the visuals don't exactly blind you with colour.

Any failings in the visual department are more than compensated for by the stirring soundtrack. The programmer of the game was also involved in creating music for the West German company, Steinberg. As a result he has put considerable effort into making sure the sound effects are atmospheric and impressive. The game opens with a long sampled intro tune and special effects appear profusely throughout the game. There's even a crack of electricity as Zoltan makes an appearance in Yesterday Land.

VERDICT

While early demos of the game showed off some promising visuals, it was always difficult to see just how the levels would slot together to form an addictive and exciting challenge. The long months of delay seem to have been worth it, because whereas Ocean's *Batman* and *Untouchables* were disjointed, *Theme Park Mystery* is a very coherent and unusual challenge.

Nevertheless the combination of adventure type problems with traditional arcade style levels seems strange. The average arcade freak is going to find the lack of help frustrating, while the adventure enthusiast may well be annoyed by having to tidy up his joystick technique. Its hybrid heritage could be the start of a whole new genre of action adventures or the kiss of death to a game that no-one feels at home with.

MARK HIGHAM



■ **Catch a train to Dragon Land and undergo a frightening metamorphosis on the way**

GRAPHICS	7
SOUNDTRACK	8
INTELLIGENCE	6
INSTANT APPEAL	7
LONG TERM INTEREST	8
OVERALL	**80%**



■ **In Dragon Land you confront malicious apes in your bid to find the sleeping potion which transports you to the surreal Dreamland. But if you intend completing the game you need to find five cogs and two demons first**

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starflight

ELECTRONIC ARTS £24.95

Many computer programmers have dreamt of providing travel hungry games players with a complete and fully explorable universe – witness the immense popularity of *Elite* and the countless commercial and public domain attempts to simulate the adventures of the Starship Enterprise. Unfortunately, the only "boldly go-ing" that most of them achieve is straight into obscurity. Limited graphical displays, a tiny universe and only one or two species of alien don't make for thrilling space exploration. The release of *Starflight* from Electronic Arts is set to push back the frontiers of the known universe by billions of miles, for *Starflight* is a game with incredible depth.

The flight of fancy begins at a wagon wheel-shaped space station orbiting your home planet of Arth. A small, private research group, Interstel, have created several spaceships capable of traversing the universe and you've been chosen as a ship's commander.

With a space craft all your own and 12,000 MUs (monetary units) to outfit it and purchase a crew, you dally between the outfitters, fuel stores and personnel department, trying to stretch limited resources. Once suitably equipped, you're ready to begin the journey. But where should you go? What should you do?

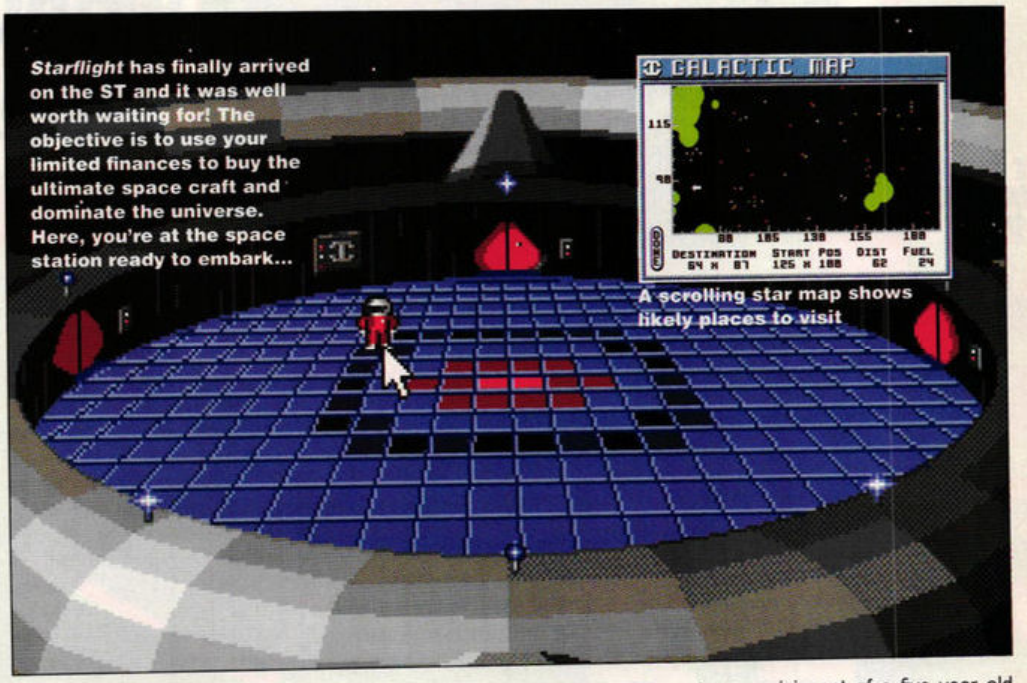
Not for you a mere joyride buzzing the wonders of the universe. You've been assigned a top secret mission to locate other civilisations and discover what happened to the original inhabitants of the Old Empire (a conglomeration of races now long since gone).

It's a tough life as a spaceship commander. Aliens abound, and although some can be reasoned with, many are as xenophobic as the average stand-up comedian. It's kill or be killed as you struggle through solar systems light years from home discovering helpful devices, valuable artifacts and creatures weaker than yourself that can be captured and sold into slavery back home.

EFFECTS

Starflight contains probably the most beautiful representations of planets this side of Spielberg celluloid. Complete solar systems containing highly colourful, rotating worlds which you can land on and explore make *Starflight* one of the most comprehensive space games since *Elite*. And some of the aliens you encounter have you gagging for air after viewing their vile countenances on the visual intercom.

Sound is limited to an opening tune reminiscent of a five year old let loose with one of Bontempi's creations and a few spot effects accompanying airlock doors opening and closing.



Starflight has finally arrived on the ST and it was well worth waiting for! The objective is to use your limited finances to buy the ultimate space craft and dominate the universe. Here, you're at the space station ready to embark...

A scrolling star map shows likely places to visit



■ This planet looks pretty. Why not orbit and pick up more information?



■ The scientific officer tells you all you need to know before attempting to land



■ Down on the surface. Now where are those valuable minerals?

VERDICT

Space travel/scavenging games often leave the player with an "is that it?" feeling. Encounter an alien or two, dock with other craft and cavort around a planet hither and thither and your interest is soon waning. Not so with *Starflight*. With 237 star systems, over 800 planets ranging from colourful gas giants with murderous atmospheres to blue-green worlds just like home and more aliens than you can shake a laser beam at, you'll be examining just one more star system, exploring just one more planet and wiping out just one more alien race late into the night. And if it all becomes too much and you simply must have a cup of tea, try a trip to the third planet at solar system location 215,86. Look familiar?

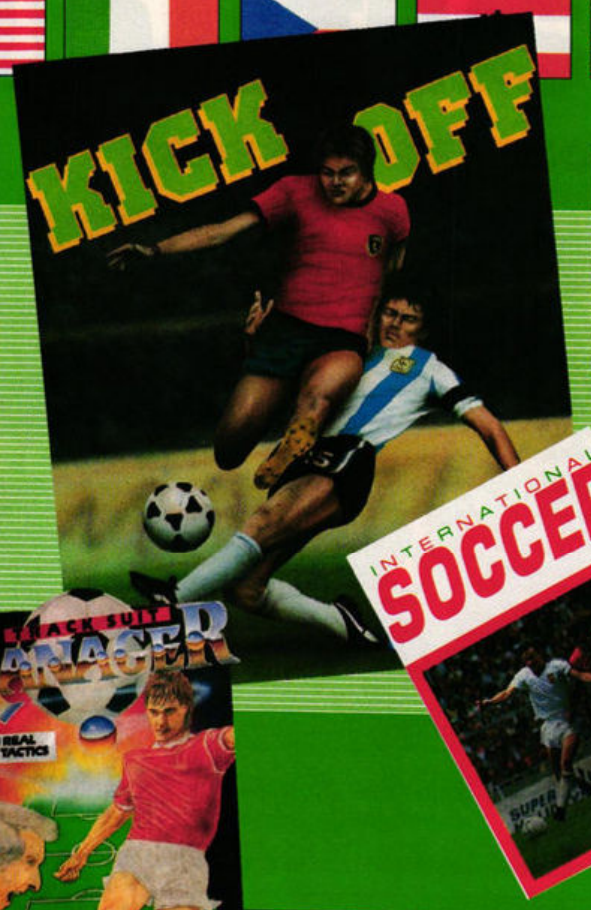
JERRY GLENWRIGHT

GRAPHICS	8
SOUNDTRACK	2
INTELLIGENCE	6
INSTANT APPEAL	4
LONG TERM INTEREST	8
OVERALL	**70%**

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The ultimate management game" Ace Rated 929

"Easily the best of its type" Zzap 64 89%

"The best ever managerial game" Sinclair User Classic 93%







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it's a funny old game

As World Cup fever threatens to swamp the lot of us, unaligned Welsh pundit (uninvolved, more like) Maff Evans casts a cold eye over soccer sims on the ST – where the *real* action is likely to be this summer!

Football is big business. TV coverage of the World Cup Finals will have viewing figures in the hundreds of millions; half a million people in England support their local football team, rain or shine, every Saturday afternoon; sums reminiscent of telephone numbers change hands for top players; lucrative sponsorship deals plough even more money into the game.

It would be foolish for the software industry to ignore a pastime with such a high profile and committed audience. This influence goes some way to explaining why such a high proportion of computerised sports games are based around soccer. The impending World Cup is prompting software houses to release football games galore, no matter how tenuous the World Cup link may seem. What better time than now to take a look at ST soccer simulations?

In the days when the ST was a young machine, and Swansea fans could still remember the first division, Microdeal's *International Soccer* was the first ST football game of any note. Unlike many 8-bit games, *International Soccer* enabled the player to alter many of the game conditions (weather, tactics, and so on), giving the game more variety than usual. Unfortunately, the game suffered from the "uncooperative player" syndrome, making the going tough unless a few unfair moves were learnt.



■ ***International Soccer*: the very first soccer sim**

Football Manager II, the next notable soccer sim, adopted a more tactical approach. The original was never released on 16-bit, and despite the sequel's mediocrity compared to recent management games, there wasn't anything else like it on the market at the time and success ensued.

Taito's successful coin-op *World Cup* was the first overhead view football game and it inspired Sensible Software to come up with *Microprose Soccer*. It was hot on action, but sadly lacking in tactical realism.

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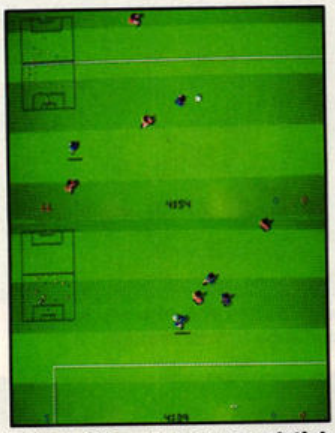
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As the market matured, endorsed products began to appear which cashed in on the superstar profiles of particular teams and players. Leading the way was Peter Beardsley's license from Grandslam and later the Kenny Dalglish series from Impressions, neither of which realised their full potential.

Arcade conversions of football games aren't seen that often. Activision's *Fighting Soccer* conversion (nothing to do with the terraces) was a mile off target, simply relying on the large sprites taken from the coin-op to wow the humble software punter into a false sense of security. The gameplay was truly appalling – about as close a simulation to football as schoolyard knock-abouts are to the FA Cup final.

Without doubt the king of them all is *Kick Off*. For a relatively small company like Anco, the game's success must have been like winning



■ ***Kick Off:*** **an industry yardstick and the ultimate soccer sim**

the pools. The small sprites gave the impression of a huge pitch (unlike many games) and the sheer speed had soccer fans eyes popping. Never before had such pace and realism been seen in a football game. The game was deservedly crowned king of ST soccer games and confirmed that playability is what counts. Everything subsequently released has been judged by its standard. If it ain't as good as *Kick Off*, it doesn't stand a chance!

As the World Cup Finals approach it's hardly surprising that a lot of games are in the pipeline ready to throw down the gauntlet and compete with *Kick Off*. There are, for instance, no less than *four* direct tie-ins with the international competition in Italy!

One of the most notable releases comes from Microprose in the shape of *International Soccer Challenge* (not to be confused with Microdeal's earlier *International Soccer*). Steering away from the current trend of manager-oriented games, Microprose have gone for the straight matchplay simulation adding extra realism by giving every player artificial intelligence. This apparently enables each player to develop his own skills and interact with others in a more natural manner. The view is a shifting 3D perspective which gives a good impression of being on the pitch. It all sounds promising, but you'll have to wait for the full review in next month's *ST FORMAT* to get the full story.

Kick Off 2 is bound to cause a stir when it's released shortly. Retaining all the features that made the original such a success, the sequel boasts abilities such as editing and saving a customised team and recalling them later to use against your friends.

Rather than producing their own football game to tie-in with the World Cup, Entertainment International have put together *World Cup '90*, featuring Goliath Games' *Tracksuit Manager*, Microdeal's *International Soccer* and – get this – *Kick Off*! The package costs only £24.99, cracking value for money for anyone who may have missed out first time round.

Audiogenic's 8-bit hit *Emlyn Hughes International Soccer* is finally about to appear on the ST. When programmed it was the only game which allowed pre-set plays to be designed, but it now has its work cut out against the likes of *Player Manager*.

US Gold's *Italy 1990* package not only includes a football game, but a load of bumph to go with the contest and a chance to enter a competition to see the finals for yourself! So get yer woolly hat on!

Those are just some of the games you'll be seeing over the next weeks, but let's look at the games currently available in the shops. Here, then, is the *FORMAT* guide to the Ones To Watch – and the Ones To Avoid Like The Plague.

GAMES LICENCE

Although stars like Gary Lineker had already endorsed 8-bit releases, Grandslam used Peter Beardsley to start the ball rolling as far as name tie-ins go on the ST. *Kenny Dalglish Soccer Manager* took a more strategic appproach, but Impressions later followed up with *Kenny Dalglish Soccer Match* (imaginative, eh?). The former was a fairly competent management game. but *Soccer Match* was dismal – an overpriced, unplayable attempt at a match day simulation.

Grandslam managed to scoop up the *Liverpool* licence to lead the race in team licences, and it was a good effort. *Manchester United* from Krisalis started off with good intentions, but failed to improve on *LFC's* gameplay. Still, Liverpool fans are hardly likely to buy a Man United game and vice versa. The question is, when are we going to see an Accrington Stanley FC licence?

"Accrington Stanley! Who are they? – *Exactly!*"



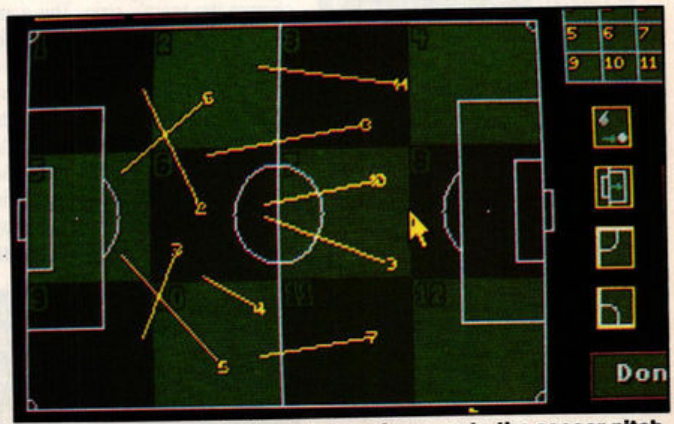
■ **Kenny Dalglish's reds about to go a goal down**

PLAYER MANAGER

Anco £19.95

After wowing football fans with *Kick Off*, Anco have created similar excitement among management buffs with *Player Manager*. It takes the best elements of *Kick Off* and assimilates them into one of the most involved management games on the market. Virtually every aspect of running a football team, from decisions on the club funds to in-game tactics, can be set via a system of well-planned and easy to use screens. The results of all your actions can be seen by watching the match itself, or if you're feeling confident enough you can even play in the game. *Player Manager* has everything you could possibly want from a football game – fast matchplay action, deep strategic involvement and incredible realism. A brilliant game for all those who fancy themselves supremos in the boardroom, the locker room and the goalmouth.

ACTION	8
DEPTH	9
AUTHENTICITY	7
OVERALL	**93%**



■ ***Player Manager:*** **bringing the boardroom onto the soccer pitch**

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ITALIA '90

Codemasters £4.99

This is rather surprisingly *not* called Super Advanced Ever-So-Special World Cup Italy 1990 Official Simulator. Codemasters World Cup tie-in consists of two sections – an eleven-a-side match and football skills training. Not only is the gameplay tedious and unfulfilling, but both sections are pulled from the earlier *Soccer* 4 package. The only differences are the loading screens and the packaging. The original game had four sections and cost £4.99, whereas the new version has only two sections and costs... £4.99. Something amiss here.

ACTION	2
DEPTH	1
AUTHENTICITY	5
OVERALL	**60%**

SOCCER GLORY

Tanglewood £19.95

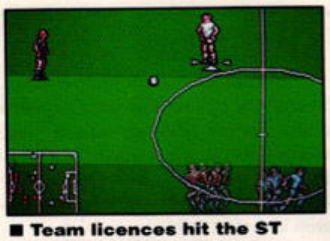
Tanglewood released *Soccer Glory* back in the days of games such as *Football Manager* and *The Double*. It's a no-nonsense, straightforward management game. The teams contain real players' names giving an air of authenticity, but the sheer randomness of events in the match destroy any illusion of reality. Games such as this can be found in the public domain, (see *International Soccer Manager* on page 95) so charging twenty quid is a bit over the odds.

ACTION	2
DEPTH	3
AUTHENTICITY	3
OVERALL	**29%**

MANCHESTER UNITED

Krisalis £24.95

It must be every fan's fantasy to be in control of their favourite club. How many times do you hear words of wisdom on the terraces from devoted fans who know that if they were just given a chance they could really knock the team into shape? Well, thanks to Krisalis, Man Utd supporters can now try their skills managing the lads themselves. Move over Alex Ferguson!



■ **Team licences hit the ST with *Manchester United***

Unfortunately, the package as a whole isn't really the kind of thing to set soccer fans' pulses racing. The matchplay action is staid and boring. *(sounds pretty realistic to me, ed.)* which would be alright if the management section of the game had enough depth, but this is limited too.

ACTION	4
DEPTH	4
AUTHENTICITY	5
OVERALL	**60%**

EMLYN HUGHES INTERNATIONAL SOCCER

Audiogenic £19.99

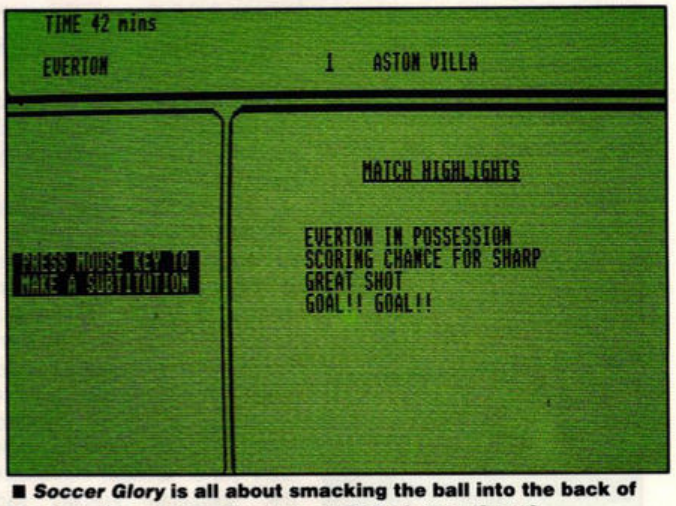
After enjoying success on 8-bit, Audiogenic's (ahem) "superstar" license is soon to appear on the ST. It's a basic soccer match simulation with a host of well-chosen extras. The wealth of options include team selection, player transfers and even the ability to change the team's strip. The gameplay – crosses from corners, one-twos from free kicks – can be altered by using a series of predefined plays. Control is good, but the excitement is dissipated because of the sluggish pace. And there isn't even a single *Question of Sport*-type pullover in sight! Bah!

MAFF EVANS

ACTION	5
DEPTH	5
AUTHENTICITY	5
OVERALL	**75%**



■ **An England striker heads for goal in *Emlyn Hughes International Soccer*, but where's the man himself?**



■ ***Soccer Glory* is all about smacking the ball into the back of the net – the match coverage could be better though**



■ ***Italia '90* includes some training sections like this ball skills screen, but they're little use for the game itself**

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KICK OFF 2



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After Touch controls to bend or dip the ball.

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* 1 M.B. Amiga & ST only.



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Bursting with menacing monsters and full of enough frustrating obstacles to render a person certifiable, Ghouls 'n' Ghosts was *the* most prodigious cutesy action game ever. Now that ole devil Mark Higham risks hell and high water to report on an intriguing variation to a winning scenario



■ Pull on your armour, pick up your joystick and walk: *explore* the Norse Kingdom, *search* for four missing pieces of a key, *lead* Thor through the static screens of *Fire and Brimstone* to confront the evil Goddess Hel. Addictive masterpiece – or hopeless clone? Read on if you dare...

fire and brimstone

MICROPROSE £24.95

There's a certain kind of game that is just *so* addictive. It's nothing to do with eye-popping visuals or brilliant sound effects, it's all about that "just one more go" magic, addictive ingredient. Shoot-'em-ups such as *Xenon II* have it; platform games like *Rainbow Islands* and *New Zealand Story* have it; and hits like *Ghouls 'n' Ghosts*, *Onslaught* and *Verminator* have proved time and again that horizontal action games have it as well.

Fire and Brimstone is in exactly the same vein. The only way it differs from *Ghouls* is that the hero isn't planted in the middle of a smoothly scrolling landscape. Instead, *Fire and Brimstone* is played as a series of static screens. You start on one side of the screen, battle your way across to the other, and then advance to the start of the next adjacent screen.

Your character in this perilous jaunt is Thor, who must confront and defeat the Goddess Hel – the personification of all evil. She lies at the end of nine levels of iniquitous creatures who ceaselessly try to turn you to dust.

You begin with two types of weapons, a fireball and a mace. As you progress, other forms of weaponry such as the magic ice ball and the hammer become available. When fired, the ice ball and fireball continue horizontally off the end of the screen, wiping out everything in their path. The other two weapons are projectiles. You can only hold two weapons at once so it makes sense to carry one of each type. Tapping the spacebar toggles between the two weapons currently in your possession. If you pick up a third weapon, you drop the one that's currently active.

You always have two weapons available and these are essential to pass through most levels. You can survive a limited amount of contact

■ Level one is made up of 15 screens. You dodge mutant clones and quicksand to locate four keys and pass through the gate to level two. When you reach the final screen you haven't picked up all the keys and must go back to find the last one



Leave the sleeping giant alone and you get through to the quicksand. Liaise with the witch, but take



Dodge the flaming worm in the tree and confront green monsters to collect the potion. Pick up that Ankh for an extra life. Meet more

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■ The ball rolls back and forth. Should you move forward or wait to see what happens?



■ You wait, but the boulder is teetering dangerously on the edge. You're going to be squashed for sure



■ You decide to fire at the ball, but find passivity pays off. Fire and you die as the ball passes – ignore it and you live

with aliens because you start the game with a high energy rating. This drops as you come into contact with the bad guys until it reaches zero and you lose a life. At the end of a level you confront more daunting enemies who can instantly rob you of a life if you try to pass. Savaging triffids, mutant gravestones and fire-spitting statues are just some of the end-of-level monsters you need to defeat using a mixture of joystick technique and cunning. Work out the best place to stand and they instantly become vulnerable.

The objective of each level is to locate four parts of a key. Three parts can be found in the screens towards the end of the level but the fourth part is held in a secret room. Unless you can find all four parts you cannot proceed to the next level.

Along the way there are four extra treasures which benefit you: a magic book, a chalice, the Ankh and a watch. These give you powers such as invincibilty, extra lives and even temporary magic powers.

Unfortunately, all the extra bonuses in the land won't do you one iota of good unless you have the cunning to work out the best places to stand and the most devious routes to take.

PULL OUT A POTION

What makes *Fire and Brimstone* more of a challenge than other similar games is the addition of magic potions and keys. Without the potions, you'd be hard-pressed to get far into the game because some of the menacing monsters just appear too frequently. Potions can be found at strategic points along the way or appear as a reward for overcoming certain creatures. There are four types of potion, denoted by coloured bottles, and these are used to achieve different effects. Blue builds a magic bridge over obstacles such as quicksand, gold enables you to jump higher, white illuminates dark rooms and red fires a bolt of lightning which kills all the awesome creatures on screen

EFFECTS

There is a mythical, ancient aura about *Fire and Brimstone* which springs from the convincing visuals. Because the game is arranged as a series of screens rather than a scrolling landscape, far more action seems to occur on each screen. For example, alarming fire pits, rolling boulders and a stockpile of minatory monsters abound, and all of these appear before a diverse variety of colourful and lively backdrops. Character sprites are small, but effective and detailed. The only criticism of the graphics is that they look particularly dark on a standard Atari colour monitor.

The sound was written by David Whittaker who composed the haunting music in *Populous*. This effort isn't as dramatic, but is certainly in keeping with the fairy-tale atmosphere of the game. Music can be switched off or left to run throughout the levels with additional sound effects blasting out over the top. These effects occur each time you throw a weapon, pick up a potion or use a magic spell.

VERDICT

It's easy to get obsessive over this type of cutesy game and *Fire and Brimstone* certainly has all the ingredients necessary to make it a sure-fire hit. The fact that it isn't a scrolling adventure in the *Ghouls 'n' Ghosts* vein is actually to its credit. Since no processor time is used handling sophisticated scrolling techniques, far more can be achieved on the static screens. The resulting look of the game is much more electrifying than *Ghouls* ever was.

Confronted with an evil combination of nefarious enemies and a glut of brain-teasing obstacles, you battle through nine levels of heart-stopping, rabid action to save the world from the Goddess Hel.

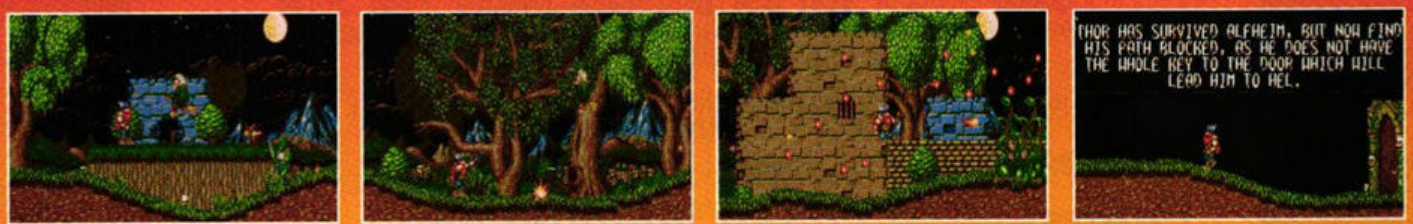
Despite the lack of novelty and daring programming skills, these elements are so addictive that you just won't be able to stop yourself returning for abuse over and over again.

MARK HIGHAM

GRAPHICS	8
SOUNDTRACK	8
INTELLIGENCE	2
INSTANT APPEAL	7
LONG TERM INTEREST	8
OVERALL	**84%**



care: she's no push-over! Climb the bridge and leap for the potion – don't forget to pick up the bonus apple – and beware the hidden hole!



witches and be ready to whip out your hammer to bash their brains out. Meet the dreaded triffids and fight through to the final screen

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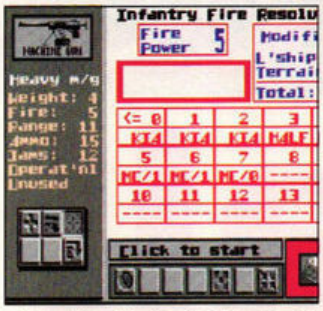
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It's tough being at the front. Bullets whistling overhead, shells exploding just feet away and you're still expected to storm the enemy positions. War, as they say, is most definitely hell.

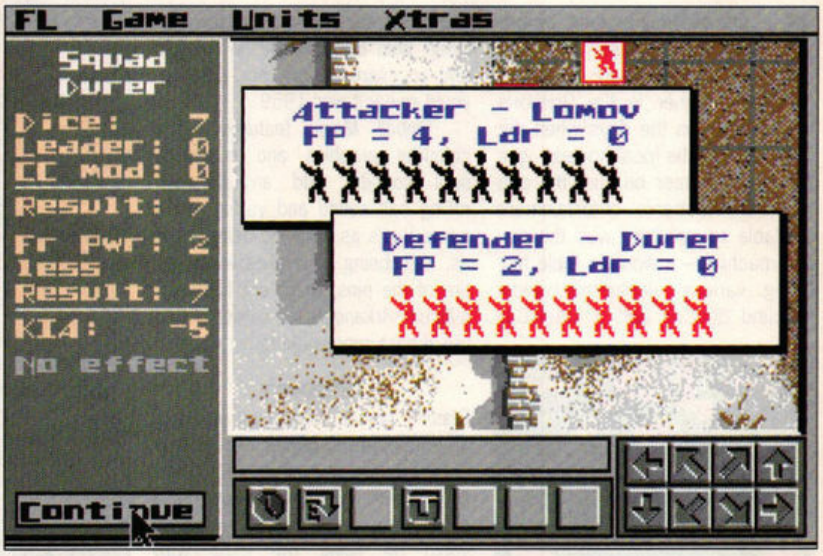
Frontline is a wargame simulation similar to wargames of the board variety. If you've ever played a board based wargame then you'll know just how complicated they can be. *Frontline* tries to get round this by letting the player get on with playing instead of wasting time messing around with dice, looking up endless cross-referenced tables, and working out horrendously complicated formulas to decide the outcome of every event.

There's a choice of six varied scenarios and you can place yourself in the boots of either British, German, Russian, Japanese or New Zealand troops. The game concentrates on the use of infantry and small artillery in the field. You command army units and must carry out military objectives within specified time limits.



■ **Viewing the "to hit" tables is optional, thank goodness**

■ **There are several war-game sub-genres – one aims to simulate reality while the other replicates the typical board game. *Frontline* falls into the latter category, offering six scenarios which put an emphasis on developing clever strategies rather than getting good scores on the dice**



£19.99

frontline

CASES COMPUTER SIMULATIONS

The first decision to make is which side you're on. All the scenarios allow you to take control of either the attacking or defending force. Then allocate leaders and support weapons to each unit. It's important that you allot your leaders carefully because the game puts heavy emphasis on the quality of leadership to keep up troop morale. Make sure that units taking the brunt of the fighting have maximum support. Support weapons cover anything from radios to heavy machine guns. There are generally less good leaders and support weapons than troops, so be careful how you distribute them!

Once everything is distributed, it's time for battle. The game screen is split into three main areas. A scrolling map takes up most of the screen, acting as a window onto the battlefield. Unfortunately the scroll rate is extremely slow, and it's infuriating moving from one side of the map to the other. An area at the bottom of the screen relays messages and controls movement around the screen. The left-hand side of the screen is occupied by a panel. The information here is changeable, but generally covers the options available to your units.



■ **Consider your strategies carefully – there's plenty of options to chose from**

Despite the computer taking the really tedious work out of the calculations, you still need your wits about you when working out your movements and whether you'll be able to hit a particular target from your position. The control system is fiddly at first, but you soon get used to it. Two of the scenarios are reserved for training, and introduce you to the game concepts gently. The computer plays so professionally that you're practically guaranteed to lose the first few times you play, though it's definitely easier to defend than attack.

