

# ST FORMAT

COVER DISK 8

## GFA RAYTRACE

FULLY USEABLE DEMO  
OF THIS SUPERB 512  
COLOUR RAYTRACE/  
ANIMATION PACKAGE!



NEED HELP? TURN TO **PAGE 19** WHERE ALL IS REVEALED

## POWER SURGE!

Upgrade, enhance,  
expand, improve,  
transform and  
speed up your ST

NO COVER DISK? DEMAND ONE FROM YOUR NEWSAGENT!

**STE FIASCO: FULL REPORT ON PAGE 11**

**GAMES: GRAVITY, BLACK TIGER, AUSTERLITZ, KICK OFF+ / LEARN DTP & C /**

**MUSIC: SEQUENCERS HEAD TO HEAD - PAGE 89 / ANI ST: HOW TO USE IT - PAGE 27**





# TAKE THE LAW OWN

**THE FASTEST,  
MOST THRILLING  
3D DRIVING GAME YET!**

VOTED  
ARCADE GAME  
OF THE  
YEAR

Take the wheel of your turbo-charged Porsche as you and your partner go in pursuit of dangerous criminals all driving an evil array of souped-up roadsters.

TAITO

**TURBO  
BOOST!**

Need to catch up in a hurry? Well, just one press of your Turbo Button will leave your eyes in the back of your head!

**BARRELLING THROUGH  
THE CITY STREETS**, along the roughest of dirt tracks and through busy tunnels – if you can hold the line! The low life can run, but they can't hide ...

**WITH  
THE  
MATCHLESS  
VIGILANTES**



**ALL AVAILABLE FOR ATARI ST · AMIGA**



Ocean Software Limited · 6 Cent  
Telephone: 061 832 6633 · Telex: 66



# W W INTO YOUR HANDS

## SIX INSPIRED

action sequences put you in control of Elliot Ness's elite squad of crime-busters.

### ALLEYWAY SHOOTOUTS, THE BORDER RAID,

The Railway Station confrontation and Warehouse bust culminating in the thrilling denouement of a

### ROOFTOP DUEL

as you re-live the knife edge existence of Ness in his struggle against the retribution of Capone!

**THE UNTOUCHABLES - LIVE AN AMERICAN LEGEND**

"an absolute corker of a game... as smooth and polished as you can get. animation is top notch... a brilliant film conversion" Games Machine

"a fine example of how to do the job properly... a cracking conversion... easily one of the most successful licences to date" Sinclair User

### BLOCKBUSTER FOLLOW-UP TO LAST CHRISTMAS'S No. 1 HIT... OPERATION WOLF...

NOW WITH TWICE THE ACTION,  
TWICE THE FUN, TWICE THE CHALLENGE

### ROY ADAM IS BACK!

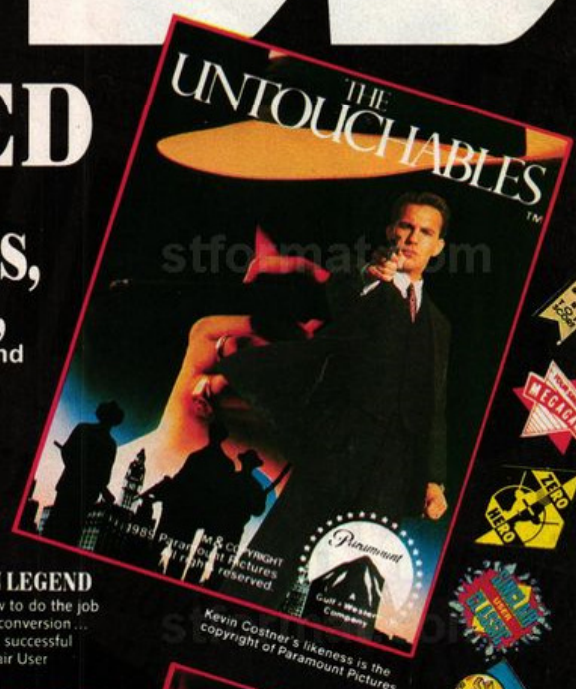
The Hi-jack report came from a DC10 leaving Paris for Boston - Arab guerillas were in control of flight 102 and had turned the aircraft towards Africa... The plane lands in hostile territory and the terrorists begin their demands...

### USE THE LASERSIGHT

or the bulletproof vest, but watch out for

### AIR-TO-GROUND MISSILES

Operation Thunderbolt the incredible Taito coin-op conversion brought NOW to your home computer.



Taito

FROM...



AMSTRAD · COMMODORE · SPECTRUM





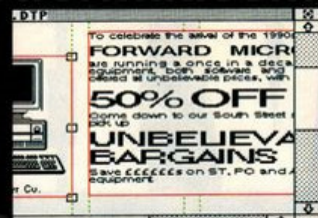
**WHAT'S WRONG  
WITH THE STE?...11**



**ST SEQUENCERS -  
HEAD TO HEAD....89**



**MATHS MADE EASY  
ON YOUR ST.....113**



**HOW TO GET INTO  
ST DTP.....95**

# GET ANIMATED!

**THIS MONTH'S COVER  
DISK FEATURES THE  
WONDERFUL ANI.ST - A  
COMPLETE ANIMATION  
PACKAGE THAT USED TO  
COST £80. WE GET YOU  
STARTED .....27**