EFFECTS

The game certainly doesn't make the most of the ST's graphic abilities. It emulates the board game style sucessfully, but who wants an ST release to look like a board game? The battle area is represented from an overhead viewpoint with the troops and artillery under your command merely depicted as crude coloured squares.

Sound is mediocre and restricted to the usual monotonous rat-a-tat-tat of machine guns and the occasional interesting explosion.

VERDICT

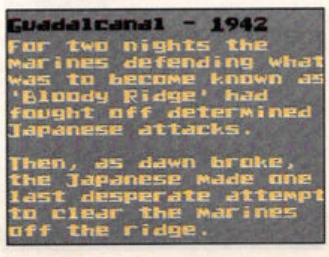
Frontline is a wargame simulation far more obsessed with simulation than gameplay. It doesn't attempt to stretch or even make use of the ST's capabilities, relying instead on the trusted board game approach that we've already seen a zillion times in, er... boardgames.

Suffering from formal schizophrenia and content with mediocrity, it's of minor interest to wargame buffs only.

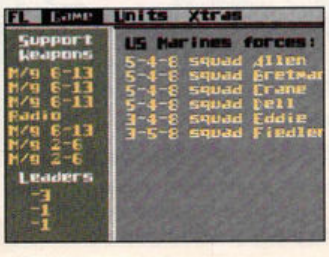
ADAM WARING

GRAPHICS	4
SOUNDTRACK	2
INTELLIGENCE	7
INSTANT APPEAL	4
LONG TERM INTEREST	5
OVERALL	49%

■ **First select your battle scenario...**



... next choose which side you're on...



... give your troops leadership to keep up their morale and you're ready to go...



... the battle commences



www.stformat.com

pinball magic

LORICIEL/US GOLD £19.95

In the beginning, long before *Powerdrift*, *Chase HQ* and *Stun Runner* were awarded their own corner in the Grievous Bodily Arms, in the days when the only noise at the local hostelry was the slurp of beer on lips, the one form of electronic entertainment available to revellers was the pinball machine – a wooden table featuring various electro-mechanical rebound devices and a steel ball careering this way and that, running up points and providing thrills. In the days when your Mum and Dad went two up on a Vespa and hung around coffee bars, pinball machines were all the rage.





■ **Classic pin tables in all their glory. Rock on Tommy!**

Today we get our kicks from computer generated foe. Not content with the simple klaxon signifying a "tilt," we're blasted with a series of sophisticated silicon screeches that tear the eardrums of anyone not issued with a chest-mounted government hearing aid. All this is about to change because French software house Loriciel have just released a pinball simulator that brilliantly mimics the behaviour of those archaic steel balls.

Pinball Magic is a faithful representation of pinball's coloured lights, crazy sounds, and addictive action. Beginning with a relatively straigthforward pin table, you flip frantically to light sequences of lights, score points and progress to further levels. Twelve all-different tables make up the game, but you'll be flapping your flippers for a long time before reaching the final screen.

EFFECTS

Incredibly accurate graphics ensure a pinball table display which is virtually indistinguishable from the real thing. With Buddy Holly on the hi-fi and an espresso on your desktop, you'd *swear* it was 1959.

Pinball Magic features super colourful graphics and true-to-life spot sounds. Add an authentic rolling ball sound and you've got a game that's as close to being there as, well, being there! And when you tire of the pins, there are fiendishly difficult *Arkanoid*-like screens that are almost impossible to overcome.

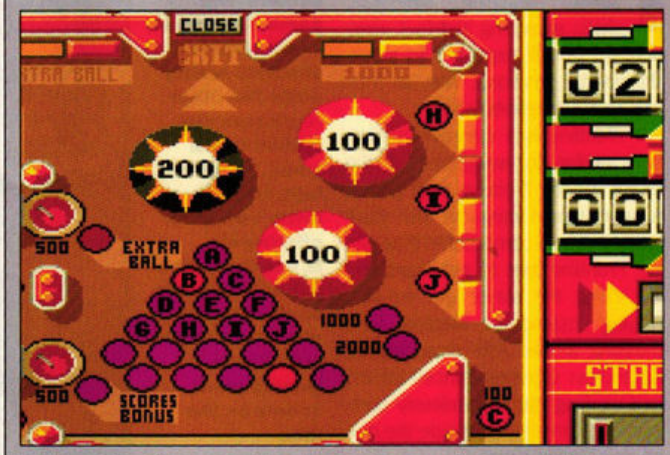
VERDICT

Classic pinball machines are now an endangered species. They don't exist outside a couple of enthusiasts' spare bedrooms. Even if a classic pin table could be found, you'd be filling the thing with pocket money for the privilege of playing. *Pinball Magic* provides you with the closest pinball simulator yet available (it's so close you can almost smell the burning of the electro-mechanical innards).

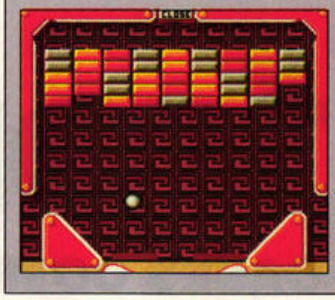
For a little under twenty quid you can journey back to the halcyon days of the fifties and sixties and have free replays for months to come.

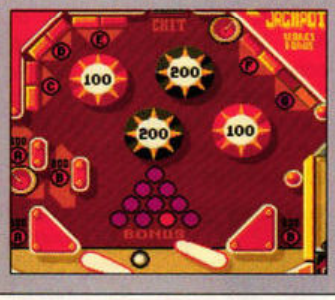
JERRY GLENWRIGHT

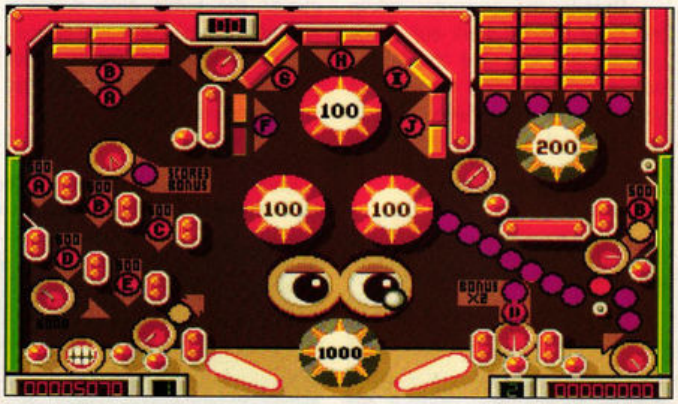
■ ***Pinball Magic*** **is the first pinball simulator since Activision released** ***Timescanner*** **last year. Unlike** ***Timescanner,*** **the table fills most of the screen, making it the most addictive and realistic pinball sim. on the market**



■ **It has 12 different tables for you to exercise your flippers on, with other screens reached by forcing the ball through the EXIT door at the top of the table – no easy task!**









GRAPHICS	7
SOUNDTRACK	5
INTELLIGENCE	3
INSTANT APPEAL	6
LONG TERM INTEREST	7
OVERALL	**71%**

■ **(above) Send that steel ball careering round the table and you pick up hundreds of extra points. (right) Get it in the right place and it sticks, amassing points until you hit the tilt button**

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RESOLUTION 101



ATARI ST SCREEN SHOTS







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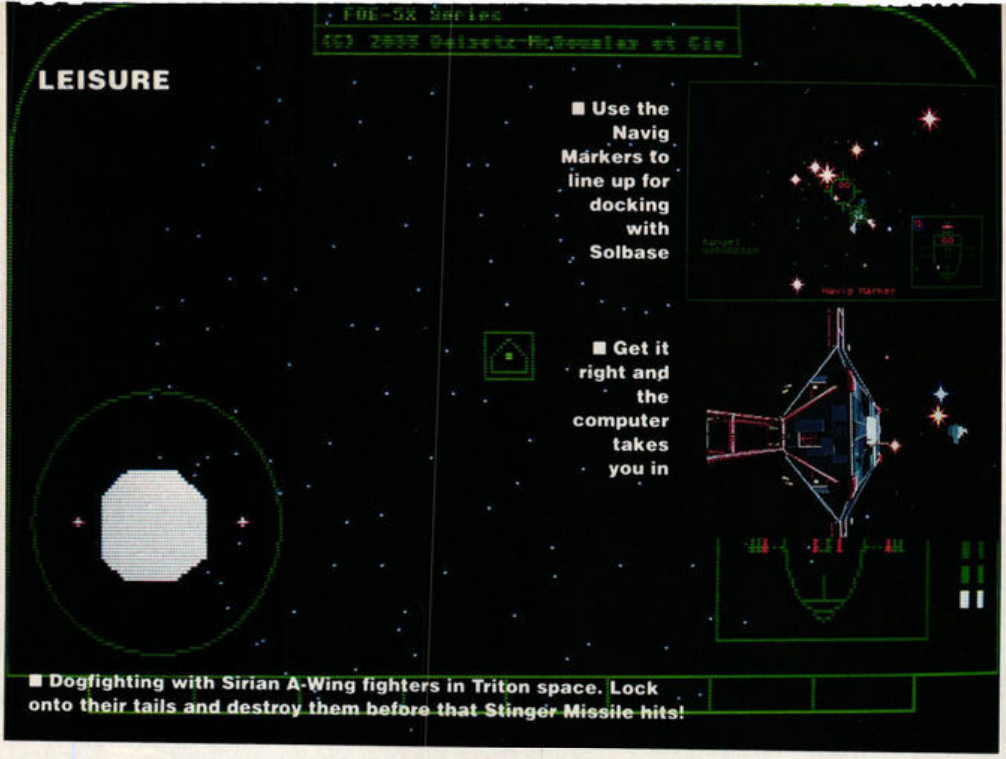
- Vector graphics and 3D sprites combined - for a totally realistic game scenario.
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- Video-comms link - actually see your victims sneer and grimace as you close in deadly combat!
- Available from the end of May 1990 for the **Atari ST, Commodore Amiga** (£24.99) and the **IBM PC** (EGA/VGA) (£29.99)

Light years ahead

MILLENNIUM

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■ Dogfighting with Sirian A-Wing fighters in Triton space. Lock onto their tails and destroy them before that Stinger Missile hits!

Alien life forms emerge from the far off star of Sirius and fly into Earth's atmosphere without warning to devastate our beautiful planet. They use ten million tons of nuclear weapons and wipe out three billion people.

12 years pass and Earth's defence fleet is ready to repel the invaders if they come again. Deep space probes have picked up drifting wrecks containing dead aliens. On examination, the aliens turn out to be an intelligent insect species working as a "collective mind." This data has allowed the military force Fist of Earth to design the ultimate weapon, the FOE 57 fighter, to destroy them.

Based at Solbase, a large military station, the FOE 57 is still at an experimental stage of development. You are the first to pilot the ship and confront the Sirian armada. The ship's navigation and weapons systems are state-of-the-art technology, consisting of five missile systems, nine autopilots, digital HUD systems, real-time computer tracking and navigation and interstellar "Quad-Jump" drives which allow instant "flight" to distant stars.

The mission starts with familiarisation exercises, taking the craft out for test jumps into quad-space, firing the new weapons at dummy targets and practising docking techniques. Once all these tasks have been completed, it's time to put the craft through its paces in real combat situations.

Solbase monitors messages throughout the surrounding galaxies and passes mission orders to the FOE 57 when it's needed. Occasionally the missions are just reconnaissance flights to patrol tricky areas of space, but there are more than a few distress calls from cargo-ships that have come under attack from marauding Sirian forces. Can they be stopped this time?



EFFECTS

If *Warhead's* appearance were any more polished, the surface shine would blind you. The Heads-Up Displays are very effective, giving the impression of having masses of military hardware at your disposal that's just begging to be used. The 3D visuals use a strange fish-eye lens technique, making it seem as though cameras have been used instead of the slightly dubious window view. The navigation screens are superbly implemented with accurate pitch, yaw and zoom modes used while keeping the planets in proper relation to each other. The presentation is far superior to that normally seen in shoot-'em-ups.

The soundtrack uses surreal sampled sounds to create an incredibly atmospheric theme. Unfortunately, the sound in the rest of the game isn't so hot. The computers ping, the alarms whine and the weapons fizz. Not really super science fiction stuff.

VERDICT

Warhead is an atmospheric and immensely playable space adventure. The plot and feel of the game are very futuristic, perfectly setting the tone for the missions ahead. The battle scenes are superb, packed with action and calling on FOE pilots to stretch their space-hero reflexes to the limit.

Some thought is needed to carry out the science missions successfully, so it's not just blast-blast-blast all the way through. If you liked *Starglider 2* and *Elite*, but have begun to find them too limiting, then you'll love *Warhead's* diverse missions. It's good to see a game at last worthy enough to take over their crown.

MAFF EVANS

GRAPHICS	8
SOUNDTRACK	6
INTELLIGENCE	6
INSTANT APPEAL	7
LONG TERM INTEREST	8
OVERALL	**90%**

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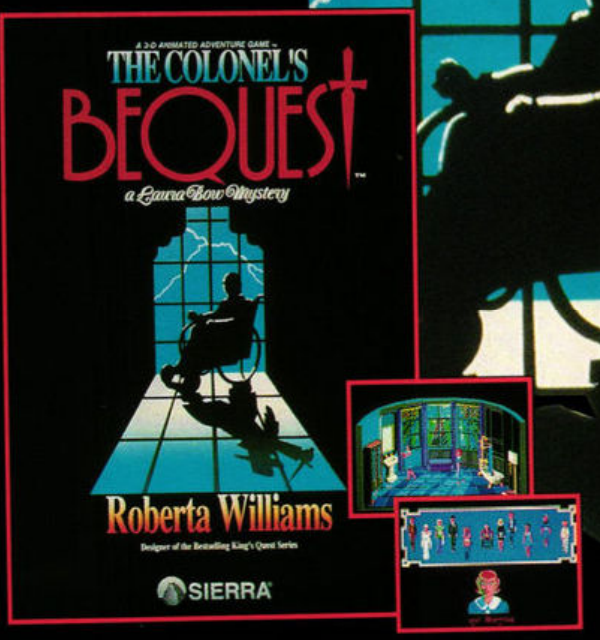
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oh what a giveaway!

Resolution 101: you've played the demo, you've read the review, now's your chance to win this unique, er, mask and 60 copies of the game!

You only need to load the demo of Millennium's astonishing new *Resolution 101* on this month's Cover Disk to know that we are talking fast, we are talking smooth and above all we are talking excitement. And if you haven't done so yet, then do that thing instantly!

In fact, *Resolution 101* boasts the fastest 3D filled polygon movement ever found on the ST. Combine that with brilliant gameplay and a high degree of originality and the result is, well the result is a 93% Format Gold (see the three page review beginning on page 35 if you don't believe us).

As soon as we saw this game in development we knew we had to have it on our Cover Disk. And we'd like to give you, dear reader, the opportunity to win a unique artifact. For the ugly mug you see paraded on this page (above) is none other than a prop created especially for the game. When you play *Resolution 101* – and play it you will, if you know what's good for you – you'll meet this character. And we have the original, very scary mask from which that digitised picture was created, to give away.

In addition we have copies of the game itself to give away. Not ten, not even 20 as you might see in certain other computer magazines we might mention. Not 30, not 40 *(oh do get on with it – ed)*, but 60, yes 60, copies of *Resolution 101*, worth almost £1,500! So your chances of winning a copy are pretty good.

Especially when you consider how simple it is to enter our competition. All we want to know is: what is the name of the programming team responsible for *Resolution 101*? A clue: turn to page 35 and read the review!

Entries, on a postcard or the back of an envelope only please, must be in by Monday 2nd July 1990. Send your entry to: *Resolution 101, ST FORMAT*, 30 Monmouth St, Bath BA1 2AP, and for goodness' sakes don't go forgetting to put your own name and address on it, will you?

Now leave us alone, we've some very serious 3D filled polygon gametesting to do... ■

THE RULES

1. This competition is not open to anyone to do with Millennium or Future Publishing or their relatives or their relatives' relatives.
2. Multiple entries are permitted, but won't win. To save time, mark multiple entries "To be disqualified, because this is part of a multiple entry and I don't want to win."
3. Here come the judge, whose decision is final.
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Enormously impressive... The Animation is absolutely astounding. It's like watching a cartoon." Games Machine Star Player Award

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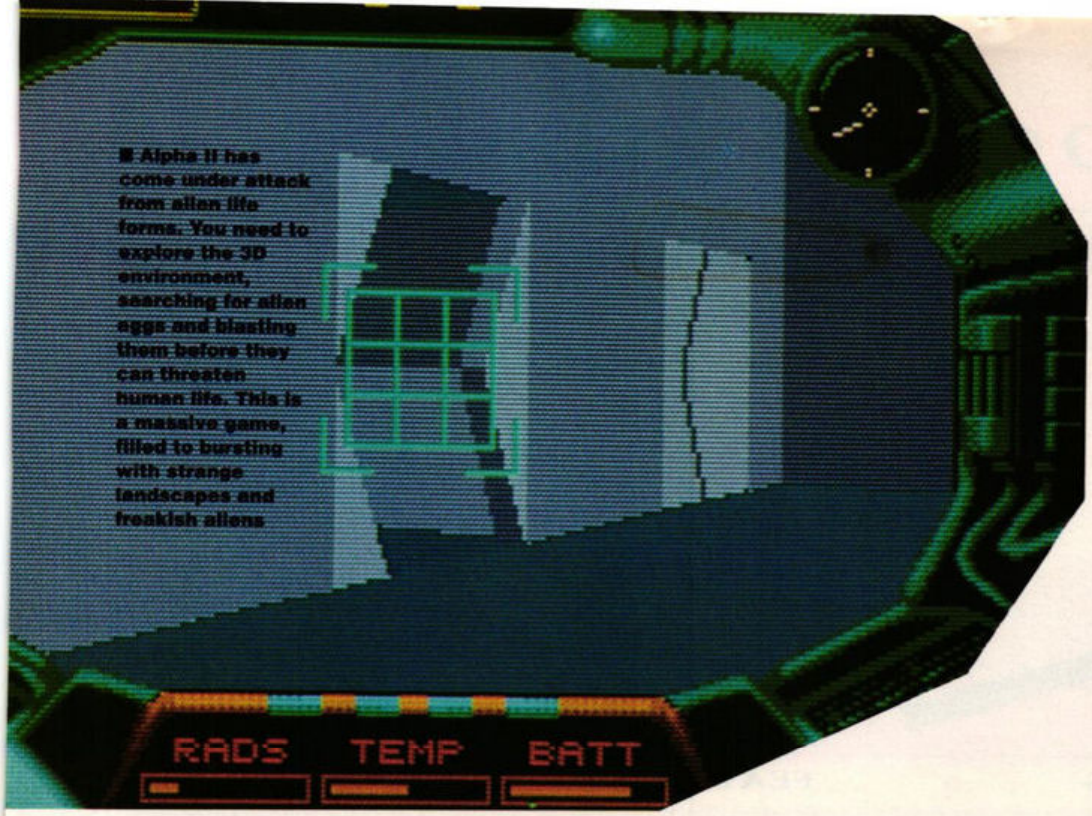
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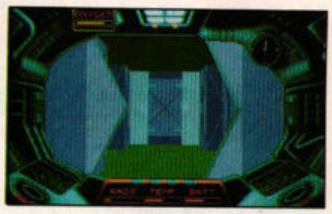
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■ Alpha II has come under attack from alien life forms. You need to explore the 3D environment, searching for alien eggs and blasting them before they can threaten human life. This is a massive game, filled to bursting with strange landscapes and freakish aliens



■ Levels are littered with a variety of landmarks. Here you're about to pass through the doors



■ You're about to go inside the transporter. All you need now is to fire up the HUD to check the atmospheric conditions

infestation

PSYGNOSIS £24.95

Computer games have been inextricably linked with films ever since software houses discovered the money that movie licences could make. *Infestation* doesn't draw its name from any popular film, but it's closely based upon the *Aliens* scenario. Set in space, it tells the haunting story of research station Alpha II which is studying possible life-forms on a nearby planet. After an alien intelligence penetrates Alpha II, strange eggs are discovered, computer systems fail and suddenly all transmissions from the planet cease. Typically, you're the only man who can save the planet, and possibly the universe, from the threat of alien attack.

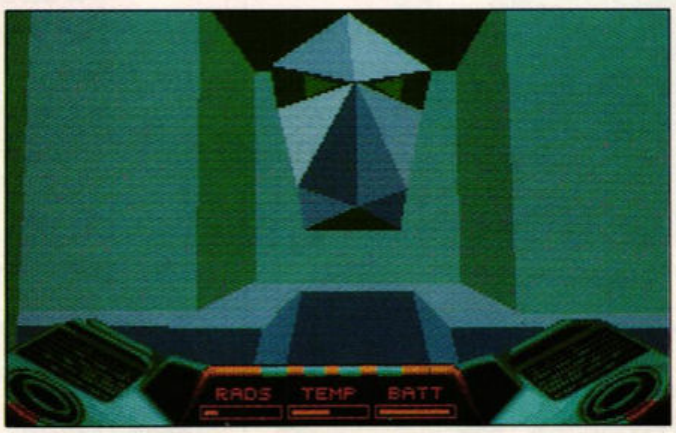
The game is played through a window showing your view of Alpha II as a series of 3D polygons. Surrounding the window is a set of icons and control keys. Your main objective is to search for alien eggs and destroy them. You can't achieve this by wandering in with guns ablazing, you have to cunningly trap them inside incubation areas and poison them with cyanide gas. When all the eggs have been obliterated, head for the centre of the complex where the power source is located. Power comes from the centre of the moon and you need to work out how to set it to achieve critical mass and explode.

As you wander through the 3D labyrinth you encounter various features such as lifts, shuttles, radiation areas and blast doors. Shuttles carry you from one place to another at high speeds and blast doors are air-tight doors which cannot be opened once shut. It's features such as this which keep the game entertaining and challenging.

EFFECTS

When 3D visuals are done well they're still something to admire, and like all Psygnosis games, *Infestation* looks great. The main playing screen is constructed as a daunting control panel, with an irregular-shaped oval window providing your view of the planet. It's within this window you see all the 3D polygons making up the action. As you steer through the 3D universe the graphics scroll very fast, but when there are lots of objects on screen at once this movement tends to become jerky. Colours in the game look grim to start with but liven up as the action proceeds.

Sound effects are unimpressive. There's no atmospheric music to accompany play, instead you have to make do with the occasional spot effect.



■ Wander bleary-eyed through the scrolling 3D playing field. Your biggest problem is discovering how the base is arranged. Arm yourself with a pen and paper and plot a map to the game

VERDICT

This might sound like a straightforward arcade-style shoot-'em-up littered with aliens and eggs for you to search and destroy, but *Infestation* is really a combination of adventure and action.

In typical adventure style you need to have an extra save game disk and a sheet of paper to map out where you're going so that you don't get lost. This means that the game takes some considerable time to get to grips with, but if you're prepared to invest effort in the challenge, you're going to find it rewarding.

Admittedly it takes time, but tracking down eggs and negotiating ventilation tunnels, radiation areas and blast doors eventually becomes extremely engaging and at times exciting.

If you can tolerate the jerky screen movement and can afford to turn your full-time job into a part-time one, go for it. Otherwise, give the aliens a miss this time.

MARK HIGHAM

GRAPHICS	7
SOUNDTRACK	6
INTELLIGENCE	7
INSTANT APPEAL	6
LONG TERM INTEREST	8
OVERALL	**69%**

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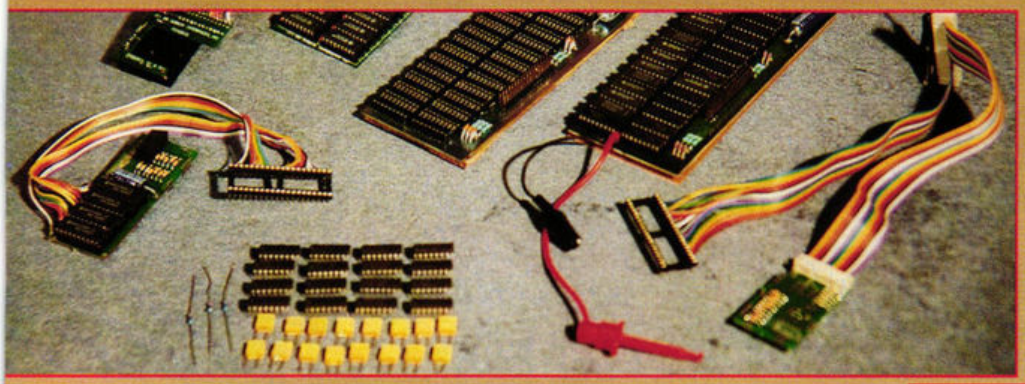
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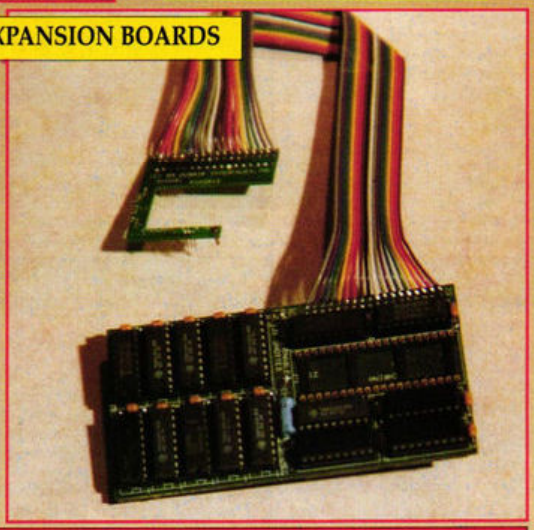
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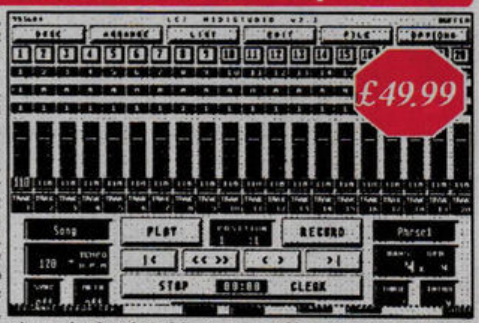
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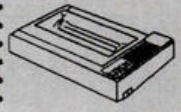
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kingdom of adventure

Once again that mysterious master of the monitor Rob Steel steps into the spotlight to deliver his verdict, show you his tips – and get arrested

a dark sky over paradise

INTERACTIVE TECHNOLOGY £7.95

It's 2062 and the world's population has grown to such an extent that both the economy and ecology of our once green and pleasant planet is seriously under threat. The colonisation of Mars, to ease the pressure, is progressing too slowly. A rocket-building complex constructed on the moon, capable of building rockets to fly people and resources to the red planet, may be too late to prevent earth's destruction.



■ **Hardly a sumptuous visual feast: one of *Dark Sky's* two pictures**

These global concerns are pushed to the back of your mind as your shuttle comes in to land at MoonBase. You've no idea why you've been summoned to the Mars rocket factory: your only instructions are to report for work at clerical office five, and who are you to argue?

On arrival in the ClericDome your first objective is to find your accommodation block before the 10:00 pm curfew takes affect – being caught walking the Plastipavement after this hour could get you arrested.

Small but perfectly formed, your accommodation features a huge Vid-Screen, shower, bed and pet parrot. Pressing the flashing green pad under the Vid-Screen plays a message from Security Guard Thompson who requests a meeting with you in one of the Dome's many parks tomorrow. Perhaps he can shed some light on your being here.

Written using STAC, *A Dark Sky Over Paradise* is an odd adventure. Even though it's set in the future it has an air of antiquity about it. Moon bases, hovering security cameras, Vid-Screens and Plastipavements all have a whiff of 1930s Flash Gordon.

Messages, people pushing past you as they rush to work and PA announcements of curfews and other goings on (such as the arrest of terrorists) help create an intense atmosphere, but the repetitive location descriptions kill it.

One technical annoyance: although the parser recognises IT, it doesn't acknowledge HIM/HER, so whenever you need to ask something of a character (a regular occurrence) you're required to type their name with every question.

You need a good imagination to get into *A Dark Sky Over Paradise*. And don't expect too may pretty pictures to help you visualise the MoonBase, there's only two in the whole game.

The true adventurer will find *Dark Sky* interesting enough, though even the most easily pleased will regret the lack of graphics. In this day and age, it's hardly going to win awards.

ROB STEEL

GRAPHICS	1
SOUNDTRACK	N/A
CREDIBILITY	6
LONG TERM	5
OVERALL	**63%**

INTERACTIVE ZEN

Boss of Interactive Technology Martyn Westwood has been writing games for the last three years. His first release, *Dead End*, was well received by reviewers but didn't find a distributor. On the back of this frustration, Westwood decided to form his own company to publish adventures.

Interactive Technology has been in existence since March 1989, since which time Westwood has written and released two games for the ST. The first was *Dead End*, a sleuth adventure in the Philip Marlowe style where you track down the killer of a businessman found floating in the river.

The second is a moon-based futuristic adventure called *A Dark Sky Over Paradise (reviewed above)*. Both were written using Incentive's STAC. IT's next adventure, *Weird Tales*, is to be released this month and uses Zen, basically an enhanced version of STAC. Westwood explains: "STAC is used as a shell for the Zen system. Zen is made up of a set of routines which utilise the normal STAC operations, but turn it into something comparable to the Infocom system used for *Shogun* and *Zork Zero*. Its spec includes intelligent characters, various types of container, surfaces and portals, a map and hint function plus a host of artificial intelligent routines."

Carl Cropley (responsible for the much praised graphics in *Hound Of Shadow*) was to work on *Weird Tales*, but until Interactive can secure distribution, *Weird Tales* remains text only.



■ **Martyn Westwood, author of *Dark Sky***

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hints and tips

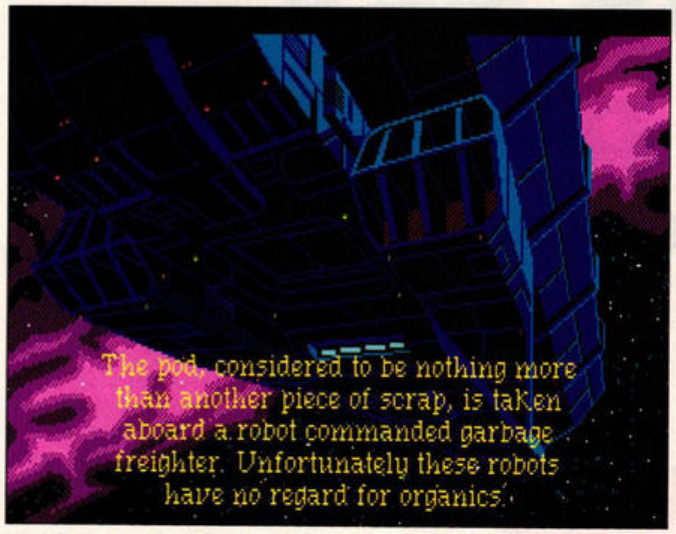
Getting stuck in the middle of a particularly engrossing adventure is almost as bad as missing an issue of ST FORMAT. Rob Steel can't help with the latter problem, but has a stack of tips...

space quest III

Once you've reached the jet fighter (see tips in *ST FORMAT* issue 5), set a course for Phleebut.

When you arrive don't wander south (towards the screen) because you'll meet a huge snake who hardly needs to stretch his jaws to eat you! You can escape the reptile by walking back the way you came only after he's licked you with his forked tongue a couple of times.





■ **While it may be the most highly regarded of ST adventures *Space Quest III* is hardly the easiest. Never mind, let Rob Steel mop your fevered brow, show you his tips and get arrested**

Avoiding the Scorpazoid, head towards that huge great metal monster in the distance. Go into the shop and sell your gem (hold out for 425 bucks).

Now buy the thermal underpants *(is this stuff serious? – ed)*. Leave the shop and try not to worry too much when the Terminator reappears and threatens to kill you. After all he does give you "until the count of ten" to get back to your ship.

Of course you don't go back to your ship. Instead, go left and enter Mog's leg, take the lift and go up to the second platform. Now, without taking all day about it, stand near the lower of the two pulleys.

Keep your nerve as the Terminator arrives in the elevator and approaches. Wait until he's close both to you and those grinding gears then PUSH ROPE. Before you leave don't forget to pick up the invisibility belt. Now you can head for The Monolith Burger bar.

space quest II

If you've been stuck trying to thwart Vohaul in *Space Quest II*, these hints should help. Rescue the cute little pink guy found dangling from a rope in the jungle.

Some dexterity (and lots of saving) is required to make it through the pulsating blob's roots to get at the berries. Rub the berries on yourself to repel the swamp creature. Dive down in the deep section of swamp to get the glowing gem. Climb the tree by the ravine to break it and create a bridge. Call the hunter over to your cage, then throw the spore (found on the ground west of the wrecked hovercraft) and search his unconscious body for the key. Don't forget to nick his rope. Tie the rope to the log spanning the ravine.

Use the gem to see your way. Input SAY THE WORD to get the pink guys to show you out. Put the gem in your mouth to see below ground. Don't follow the left-hand river. When passing the waterfall, near the platform, BLOW WHISTLE and run. Then return to the once-impassable circle of rocks. ■

LEISURE SUIT LARRY

Nick the dollar from your ex's garage. Buy a lottery ticket. Lie about your numbers to the TV studio receptionist. Buy a swimsuit from the Italian clothes shop. Have a haircut. Buy sunscreen from the chemist. Buy a soda from the liquor store. Go back to your ex's place and search through the trash to find your passport. Keep returning to the music shop – it does open eventually.

When you're on the cruise ship dive in the pool to find a bikini top. Use the sunscreen when on the lounger. Have a haircut. Visit the cabin next door to yours but don't get too close to whoever you find in there. Visit the cabin next door a second time and the occupant should be out. Walk straight to the bed, then open the drawer and take what you find and get out quick.

A lever behind the captain sets the lifeboats in motion. When at sea, wear the wig and throw out the spinach dip (provided you've got it with you, of course!).

When you're on the island and get fed up of watching the very tedious jungle section, just type LEAVE JUNGLE to find a short cut. Steal the knife from the restaurant. Have a haircut.

THE MUTANT

Examine car, open bonnet, examine battery, fit lead, in, get rag, examine seat, examine stockings, wear stockings, out. Down to the lake, examine lake, examine reeds, examine egg, get egg. West until you meet an alligator, drop egg, climb tree, get vine.

CHRONO-QUEST

Prehistoric stage: put the branch in the fire pit, add the dry grass and light it with your lighter. Take the burning branch into the cave.

GET YOUR TIPS IN

Do you have tips, solutions or maps for ST adventures and RPGs? Share them with the rest of us by writing to: Rob Steel, *ST FORMAT*, Beauford Court, 30 Monmouth Street, Bath, BA1 2AP.

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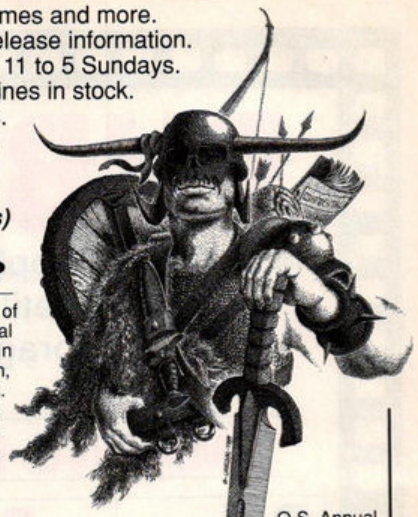
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CHASE HQ

Ocean

Ocean wowed everyone with their Christmas coin-op conversion of *Chase HQ*, but if you're tired of racing round the tarmac, how about taking the easy route and cheating? **Andrew Ashmore** from Nottingham has discovered that by holding down both mouse buttons and typing GROWLER, you can reset the timer.

If you want to build up some amazingly high scores to impress your friends, follow the advice of **James Rance** from Macclesfield. By ramming the criminals' car at the side instead of the back, you score ten times as many points. You can cause even more damage if you jump on top of their car. Don't worry too much about hitting roadside sprites, they're often unavoidable.

STRIDER

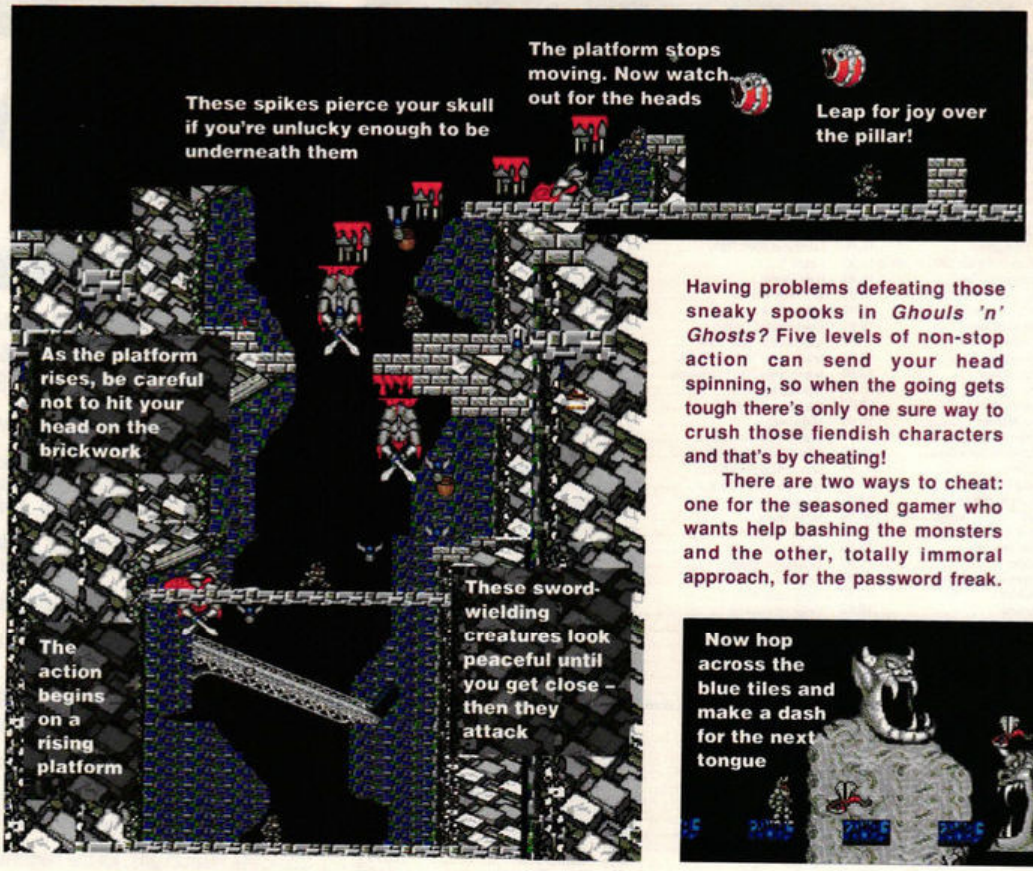
US Gold

Mark Wright from Hertfordshire has come up with a splendiferous selection of cheats including this little gem for *Strider*. Use this and you can go anywhere in US Gold's all-action horizontally-scrolling shoot-'em-up. Pause the game using the F9 key and hold down the HELP key, left SHIFT and 1 together. When you unpause the game, the cheat mode is active. Now press any of the numeric keys from 1 to 5 to begin the action on the corresponding level.

SILKWORM

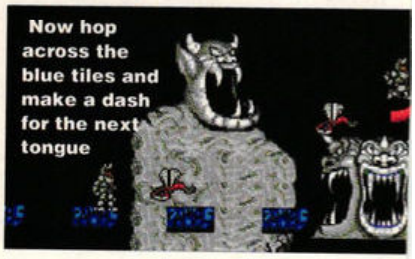
Sales Curve

Some call it the ultimate blast, others call it the hardest game on the market. Love it or hate it, there's no disputing that a decent cheat would come in useful. Well, **Mark Wright** from Herts has found one. Type in GORGONZOLA during play and a message appears telling you the cheat is active. It doesn't stop you from dying, but press the C key and you get an instant mass of extra credits. Don't go too mad though – you can only have a maximum of nine credits at once.



Having problems defeating those sneaky spooks in *Ghouls 'n' Ghosts*? Five levels of non-stop action can send your head spinning, so when the going gets tough there's only one sure way to crush those fiendish characters and that's by cheating!

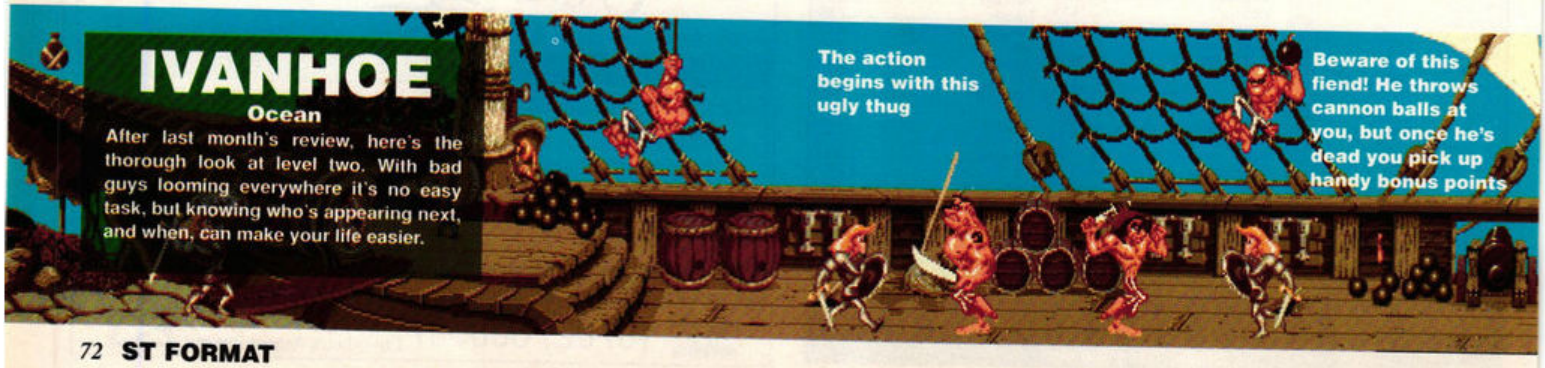
There are two ways to cheat: one for the seasoned gamer who wants help bashing the monsters and the other, totally immoral approach, for the password freak.



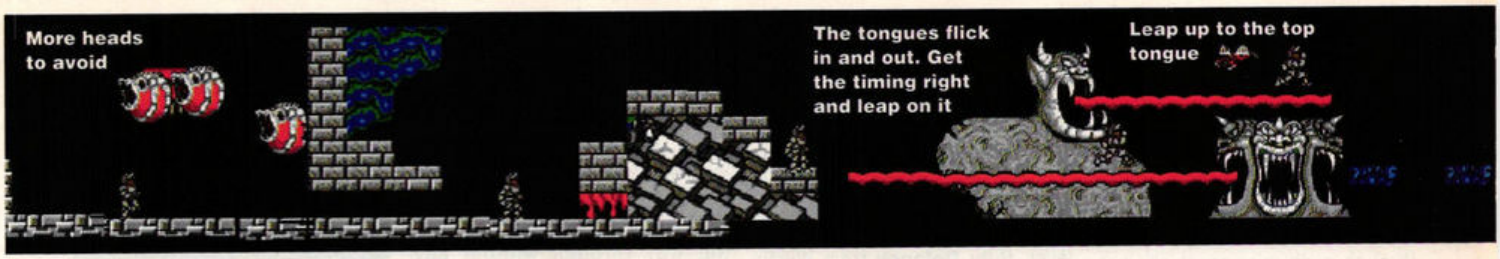
IVANHOE

Ocean

After last month's review, here's the thorough look at level two. With bad guys looming everywhere it's no easy task, but knowing who's appearing next, and when, can make your life easier.



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GHOULS 'N' GHOSTS

US Gold

Most people can race through the first couple of levels without too many problems, but what about the impossible level three? It's a tough one, particularly when you reach the top of the vertically-scrolling section. Even the cheat mode isn't going to prevent you from being crushed like a beetle if you're standing in the wrong place.

Of course if you're completely fed up of battling past monsters that spit eyeballs at you and fiendish flame-throwers who hamper your progress, how about the definitive cheat?

The programmer of *Ghouls* inserted the name of his wife into the game as a cheat (cute eh?). Simply type "Karen Broadhurst" and suddenly you're immortal. On some versions of the game, the programmer's own name, Stephen Broadhurst acts as a cheat. If you have successfully activated the cheat mode, the words CHEAT MODE ON appear on the screen and you cannot be killed by the menacing monsters. However, you can still be killed by natural disasters, so make sure you keep leaping nimbly across those scary chasms.



OPERATION THUNDERBOLT

Ocean

This follow-up to *Operation Wolf* hasn't received all the hype of it's predecessor but it can still be a tough challenge. **D. Younger** from South Yorkshire has discovered a surprising way to gain infinite lives and continue your crusade to free the hostages.

The answer is to build up a high enough score to enter the high score table. This means amassing at least 50,000 points (no mean feat), but when you've done this, enter WIGAN NINJA into the high score table and the cheat mode is on. Although you still die, the CONTINUE GAME option appears repeatedly, effectively giving you infinite lives.

The game is made up of eight levels of action. With the cheat name entered into the high score table, all you need to do is hit F7 during the game and you immediately advance to the next level. Easy huh?

MIDWINTER

Microprose

After our mammoth review of *MidWinter*, Richard Powell from Yorkshire has discovered the first cheat in the game. When you hear the noise of a missile heading straight for your tail, don't panic. Richard has discovered a surefire way of surviving. As soon as you hear the missile just switch into the sniping mode and zoom forward. Sounds useless? Try it and you live to fight another day.



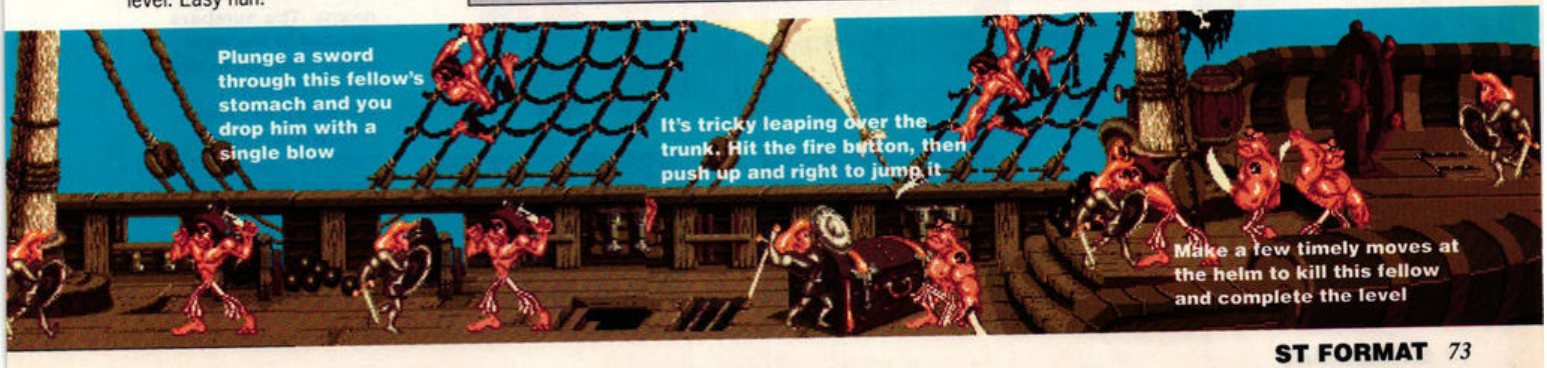
BATMAN: THE MOVIE

Ocean

Ocean's mega five level movie licence is essentially five games merged into one. Just surviving past the Joker in the first level can be tough enough, but living through the car race, with the Batmobile racing at top speed, and avoiding the disfiguring Smilex can be almost impossible. It's okay for Superheroes, but if you want to take the easy route, take the advice of **Daniel Hughes** from Herts and cheat. When you're up against amoral villains like the Joker you need every ounce of help you can get.

On the title screen type MAJJJJJ until a message appears telling you the cheat mode has been activated. Not only do you now have infinite lives, but by pressing F10 you advance to the next level.

This should put pay to the laughing fiend – besides Batman never lost in the movie!



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FIGHTER BOMBER

Activision

Finding it tough on those later missions? **Paul McKenzie** from Clywd has discovered an easy way to access the higher levels. You don't need to work your way up through each mission at all, just repeat the lower and easier missions over and over again. Tackle the one you find easiest 16 times and suddenly you have access to every mission available. This leaves only the final frontier mission to be completed before you finish the game.

NAVY MOVES

Dinamic

Anyone who's played *Navy Moves* knows that this is a really tricky game. It's split into two levels: one is a swimming section where you battle your way through mines and snipers and the other is a platform level. **Billy Delaney** from Wigan has discovered the code to the second section. Enter 786169 to proceed.

SKATE TRIBE

Mandarin

Two months ago we printed a brilliant demo version of *Skate Tribe* on our Cover Disk. If you loved the frenzied action and brought the full version, here's an easy way to survive levels two and four. **Lee Robinson** from Hertfordshire has found that if you move the skateboard into the middle of level two, you can get all the way through without any problem. On level four all you need to do is keeppressing fire and you'll skate straight into level five.

WANTED: a handsome reward is on offer for tips, cheats or maps of *any* game reviewed in this month's Screenplay, beginning on page 33.

SHARE YOUR SECRETS!

We have £50 to give away each month. So if you've finally found your way through that "impossible" game, send your tips to: Game Busters, *ST FORMAT*, Future Publishing, Beauford Court, 30 Monmouth Street, Bath BA1 2AP.

This month's fabulous £50 prize goes to Bill Delaney from Wigan for his comprehensive *Indiana Jones - The Last Crusade* cheat. Well done Bill!

INDIANA JONES AND THE LAST CRUSADE: THE GRAPHIC ADVENTURE

Lucasfilm/US Gold

Contained on a monumental six disks, the Indy graphic adventure is one of the biggest we've ever seen. Although that gives the game wonderful long-term appeal, it also means you don't have much hope of completing it. Billy Delaney from Wigan has been burning the midnight oil in a bid to reach the Holy Grail and has come up with a complete solution. We're assuming you've made it as far as Castle Brunwald, one of the hardest sections of the game. The numbered map represents areas of the castle.

On arriving, con the butler with lines two, one and two, then take the top exit and enter room one. Ask the drunk guard every question except why he's drunk on duty. When he's given you his stein, go to room two. Fill the stein at the keg and pour it on the hot coals. Wait for the steam to go, then steal the roast boar. Return to the main entrance and go along the hall to the guard in room three. Talk to him using lines three, two and one then head for room four. Get the servant's uniform, but don't wear it.

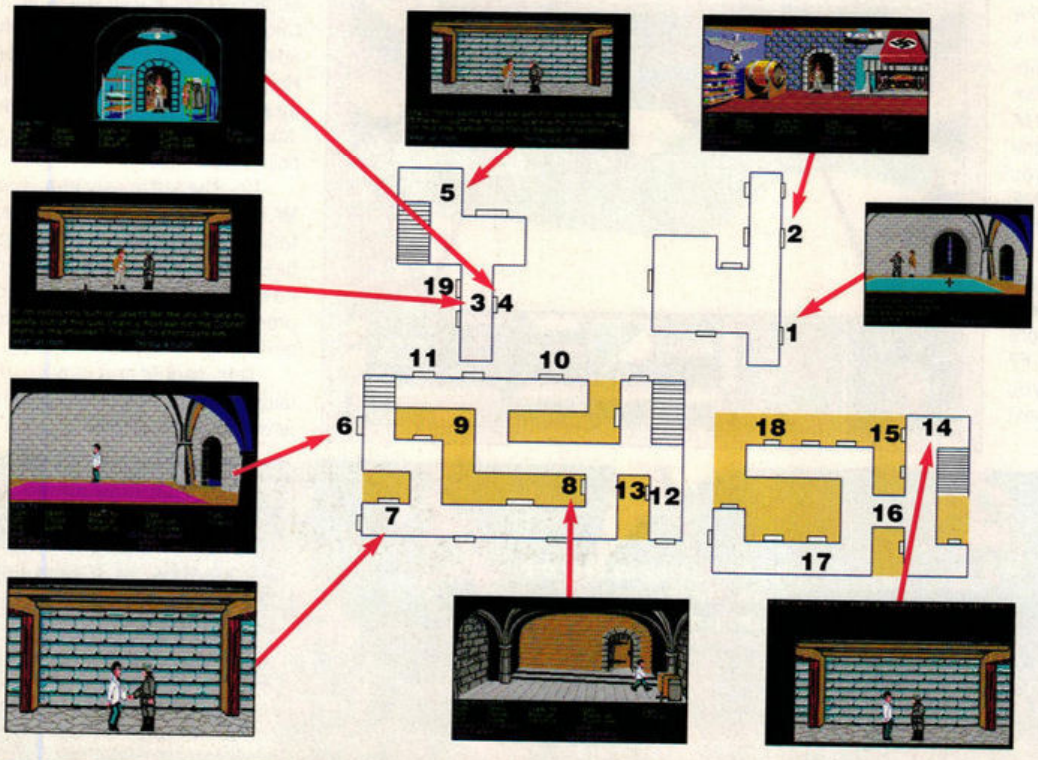
Find the guard in five and talk to him using lines one, two and two. Now climb the stairs and head for room six. Change into the servant's uniform and head for the guard at seven. Give him the painting and go to room eight. There's a chest in here. Open it and look inside, then go to room six. Change back into Indy's clothes and go back to room four where you can use the key to open the lock. Take the grey uniform and go to room six where you can change into the uniform and head for room nine. Use line three to talk to the guard. Head for room ten and talk to the guard with lines two, two and three. Now go to room 11 and give the copy of *Mein Kampf* to the guard.

Go to room 12 and talk to the guard using lines three, one, two and one. Now go to room 13 and take the first aid kit. Ascend the stairs and talk to the guard at 14 with lines one, two and one. Enter room 15 (Vogel's office) and give the roast boar to the dog.

Take the trophy and pass out of the filing cabinet. Head back to room six, change into Indy's clothes then go to room two. Fill the trophy with beer and go back to room six.

Change into the grey uniform and go to Biff (16), giving him the trophy. He falls down drunk so punch him and knock him out. Go to the guard at 17 and talk to him using lines three, two and three. Now go to room 18, pull the green wires above the door and give the Grail diary to the general. You're now in room 19. Pull the chairs until you're underneath the suit of armour. Push the left-hand statue and exit via the fireplace.

We'll reveal the rest of the game next month, but in the meantime use these tips to see how much further you can get...



IN CASTLE BRUNWALD

This is the map of Castle Brunwald. Until now it's been one of the toughest areas of the game to survive, but this scintillating tip should change all that.

The different sections of the map are reached by climbing the stairs. Any protrusions from the side of the walls are doors leading into new rooms. The numbers located in the hallways indicate that you meet a guard patrolling the area. Follow the tip correctly and you should have no trouble racing through the castle in record time and emerging unscathed. Good luck!

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■ **Your Second Manual: an amusing variation on the dry techno-prose of other user guides**

your second manual

The ST Owner's Manual is not generally ranked as one of the world's great literary achievements. Now help for technophobes is at hand, as David Collins explains

There must be thousands of ST owners looking for guidance, from novices overawed by high powered silicon to experienced users who want to stretch their highly-tuned technical skills. The problem is where to get good advice. You can either listen to your friends passing on third-hand gossip or try reading Atari's *ST Owner's Manual* from cover to cover – neither of which is particularly foolproof or fulfilling. *Your Second Manual*, written by Andeas Ramos, is a comprehensive 170 page textbook solely dedicated to helping you get the most out of your ST.

Divided into 13 sections *Y2M* has substantial coverage of the whole gamut of ST related activities, beginning with a basic introduction to computers (ie, what they are) and going on to consider everything from the keyboard, the mouse and desk accessories to word processing, the public domain and ST User Groups.

Promoting a philosophy of robust exploration and high-tailed good humour, the manual offers to fill in the gaps left by the official Atari Corporation's *ST Owner's Manual:* "If the *ST Owner's Manual*, tells you how to turn on the machine, this one tells you how to use it... This is not a technical manual; my experience is that most users don't need technical material, they need help."

Setting itself up as an alternative owner's manual, *Y2M* takes great pleasure in telling you all the things the official manual conveniently glossed over. From its unsanctioned perspective it pulls no punches in its criticisms, calling badly designed features exactly what they are ("crap") and teaching you how to live with them, avoid them, or where to buy an alternative.

Just as importantly it strives to make you master of your machine. It cajoles you into exploring, testing, dismantling and generally being unafraid of your ST. "Take a look inside. See what goes on in there. It is a simple process of removing 20 screws. The machine can easily be put together again – they *are* designed to be put together in the Far East by 14 year old girls."

The manual thoroughly covers the peripheral stories that bring your ST alive. The soap opera history of Atari, corporate wrangles with Commodore, Sam Tramiel's nepotism, the ST's ultra-quick development and the absurd personalities behind your favourite computer ("Jack Tramiel is to business what Rambo is to peace").

BOOKSHOP

Mastering the Atari ST – John Hughes
Sigma Press ☎ 0625 531035
The Atari ST Beginner's Guide and **Atari ST Tricks and Tips** – Bruckmann, Englisch, Walkowiak and Gerits
Abacus software (available from Computer Bookshops ☎ 021 706 1250
The Atari ST Book: Tips, Instructions, Secrets and Hints for the 520, 1040 and Mega STs – Ralph C. Turner.
Index Legalis Publishing, USA
☎ 515 472 2293

Apocryphal stories about punching horses in the face and postmen with fishing fetishes abound – some instructive, some genuinely funny, but most of them of the tedious funny ha-ha variety. The problem is that Ramos writes with an insider's jocularity and a cavalier attitude to imparting crucial information to beginners. Though the laughter and chuckles keep the prose zipping along, it hides a serious loss of perspective.

This is not a logical step-by-step guide to the ST, but an irreverent, confusing pot-pourri of advice and tips (great, if you're biggest concern is how to cut up your wet suit to make a mousepad). Divided into disorganized chunks and lacking coherence, the manual continually misplaces emphasis.

The public domain section, for example, begins with a six page definition of the legal terminology of copyright laws, when what you really want to know (what's available and from where) is quickly skimmed over in only four pages. A half page in the word processing section is devoted to a straight-faced recipe for Tennessee Bar-B-Que Sauce (wacky, eh?), but only three pages are put aside for graphics.

The manual assumes readers unfamiliar with technical jargon only need to have the terms defined to progress to the next stage. What technophobes require is not a definition of terminology but a hands-on guided tour of what all these strangely named grommits actually do and how you can benefit by using them.

The step-by-step "how to use" sections are posited within each chapter as mere hasty asides and alternative curios, when they should in fact be the basic central tenet of explaining a difficult proposition to a beginner terrified of RAM disks and BIOS functions.

This manual may make your ST more interesting, it may give you some idea how the ST works and the kind of tricks you need to maximise its potential, but it's not a hands-on users guide. ■

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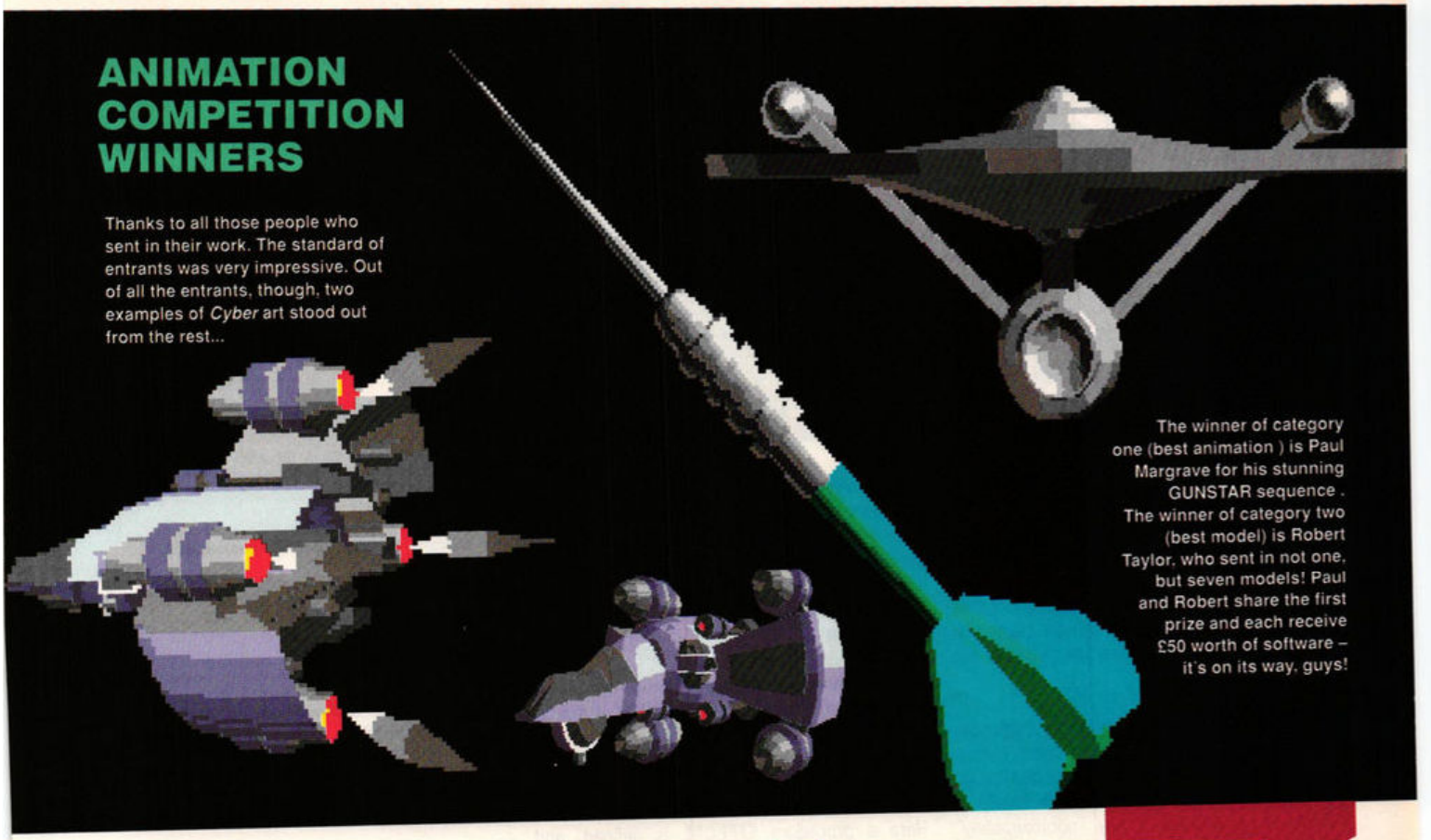
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ANIMATION COMPETITION WINNERS

Thanks to all those people who sent in their work. The standard of entrants was very impressive. Out of all the entrants, though, two examples of *Cyber* art stood out from the rest...



The winner of category one (best animation) is Paul Margrave for his stunning GUNSTAR sequence . The winner of category two (best model) is Robert Taylor, who sent in not one, but seven models! Paul and Robert share the first prize and each receive £50 worth of software – it's on its way, guys!

take 7 control with cyber

Concluding the Cyber tutorials Mark Pickavance takes a look at Cybermate and shows off the winners of our Animation Competition

If you've been following our *Cyber* tutorials you'll know the creative potential of each component in the *Cyber* series (available from Electric Distribution ☎ 0480 496666). *Cybermate* is an animation language enabling you to manipulate and combine Delta Animation (.DLT) files created with *CAD* or *Cyberpaint*. The latest version of *Cyberpaint* has many of the modifications previously only available in*Cybermate*. There are, however, still features unique to *Cybermate* – such as sound.

A storyboard is always a good starting point if you want to produce a professional looking animation. Good organisation at this stage can prevent you having to fudge things later on. A storyboard helps you break down the whole story into individual scenes. These can be animated separately and then merged by the *Cybermate* code to form the finished piece.

Unlike the *Cyber Control* language, which is based on BASIC, *Cybermate* is both written in, and based on, the FORTH programming language. You don't need to know how to program in FORTH to use *Cybermate*, but those who do could add their own commands and features.

Data is always accessed as an "object" in FORTH. When a block of data – such as a picture – is loaded, a name for that data is defined. When you want to use/change that picture you refer to the name that you gave it. When the basic picture data is loaded and the name is defined, variables are also defined. These include parameters, which are dependent on what type of data you're using. Four data types are recognized in *Cybermate:*

- **Sound:** G.I.S.T. format sound data;
- **Image:** pictures in PI1 Degas format;
- **Sequence:** animation in Delta – DLT format;

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■ Digitised animation I did for Grandslam's *The Running Man* (it wasn't used in the end) makes useful material for *Cybercode* manipulation

■ **Seq-loop:** animation in Delta – loaded as a looped sequence.

The difference between a looped sequence and the standard type is that while a standard sequence can only be run from the start to the end frame, a looped sequence can run either forwards or backwards and can be started at any frame. These advantages are gained at the expense of memory.

Timing is crucial to any good animation. To enable precision control over time, *Cybermate* gives you *Cybertime*. The units of measuring are "ticks" which are approximately a 1/60th of a second. I say "approximately" because the length of a tick varies according to the complexity of the task you set your ST to do. So what use is a variable time measurement? The purpose of ticks is to synchronize events within an animation. Even if 20 frames of animation takes longer to display than the set number of ticks per frame defined, the sound that you wanted to hear of frame 20 can still be coordinated.

To manipulate the data in *Cybermate*, various words and commands are employed. These can be broken down into five types:

■ **Defining:** opens a data file and determines what type of data it is. There are four data types so four defining words; SOUND, IMAGE, SEQUENCE SEQ-LOOP. They are used like this;

```
IMAGE HELLO
```

This loads the picture file HELLO.PI1

■ **Objectname:** this is the name given to the object in *Cybermate*. In the above example the OBJECTNAME is HELLO

■ **Operator:** all objects can be controlled and have parameters. The OPERATORs are the means to change the parameters and affect the objects. An example:

```
10 BEEP VOLUME
```

sets the VOLUME to 10 for the sound BEEP

■ **System:** these commands effect the *Cybermate* environment, timing and display modes. An example:

```
STEREO ON
```

puts the system into stereo

■ **Procedure:** is a program module defined as a COMMAND. You may, as in FORTH, make up your own commands. These usually consist of commands, functions, data and operators. This is the form they take:

```
: EFFECT1 10 BANG VOLUME BANG PLAY;
```

Here a procedure EFFECT1 is defined, and when called, it sets the volume on a sound file called BANG to 10 and plays that sound.

To work with Cybermate I needed a small piece of Delta Animation. I used a 20 frame digitized scene from *The Running Man* which I'd produced for the opening sequence of the game. The frames had all been shrunk in *Cyberpaint* to save space, making the animation area a quarter size screen. This was convenient for *Cybermate* experimentation.

When you run *Cybermate*, the screen clears, a prompt appears – and nothing else. Don't panic! *Cybermate* is an experimental language and isn't as sophisticated as other coding you may have used. Enter the interactive mode. From here you can do the following:

Load files from Disk;
Open new *Cybercode* files;
Save your own *Cybermate* progs;
Change object parameters and variable;
Enter *Cybercode*.

You can also test ideas – most of the commands in *Cybermate* can be typed in directly in the interactive mode. Their are also three other modes:

■ **Text Editor:** create, edit and save *Cybercode*

■ **Preview Editor:** see animation at different speeds, step through a frame at a time and monitor the colour palette

■ **Display:** see your animation and check the final results

If you've created all the data before entering *Cybermate* you should not have to leave this environment to test the production.

I devised two simple routines to show off my animation – I typed these in on two separate screens.

Here's the code:

```
\routine no.2
: TV
    20 tvman RATE \ speed of display
    TICK \ start loop
    tvman UPDATE
    TOCK \ end loop
    tvman RESET \reset animation
    ;

\Main code
: SETV
    ZERO CLOCK
    tvman SHOW1
    0 0 tvman OFFSET tv
    tvman RESET
    160 0 tvman offset tv
    0 100 tvman offset tv
    160 100 tvman offset tv
    restore
;
```

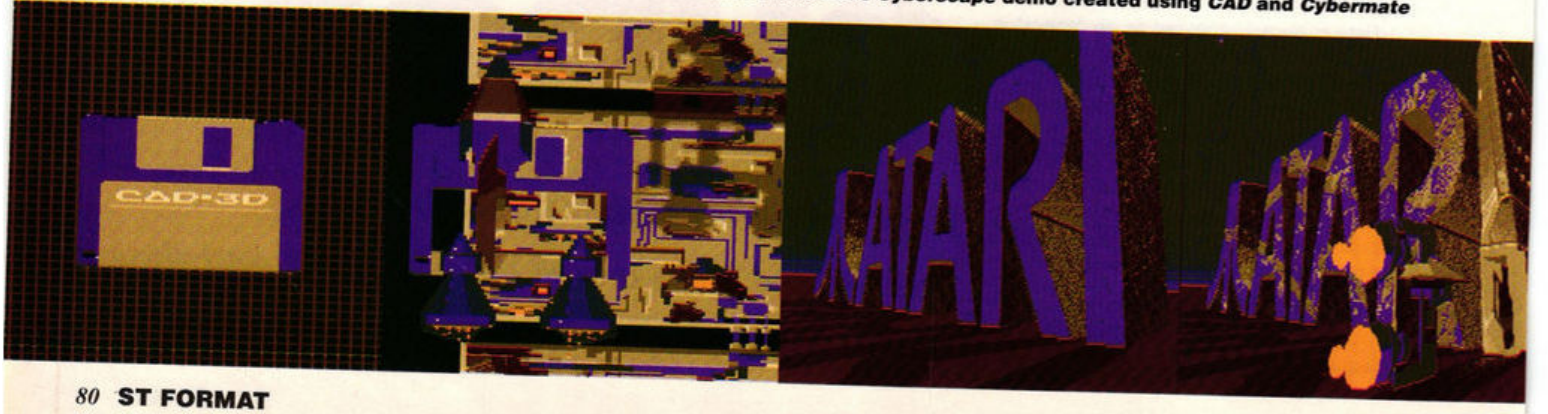
After entering the code I compiled each screen with n LOAD. Where n was the screen number.

The program showed my quarter screen animation in each corner successively. When I first ran it offset, three animations did not look right. This was because they expected a start image that was in the top left corner to be in all four positions. I used *Cyberpaint* to fix the start PI1 and the resulting animation was fine.

The procedure to get this far is pretty complicated. The TV routine has to be compiled first because it's referred to in the SETV code and the animation has to be loaded with the SEQUENCE command. Once all these requirements are satisfied both SETV and TV become new commands in the FORTH language. If the SETV command is entered at the prompt, the animation is displayed.

This is an involved process and I had some problems getting what looked like good code to run, but as with all the other examples in this series, if you persist long enough things eventually click into place. ■

■ **Frames from Darrel Anderson's *Cyberscape* demo created using *CAD* and *Cybermate***



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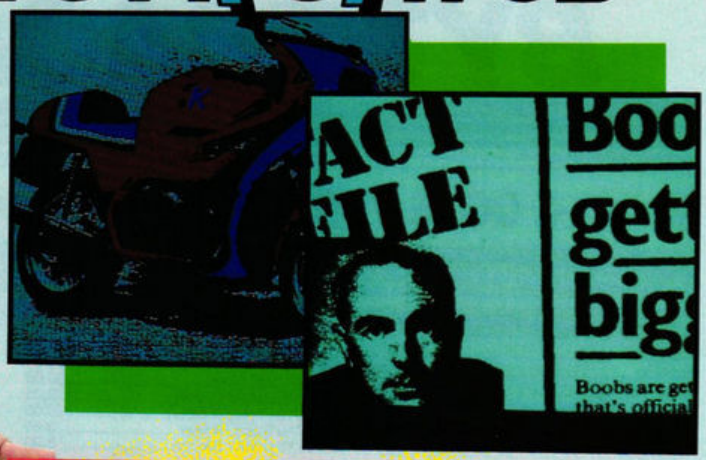
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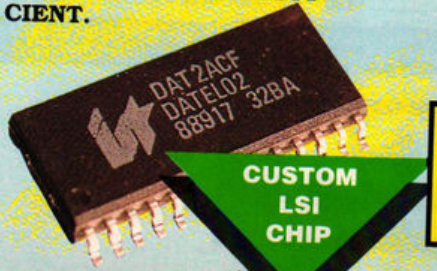


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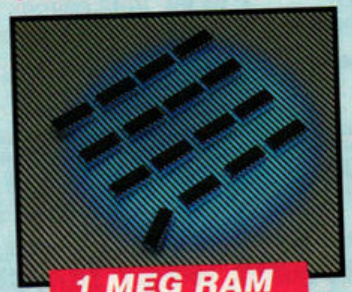
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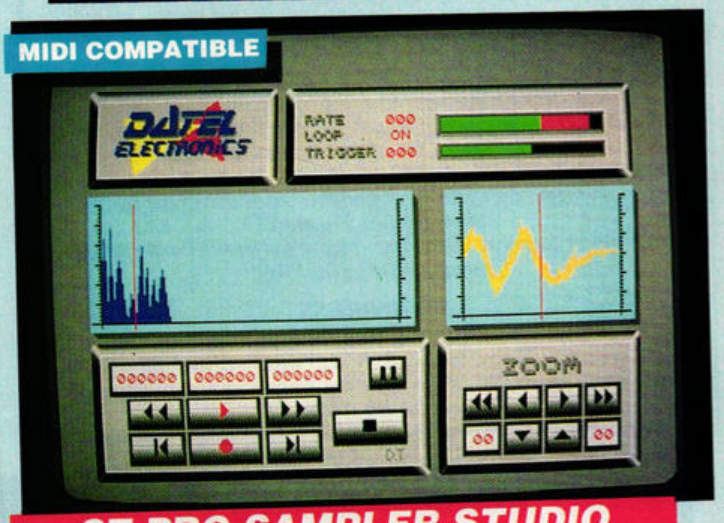
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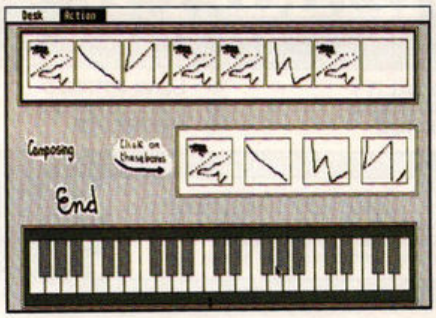
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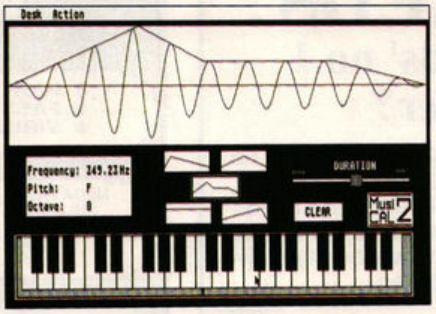
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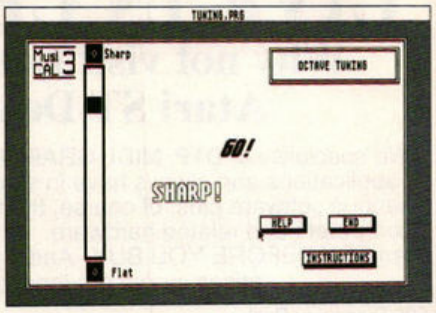
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music lessons

If you don't know anything about music, even an entry-level program can be daunting. Jon Bates, fresh from the Frankfurt Music Fair, reports on an exciting trend toward self-help musical education packages

MusiCAL is a set of five specially designed beginners' programs that start at a gentle pace and aim to teach novices to be able to listen to, compose, and eventually perform, music of a high calibre. CAL standing for Computer Assisted Learning.

Full documentation accompanies the dongle-protected software. Not only are there comprehensive instructions for the teacher, but each chapter is organised as a lesson and there's a separate worksheet for each of the five modules. It even suggests music you should listen to, complete with descriptions of the piece and its composer.

Each lesson is broken down into sections with icons in the margin to indicate the type of activity; individual or group, information or listening. The documentation is far superior to anything one would expect for music software and comes complete with blank worksheets and progress forms.

Unit One is a simple composing program that uses an external MIDI keyboard. The idea is that you make up little short patterns of music in four on-screen boxes. These can be as short or as long as you like. You then draw a shape in each box to give it graphic representation. Across the top of the screen a set of blank boxes are provided so you can copy the graphic boxes in whatever order you like. You can record, either from the instrument or the three octave keyboard on screen, and play back.

The text puzzlingly refers to "sounds" rather than small music patterns. I tried different sounds, but the software doesn't recognise program changes. Apart from these slight irritations, the concept is excellent.

Unit Two uses the internal voices instead of MIDI and is an excellent way of showing the physical shape of sounds and soundwaves. You have five preset sound shapes which you can use. When a note is played, it sounds, and the waveform frequency fills in the sound shape. You get a display of the number of frequencies per second and also the pitch and octave when you play the note on the lower screen keyboard.

Unit Three doesn't use external MIDI either. This section tests your ear by giving you notes and asking you to tune another note to it. There are varying degrees of difficulty with or without on-screen help. The note is altered by a large slider, but you don't hear the note change as you adjust it. You have to click on the up and down arrows in order to hear the note change pitch as you move it. There are examples to help you if you get stuck and the program only continues if you tune the note correctly.

The documentation is very good here, but a few refinements to the software such as the previously mentioned slider, and perhaps a time limit on finding the correct note would spice things up a bit.

Unit Four is a simple composing program that uses what is technically known as a Pentatonic scale – that's five notes arranged in the same order as the black notes on a keyboard. These have been chosen because it's far harder to create an aural monstrosity with this set of notes. You're also restricted to two note values, one beat or two. Using conventional notation you enter the notes in the bars provided. You can load and save your efforts and ➢

SHOWTIME IN FRANKFURT

Music education is a rapidly expanding field and the Frankfurt Music Fair was showing off the best of the exciting new packages.

■ Several French and German software houses have released complete ST music education systems that teach not only how to play an instrument, but also how to play in different styles. The best French system is called *Live* and the top German package is *Midipack*. Both teaching systems are built around excellent sequencers and both have libraries of songs and styles and include material by Janet Jackson and Phil Collins. Sad to say, these systems are not available in the UK yet.

■ C-Lab, ☎ 0462 480000, have a reputation for producing expensive state-of-the-art software, so it's surprising that they're launching two software packages under the umbrella of an education system, the cheapest of which retails at a mere £40. This is a "teach yourself" MIDI package called *Midia* which has an extremely graphic screen with moving icons and a piano keyboard. The keyboard reacts to any MIDI files played through it and acts as a basic sequencer. It explains the nuts and bolts of the data generated and would certainly help students using MIDI systems as part of GCSE music.

■ C-Lab's *Aura* costs £70 and plays games of increasing complexity to teach you to copy rhythms, notes and also to recognise patterns and pitches when they're written down. It works on many levels, teaching scales and chords, and covers five or six grades of music education. All patterns created can be loaded into a sequencer.

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■ **Musical education with the ST and C-Lab's *Creator* at Kidderminster College**

I am a lecturer in Music and Music Technology at Kidderminster College in North Worcestershire and have recently noticed an increase in the number of music education packages for the ST.

The decision concerning whether a school or college has STs in music classes is usually made at county level – either by the area music advisor or the information technology teaching advisor.

The problem with most schools is that they have a stock of aging BBCs. There's little provision for changing or upgrading them and the music software for the BBC is now very, very ancient.

Some schools have a computer called a Nimbus which is a PC compatible, but not a lot of good for music. Many authorities are computer shy and know even less about the music aspect of the ST. One advisor told me that although he would willingly push the ST and its software into any school, the official line was to promote BBCs as the county had invested so much money in them in the past.

At Kidderminster College the ST is used primarily for sequencing. Students taking either GCSE Music, our unique 'A' level in Music Technology or BTEC Audio Visual Commun-ications get lectures and hands-on instruction about using the software and the techniques of recording and mixing sounds. The major software is *Creator* and each student comes armed with a floppy or two for their song files. *Creator* is not an entry-level program, but I can't think of any real problems that have occurred while teaching students how to use it.

The ST and Microdeal's *Replay Pro* are used to explain sampling. *DX Droid* and *CZ Android*, both Hybrid Arts voicing programs, are used to explain the concept of sound synthesis. It's a lot easier to display wave forms and sound shapes on screen, so you can simultaneously see and hear the changes, than any other way I can think of.

Since the ST has the widest range of up-to-date software available at a reasonable price, it's the most obvious choice for musical education. Unlike the PC there are no problems with add-on interfaces, some of which are not compatible with other music software.

If you're at school or college taking music classes then I would be interested to hear if you're using ST's in music classes. Write to Jon Bates, *ST FORMAT*, Beauford Court, 30 Monmouth St, Bath BA1 2AP.

➢ also print them out so they can be played from the ST. You're restricted to 4, 8 or 16 bars and 3 or 4 beats in a bar. Although you're instructed to connect a MIDI instrument to the ST, the unit uses the internal voices as well. All compositions can be uploaded into any sequencer that accepts the universal MIDI file format.

Unit Five involves percussion only. You write in drum patterns using three lines of music – one for each instrument. Note values are dragged from the menu at the top of the screen and placed in the staves. To play them back you have to transfer them to the full score stave at the bottom of the screen.



■ **Putting a drum pattern together in unit 5 of MusiCAL. The top three staves are the separate drums and the bottom stave is them all together**

Your finished work can be printed out and the text gives helpful ideas on how several pupils could play the rhythm away from the ST. I would have like this information presented the other way round. That is, rhythms could be played on the instrument and the result displayed.

There are drum maps in the software for most common single keyboards and drum machines, because there's no agreed standard on which note plays the snare drum, which note plays the bass drum and so on. If your instrument is not featured then you have to work it out and enter it on a MIDI window. For some daft reason the drum maps have the same file suffix as the drum patterns themselves.

MusiCAL is a very well thought out package, particularly the accompanying text. It would have been an advantage to make all the units work without the aid of MIDI instruments, something that is not too hard to do, because it would free up one more MIDI instrument for the classroom if necessary. There's no doubt that at this price it's a bargain and it could even suit mature pupils who wanted to start on a computer assisted music primer course. ■

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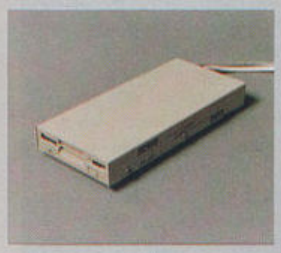
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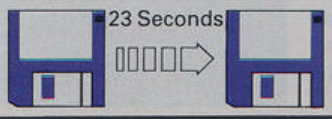
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style course

Completing our desktop publishing series in party mood, Simon Williams takes a look at the more unusual applications of DTP

The techniques described in the last three tutorials are all you need to design and print a wide variety of different documents. They can range from a humble business card right through to a complete novel. The way of making up the page is fundamentally the same.

One aspect of layout that we haven't covered is multiple items on a single page. The idea is to produce a single design and duplicate it several times before printing. This technique is ideal for tickets, invitations, compliment slips and a host of other documents. Once printed, you need a guillotine to cut the individual items out of each sheet.

If you're using a laser printer, which is essential for serious work, you can pass thin card through the machine as well as paper. This must be done using a straight-through paper path. In other words, the paper has to pass straight through the printer without making a U-turn to be fed out on top, face down. Different printers can handle different weights of card and you must be sure not to exceed the maximum weight, or you risk jamming the machine and possibly inflicting internal damage to its engine. The *HP LaserJet* series can handle paper up to 135 gm/sq m, which is suitable for business cards and the like.

The techniques covered in this series are really the basis of a whole area of computing which extends into computer art and digital scanning techniques on the one hand and typography on the other. I hope you're tempted to have a go; the satisfaction of producing your own brochure or booklet is quite intoxicating.

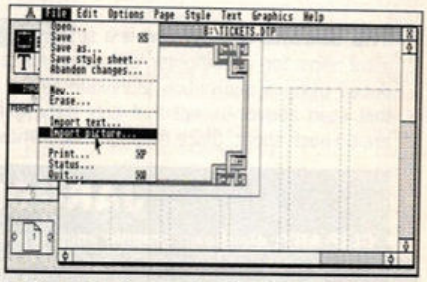
Two sample documents are included this month, both using multiple image techniques to produce several items on a single sheet of paper. The first is a set of six tickets to the opening of a new nightclub. The layout is extremely simple.



■ **Six beautifully designed party invitations repeated on a single A4 sheet**

Start by opening a frame of roughly the right size on a blank page. Turn "clip to guides" off for this and all other work this month. It can be a useful facility, but in many cases it just gets in the way. The size of any frame can be adjusted using the Size and Position window. This can be called up in *Timeworks* by double-clicking on the frame in question.

The page is going to have six tickets on the A4 sheet, so you might think you could divide the dimensions of the page in two horizontally and in three vertically. It's not quite as simple as



■ **Once the frame size has been set, you can import a clip-art graphic frame for the ticket itself**

that, because the printer driver enforces a margin of around half a centimetre on either side of the page and 1cm top and bottom. Take these dimensions off the size of an A4 sheet and then divide up the page to get the required dimensions of a single frame.

You can save a lot of time and effort in your designs by investing in a library of clip-art. Clip-art frames and corners are widely available and can be imported and rescaled in one go to fill a given page frame. This example uses a clip provided by HD Designs. They specialise in clips for two well-known PC products, but they can be converted to IMG format using other software. Similar clips could be used directly.

Once the frame has been imported, it can be copied another five times. This is done by selecting it, clicking on Copy and then on Paste from the Edit menu. A duplicate of the frame, with its contents, is placed slightly offset from the original and may be dragged into place by eye, or using the Size and Position window.

A text frame is then opened within the graphic frame. To make sure the text fills the frame of the ticket, you need to switch the text frame's tint to "clear" from the Options menu. The graphic frame design can then show through the corners of the overlaying text frame.

It's easier to adapt styles provided with *Timeworks* than create new ones. On a ticket you can make the style jazzy by using lots of typefaces. Three different faces are used here, but still look acceptable together.

Once the text has been typed in, the text frame can be duplicated as the graphics frame was earlier. It would be a great advantage to be able to group frames in *Timeworks*, as is possible in most other ST DTPs. Grouping enables ➢

TIMEWORKS DTP

For consistency, this series refers to *Timeworks DTP* screens and facilities. If you're using another DTP you may find that the method of operation differs from that shown here. The principles involved, however, can be applied to any DTP program.

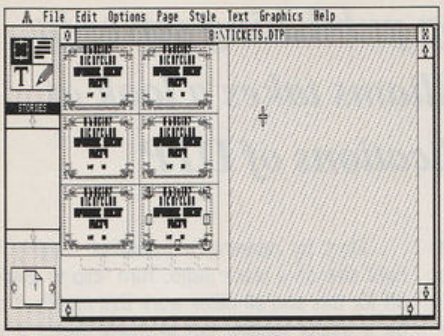
Timeworks DTP was designed as a budget rival to high-priced DTP packages and provides a dazzling array of features. It costs £99.95 ☎ Electric Distribution 0480 496660.

A new user guide to *Timeworks* has just been released by the ST Club ☎ 0602 410241 (see page 8 of the news for details).

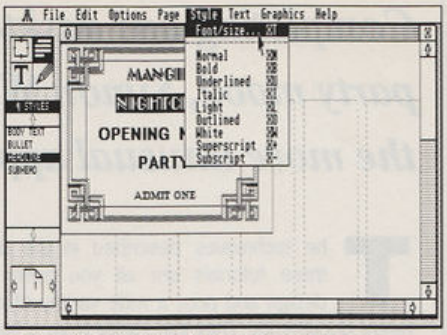
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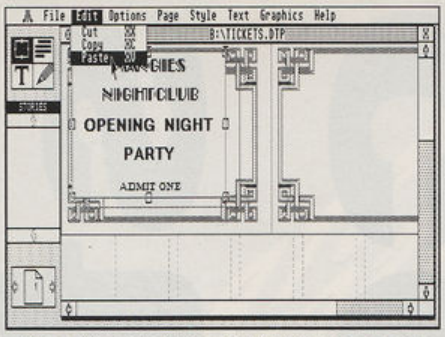
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■ **To change the font highlight the appropriate text and select the font from the Style menu**



■ **Duplicating the text frame; it now needs to be dragged to the centre of the next ticket on the sheet**



■ **Once the graphic and text frames have been duplicated six times, check the overall layout by viewing the whole page**

➢ you to create one item on the page as a collection of frames, and then duplicate and move them as a group to other sites. Without this facility, you have to do it the hard way and move each frame.

The second document is a set of compliment slips for a computer company. It's produced using a duplication technique similar to that used above, except that only three items are on each sheet. Since there are six frames in each slip and all must be offset by hand, so the lack of a group function makes hard work of it.

The illuminated letters on the slip are imported clip-art and are scaled to different sizes to show that you can use similar graphics at a variety of sizes for effect. The dividing lines between each slip are produced as a frame with only the top edge printing. This is a useful technique for all sorts of rules, as it saves all the hassles of creating frames before using *Timeworks*' own line drawing facilities. ■

JARGON BUSTERS

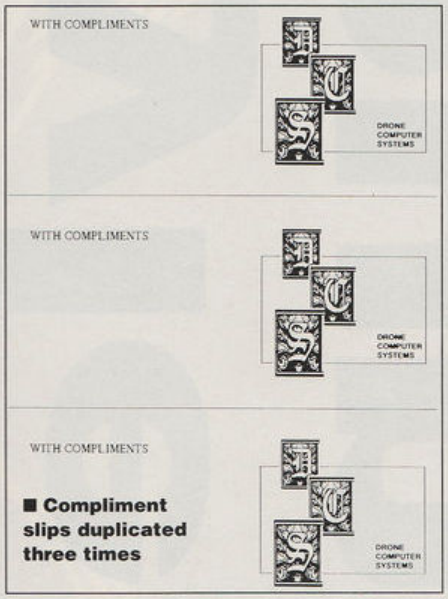
CLIP-ART: pre-drawn graphic images which may be imported into a DTP page and resized or reshaped to suit

FONT: a typeface in a particular point size and style

FRAME: a normally non-printing rectangular box used to hold text or graphics. The frame can be easily moved around and resized by using small square handles attached to the sides of the box

PARAGRAPH STYLE: the attributes which effect the typography and layout of a paragraph of text

TYPEFACE: a particular design of text characters such as Swiss, Times and Helvetica



■ **Compliment slips duplicated three times**

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public speaking

RATINGS

★★★★★ Beg, steal, borrow
★★★★ Beg
★★★ Steal
★★ Borrow
★ Burn

You don't need to spend a fortune to pick up interesting software. Richard Monteiro avoids black holes and plays international soccer, all for the price of a disk, in the public domain

INTERNATIONAL SOCCER MANAGER

Advent Software AD060

With a plethora of football games – *Player Manager, Football Manager II, Liverpool FC, Liverpool, Italia 1990, Italy '90, Emlyn Hughes International Soccer, Kick Off II, Manchester United, Subuteo '90, World Soccer* and *Footballer of the Year II* – set to kick off on an ST screen near you, you're doubtless in a quandary over which to blow the whistle on.

The best advice is to dribble past the lot of them and have a shot at *International Soccer Manager*. For little more than the price of a disk you could be playing in the World Cup Finals.

The idea of *International Soccer Manager* is to manage the English team and prepare them for the World Cup. You pick your team from top first division clubs, train them thoroughly and take on international opposition. Just getting through to the first round is difficult enough because you have to score 12 points in only four matches.

■ You need a solid strategy to become an international soccer manager

As far as strategy goes *ISM* is fine, but it falls down terribly when you get to match highlights – all you're shown is a picture of the goal area and a counter which ticks away the minutes. If a goal is scored, you see the culprit's name. Considering the game is written in STOS, it should have been easy to include animated graphics. ★★★

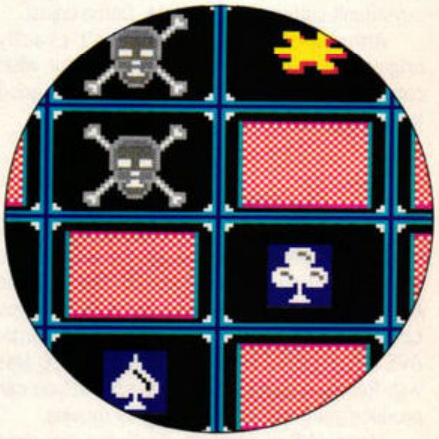
TRAX

Advent Software AD061

After all the excitement surrounding the launch of *Talespin*, Microdeal's graphic adventure authoring system, nothing of any consequence seems to have been written using the package. Until now, that is.

While a trivia game is hardly the sort of thing you'd expect to be produced using *Talespin*, Mike Ireland has put together a very convincing number called *Trax*. There are 12 levels to play through, and two types of level: questions and *Trax* bingo.

Question levels are set on a four by four grid. Behind each square on the grid is a symbol which is revealed if you answer the question associated with that square correctly.



■ Get four matching symbols in *Trax* and you're through to the next level

Get the answer wrong and, after a high-pitched wail, a skull and crossbones replaces the symbol. One square simply reveals the symbol on contact. To complete a level you must find four matching symbols – fail and the game ends.

Trax bingo has 15 bingo cards and each card has a question linked to it. If you answer correctly the card is placed in the grid. Progression to the next level is accomplished by completing a row of four bingo cards.

For *Sun* readers there's a page three level; answer all the questions correctly and you see a young lady wearing a smile.

Trax is a fun trivia game guaranteed to provide you with a challenge. It's certainly as good as many commercial games of this type. Sadly the questions on each level don't change, so by a process of elimination you'll eventually be able to get through to the end. ★★★★

THE BLACK HOLE

Belmar PD

This seems to be the month for games written with utilities; *The Black Hole* is written using Palace's *Shoot-'em-up Construction Kit (SEUCK)*.

The Black Hole is a three-level vertically scrolling shoot-'em-up in which you have to blast everything that moves, and almost everything that doesn't. Hordes of alien craft travel towards you with lasers firing. You respond in a similar manner and attempt to do unto them before they do unto you. The game ➢



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■ **Blast everything in sight and don't get *SEUCK*ed into a black hole**



■ **The *FORMAT* crew strut their stuff in an *AVS* multi-media extravaganza**

➢ gets its name from the black holes that occasionally drift down the screen. Black holes don't destroy you, but they do destroy your bullets. Unfortunately missiles fired by the bad guys don't suffer the same fate. Damn unjust.

Although *The Black Hole* isn't exactly original, it does give a fair indication of what can be done with Palace's *SEUCK* and is good for a blast. ★★★

AVS

The Other PD Library

We're only a few months into 1990 and "multi-media" has already made a strong bid for "The Most Over Used Expression Of The Decade Award." *Audio Video Sequencer (AVS)* lets you combine sound and music in a rolling demo. *AVS* allows you to link together *Cyber* .SEQ files with *Replay 4* digitised samples so that you can produce your own demos and mini movies.

Using *AVS* is simplicity itself, but you need *Cyber* and *Replay 4* to exploit the system to its full potential. Of course, you could just take samples and sequences from other sources and put them together with *AVS*, but it's better to be able to do it all from scratch. You also need at least a megabyte of memory.

AVS comes complete with its own example movie featuring a (ahem) promising band. If you have the two required programs, *AVS* is well worth getting hold of. ★★★★

TYPIT

Softville PD WP55

Hands up all two-finger typists. If you have problems typing quickly or can never remember where a key lies on the keyboard, *Typit* is just what the doctored ordered.

It's a typing tutor designed to help you learn the keyboard layout and improve typing speed. There are many exercises designed to test your keyboard knowledge. After only a little practice you'll be able to find many more keys on the keyboard without peeking.

There have been plenty of typing tutors in the past, but few are as good as *Typit*. ★★★

ACCOMPANIST

Darkstar PD

MIDI fans take note – this piece of kit will make you flip. *Accompanist* is an excellent value 16-voice sequencer for any ST. Just look what it has to offer:

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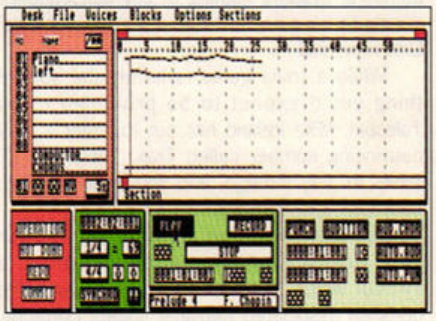
■ Simple editing using mouse and MIDI keyboard on blocks down to hemi-demi-semi-quavers

■ Sections for naming passages plus setting time signature, tempo, and local quantization.

■ Variable resolution metronome on any MIDI channel, program, note, and velocity – may be driven by external MIDI clock

■ Full voice/block copy, move, quantize, randomize, transpose, and velocity update

■ Filtering of controllers, note ranges and velocity ranges on input, output or by direct manipulation.



■ **Making music MIDI style with *Accompanist***

Midi tunes can be recorded and played back and there are plenty of sample tunes supplied on the disk. You'll have no problems using *Accompanist* because it's a cinch to get used to. A must if you're the slightest bit interested in MIDI. ★★★★

DOUBLE SENTRY

Softville PD Misc 22

You can now pretend to be an accountant on your ST and explore the wonderful world of tax concessions, inputs, outputs and double entries. *Double Sentry* lets you set up a file to store nominal accounts, sales accounts and purchase accounts. A knowledge of accounting is useful, although not absolutely essential.

The only things you can't do with *Double Sentry* are produce VAT reconciliations and VAT returns. The full version of the program must be acquired from the author for that. ★★★

PROTEXT DEMO

Paradise Computers Disk 156

You must have heard of *Protext* by now; it's used by most of us on *ST FORMAT* to produce copy for the magazine and, if Arnor are to be believed, is the bestselling word processor for the ST.

Arnor have now released a working demo of the program into the public domain. The demo version is restricted to a maximum document size of only 2K – approximately 300 words – and lacks spell checker and most of the printer drivers.

Printer drivers for the more common printers – Epson compatibles, for example – are included. There's also a rolling demo of the program which shows off what can be done with *Protext*.

The *Protext* demo comes on a double-sided disk drive. It's a great word processor, but be sensible and check it out before parting with your money. ★★★

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W5 – Micro–Emacs editor V3.925 full screen editor.

Games

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Many many others.

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A134 – Boot Drive Select allows you to select a drive to boot from when you reset your ST. GrafTool and Chart Maker are 2 chart makers.

A90 – Superboot v5.5 THE ST Boot program. Specify programs to run, password, GDOS, pictures and loads more. Excellent!

A41 – Monochrome emulator version 5. Run monochrome programs on a colour monitor.

A52 – Hard Disk 2: FolderXXX allows upto 999 folders, an excellent directory lister, Hard Disk Install, Hard Disk Auto boot, and other HD utilities.

A88 – Double Click Format v3.03 THE ST disk formatter and copier. Can format Spectre 128 disks and place MSDOS boot sector.

M15 – The Composer 16 Voice MIDI Sequencer. A fully working MIDI sequencer by Henry Cosh. Fully featured.

STW41 – FSelect v3.89 The best replacement file selector, ICone.Acc excellent Icon utility and ACache.



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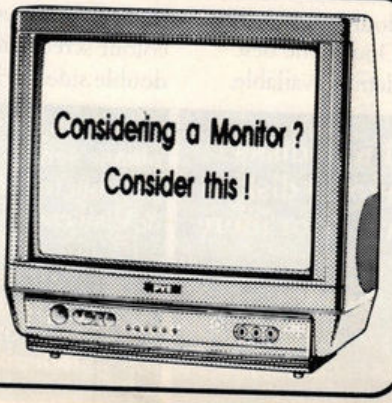
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PRODUCT	ST MUSIC MATRIX
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PHILOSOPHY	TO AIM TOWARD NEW HORIZIONS FOR MIDI MUSICIANS

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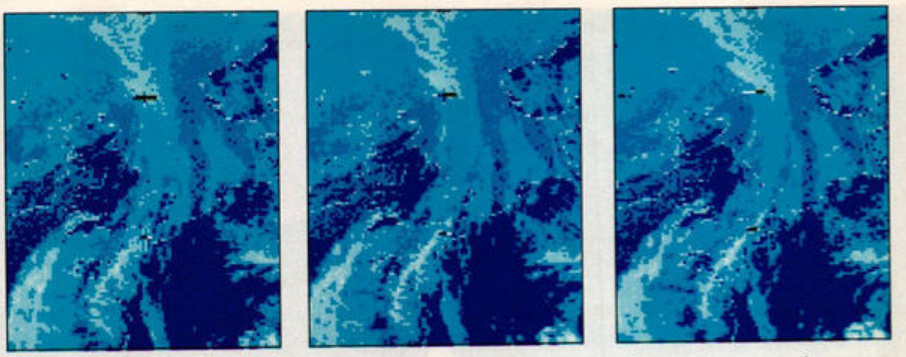
Met-2 Satellite Receiver

MACHINE: ALL STs
PRICE: £690
FROM: ICS
CONTACT: 0903 731101

There's an old adage that in this country we don't have a climate – we just have weather. But these days it seems we've progressed to the point where we only have freak weather – hurricanes, floods, droughts, even the odd typhoon. It would appear that even the experts don't have a clue what to expect next. Of course, it all gives a new lease of life to the favourite British conversation, but if you depend on up-to-date analysis of the elements then you need something more than the four hour old TV and radio reports. Farmers, seafarers, building managers, civil engineers and mountain rescue teams all require up to the minute data. There's also legions of amateur meteorologists for whom the weather forecast is an obession rather than a necessity. Whatever the need, downloading your own weather forecasts is now an affordable possibility with long-time communications specialists ICS's geostationary weather satellite receiver the *MET-2*. For £690 you can now pick up live images on your ST's monitor.

While nearly £700 might sound a tad expensive, ICS claim a comparable system would knock you back £5,000. The kit consists of a receiver and pre-amplifier, a three metre antenna with 20 metres of cable, and appropriate software to receive, display and manipulate the images.

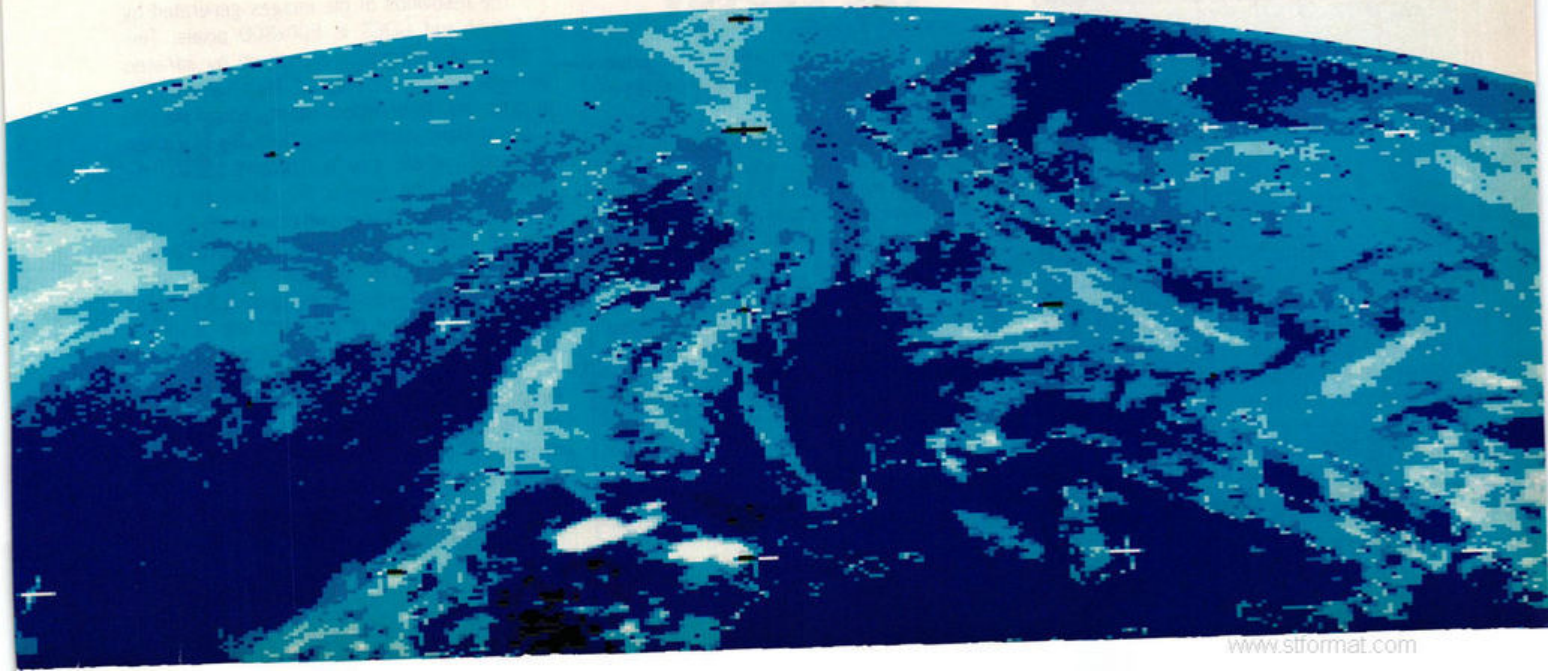
In Europe and Africa images are taken from the Meteosat satellite positioned some 23,000 miles above the Greenwich meridian and the equator. The satellite is in geostationary orbit where it monitors the same view of the globe twenty-four hours a day. It's also possible to download pics from the US GOES satellite serving the American continent. These are the main two satellites, but you can also try your luck at two Russian ones and the NOAA satellite orbiting at only 450 miles, which takes 100 minutes to complete an orbit and passes the UK three times a day.



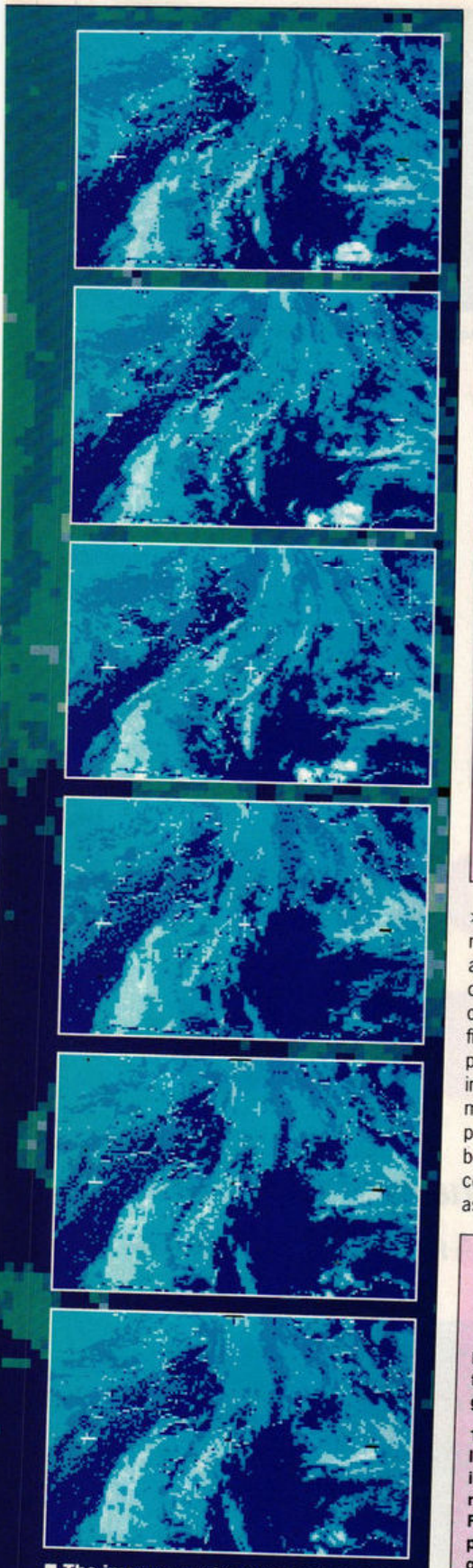
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A ZOOM WITH A VIEW

The first fully operational weather satellite TIROS, standing for Television and InfraRed Observation Satellite, was launched in 1963 and superceded earlier attempts with low-orbiting satellites jettisoning film from conventional cameras down to Earth!

Believe it or not, picture transmission has remained the same ever since then. You could download TIROS images even today. Satellites have two types of sensors on board – visible light and infrared sensors. The former, though perfect for natural photography, are only really useful during summer as they're entirely dependent on reflected sunlight. Infrared images are better because they look at emitted heat values and give good pictured regardless of daylight conditions. Clouds are high up and cold and therefore appear as white, while the land being hotter apears as grey or black. If you animate a 24 hour sequence you can therefore see the heating and cooling of areas of the Earth's surface. By looking at cloud cover and knowing the wind direction, accurate predictions can be made.

An animated sequence of half hour weather pictures enables you to interpret the speeds and times of arrival of weather systems much more accurately than TV and radio forecasts. This is because you can look out into the Atlantic where our weather comes from and by viewing several frames gauge the nature and timing of its impending arrival.

➢ The antenna used to collect the images needs to be mounted on the side of a building and pointed in the rough direction and elevation of the satellite you wish to access. A coaxial cable links the mast to the receiver to enable fine tuning and a lead connects this to the ST's parallel port. Since the downloads are infra-red images appearing as mono, it's best to view the material in grey scale resolution. For this purpose, ICS supply an optional converter sitting between your ST and monitor which strips out colour signal information and relays the results as grey scales for live display. However, since it's possible to save the download images as *Neochrome* files, you can recolour the images and assign RGB values to different areas of the image to highlight particular features.

The supplied software is dead easy to use. There's GETPIC.PRG which reads in the transmitted pictures to screen and DISPLAY.PRG which enables you to look at previously recorded "archive" pictures.

GETPIC can also be configured to run in "framestore mode" so that continous updates of satellite images can be displayed on screen and saved to RAM Disk for later replay as animated sequences. For this reason it's best to use *MET-2* with a 1040ST since 32K files eat up RAM in no time.

The resolution of the images generated by Meteosat and GOES is 800x800 pixels. This consists of information picked up by infra-red sensors looking at emitted heat values. The images are transmitted to an earth station, either at Darmstadt in West Germany or Lanion in France, where they are processed and re-broadcast to the satellite for dissemination to anyone with the equipment to capture the signal. At the earth station, the processing involved adds coastal outlines to the map.

The pictures are composed of 2,500 lines, which are broadcast at a rate of two or four a second; thus it takes nearly four minutes for a complete image to be read on to your monitor. Depending on the machine you're using, you can animate the various images – if you have 4MByte of RAM it's possible to store up to 64 frames of data while with a more down-to-earth system offering 640K you can store eight frames or four hours of weather data. ■

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If you're after your own shots from space then there's two ways you can go about getting them:

1. Buy a Maplins Parts Catalogue from your local newsagents which contains information on building your own satellite receiver/decoder for use with your micro. For around £160 you can receive weather photographs from various orbital and geostationary satellites.

2. Alternatively, if you have a modem, you can join Microlink (☎ 0527 64295) and download images from its Weatherlink service for £7 a month. This standard fee enables you to access all Microlink's other Telesoftware services at local call charge rates. All micros are catered for and images are reported to be of a very high quality.

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smooth operator

Running a small firm can be a taxing business, but welcome help is at hand. Bob Cowan looks at a program that offers instant information

System 3

MACHINE: ALL STs
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FROM: DIGITA INTERNATIONAL
CONTACT: 0395 270273

There's a lot to think about if you're running a small business. You have to process the orders, dispatch the goods, keep a check on your stock levels, invoice the customers and balance the accounts. No wonder people who run such businesses either spend all hours of the day carrying out administrative tasks, or buy an expensive software suite to do it for them. Both these options put an intolerable burden on small businesses, but now a new way through the paperwork jungle is available in the shape of *System 3*, from Digita International.

System 3 takes care of most of the day-to-day tasks of any business. It produces impressive looking invoices to bill the customer, and items of stock detailed on the invoice are automatically deducted from the stock list.

The package enables you to enter credits and debits for cash and bank accounts, and produce financial reports. These operations integrate with the Invoicing module, so that just one entry of data interacts with all the other operations of the program.

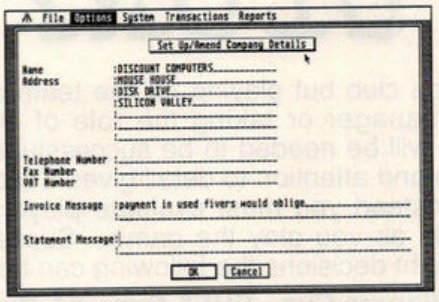
System 3 consists of three separate programs and comes on just one single-sided disk. The programs are the Stock Control module, the Sales Invoicing module, and the Cashflow Controller module. A well-produced, 42 page, A5 size manual is supplied, and the whole lot is packaged in a smart plastic case.

The first thing the manual instructs you to do is to make a working copy of the program by backing up the master disk. No problem here because there's no copy protection. You also need to format two new disks ready for use in holding the data to be generated.

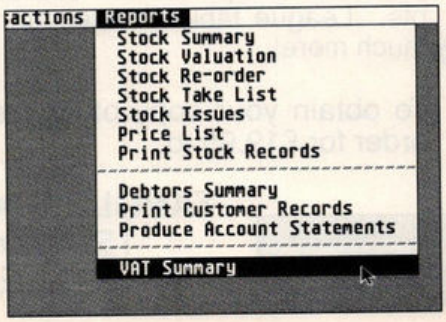
To get up and running, double-click the Drive A icon which opens up a window displaying the contents of the disk. Selecting either INVSTOCK.PRG or CASHFLOW.PRG quickly loads and presents you with a blank desktop with a number of Main Menu options along the top of the screen. The whole package runs entirely under familiar GEM control, making it very easy to learn and use.

The manual adopts a tutorial approach and if you go through it with the program running, it guides you through the steps of setting up an example system which illustrates all the features of the programs. The process is short, and it's easy to set up the dummy example or a real one designed for use with your own business.

System 3 enables you to define a stock list of 999 items. Each item is given a part number, a description and a price. When including a stock item on an invoice, all you have to do is enter the part number and all the other details you've defined are automatically filled in, ensuring accuracy and saving loads of typing!



■ It's child's play to set up your own company info. Once done, this automatically appears as the heading on all your invoices and statements!



■ Having entered all the various items that your business sells, you can print out a bewildering array of reports – all without further work

Similarly, you can set up 99 Customer Accounts. If you assign each client a reference number and include details of their name, address, phone and credit limit, these automatically appear whenever you punch in their ref.no. However, any company with 999 different items on their price list is very likely to have more than 99 account customers. This is the only real weakness of the program. If Digita improve on this, they have an unbeatable product on their hands.

Space does not permit a full run-down of the very impressive financial management reports that *System 3* produces for you by analysing the data you've input. Suffice to say you get a lot out without putting much in, and you don't even have to understand a lot about what you're doing because the program is so capable. The manual is well written, easy to follow, and assumes no knowledge on the part of the user.

The only addition you need is a printer. *System 3* is set up for an Epson compatible machine, but can be configured for any other type from within the program. And you'll be needing to get yourself a Small Business! ■

BIG BUSINESS

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PERSONAL FINANCE MANAGER: £29.95
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FORMAT RATINGS

SYSTEM 3/£49.95/Digita International/ 0395 270273

Features 85%
It carries out everything it claims in a simple user-friendly way

Speed 85%
Fast enough. No need to waste time by having to refer to the manual

Ease of Use 95%
Considering this program does some complicated financial jiggery pokery, it couldn't be any simpler to use

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The professional-looking printed output would be a credit to any business

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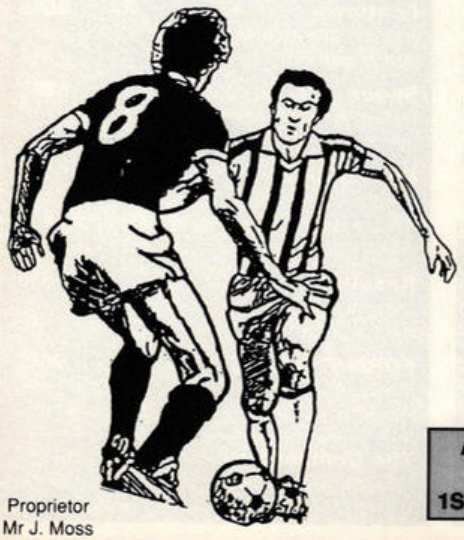
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desktop

Cure your ST troubles with our tips and fixes. This month we turn your ST into a BBC and get your printer talking Greek!

Master of ceremonies

If you own a copy of *Mastersound* you may be finding it difficult to play samples within your own software. The process is not particularly well explained. Now **Stephen Long** from Swindon has come up with the code required to play samples within STOS.

To initialise STOS ready to play the sample:

```
INIT=start(7)+28
SPEED=INIT+4
REPLAY=INIT+8
REPLAY=INIT+12
SYNC=INIT+16
HALT=INIT+20
Call INIT
```

Now to set up each sample:

```
SAMPLESTART=start(*BANK*)+12+
*BEGINNING*
AREG(0)=SAMPLESTART
DREG(0)=*SPEED*
call SPEED
AREG(1)=*SIZE*
DREG(0)=*LOOP*
call REPLAY
```

Substitute numbers in as follows:

BANK	1-15. Memory bank containing sample
BEGINNING	Bytes from beginning of bank to provide start of required section
SPEED	1-4. Speed of replay
SIZE	Length of sample (in bytes)
LOOP	0 = loop off, 1 = loop on

You still need STOSPLAY.PRG from the *Mastersound* disk to be held in memory bank 7 for these routines to work. Have a subroutine such as this for each sample and use a GOSUB command to call the sound you want to use.

Leaving the 8-bits behind

Many ST owners have upgraded into the heady land of 16-bits from 8-bit micros. **Erick Shammas** from Surrey previously owned an Atari 600XL and wants to load his 8-bit software onto the ST.

The first problem is finding some way of transferring the programs from one machine to another. The ST cannot read cassette tapes and the XL has a non-standard RS232 port so data cannot be sent straight across. However, Page 6 sell the *Atari Talk* serial lead for £19.95 and this is the answer to all your troubles. Using some communications software (such as *Uniterm* on the ST and *BOBTERM* on the XL), you can download all your software from one machine to the other using the lead.

Now for the next nightmare. How do you run any of this stuff? Page 6 also sell an Atari XL emulator for £2.95 which enables you to run XL software on the ST. This program supports the OPTION and SELECT codes used with the XL to switch off Basic during boot up. Page 6 ☎ 0785 213928.

First words in Greek

Alan Brand from Fife is rapidly losing his hair over a *1st Word* foible. He wants to know if there's any way of accessing the Greek character set to allow him to print out mathematical formulas and the like. The answer is relatively simple, but not immediately obvious. All you need to do is to scale down the document window using the resize box in the bottom right-hand corner and underneath you find a large rectangle containing all kinds of heiroglyphics. If you make sure that the block cursor is still visible in your resized window, you can use the mouse cursor to click on the Greek character of your choice. Lo and behold, it then takes its place amongst the normal scribblings in your document.

The program still allows input from the keyboard in the normal way, so you can add all those plus and minus signs while clicking on mu, lambda, theta and all those other algebraic letters most of us forgot at school.

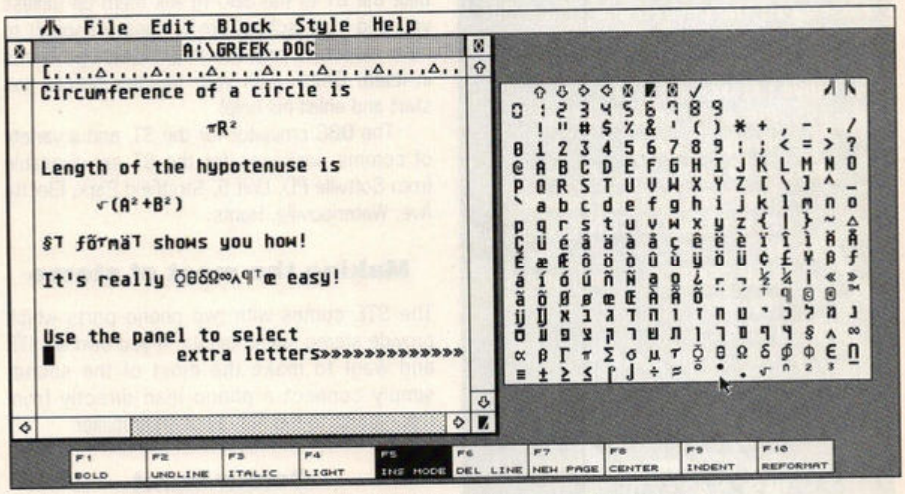
Alan is using a *STAR LC 24-10* printer, and he'll need a compatible printer driver to get these Greek characters printed out. This can either be done by modifying the standard EPSON.HEX driver (using *1st Word)* and then using INSTALL.PRG to create the 1STPRNT.DOT file which *1st Word* needs on the root directory. You may need to move it there yourself, and then get rid of the old one.

If this is not something you feel you can handle, panic not, for there are several PD disks available containing *1st Word* (and *1st Word Plus)* printer drivers for *all* the Star range of printers, as well as many others. Where from? Those amazing guys at the ST Club, 49 Stoney St, Nottingham, NG1 1LX have everything you need on disks numbered PTR01 to PTR08.

Split Personality

Occasionally a game appears with options for four players to play at once. *Gauntlet II* from US Gold and Microdeal's *ST Soccer* both featured this option, but to make use of it you need a special lead. Although Microdeal ☎ 0726 68020 sell the lead for £4.99, **David Jones** from Dulverton would like to know how he can construct his own.

The lead connects to the parallel printer port and provides two external ports for the joysticks to plug into. Since dedicated software must be written to read data from the printer port, the leads are rarely used. Refer to your ST manual for the pinout diagram of the printer port. One joystick connector links to pins 1-5 and pin 19. The second joystick links to pins 6-9 and 11.



■ **Mathematics made easy with a little help from the Greek alphabet!**

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➢ If you want to have two joysticks connected to your ST and be able to switch between the second one and the mouse at any time, Practical Solutions sell the *Mouse Master* which does just the trick. It's a small box with two leads coming out of the end. Each lead plugs into the mouse and joystick port on your ST. Three sockets are provided in the box for you to plug in your mouse and two joysticks. A switch on the top of the box then enables you to switch between using the mouse or the joystick.

Mouse Master sells for just under £25 and used to be distributed by Bath Computer Shack. Practical Solutions are currently looking for another UK distributor, but meanwhile scour the ads in *ST FORMAT*.

TERMINAL DOSSING

AJ Hodges from Faversham has a problem using the VT52 Emulator functions with assembly language and wants to know how to access them via the operating system. GEMDOS contains a function called CONWS (meaning CONsole Write String), and this should enable you to send those VT52 Escape sequences without too much effort. The technique is to store the location of the sequence on the stack and then call CONWS. Any length string can be used, provided that the last byte in the sequence is zero.

In the case of the ESC Y command (used to position the cursor at any given location on the screen), the string must contain the following information: the ASCII code for ESC (27); the ASCII for Y (89); the line number you want the cursor to appear on (top line is zero) PLUS 32; the column number (left-hand column is zero) PLUS 32; and finally 0 to terminate the string. The string format needs to be altered slightly for other VT52 commands.

To make all this work from assembly language, use the following listing as a guide. In this example we want the cursor to move to line 10, column 20.

```
col equ 20 The desired column
line equ 10 The desired line
    .
    .
    move.l #text,-(sp)
          Place the address of the
          string on stack
    move.w #9,-(sp)
          Stack the function number
          (9 is GEMDOS CONWS)
    trap #1
          Call GEMDOS in the normal
          manner
    addq.l #6,sp
          Tidy up the stack
    .
    .
text dc.b 27,89,32+line,32+col,0
          The ESC sequence
          (ESC,Y,42,52,0)
```

To use the other VT52 codes you must modify the sequence so that it contains the required information.

For example ESC A moves the cursor up, and no other data is needed except the terminating zero; ESC b (note lower case) selects the character colour, and requires a number between 0 and 15 to select the desired palette number, followed by the zero terminator.

A complete list can be found in programming books such as *Atari ST Internals* (Abacus Software).

Tuning in to the Beeb

Oliver Winfield from Harpenden wants to know if there is a way to emulate a BBC micro on his ST so that he can do his GCSE Computer Studies projects at home. Surprisingly enough, there is actually an emulator package available for the ST, and what's more, it's in the public domain.

The emulator attempts to create the BBC environment within the ST, and effectively enables you to write and run BBC Basic programs and have exactly the same screen output as you would on a normal Beeb. The drawback is that it's not entirely compatible because a few of the BBCs functions won't work. For example, it's impossible to poke the BBC's screen directly, because it's not in the same place on the ST. The good news is that the package includes the source code, so it could perhaps be modified if required.

The other problem arising is the complete incompatibility of the disk formats. There is no known way of reading a BBC disk with an ST or vice versa. In order to transfer files from the ST to the target Beeb you need comms packages running on both machines and an RS232/RS423 serial cable linking the two machines together. A comms program such as *K-Comm* or *FastCom* for the ST, and the Terminal Emulator ROM plugged into the BBC should do the trick, though there are many others available for both machines in the public domain.

Unfortunately this means that you have to take the ST to the BBC to link them up (unless you and your school are fortunate enough to have modems), and this might cause problems in itself. Check with your teacher before you start and enlist his help!

The BBC emulator for the ST, and a variety of comms packages for the ST are available from Softville PD, Unit 5, Stratfield Park, Electta Ave, Waterlooville, Hants.

Making the most of stereo

The STE comes with two phono ports which provide stereo sound output. If you own an STE and want to make the most of the sound, simply connect a phono lead directly from these ports to the AUX IN of an amplifier.

Colour burst

It can be tough getting colour out of your ST when using some colour televisions and **H. Whitbread** from Woodbridge has had particular problems using his STE with a Philips portable colour TV. If you're facing similar problems then he may well have the answer.

Atari offered him a new ST which they said might work okay with the TV, but he tried it and found that it didn't. When he examined the video signal produced by his STE, he found that the burst (the part of the signal that tells the TV to receive colour pictures) was only 6 cycles long instead of the expected 10. He removed the lid from his STE to look at the video chip – a Motorola MC1377 chip. The data sheet for this chip revealed that the burst duration was controlled by an RC time constant of 0.001mF and 50K Ohm connected to pin 1. Motorola recommend that this time constant should be a variable value but Atari choose to use a fixed value. The answer is to change the time constant, but it's not advisable to disturb the delicate circuitry of the board.

Instead, he achieved this by piggy-backing (on the component side of the board), the 0.001mF capacitor with a 150pF capacitor and the result was a burst of 12 cycles, enabling your ST to work with all colour televisions.

This is a delicate operation and should only be carried out by skilled people. Since Atari do not seem to recognise this problem, service engineers may be unaware of how to solve it. Refer them to *ST FORMAT* if they tell you it cannot be done.

***FORMAT* Health Warning: Do not attempt this modification unless you know what you are doing. Removing the cover of your ST invalidates the guarantee and if you make a mistake you may seriously damage your machine.**

Plugging the holes

In response to *Desktop's* call for help on the subject of *GFA Basic* and the green holes it leaves when calling accessories, **Kevin Busby** from Eastbourne has very kindly sent in a solution.

Apparently, the key to solving this problem lies in the function Menu (9) which returns a value of 32 if the menu is inactive, and 34 if it is busy. So the method is to replace your normal menu-reading loop with:

```
Sget Screen$          !Save screen
Not_busy%=0           !Initialise your
                      counter
Do
On Menu
If Menu(9)=34         !Is the acces-
                      sory active?
Inc Not_busy%         !Increment
                      your counter
If Not_busy%=300      !Is it time for
                      a redraw?
Sput Screen$          !Yes, so redraw
Not_busy%=0           !Don't forget,
                      reset your counter
Endif
Endif
Loop
```

In this example the screen is redrawn every time the accessory has been active for a count of 300. You can tweak this figure to your own taste: large values result in a long delay before redraw, and small values make the cursor flicker. Values below 4 cause the screen to be redrawn over the accessory as soon as it apppears!

The use of Sput Screen$ copies the display which was most recently stored in Screen$.

You must make sure that the line Sget Screen$ is added at the end of any subroutines if they display data which is to remain on screen after returning from the menu-reading loop. In this way, if the menu-reading loop is entered, the display is always updated with the most current screen data. ■

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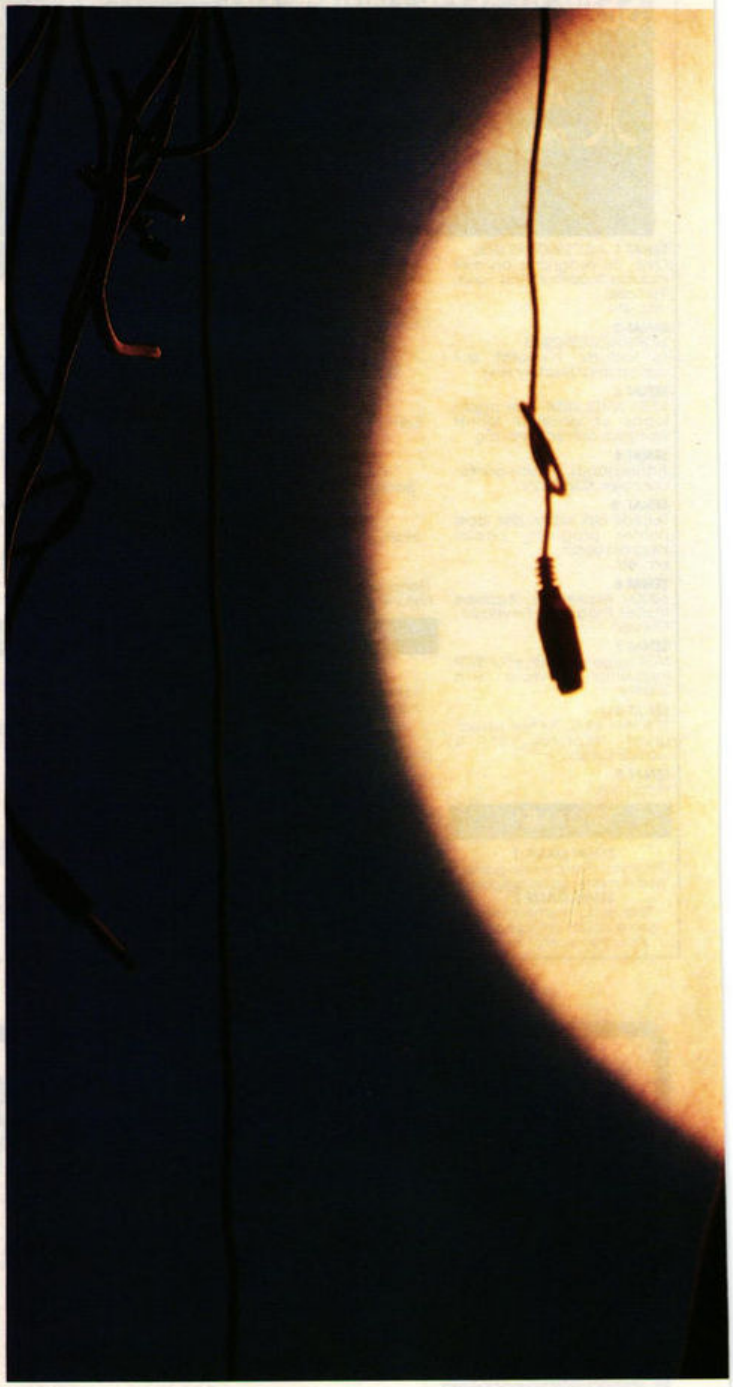
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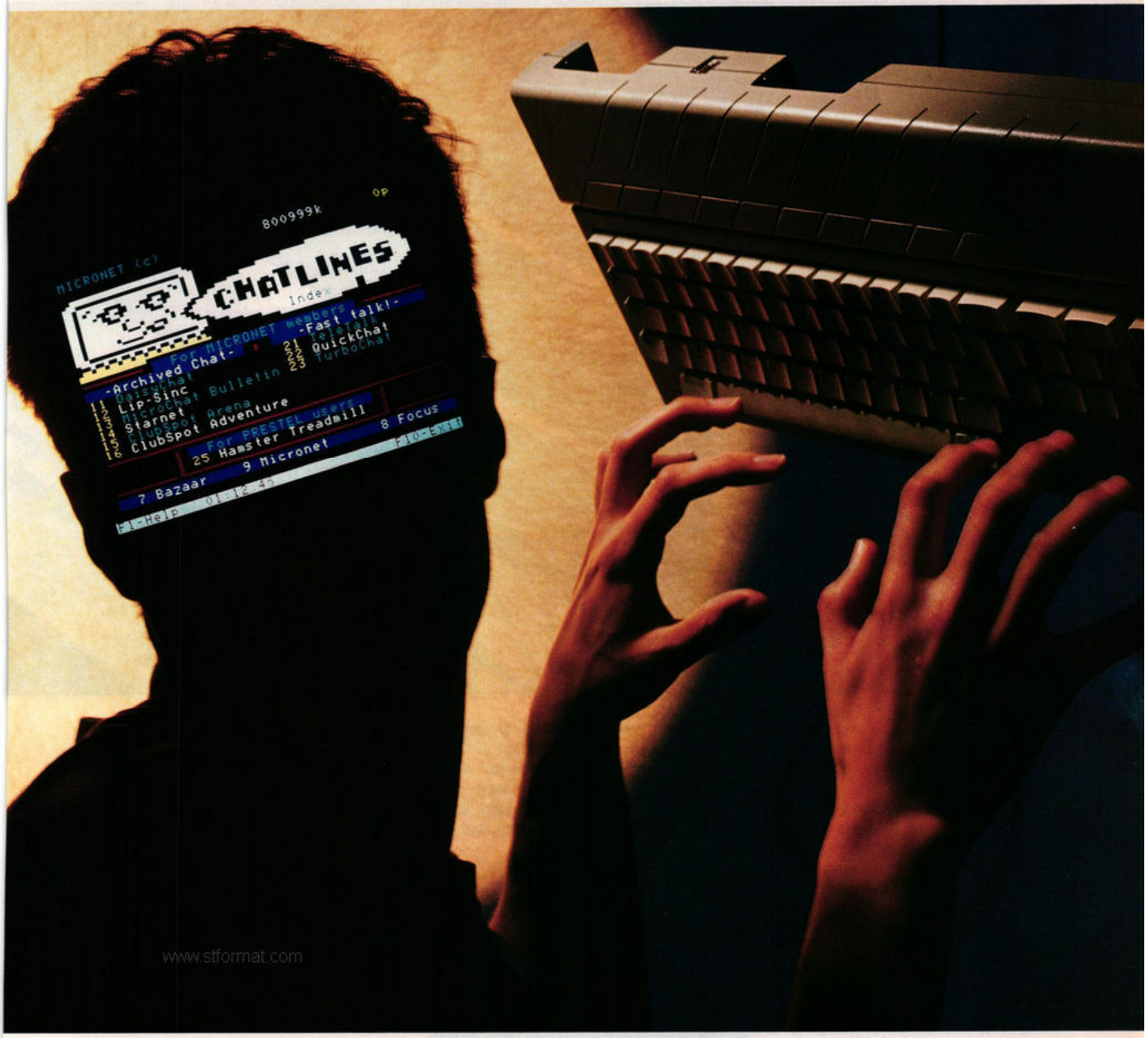
right creatures



If you're not wired you're missing out. And so, for the benefit of ST newcomers, Jerry Glenwright debunks a few myths as he introduces the weird and wonderful world of communications



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There was a time when computing was a solitary pursuit – the hardened enthusiast, huddled over a glowing monitor with only the tap-tap-tap of a keyboard to break the night silence. But nowadays, a thriving comms scene ensures much interaction between computer users. Across all machines in all areas, someone, somewhere is dialling into a bulletin board and using their computer and a modem to download software, play on-line interactive games and talk to other users. Fine. But for the uninitiated, comms is an arcane world impossible to penetrate. Baud rates, parity, file transfer – what the hell is it all about?

Comms – communications – involves the connection of two or more computers via telephone lines so they can swap programs and data and talk to each other. Telephone lines form a convenient national communications medium for personal computers: they're already in position and can – just about – cope with the high speed signals generated by computers.

To effect the connection you use a box of tricks known as a modem (MOdulator/DEModulator) which takes a raw signal from your computer and converts it into a form readily understandable by other modems. Your computer transfers the information to be transmitted to an attached modem, where it's converted to a common modem "language" and relayed across the public telephone network to a receiving modem and computer. The information is translated by the receiving modem and communications software into a form the target computer can use. In this way, computers of completely different configurations can swap data free from problems. Your ST can link up with Apple Macs, games machines called Amigas, PCs – even mainframes and minis running exotic operating systems such as Unix, VMS and Pick!

But what about all this jargon, for God's sake? Baud rates, transfer protocols, RS232 – sounds hideous. But it needn't. The baud rate is simply a measure of the speed bits of data are transmitted between computers. Named after the inventor of telegraphy Monsieur Baudot (yes, really), baud rates started at 50 and 75 bits, quickly achieved 110 and 300 bits and moved through a variety of speeds until today, the upper limit for all but those with incredibly expensive, specialised equipment, is 2400 baud across standard telephone networks.

These bits of data are made up from the familiar old ASCII code with a couple of extra bits to mark the start and end and as a validation of the character trasmitted. (Although the slower speeds are a direct measure of bits ➢

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■ ***Prestel,*** **shown running here, has an area called Micronet especially for home computer bods like us that comprises some 30,000 pages of features, software and hardware reviews and downloadable software. It's not as good as *FORMAT*, of course, but it's pretty good nonetheless!**

➢ of information transmited per second, the upper speeds, generated using different algorithms, are not.)

The logic of this, fairly obviously, is that if you transmit at 2400 baud your data arrives at its destination faster than if it were transmitted at 300 baud. And rather than write these speeds as 300/300 (meaning that two machines are transmitting at 300 baud), 1200/1200 and so on, a series of shorthand symbols have been assigned to simplify the process. Now, 300/300 can be written as V21; 1200/1200 as V22; 1200/75 V23 and 2400/2400 baud as V22bis.

1200/75? Well, there's one more thing to learn about baud rates. Peculiar to the UK is a split baud rate known as V23 or 1200/75. Long, long ago in dim distant dawn of amateur computer communications (around the beginning of the 80s!), the GPO decided that the ideal would be for large mainframes and minis offering public dial-in services to transmit at 1200 baud and for home and small business machines to return the call at 75 baud. The split baud rate caught on and today, many services are entirely dependent upon this inefficient speed.

One of the advantages of dialling remote computers is that you can download or copy software from the host machine into your own. Unfortunately, telephone lines are prone to "noise" – squeaks and squawks merely annoying to voice transmissions, but the very devil when computers talk to one another. Transfer a program on a noisy telephone line and the chances are it is completely corrupted by the time it reaches the safety of your disk drive. So the computer equivalent of "Send reinforcements we're going to advance" comes out as "Send three and fourpence, we're going to a dance." And STs being somewhat literal-minded, you can imagine the chaos that can cause!

To counter this noise, a series of transfer protocols have been devised to enable files to be transmitted without corruption. The first of these, Xmodem, is a simple checksum program that breaks up a file to be transmitted into blocks and calculates the sum of its constituent bytes of data. This sum is transmitted with the block, the data value is re-calculated by the receiving computer and matched with the original total. If the two differ, the block is re-transmitted. Ymodem, Zmodem, Kermit and all the other bizarre and outrageously unhelpfully named transfer protocols are simply variations on a theme, adding improvements to speed, validity of data and so on.

When computer communications began, most of the machines available didn't have a serial RS232 port to connect to a modem. RS232 interfaces had to be bought from third-party peripheral manufacturers at an exorbitant rate. Now's the time to smile smugly, for the ST comes complete with a built-in standard RS232 port, perfect for connection to all modems. And just as V21, V22 replaced 300/300, 1200/1200 and other speeds as a form of shorthand (remember? We did that bit about four paragraphs ago), RS232 is a shorthand name for "serial communications port."

Cost? Read on. In the beginning, your choice was limited to mushroom coloured shoeboxes from BT, or the Post Office as was, offering speeds of 110 and 300 baud. These modems were manual – you had to turn a dial at the front of the device to select a speed, answer or reply mode and so on. Then, around 1982, a complete "modem on a chip" became available. Bung it in a box with a power supply, status LEDs and a connection to the outside world and you've got a modem. Prices tumbled, and now you can buy a quality automatic ➢

JARGON BUSTERS

Baud rate: the speed of data transfer between machines measured as bits per second. 1200 baud is 1200 bits per second (each character is equivalent to ten bits). Often abbreviated to:

V21=300/300 baud
V22=1200/1200 baud
V22b=2400/2400 baud
V23=1200/75 baud
V23v=1200/75 baud viewdata

Hayes compatability: a US standard adopted by the majority of modems. Hayes codes are instructions understood by automatic modems. For example, the telephone number to dial and board speeds.

Modem: stands for MOdulater/DEModulator. Converts digital 1's and 0's into audible signals to be sent down the telephone line.

X-modem, Y-modem, Z-modem and Kermit: data transfer protocols used for sending large files down the telephone line. Z-modem is the fastest of the three and X-modem the slowest. Kermit is a file transfer protocol: extremely fast, but not supported by many boards.

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The best modem you can buy probably contains the phrases "automatic," "Hayes compatible" and "V21/V22/V23/V22bis" in its description. Let's take those in turn. Automatic means that you don't have to turn dials when you want to select a transmission speed, answer or transmit mode and so on. All these operations can be selected via software commands from the safety of your computer – which leads nicely into Hayes compatibility.

In America, where comms has enjoyed a far greater popularity for many years (due to less stringent telephone restrictions and far cheaper call costs), the Hayes command language provided by the Hayes modem manufacturing company became an industry standard for modem instructions. In the same way that printers strive to achieve Epson compatibility, modem manufacturers build in Hayes compatibility. Their modems then work with all software. The Hayes standard has also been widely accepted in the UK and wise modem buyers plump for this option.

All automatic modems contain several commands on ROM to enable them to be set up and to perform the actions you require. For example, to dial a number you might type "atd0225442244" into your communications program which instructs the modem to pulse dial the telephone number 0225 442244. Some communications programs have these commands built into them, so you simply type in the telephone number and the software does the rest. Many different modem command languages exist, however, and unless your software supports the language contained within the modem, you may have problems – at best it will be tricky to get the modem to do what you want.

So an automatic, Hayes compatible modem offering a range of speeds, preferably with V22bis, but with at least V22, is the ideal to aim for. A device of this standard will cost you around £120-£160, but you'll be able to access all bulletin boards, public information services such as Prestel and Telecom Gold, run your own bulletin board and up/download software quickly and accurately. If money is tight you should choose a V21/V23, automatic Hayes compatible modem: a device of this nature should cost around £100.

If you're a bit strapped for cash (saving up for your poll tax, perhaps), it's certainly possible to get on-line with a second-hand acoustic coupler costing £15. But you'll be severely limited in choice and abilities, and it can't be said that this option comes highly recommended.

OK, so now you're all tooled up, your shiny new modem glinting in the phosphor glow of the ST's monitor *(get on with it – ed)*. Communications software is up and running and waiting for a command – what now? Probably the best thing to cut your newly-acquired communications teeth on is the bulletin board. The BB, an electronic version of the cork tiles pin board hanging on a wall at your work place, school or college that performs in almost exactly the same way. You can leave and collect messages, exchange software and interact with other users.



■ ***Trash*, a completely new interactive game on the recently revamped and revitalised Micronet. Talk about right on: the plot is all to do with wandering around the universe cleaning up rubbish left behind by thoughtless space travellers!**

Bulletin boards are divided up into sections. An opening menu greets you with the latest news associated with the board, then you're presented with a main menu offering a mail section where you can send messages to the sysop or other users. There'll be a software section containing programs to download, special interest groups or SIGs providing support for those with unusual tastes such as machine language or C programing, hardware and the like. Some BBs provide on-line games to play and if you're accessing a board which can support more than one caller at the same time, you can cavort around in multi-player games battling against the computer and human players.

The enjoyment you get from a bulletin board depends very much upon what you put in. Sysops – the guys who run bulletin boards – consider it bad form if you log on, download lots of software, play games for half an hour and log off without leaving any messages, uploading (transferring software from your machine to the bulletin board) software or ➢

HOW TO BEAT BT

What with BBs, public services and private computers to log into your fingers are going to have to be *prised* from the keyboard when it comes time to eat or sleep! But there is one thing that may stop your on-line adventures: BT's quarterly horror story. We've all read in the popular press about youngsters new to comms running up telephone bills the size of telephone numbers, and if you don't exercise care it could happen to you. So, with your best interests, as always, at heart, we welcome you to the *ST FORMAT* guide to keeping down the cost of comms...

■ **DO use automated log-on procedures whenever possible. Mistype your password once or twice and you've wasted a good five minutes. Several times per week, and you could quite easily double your 'phone bill**

■ **DO look for and download any helpfiles when you first access a board. Read these offline at your leisure and apply the information. If you can navigate around a board quickly and efficiently, you'll need less on-line time, have smaller bills and leave the board free for other users**

■ **DO remember to switch to expert mode after you've been on a board a few times. This is available on most bulletin boards and enables you to use keyboard shortcuts, display compressed menus and the like – saving you precious moments. It adds up!**

■ **DO try to find bulletin boards within a local call charge rate of your part of the country. A local call costs a very reasonable 55p an hour or so**

■ **DO remember when performing file transfer: Y-modem is faster than X-modem, Z-modem is faster than both. Kermit is another fast and efficient file transfer protocol, though it's in common use**

■ **Finally, DO NOT log-on between 8am and 6pm, and particularly not during the morning, when telephone charges are at their highest.**

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➢ helping some other user in need. Indeed, many boards restrict your access until you've actually done something other than indulge yourself. Remember, almost all bulletin boards are free – there's no subscription charges and the Sysop gets nothing for making his computer and software available to you. So log on, upload one or two public domain programs, help users with problems and immerse yourself in the board. In this way, you'll be awarded more time and greater access to the board's many areas.

Logging on to a few bulletin boards enables you to test out your software and modem to make sure all is well and instills you with confidence. Doing the board walk is the best way to become familiar with the possibilities of computer communications. But what else is available?

Following the moderate success of public information services such as Ceefax and Oracle, British Telecom decided to introduce their own on-line information system accessible via the newly emerging microcomputer and existing telephone network.

After a shaky, somewhat unenthusiastic start, Prestel became a success and an area specifically catering for home computer enthusiasts known as Micronet was launched in 1983. After almost seven years, Micronet has grown to be the largest information provider on Prestel with a current total of some 30,000 pages. Within Micronet you can find features, software and hardware reviews, hints, tips, programming articles and experts to solve your computer related problems, chatlines where you can exchange gossip with likeminded people, downloadable software and much, much more. There's also an on-line interactive game called *Shades* where you can explore strange new worlds, meet exotic and beautiful people – and, of course, kill them. And after criticisms of the lack of user friendliness, Micronet has just been completely revised and revamped. It's now simple to log on and find your way through its multitude of pages.



■ **Neil Newell, Chairman of Third Millennium Systems – and, in another incarnation, Hazeii the Coder, author of the Micronet on-line interactive cult classic *Shades***

There's also a completely new interactive game called *Trash* involving players skulking about the Universe cleaning up rubbish left behind by uncaring space travellers. Join Prestel and you'll spend many evenings at home at the keyboard (☎ 0800 200 700).

And finally there's hacking. A few words of warning: if you so much as add a full stop to a file you can be prosecuted for criminal damage, and browsing through classified data at the Police computer in Hendon or MI5's silicon depository in Curzon Street, London is likely to land you in more hot water than you knew existed.

The rifling of Prince Philip's Prestel mailbox by Steve Gold (and cohort) provided the tabloid press with splash stories for weeks, and the recent uncovering of a ring of West German hackers who'd broken into American military and research computers and sold what they found there to the Soviets, prompted a bestselling book to be written by the man responsible for putting them behind bars (The Cuckoo's Egg by Clifford Stoll).

And there you have it. Comms is without doubt the natural progression for small computer systems. Mainframes and minis maximised power by enabling users to share knowledge. When you've found your way around your ST and know what you can do with it, logging onto a BB or public information service can give your machine a whole new lease of life. If you're not wired, you're missing out. ■

What do you do now? If you already own a modem load up the comms software on this month's Cover Disk (turn to page 25 for full information). If you don't, or you don't already have a subscription to Micronet, turn at once to page 118 where two complete packs, comprising subscription, modem, software and £30's worth of on-line time must be won!

ST FORMAT'S 20 TOP BULLETIN BOARDS FOR 1990

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Yes, *that* Microdeal. ST section. Offers lots of help for new users

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Tom Goodfellow/24Hrs
ST-only bulletin board. Sysop extremely helpful

01 FOR AMIGA
☎ 01-377 1358
V21/22/22b/23
Tony Miller
24Hrs
Even if this board does cater principally for the Amiga games machine (haven't they stopped making it yet?), it has a vast amount of interesting sostories and software for downloading. Sign on and leave a procatively anti-Amiga message from us!

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V21/22/23
Ade Truelove/24Hrs
Provides the most extensive list of UK bulletin boards. ST section

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John Gough/24Hrs
ST section. Support for Michtron software

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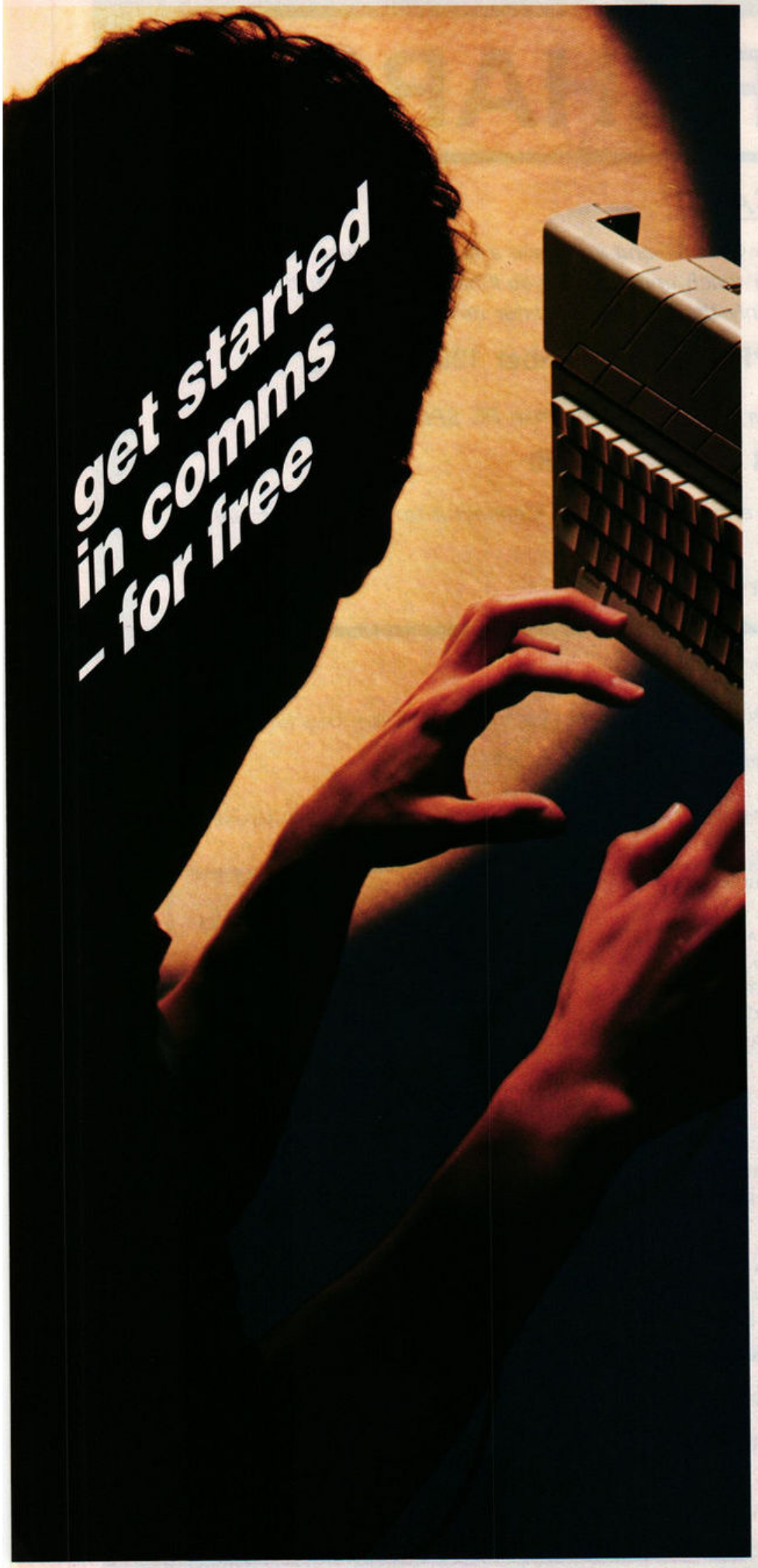
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Two comms systems – complete with modem, software, Micronet subscription and time online – must be won!

So you've read our introduction to communications (er, you *have* read it, haven't you? We'll be asking questions later, so turn back to page 110 and *get revising!*). You're clued up, you're keen, you're itching to build up a really substantial telephone bill for next quarter. What do you do now? Well, assuming you've got a modem you could begin by loading up the comms software that's on this month's Cover Disk and calling up some of the bulletin boards listed on page 116.

Otherwise, now's your chance to win a modem, *plus* software, *plus* a year's subscription to Micronet, *plus* £30's worth of free on-line time! Micronet, as you'll know from reading our comms feature, is a 30,000 page section within Prestel especially for the home computer user (that's you!). It's packed with features, software and hardware reviews, hints, tips, programming articles, chatlines, downloadable software. There are multi-user games such as *Shades* and the new *Trash* (see the story in this month's news pages). Indeed there's enough stuff on Micronet to run up a bill of (appropriately enough) 'phone bill proportions.

A year's subscription to Prestel and Micronet would normally set you back £92, and then there's the modem (a GEC Datachat 1223) and software to consider. All told, the beginner's pack costs £170. We have two such packs to give away, and there's absolutely no reason in the world why one of them shouldn't be yours – provided, of course, you enter our laughably easy competition, get the answer right and remember to put your name and address on your entry.

And when we say laughably easy, we mean it. All you need to do is to answer the following three hilariously not difficult questions:

1. What does "baud rate" refer to?
2. What does *modem* stand for?
3. Who or what is Kermit? (We are not talking green frogs here.)

And if you can't answer those three questions you don't *deserve* one of these two Micronet beginner's packs.

Right then. Put your anwers on a postcard or the back of an envelope and send it by snail mail to: Micronet competition, *ST FORMAT*, 30 Monmouth St, Bath BA1 2AP. Get to it! ■

THE RULES

1. This competition is not open to employees of British Telecom or Future Publishing or their relatives. Sorry mum.
2. Entries, which must be received by the end of June 1990, become the property of Future Publishing, though we promise they won't be used to help trace Poll Tax payment evaders, not that we approve of lawbreaking or anything.
3. Entry implies acceptance of these rules, the judge's decision is final and no correspondence can be entered into (oh the power, the power!).

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program in c #5

There's a lot more to writing a program like the embryonic pinball sim on the Cover Disk than drawing a Degas picture and lifting some C code: you need to know how the C code works. Warwick Grigg explains essential C coding techniques

In my third tutorial I explained how the pinball program uses GEM to control the display. GEM has two levels: the Application Environment Services (AES) providing high-level functions, such as menus and forms, and the Virtual Device Interface (VDI) providing low-level graphics functions, such as line drawing and pixel level operations. This month I'll concentrate on the VDI level.

The VDI is built into the ST's ROM and is ready for use whichever language or compiler you use. VDI functions are accessible from within a C program by calling C functions (called GEM bindings). The GEM bindings pass on the parameters to the VDI in the irritating format that the designers of the VDI selected. If your favourite compiler doesn't have GEM bindings it's simple to write your own using the information contained in the *Atari ST GEM Programmer's Reference*, but it's also extremely boring.

At this stage, the pinball program uses a small proportion of the available functions. It uses the control functions to register the application with the VDI and to establish initial conditions. Thereafter it uses raster operations to display images encoded as pixels (pixels are coloured dots). Finally the program calls control functions to close the VDI.

```
v_hnd = graf_handle (&dummy,
        &dummy, &dummy, &dummy);
for(i = 0; i < 10; i++)
        work_in[i] = 1;
work_in[10] = 2; /* raster
                co-ordinates */
v_opnvwk(work_in, &v_hnd,
        work_out);
        /* open GEM virtual
                workstation */
if (!v_hnd)
   errexit("Sorry, I can't open a
GEM VDI virtual workstation\n");
```

■ Getting a handle number from the VDI – a fragment from the source file STRTUP.C

You can't do any useful VDI work until you've been given a handle number. In theory, applications can have many VDI sessions active, each with its own context (pen position, colour of ink etc). When the application calls the Open Virtual Workstation function to establish a session, the VDI allocates a unique handle number and returns this to the application. On each subsequent call the application passes the handle number as a function parameter, thereby identifying the relevant session to the VDI. Take a look at the file named STRTUP.C on the Cover Disk to see how sessions are established and closed.

Very few ST books explain raster operations clearly, so if you're a serious C programmer don't lose this article! The ST's display is a raster display. Raster operations are pixel level operations, more primitive, but more flexible than the VDI geometric output functions (eg line drawing). The pinball program continually uses these functions, drawing, erasing, and redrawing the sprite while checking for collisions.

Checking for collisions is simple: the file PINBALL.C on the Cover Disk illustrates the use of the v_get_pixel function call to determine whether the sprite's hot spots touch any pixels other than those the same colour as the background.

Displaying bit images is more complex. The VDI functions need to be told the location and size of a data area (called a Memory Form) used to store a "rectangular" pixel image. This information is stored in a C structure called a Memory Form Definition Block (MFDB), defined in the include file GEMFAST.H. The screen is one Memory Form (rectangular pixel image). The arrays holding the sprite's image, the sprite's shape (or mask), the portion of the screen obscured by the sprite are also Memory Forms all of which need MFDBs to define them. The function also needs to know the rectangular area within each Memory Form that is to be operated upon and the logical operation to perform.

```
/* VDI Memory Form Definition
Block */

typedef struct form_definition
    {
    long fd_addr;
    int   fd_w;
    int   fd_h;
    int   fd_wdwidth;
    int   fd_stand;
    int   fd_nplanes;
    int   fd_r1;
    int   fd_r2;
    int   fd_r3;
    } FDB;
```

■ The C structure for a Memory Form Definition Block (MFDB). A fragment from the file GEMFAST.H

```
static int collided(x, y)
int x,y;
{
   int pel, index;

   v_get_pixel(v_hnd, x, y, &pel
                        &index);
   return (pel!=background);
}
```

■ A code fragment from the file PINBALL.C illustrating the use of the v_get_pixel function call

Although you can select a smaller rectangular area than the total Memory Form, to display non-rectangular sprites you need to resort to clever tricks. The set bits within a mask Memory Form define the shape of the sprite. The NOT SOURCE AND DESTINATION operation is used to punch a hole of the right shape followed by a SOURCE OR DESTINATION to combine the sprite's image with that of the display. The file named SPRITES.C on the Cover Disk illustrates how these operations are used with the vro_cpyform function.

At the first stage of our program, the ball bounced off the sides of the screen. I've now added some rudimentary collision detection: as the ball moves across the screen the program checks to see whether the ball's edge has hit another object (such as a cushion). If there is such a collision, the ball's speed and direction are changed depending on the point of contact. In fact there are eight possible points of contact, called hot spots.

The top, bottom, left side, right side, top-left, bottom-left, top-right and bottom-left points on the circle are checked for possible collision. There is a fairly simple algorithm for working out the new speed and direction (but one which implements an element of randomness). I would encourage any budding games programmers to ➢

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```
void DrawSprite(spp, x, y, shape, mask)
struct sprite_s *spp;
int x,y;        /* Sprite position in logical coordinates */
char *shape, *mask;
{
   register struct sprite_s *sp = spp;
   sp->pxymemscr[4] = sp->pxyscrmem[0] = x;
   sp->pxymemscr[5] = sp->pxyscrmem[1] = y;
   sp->pxymemscr[6] = sp->pxyscrmem[2] =
            sp->pxyscrmem[0]+sp->pxymemscr[2];
   sp->pxymemscr[7] = sp->pxyscrmem[3] =
            sp->pxyscrmem[1]+sp->pxymemscr[3];

   sp->spriteFDB.fd_addr = (long)sp->sptemp;
   vro_cpyform(spp->v_hnd, S_ONLY, sp->pxyscrmem,
            &sp->screenFDB, &sp->spriteFDB);

   sp->spriteFDB.fd_addr = (long)mask;
   vro_cpyform(spp->v_hnd, NOTS_AND_D, sp->pxymemscr,
            &sp->spriteFDB, &sp->screenFDB);

   sp->spriteFDB.fd_addr = (long)shape;
   vro_cpyform(spp->v_hnd, S_OR_D, sp->pxymemscr,
            &sp->spriteFDB, &sp->screenFDB);
}
```

■ A fragment of C code from the file SPRITES.C. Here vro_cpyform A fragment of C code from the file SPRITES.C. Here vro_cpyform is used to draw an irregularly shaped raster sprite – the ball!

improve this; after all that's why we put the source code on the Cover Disk. A useful improvement would be to make the bounce factor dependent upon the colour of the object in the ball's path.

So shake the dust off your C compiler disk, put your brain in gear and create your own major opus. Don't be disheartened if you have to spend a lot of time trying to understand how everything fits together and a bit more to try out some ideas: commercial programs on sale for £20 can take up to ten man years to develop! ■

Next month I cover the C constructs I've skipped over, and address some of the problems that readers have written to me about. So if you're finding it tough going, stick with it and tell me what's causing you problems.

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birth of a notion

Calamus is undoubtedly the best DTP package released for the ST. Don Maple visits Calamus creators DMC in Germany, where the ST is taken very seriously indeed

First shown at the prestigious CeBIT show in Hannover in Spring 1987, *Calamus* now has 10,000 registered users in Europe. The company behind the ultimate desktop publishing package, DMC (Design Marketing Communication), were founded in 1987 by Dietmar Meyfeldt. Formed after the *Calamus* project was already under way, they've experienced a meteoric rise. The big break for *Calamus* and DMC came with the introduction of the Mega ST.

Atari Germany were in need of a serious software package to support the Mega/laser printer combination. In addition to taking over the distribution, Atari bundled *Calamus* with each Mega purchased in Germany. In July 1988, each Mega buyer received a coupon entitling them to a free copy of *Calamus*. This worked very well for both parties. Atari had a serious software package for its hardware and DMC had an instant installed base of over 1000 users.

The big impact in Germany was followed by expansion to overseas markets. A small number of industry figures got a sneak preview of *Calamus* at the PCW show in September 1988. Encouraged by the response DMC soon organised a UK release (see the full *Calamus* review in issue 6 of *ST FORMAT*).

The good news for UK users is that Signa, the British distibrutors of *Calamus*, are bringing in new versions as they become available in Germany. There are slight delays due to the user guide translation, but in return British users actually get a better manual because it ➢

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THE BIRTH OF A PUBLISHING GIANT

The first program DMC released was *Multi Hard Copy* written by Harald Siegmund, the current system programmer. As its name suggests, this program produced hard copy, including colour output, and supported just about every available printer. *Laserbrain*, by Pierre Hansen and Klaus Garms followed next. This was essentially an FX-80 emulator for laser printers. Only after these two programs were released did *Calamus* itself appear.

The first gauge of market reaction to *Calamus* was at the CeBit show in Hannover in Spring 1987. The simultaneous introduction of the Atari laser printer at the same show was to prove instrumental to the future of both DMC and *Calamus*. Following the positive feedback, a demo version was prepared for the first Atari show in Dusseldorf in September 1987.

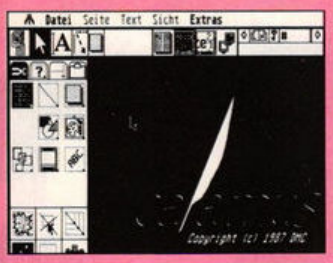
The response from the show was very encouraging. "We could have had a finished product as early as January 1988," said Pierre Hansen, " but at a meeting after the show we decided to do a major rewrite. This was mainly due to new improvements and changes. We did not want to introduce an unstable product. So we made a decision to do it right the first time around, even if it took longer."

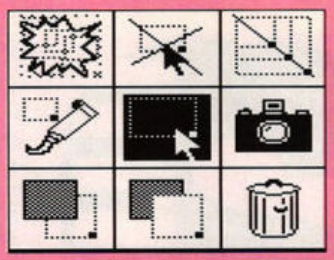
The spiritual father of this new product was Christian Griesbeck. He had the initial idea, but a major software package of this size couldn't be handled by one programmer alone.

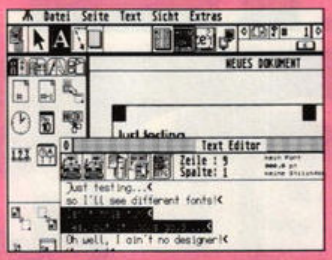
"Calamus has 12 programmers. These 12 are married to DMC. They are very faithful. The *Calamus* project is almost like a religion."



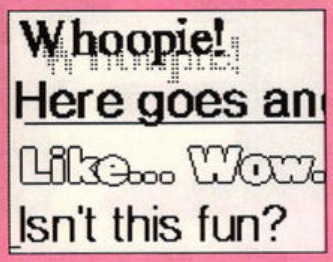
■ **Harald Siegmund, chief *Calamus* programmer and author of the first program DMC ever released**











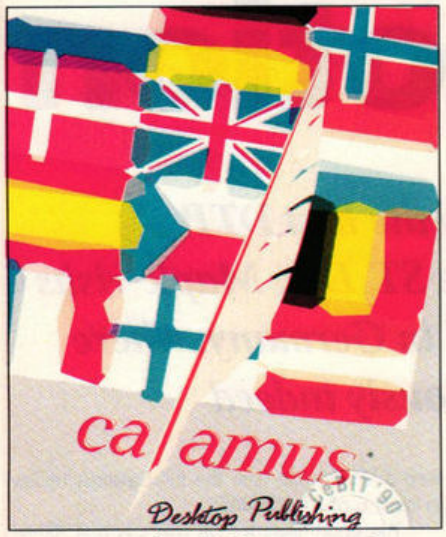
■ **Screenshots from the original "Gothic" *Calamus*. The bewildering array of icons are really not as frightening as they look.**

The current version 1.09 is about to be replaced by a new update capable of full four colour separation





➢ normally includes corrections and reflects any feedback obtained after the original German printing. Signa also supply British buyers of *Calamus* with three additional Compugraphic fonts and the vector font editor for free. In Germany, however, these must be purchased separately.



■ **The new version of *Calamus* supports colour monitors and colour printers and is capable of full four colour separation. This poster, designed for the CeBit show in Hannover, was produced using the new version of *Calamus* and *Outline Art***

***ST FORMAT* spoke** to Pierre Hansen, DMC's product manager, about the past, present and future of the powerful DTP package.

"It's hard to create a DTP program which doesn't use Postscript, and *Calamus* doesn't need Postscript! We have our own page description language which is much more powerful. *Calamus* doesn't need an intelligent printer either: it makes every printer intelligent.

"*Calamus* has 12 programmers. These 12 are married to DMC. They are very faithful. The *Calamus* project is almost like a religion"

"When people program something like this they really have to believe in it. Producing *Calamus* was much more difficult than creating another copy of *Pagemaker* or *X-press*. What made *Calamus* particularly attractive for programmers was that, at the very beginning, there were no restrictions. You could come into the office with your own ideas and we would discuss them. It was very democratic. It was also possible for programmers to pursue their own specific areas of interest."

Now that *Calamus* is established, the impetus has changed somewhat. "After the launch of the program the users were amazed at what it could do. But as soon as they started using it they got greedy. We got requests for a number of new functions. A lot of people are doing things with *Calamus* we never thought possible, so we get a lot of ideas from our customers. One guy even uses *Calamus* to print T-shirts!"

One reason for this wide use of *Calamus* is its flexible and open-ended design. "A very important part of our philosophy is to always try to avoid restrictions. For example, the formula to define formats contains a list of standard formats and a box for the users to define their own. The worst thing a software developer can do is say: nobody is going to use that... You can be sure that two weeks later somebody will call and ask for it!"

The future of *Calamus* is decidedly rosy. It now supports both colour monitors and colour printers. The new version is able to do a full four colour separation. "Possibly more," added Pierre, "because we aim for a true colour representation with built-in screen, scanner and printer calibration. The idea is to be able to scan an image, display it on the screen and print it out – yet maintain identical colours throughout the process."

There are also plans to expand the Page Description Language, but the most important change is that *Calamus* is going modular. "In the past it was essentially one big lump. What ➢

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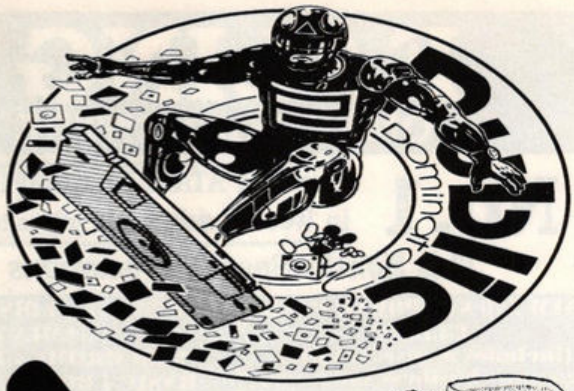
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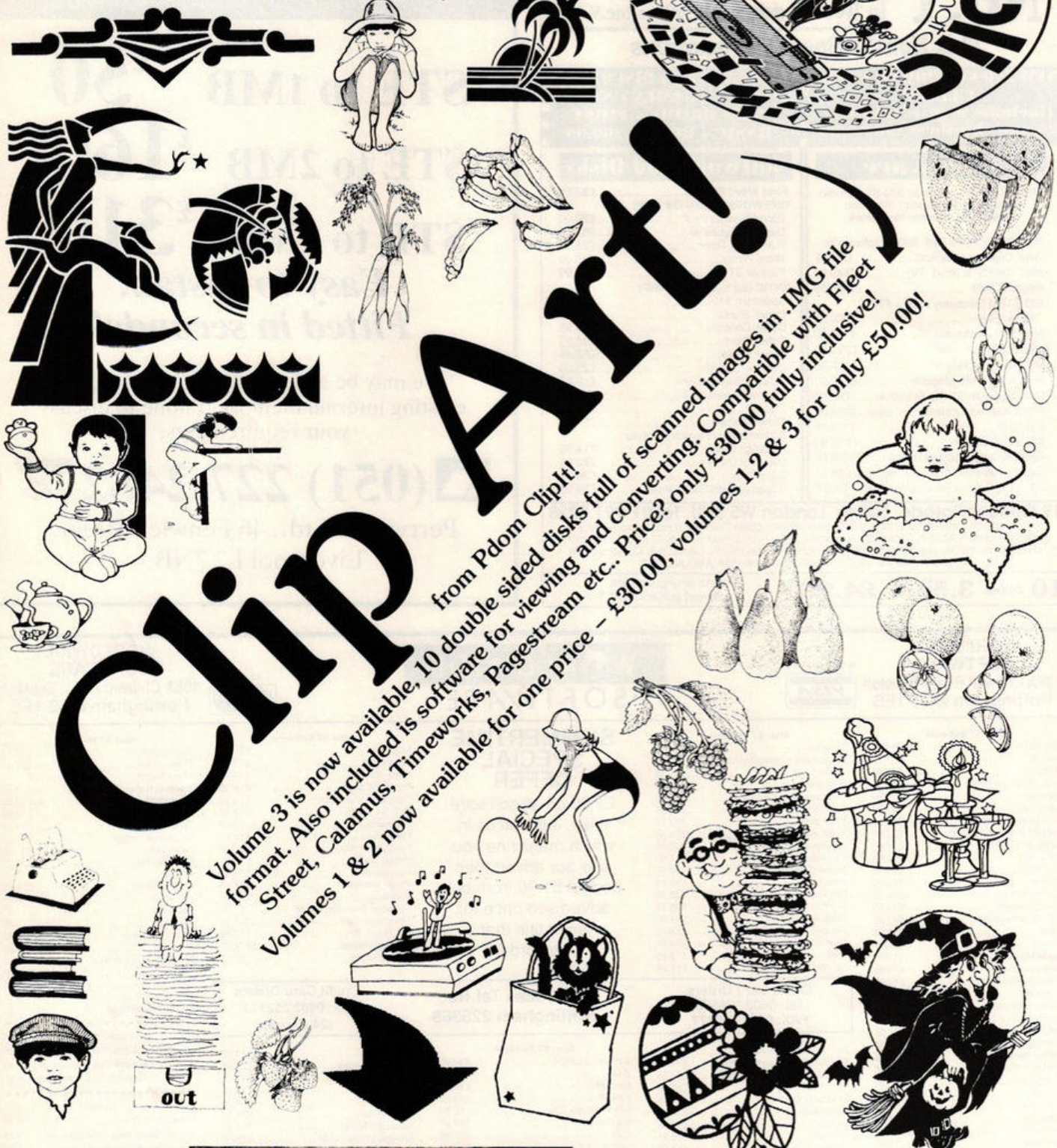


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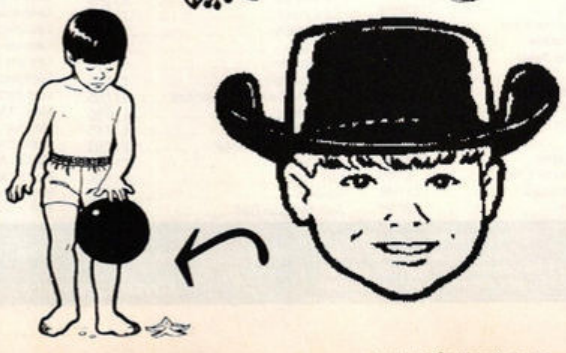
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■ **Pierre Hansen, DMC's product manager, standing with Dietmar Meyfeldt who founded the company in 1987. Thanks to *Calamus* DMC has experienced meteoric growth**

➢ we will do now is turn *Calamus* into a DTP operating system. The new version is completely open. In this way if we come up with a new pixel, vector, chart or text editor, the user can just replace the relevant module or add a new one."

The modules are not limited to the DTP arena alone. A possible configuration may, for example, involve an automatic billing module which analyses how much time a layout takes, updates the customer record using the database module, produces an invoice using the accounting module and finally creates a cost projection for all objects in the layout by using the spreadsheet module.

The modules can hook up into the *Calamus* user interface directly for seamless integration. The *Calamus* event manager is then used by the modules for features such as hot keys or other user defined key combination. DMC wish to attract software specialists to create *Calamus* modules in their own area of expertise.

This change is to be reflected in the marketing as well. "There will be a basic package consisting of a standard version of *Calamus*. The individual users would then expand it according to their specific needs by adding various parts. In this way the average end user can grow with the system. The advantage for us is that the maintenance will be simplified by focusing on a particular module instead of having to change the complete configuration."

"The worst thing a software developer can do is say: nobody is going to use that... two weeks later somebody will call and ask for it!"

Calamus' future now depends heavily upon the success or failure of the TT. As Pierre Hansen explains, "You can do colour on the ST, but you need a very large cup of coffee... Colour requires both raw processor speed and large amounts of memory."

Dealers are high on DMC's priority list. Seminars and dealer consultations are held on a regular basis. DMC also plan a number of demo disks with ready-made solutions. The dealer can then show the hard copy and use the disk to explain how the document was created. This not only makes the job of the dealer easier, but provides examples which were professionally created at DMC headquarters instead of being thrown together, ad hoc, in the shop.

DMC are an excellent example of why the ST is so successful in Germany. They take the ST for what it is – a powerful, yet inexpensive computer. They develop reliable software and don't cut corners. Users recognise the power of the ST and aren't swayed by inferior solutions. ■

The company that produce *Calamus*, DMC (Design Marketing Communication), can be contacted by writing to
DMC,
Postfach 896229,
Walluf ÄF.R. Germany
☎ 01049-6123-71250
Fax: 01049-6123-73881

The British distributors of *Calamus* are Signa Publishing Systems Ltd,
Alexander House, Station Road,
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☎ 0252 341600

***Calamus* costs £399 and *Outline Art* £150.**

PRICELESS POWER

What made *Calamus* a real professional package was Linotype. For the non-cognoscenti among us, the Linotype is a high resolution printer (2,000 dots per inch) with a price tag of about £30,000. This device is used throughout the printing industry to produce professional quality output – like *ST FORMAT*. So it's no surprise that a hardware connection to the Linotype was high on the priority list. The first Linotype interface was already up and running in July 1988. It was officially introduced at the second Atari Dusseldorf show to wide acclaim. The interface was so successful that it took DMC until late last year to catch up with back orders. Imagine, a humble ST driving a machine like that! Power without the price, indeed!

THE WHOLE FONTASTIC STORY

Font data was obtained from a company called Compugraphic, now Agfa-Compugraphic, and converted to *Calamus* under the name DMC Classic Types.

A program called VFE (Vector Font Editor) appeared around Christmas 1988 to expand available fonts by enabling the users to create their own.

Outline Art followed next in June 1989. This converts fonts into vector graphics. The fonts can then be processed and distorted, slanted, rotated, shadowed and even wrapped around various objects like spheres or cylinders. The utility's intended function was to create headlines, but users soon turned it into a vector editor in its own right.

The fonts continue to grow and there are now two new additions. DMC are just starting to support the Linotype fonts, received in the office late last year.

The second major new font supplier are URW. They digitise various font types and then supply them to all the major companies. Their own font system, called *Ikarus*, uses a proprietary format to describe font shapes. Among others, URW digitised the logo for Lufthansa (the German airline).

Even though the actual font data came from a number of sources – Compugraphic, Linotype, URW – all *Calamus*' fonts are stored in a special, proprietary format. This extends to other data structure as well. "We have our own text format, picture format and vector format," explained Pierre Hansen. "When we started developing *Calamus* there were no DTP standards on the ST. GEM just wasn't powerful enough, so we *had* to develop our own structures."

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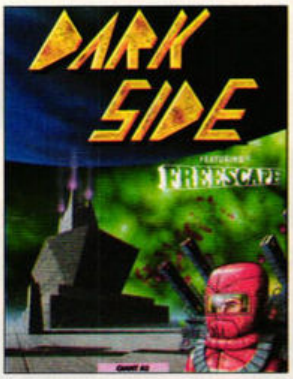
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1

ST FORMAT GOLD



Rainbow Islands
from Ocean

This follow up to Bubble Bobbie looks set to be as much of a hit as Ocean's last cutesy game, New Zealand Story. It combines colourful visuals with frighteningly addictive gameplay, with the result that you end up with one hell of a game.
Graphics have been downloaded from the original arcade version and the moves are just the same. Lead Bub and Bob to the top levels by firing rainbows into the air and then climbing them. When you reach the top of a platform, you can collect thousands of bonus points. There are seven islands to complete, each one more challenging than the last.
"Graftgold's ST Version of Rainbow Islands is one of the best coin-op conversions to have appeared in along time" Maff Evans, ST Format

Rainbow Islands		PRICE	CODE
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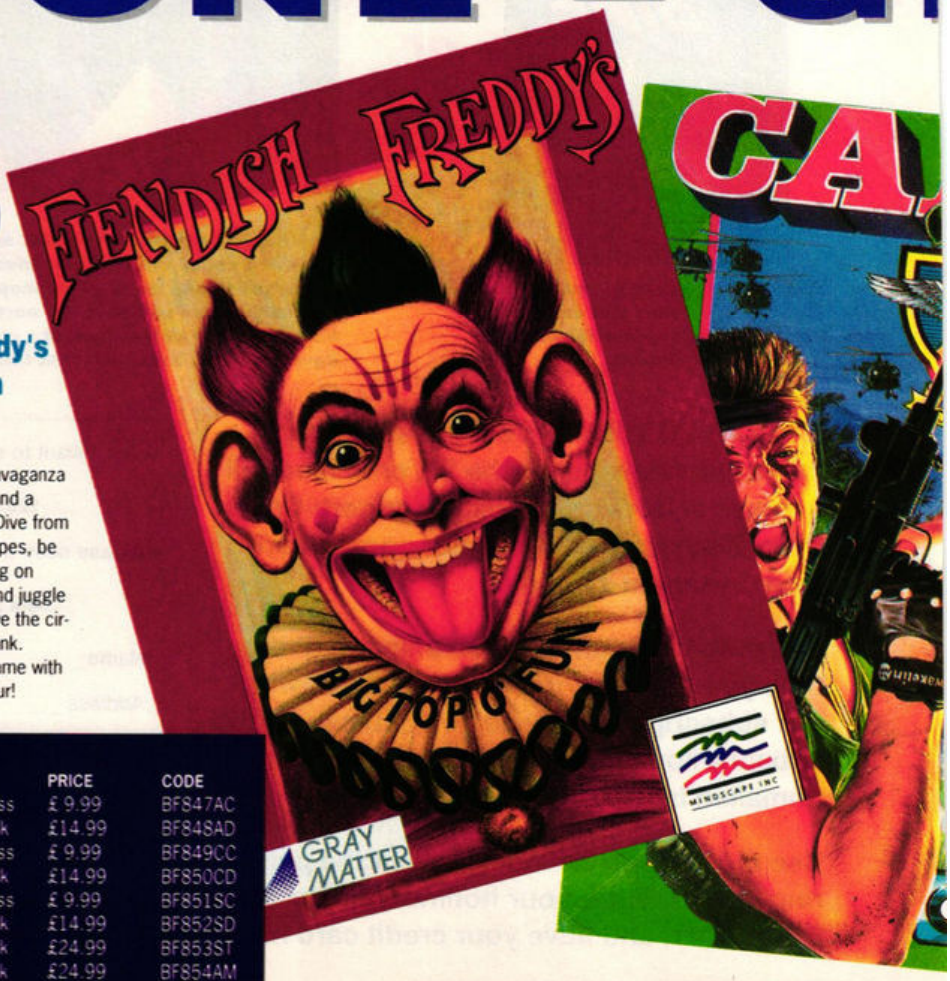
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Fiendish Freddy's Big Top of Fun
from Mindscape

Mindscape's circus extravaganza brings you thrills, spills and a whole barrel o' laughs. Dive from high-boards, walk tightropes, be fired from cannons, swing on trapezes, throw knifes and juggle in a desperate bid to save the circus from the big bad bank.
An original multi-event game with a wicked sense of humour!

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G 2



Black Tiger
from U S Gold

US Gold have had major hits with Strider and Ghouls 'n' Ghosts. Now comes their latest horizontally-scrolling action game, Black Tiger.
In a similar fashion to Ghouls, the objective is to charge through horizontally-scrolling levels, climbing ladders and following red arrows to the end of the level. Along the way, fight ugly gargoyles, snakes and even deadly orchids using your powerful weaponry. When the going gets tough, disappear inside the shop, pick up some extra weapons, and go out for another merry blast.
If you're a fan of horizontally-scrolling action games, you'll love this one.

Black Tiger

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Cabal from Ocean

Go crazy in cartoonland with Cabal. A lone trooper, he's dropped behind enemy lines and must fight his way back home. Level after level must be cleared of buildings and bad guys with machine guns, grenades and bazookas. It looks like Operation Wolf for the under fives but plays like a vet.

Cabal

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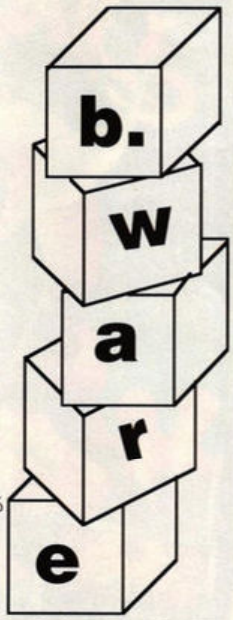
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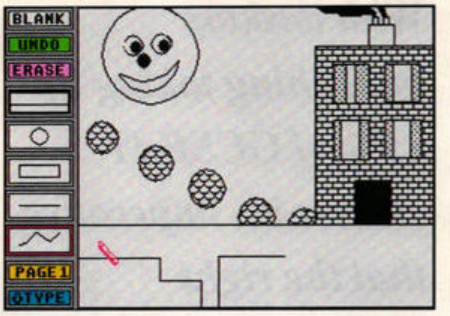
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■ **The title page adds polish to the finished document**



■ **Drawing with *Kidpublisher's* art tools is simplicity itself**

Education correspondent David Jones reports how even primary school children can develop desktop publishing skills with the release of Kidpublisher Professional

new kid on the block

Kidpublisher Professional

MACHINE: ALL COLOUR STs
PRICE: $40
FROM: D.A BRUMLEVE
CONTACT: 0101 217 337 1937

Anyone who's purchased educational software from a PD library must have come across at least one program by the ubiquitous and prolific D.A Brumleve. Her output includes the *Kid*-programs *(Kidgraph, Kidpiano,* and *Kidstory)* which are all of educational merit. They were distributed as shareware and profits went to a school in Illinois.

Kidpublisher Professional is Mrs Brumleve's first venture in the commercial market. V 6.0, under review, has evolved from earlier versions, one of which is available from PD libraries in this country (V 2.1 from Page 6 Publishing, Disk ST163 and ST Club, Disk EDU7).

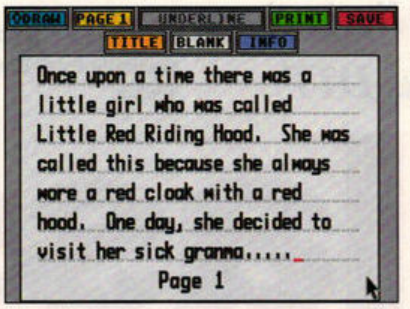
Both enable the production of printed pages containing words and pictures. Each page is divided into two work areas. The top contains the text and the bottom the child's drawing. Five pages can be held in the computer's memory at any one time.

Kidpublisher consists of two well-written, neatly linked programs. A simple word processor and a substantial, but easy to use, art program. The new release is a significant improvement on V2.1. The "typing" screen now has a word-wrap facility. Words that would previously have been split at the end of a line are now dragged down to the next. Typing is also much quicker and therefore less prone to frustration.

The typing screen is bold in appearance and provides children with an excellent introduction to the use of keyboard functions (such as backspace, delete, shift and so on). The skills gained here stand children in good stead when they later progress to more complex packages. Initially, I thought that the limitation of seven lines holding 32 characters of text would be prohibitive, but this seems to have been an unfounded fear. Most stories produced by children tend to be short and to the point.

As with most DTP packages, the user has access to a number of fonts. Four of these (sans serif, outline, small and D'Nealian) are provided with the package. A fifth can be defined by a parent or teacher using a *Degas*-compatible paint program. The drawback with *Kidpublisher* is that only one font type can be used at a time throughout the whole of the document.

The second part of the package is an excellent drawing program, alone probably worth the total price tag! It contains an array of features which, rather than complicating the process of drawing, simplify it. The "drawing" screen bears very little relation to its predecessor. V2.1 only offered line drawing freehand options and a single eraser; V6.0 has a whole multitude of facilities that one would expect to find only in a dedicated art package. These include box, circle and in-fill, as well as three different types of erasers and a very useful UNDO facility that removes the last operation implemented.



■ **A clear, bold screen for children to type in their literary masterpieces**

To accommodate younger children, freehand drawing is not simply confined to the mouse but can also be carried out using the arrow keys. There's also a facility to produce a title page containing title, author and illustrator, which is printed out prior to the main text pages.

All children are imaginative. Any facility which allows them to express their imagination in a novel way must be applauded. The obvious use of this package is to allow children to produce illustrated stories which can be presented in the form of a small book. The use of *Kidpublisher* need not stop there. It could be used to produce posters, class newsletters, magazines and so on. Teachers or parents could generate simple reading books which the child could later illustrate, or even pages of text containing missing letters or words which can be used to develop early spelling skills. Its versatility means it can be adapted to many early learning situations.

Kidpublisher Professional is a superb educational package for primary school children, providing an excellent introduction to word processing and computer art. The integration of these two programs into a simple publishing package provides a unique highly adaptable educational utility. ■

FORMAT RATINGS

***KIDPUBLISHER PROFESSIONAL*/$40/**
D.A Brumleve/☎ 0101 217 337 1937

Features 88%
Excellently linked WP, title page generation and drawing screen

Speed 90%
WP slowed down for young children, all other facilities are instantly accessible

Ease of Use 95%
Simplicity itself

Results 80%
Appealing, though limited to five pages of similar layout

FORMAT VALUE 95%
A superb introduction to DTP

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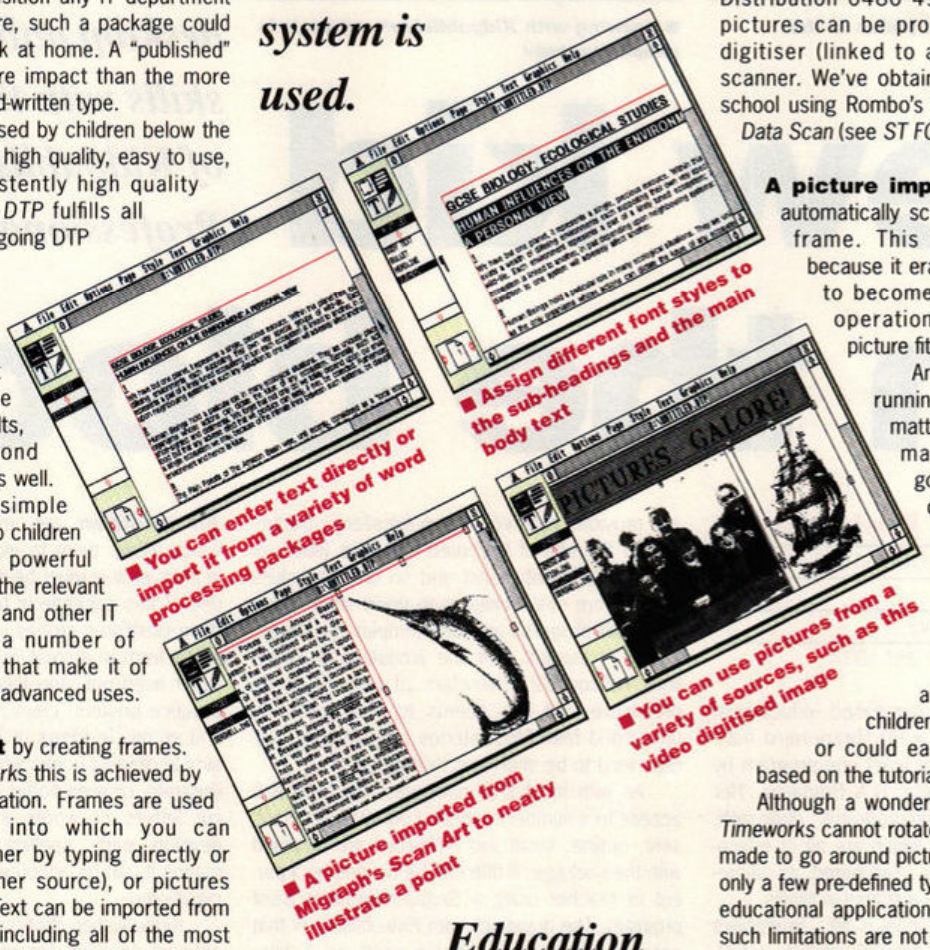
With desktop publishing taking up 25% of GCSE IT classes it's imperative that the right system is used.

Education correspondent David Jones considers the benefits and limitations of Timeworks DTP

DTP is becoming an important aspect of both primary and secondary IT classroom teaching. As an optional topic it can occupy well in excess of 25% of GCSE IT syllabuses and lends itself to a variety of potential uses across the curriculum. Schools are also becoming increasingly interested in the use of DTP for the production of in-house documents – including that hot-bed of creative talent, the school magazine. It could be claimed that a good DTP package is the most important acquisition any IT department can make. Furthermore, such a package could boost any child's work at home. A "published" project has a lot more impact than the more traditional illegible hand-written type.

A DTP package used by children below the age of 14 must be of high quality, easy to use, and produce consistently high quality results. *Timeworks DTP* fulfills all these criteria (see on-going DTP tutorial on page 91).

I've been using *Timeworks* in the classroom for well over a year and not only does it produce consistently high results, but children respond enthusiastically to it as well. Apart from being simple enough to introduce to children as young as 11, it's powerful enough to satisfy all the relevant criteria of the GCSE and other IT syllabuses. It has a number of limitations, however, that make it of limited value for more advanced uses.



Pages are set out by creating frames. In the case of *Timeworks* this is achieved by a simple mouse operation. Frames are used as the templates into which you can incorporate text (either by typing directly or importing from another source), or pictures (drawn or imported). Text can be imported from a variety of sources including all of the most commonly used ST word processing packages. Frames can then later be manipulated to improve the final presentation of the document.

The size and type of text that appears in the document is called the font. *Timeworks DTP* has four fonts available. Although this is a disadvantage for many DTP applications it is (almost ironically) a strength where children are concerned because where there is less to use, there is less to learn about.

Pictures can be drawn directly within the package or imported from a variety of sources. A child's own pictures could be produced with any of the commonly used art packages (including some directly aimed at children, such as HAT's *First Paint* and *Stage II* ☎ 0743 231763) and later brought onto a page. Pictures can also be incorporated from one of the many clip art disks available in the public domain or from commercial clip art packages such as Migraph's *Scan Art* (£39.95 ☎ Electric Distribution 0480 496666). Photo-quality pictures can be produced using either a digitiser (linked to a video camera) or a scanner. We've obtained exciting results at school using Rombo's *Vidi-ST* and Kempston's *Data Scan* (see *ST FORMAT* issue 9).

A picture imported into a frame is automatically scaled to the size of that frame. This is a major strength because it erases the need for pupils to become involved in complex operations to ensure that the picture fits the space available.

Any child can be up and running with *Timeworks* in a matter of a few hours. The manual contains a very good (although somewhat commercially biased) guided tour in the form of four stategically linked lessons covering the most frequently used concepts. Teachers and parents may wish children to follow these lessons or could easily prepare their own based on the tutorial.

Although a wonderful basic DTP program, *Timeworks* cannot rotate frames, text cannot be made to go around pictures and fonts are set to only a few pre-defined types and sizes. For most educational applications up to the age of 15, such limitations are not prohibitive. Beyond this, however, students become more demanding. They begin to experiment more and expect a package to be capable of more. Any demanding job where visual presentation is critical requires a more complex package than *Timeworks*. I'll be considering these alternatives next month. ■

***Timeworks DTP* costs £99.95 and is available from Electric Distribution ☎ 0480 496666**

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feedback

HAS the single-sided drive ST had its day? CAN pirates really be to blame for the STE's problems? WHATEVER happened to Genesis? IS that a poem I see before me? Steve Carey in the chair...

First great adventure

I have owned my Atari 520STFM for almost a year and a half, and now feel that it is time I stopped just playing games and started doing something more creative with my computer. I am very interested in creating my own adventure games and would be very grateful if you could recommend some adventure creating utilities that are easy to use, but also offer a level of complexity that will enable me to create games with an increasing sophistication, once I have learned the basis of the utility.

Philip Wilson
Glasgow

Good to see you're raising your sights, Phil. There are two jolly good adventure creators, either of which would keep you occupied for some time: STAC, *from Incentive (☎ 0734 817288, £39.95) and the amazingly cheap* Tailspin, *from Microdeal (☎ 0726 68020, £8).*

Back from the future

Just popped over in my portable Time Machine to send you a transcription of an Antiques Roadshow programme that went out in April, the year of Our Ford 2040...

"Ah, a late 20th century micro computer. Hmm, built by the Atari Corporation, let's see now, ah yes, unfortunately it's an STFM – quite a find. Let's have a peek inside. Ah yes! A single sided drive, quite rare..."

"That's why I couldn't sell it."

"Quite rare, you don't see many of them on the market."

"What's it worth then?"

"Bugger all!"

PS I wrote this letter because it appears as the prize letter in the June 1990 issue of *ST Format*, and if I didn't come back in time to send it would create all kinds of glaring paradoxes – for instance, I've already spent the £25. Strange but true....

Paul Dixon
Huddersfield, Yorkshire

I reckon there's summat up with your time machine, Paul, because I can tell you for a fact you haven't won the £25 letter prize.

STE: pirates to blame?

Before buying an STE I obviously did some research into its capabilities, and studied articles in *ST FORMAT*. These articles, I have to admit, did initially put me off an ST upgrade. But then I sat back to read between the lines to find out exactly what people were saying, and this is what I came across...

(1) Certain people wanted a new computer.
(2) Certain people wanted to pirate software for that computer.
(3) Certain people found that their pirated software was incompatible with the STE.
(4) Certain people started slagging the STE off because they couldn't get freebies.
(5) Certain people are thieves.

So if people want to buy games and software for their computer, do just that and buy it! It's the pirates which are one of the causes for keeping the price of software high.

So what's the problem? Thieving pirates – that's the problem!

RJ Pardoe
Luton, Bedfordshire

You may have a point, RJ Pardoe of Luton (and see page 16 for our special investigation into piracy), but what your (3) fails to acknowledge is that it's not only pirated software that wouldn't run on the STE: heaps of perfectly legal stuff had problems, too. How would you like to find that much of your old software suddenly won't work because you upgraded?

A hiding for nothing

I have recently bought a 520 STE with software. In with the software was *ST-Organiser*, which holds your records and text. If I want to place something private on the disk, how can I prevent anyone finding it? When I switch on my STE, is there, for example, a program that presents the user with a screen requiring their name and password?

Darin Rogers
Sunderland, Tyne and Wear

This might sound like a dreadfully low-tech solution, Darin, but have you thought of hiding the disk? Alternatively, you can use a disk editor to add a down arrow (Control + B) to the file name in the directory sector (or 02 in hex).

The full details of this trick are explained in Your Second Manual, *reviewed in this issue on page 77.*

Education information

I would very much like to hear from people who use the Atari in education, so could you please print my address?

Hrafnkell Gislason
Skjoldolfsstodum
701 Egilsstadir
Iceland

No sooner said than done, Hrafnkell.

Whatever became of Genesis?

I wonder if you could publish a plea for the author of *ST FORMAT* 4's fractal program ➢

£25 PRIZE LETTER OF THE MONTH: No more single-sided software?

I want to complain about software companies who don't seem to be catering for us double-sided disk drive owners. Why is it that we seem to be paying the same price for a game as owners of the Amiga games machine, and either getting only half the game, or spending time disk swapping? I know there are owners of single-sided drives about, but surely it's about time software companies could start to give us a choice as to whether we want the game for double-sided or single-sided. I mean to say, your mag gives us that option with the Cover Disk and nobody complains to you about it, do they?

Martin Warren
Horsham, West Sussex

I'm inclined to agree with you, Martin. In our latest questionnaire (see page 142 for results), we found that only 15% of our readers own a single-sided drive. Yet many software companies continue to regard that as the standard they write for. Why? It's obvious, really: one includes the other. In other words, every double-sided drive can access single-sided disk software, while the reverse is not the case.

You suggest giving owners a choice, but that would mean producing two versions of the game, which is prohibitively expensive. It seems to me the more likely solution is the gradual phasing out of single-sided software in favour of double-sided. That's tough on the owners of older machines, I know, and I can't really offer them any consolation, other than to say that the end result is a much, much higher standard of game. Indeed I believe our time-travel correspondent has something to say on the matter. Over to you Paul (see "Back from the future" above)...

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Genesis to contact me? I am writing a program to assist players of a well-known science fiction role-playing game to generate worlds in which to adventure.

I have the basic structure and much of the detail complete, and realised that it might be possible to incorporate a fractal to put maps of the worlds up on the screen – a real boon to RPG games masters.

Unfortunately my expertise does not extend to the lengths needed to write the program myself, but the kind of facility shown in *Genesis* is exactly what I am looking for. Full acknowledgements and a share in any profit will, of course, be given.

Mike Oliver
Cardiff

Certainly Mike. We seem to have lost contact with LM Witek, the author of the program, but if he (or indeed anyone else) could get in touch with Mike he and we will be very grateful.

Warning! Poem alert!

I have written a poem for you. It goes like this:

I

When I sit at home feeling unhappy,
I've got to do something snappy,
Rushing to my newsagent straightaway,
I've got to get it and get it today.

II

Yes, you have got that,
It's my copy of ST FORMAT!
With games and disks and information,
But not always in that combination.

III

Seeing as I've got such a game collection,
I had to write this poem to perfection;
I would normally try a quiz,
Instead I'd rather resort to this.

Ryan Templeton
Newmilns, Ayrshire

We don't know what to say, Ryan. We're quite... overcome.

Simple, but *such* fun!

I purchased my 520ST about two years ago to do all of my college term papers and to enjoy some computer games, because I couldn't afford an Apple Mac. I have expanded the memory of my ST to 1 meg and use it to do freelance design using *Calamus*, *Touch-Up* and *Easy-Draw*.

Unfortunately, when I mention to most of my friends that I use an Atari instead of a Mac they think I'm using just a games machine. There aren't enough people here in America that know that there is an alternative to the high-price of Macs or IBM-PC compatibles, but it seems from what I have read in your magazine that in your country the ST is given a little more respect and is quite popular.

I don't know of any one around my city who owns an ST, and tha Atari store where I buy your magazine is 45 miles from my house, so sometimes I feel like the only person on America that owns an ST

I would greatly appreciate it if you could print my name and address so that maybe some of your readers could write to me and exchange info about the ST.

Jose A. Gallegos
1051 S. Waters
Pomona, CA 91766
USA

We're used to thinking of the States as being ahead of us – Atari is of course an American company.

But in fact the ST community is far bigger in Europe, with US users only beginning to catch on. Drop Jose a line, everyone, and show him what he's missing!

A business opportunity

After reading your article "Top Marks" in *ST FORMAT* 10 I wondered if you could suggest any software manufacturers who do a human biology program to GCSE level.

I have looked through many catalogues and have not seen any yet. I thought if you could help it would save me a lot of time.

Nigel Richards
Stanley, Wakefield

Unfortunately there isn't such a program yet, Nigel, though several educational software houses are said to be working on GCSE material. As soon as we have news of such a package we'll let you know, OK?

Apologies and explanations

Following your recent articles proclaiming the worth of PD software I was tempted by an offer in your magazine by "Computer Connections" for 6 PD program disks for £5.50.

Some time ago I sent a letter and a cheque for £5.50 to "Computer Connections" ordering the "PD intro pack" and to this date I have not heard or received anything from them. I have also during this time written to them asking them to either send the goods I have ordered or refund the money: still nothing.

I think it would be a good idea if, in your articles concerning PD software, you could give some indication about distributors were bona fide and which ones weren't.

HJ Gardiner
Abbeymead, Gloucester

We spoke to a very busy Brian Brand of Computer Connections, and he told us that the backlog was due to a sudden increase of orders (the power of advertising in ST FORMAT!*), combined with problems his own disk supplier had had in meeting demand.*

However, Brian assures us that he is now up to date and all orders – including HJ Gardiner's – have been honoured.

Simple, but *such* fun!

Pipe Mania (Cover Disk, *ST FORMAT* issue 9): great demo, very addictive – should carry a warning!

But it just shows that simple ideas can be turned into winners.

Jan Lord
Selby, North Yorkshire

Absolutely, Jan. Glad you liked it. It certainly got one of the strongest reactions to any Cover Disk we've done so far. ■

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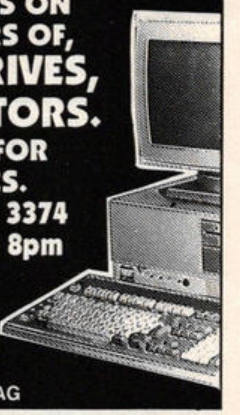
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The results of the 1990 ST FORMAT Questionnaire, analysed by Steve Carey

Before we dazzle you with statistics, may we first put on our sincere voice to thank each and every one who replied to our questionnaire and offered suggestions on how we can continue to improve *ST FORMAT*. Your observations have been studied closely, and we intend to implement as many of them as possible, though we're not quite sure about the suggestion that we make *ST FORMAT* 300 pages each month, put four disks on the cover and reduce the price to 50p.

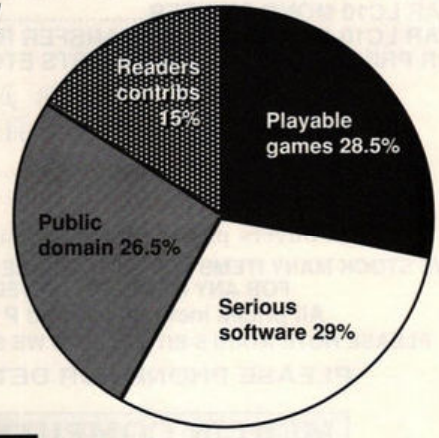
Now, to the results (note that each calculation takes into account those who, for whatever reason, didn't answer particular questions). 24.5% of you are under 16 years old; 32% are 17-24; 18% are 25-34; 17.5% are 35-44; 5% 45-59; and 3% over 60. Over 95% of you are male. You're an affluent lot, with a lucky or hard-working 19% plus earning over £15,000 a year, and 18% between £10-15,000. That should be enough to cover your Poll Tax.

Machine ownership results reveal that the number of single-sided drive machines is now down to 15%. Overall, 76% of you own 520s; 20% 1040s, and 6% Megas. Remarkably, 10% have the new ST upgrade machine, the STE, suggesting that at least one *FORMAT* reader in ten bought a new ST over or since Christmas.

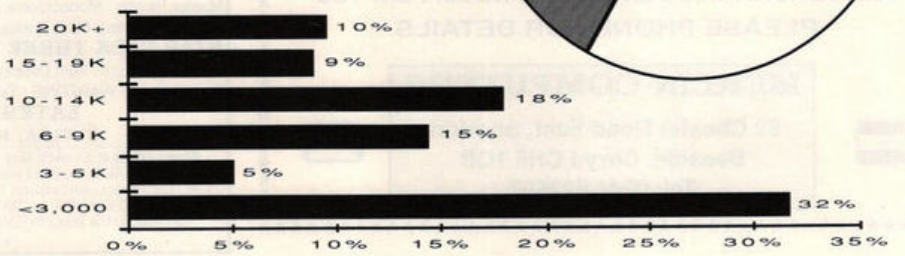
As far as hardware is concerned, 90% own joysticks; 60% printers; 50% monitors; 33% second disk and 16% a sound sampler. One in ten owns a modem, while 14% have bought extra memory – the item top of your shopping list, incidentally (38% of you intend to buy extra memory in 1990, with 24% saving up for a printer and 27% for a second disk).

The results of question 6, "What software do you own?" are fascinating. While 90% of you own games – no surprises there – 63% own programming languages, 48% music software, 75% a word processor and 74% art programs. Most surprising of all, perhaps, is the 43% who own a spreadsheet. You're plainly not satisfied with using your ST just for games – or, indeed, just for serious work.

But what do we make of the fact that only 35% claim to be intending to buy games this year? Either you're overestimating the longevity of the games you already possess, or you are finding the Poll Tax quite a burden, or else the software houses are in for something of a shock! Still, your determination to make the most of your machine is clear enough, with a whacking great 20% expecting to buy DTP software in 1990.

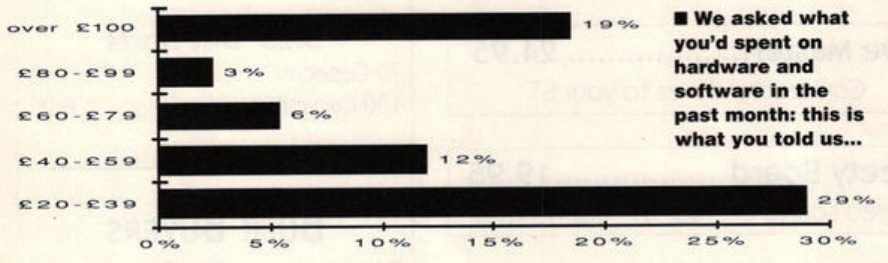


■ **Right: how you would choose to allocate Cover Disk space; below: what you earn, you affluent (and no doubt hardworking) lot!**

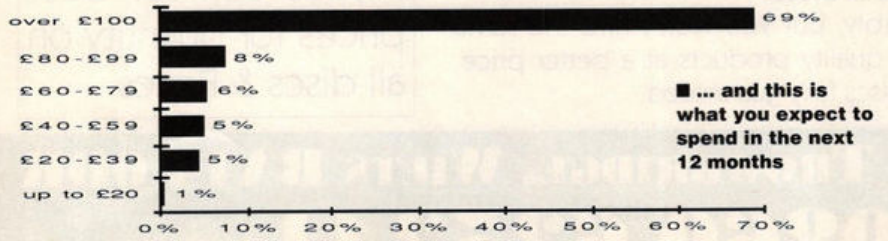


The success of *ST FORMAT* is founded on the conviction that you are neither "just" a games player or "just" a serious user: you're both. This is amply demonstrated in the figures on machine usage: 42% on games, 34% on serious (word processing, business, education) and 24% on other uses (art, graphics, music). Of course some of you are more interested in one aspect, and there was the occasional complaint that we had too many/not enough pages on games/serious software.

Spending shows an unexpected pattern, with nearly a third of you calculating that you shelled out between £20 and £39 on hardware and software in the month previous to filling in the questionnaire. 19% spent over £100 in that period, many of them no doubt on STs.



■ **We asked what you'd spent on hardware and software in the past month: this is what you told us...**



■ **... and this is what you expect to spend in the next 12 months**

You rated *ST FORMAT* at 8.48 out of 10, well in front of any other computer magazine: a very healthy mark indeed, but one which suggests that there's still room for improvement. We'd like to be even nearer full marks next year. Four newspapers are each read by 12% of you: *Sun, Independent, Mail* and *Mirror*.

The Cover Disk is your favourite item (8.28 out of ten). The old-style *Game Busters* was your least liked section (5.8), and we've moved swiftly to try and improve those pages. It's now a regular three page part of the magazine, with a great deal more effort going into it (see page 72 if you don't believe us). We'd appreciate any comments you have on the subject. And *Desktop* (6.8) is next for the treatment, going up also to three pages every month from the next issue.

We asked you how you'd allocate space on the Cover Disk, dividing space into ten. Serious software, public domain and playable game demos all came out very closely (29%, 26.5% and 28.5% respectively). Reader contributions rated 15%.

Finally, a gratifying one in three of you (36.5%, to be precise) have a regular order with your newsagent for *ST FORMAT*. 12% subscribe and many more than that (16.5%) intend to. ■

We received over 500 replies to our questionnaire, and therefore we believe that the results give a reasonably accurate picture of your spending, habits and feelings about *ST FORMAT*.

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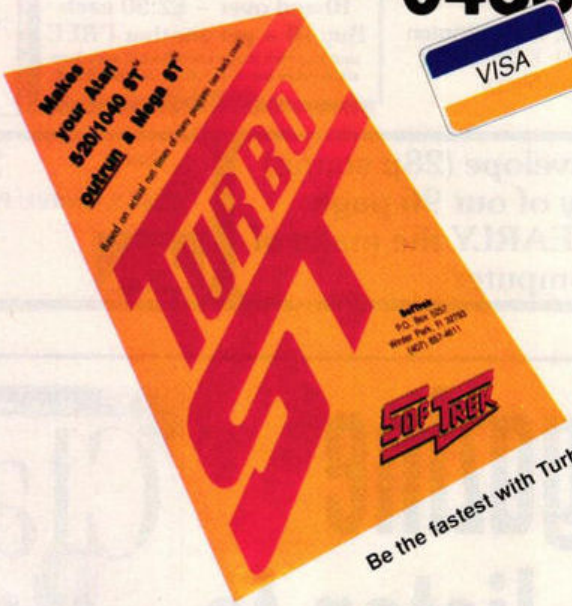
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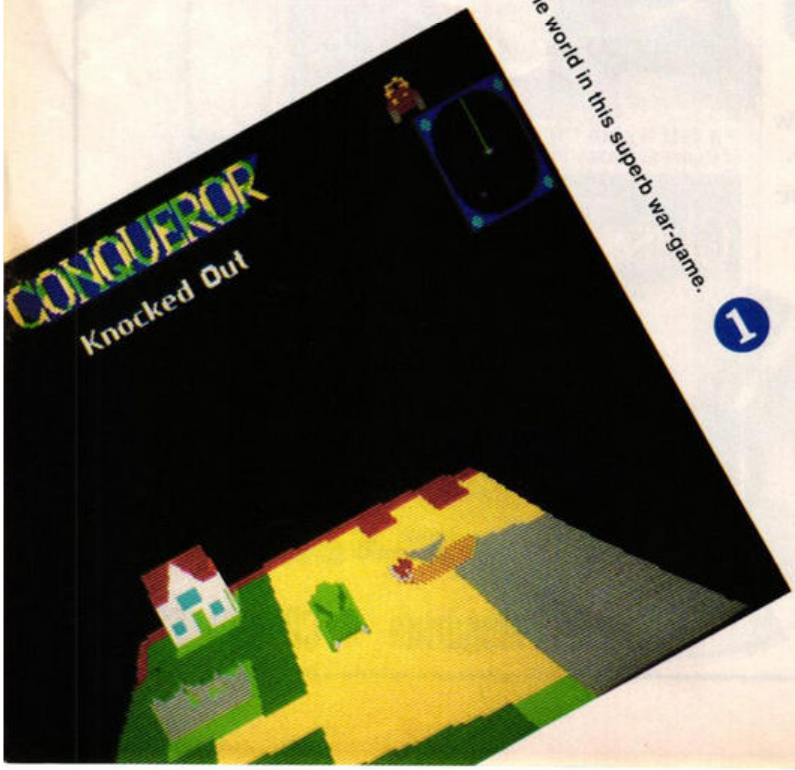


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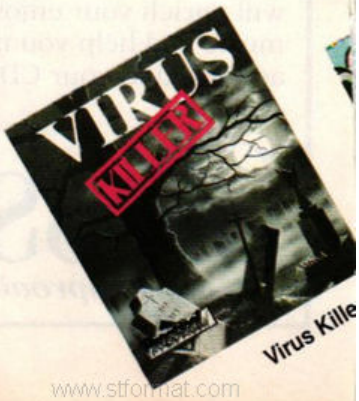
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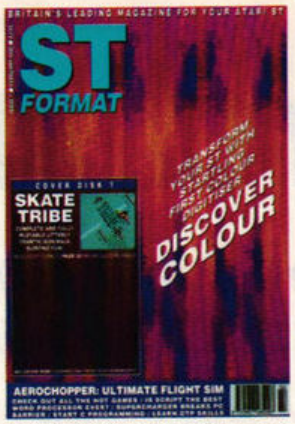
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last word plus

ST FORMAT's July issue, available Thursday 14 June, is a world first, featuring not only the scrumptious Cover Disk but a music cassette too!

Rebel music

Did you see that video to Rebel MC's last single, "Better World"? Rebel, or "Reb" as he's known to his friends, was seen getting himself in a right old state trying to figure out how to use his ST. And the single itself – which as its title suggests is all about how the fighting must cease and we should learn to live together, etc etc – contains the memorable lyrics, "Wait while I reset the Atari."

Coming soon: we explain all those puzzling references to BIOS routines in Frank Sinatra's recording of "New York, New York."

The mag that's read by stars

Norman Cook, ex-Housemartin and currently with Beats ("Dub Be Good to Me") International is a discriminating kind of ST user. Indeed our Norm claims in an interview in a magazine called *Zero* only to possess one single, solitary piece of non-music software. So what is this superb example of ST programming? Why, none other than the Cover Disk from *ST FORMAT 4*, the *That's Fun Face* demo.

Next month we reveal how ex-*Neighbours* star Kylie Minogue relaxes between gigs by reading *Desktop*.

NEXT MONTH'S FORMAT: A WORLD EXCLUSIVE!

Be very sure to reserve yourself a copy of next month's *ST FORMAT*, which hits the streets on THURSDAY 14 JUNE. Not only is there the usual scrumptious Cover Disk (and something a more than a bit tasty on the fully playable game demo side), there are reviews of *Harlekin* (see news story, page 8), GFA's astonishing new multi-program *Mission Control*, the bizarre story of how the ST helps a scientist identify people by their odour, over 20 pages of definitive game reviews, the new three page Desktop and much, much more.

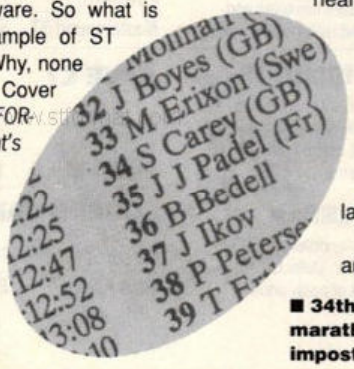
There's also a specially recorded music cassette too – the first time any magazine *in the world* has ever offered one on the same issue as a Cover Disk. Created exclusively for *ST FORMAT*, it offers a brilliant insight into the world of ST music.

And of course there's a superb special feature in the magazine explaining in detail how you can create similar amazing effects for yourself. Miss it and you'll never forgive yourself. Who knows, in years to come this could become a collector's item, worth thousands and possibly millions of pounds!

Marathon man?

Thanks to Marie Beacall of Stoke-on-Trent who sent in a clipping from the *Independent* on the Monday after the London marathon. "Is this what keeps *ST FORMAT'S* editor so trim and healthy?" she asks.

Unfortunately the Scarey in question is not himself, whose idea of a marathon has (very evidently) more to do with nutty chocolate bars than pounding around 26 miles and 276 yards for fun.



■ 34th in the London marathon, fleet-footed imposter S. Carey

Calling the world's user groups

Ken Ward of the Association of Atari User Groups is attempting to bring his database up to date, since several of the groups he has listed appear to have defected to China, or even – can you believe it? – given up the ST. He'd be grateful if anyone involved with any Atari User Groups anywhere in the world would get in touch so he can produce an up-to-date list. Write to him at: 45 Coleburn Rd, Lakenham, Norwich NR1 1NZ. And while you're at it, we'd love to hear from you too, since we intend to produce a list of User Groups for *ST*

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