## ST FORMAT • ISSUE 8 • MARCH 1990

EDITOR Steve Carey  
TECHNICAL EDITOR Jerry Glenwright  
GAMES EDITOR Mark Higham  
PRODUCTION EDITOR David Collins  
DISK EDITOR Richard Monteiro  
GRAPHICS EDITOR Mark Pickavance  
MUSIC EDITOR Jon Bates

CONTRIBUTORS Mike Gerrard; Warwick  
Grigg; Don Maple; Mark Pickavance;  
Simon Williams  
DESIGN Kevin Hibbert; Trevor Gilham;  
Cathy Fryett; Jane Toft  
PHOTOGRAPHY Ashton James  
PUBLISHER Greg Ingham

ADVERTISING Margaret Clarke,  
Nora Lawton, 2nd Floor  
Rayner House, 23 Higher Hillgate,  
Stockport, SK1 3ER  
☎ 061-474 7333  
AD PRODUCTION Fiona Milne  
ADMIN CO-ORDINATOR James Leach

SUBSCRIPTIONS/MAIL ORDER The Old  
Barn, Somerton, Somerset  
☎ (0458) 74011  
PRINTERS Chase Web Offset, Plymouth  
DISTRIBUTORS SM Distribution,  
6 Leigham Court Rd, Streatham  
SW16 2PG



## Side A

**GFA RAYTRACE** Brilliant 512 colour raytracing and animation demo

**ANI ST** An unbelievable deal! A complete animation package that used to cost £80 (page 27)

**TOWER OF BABEL TOWERS** Three more testing towers from Microprose's *Format Gold*

**C SERIES** Complementing our tutorial (page 100)

## Side B

**MASTER SOUND** Special sample mix from Pandaal's monster sound sampling package

**SUPER VIRUS KILLER** Extraordinary utility that just loves those search and destroy missions

**SAVER** Nifty memory resident screen saver

**FASTCOPY** Inject life into your machine with this super-fast copying and formatting utility

# MORE POWER TO YOUR ST!...56

FROM AUTOBOOTING TO ZMODEM,  
FROM BLITTERS TO WIDGETS,  
FROM KEYBOARDS TO QUICKIES:  
THE ABSOLUTE, COMPLETE AND  
UTTER A TO Z OF HOW TO TAKE A  
GOOD THING AND MAKE IT BETTER



■ On the Cover Disk:  
mindblowing 3D  
graphic simulations  
with *GFA Raytrace*

## GAMES

GAMES INTRO.....	33
ADVENTURES .....	107
AQUANAUT .....	52
AUSTERLITZ .....	48
BEVERLY HILLS COP.....	38
BLACK TIGER .....	34
DARK CENTURY .....	37
DR DOOM .....	46
GAMEBUSTERS.....	105
GAME PREVIEWS .....	54
GRAVITY .....	42
KICK OFF EXTRA TIME.....	52
RINGS OF MEDUSA.....	40
WILD STREETS .....	50



■ Hang on! Mirrorsoft's  
*Gravity* makes a grab  
for your attention ...45

NEWS.....	7
ABROAD .....	16
GAMES REVIEWS ..	33
GAME PREVIEWS ..	54
PD.....	75
DESKTOP .....	86

MUSIC .....	89
SEQUENCER ONE .....	89
PRODIGY .....	90
DTP TUTORIAL.....	95
C-LANG TUTORIAL.....	100
GAMEBUSTERS.....	105

ADVENTURES .....	107
QUESTIONNAIRE .....	110
EDUCATION .....	113
SUBSCRIPTIONS.....	115
LETTERS .....	119
OUTRO .....	122



# DRAGONS BREATH



**I**mmortality. Legend has it that the secret is hidden in the Throne Room of the Great Castle atop Dwarf Mountain at the centre of the land of Anrea.

Breed a fighting force of dragons and conquer the villages of Anrea. Collect taxes and buy magic ingredients from passing traders to cast spells. Finally, complete the Talisman that guides you to your ultimate goal.

Dragons Breath. A Fantasy Strategy game for up to three people.

ATARI ST ♦ AMIGA

PALACE

INCLUDES FREE Spellbook



# STE FUTURE BRIGHTENS

**F**ollowing all the doom and gloom stories detailing the incompatibility problems of the STE, *ST Format* can reveal that all is not lost with Atari's latest baby. Software houses are beginning to join the burgeoning band of programmers converting their software for use on the STE.

■ Popular programming team Codemasters have converted their pop industry spoof *Rock Star Ate My Hamster* to take advantage of the STE's graphics and sound capabilities.

Codemasters have adopted a novel drop-down menu system to enable users to select the STE's enhanced graphics and sound. STFM owners can simply play the game as it is. The changes will undoubtedly inject much-needed interest in the flagging game.

■ French coders Titus' latest release includes a special version for the STE, and *Future Wars* from Palace has also been made fully compatible.

■ And Microdeal's *Canvas* (a demo of which is on next month's *ST Format* Cover Disk) is the first graphics package to take advantage of the STE's improved colour range.

These conversions point to a fully software compatible STE by the early summer.

## RESOLUTION GLITCH RESOLVED

Another problem associated with the STE is its inability to boot in medium resolution. Many programs such as word processors, spreadsheets and PD applications take advantage of medium resolution in order to provide high resolution displays on colour televisions and monitors. Unfortunately, the STE boots into high or low res only, completely ignoring Desktop information files to the contrary. Luckily this problem was one which Atari quickly discovered and have released a software patch into the public domain, effectively curing the problem. Simply including the fragment of code on a disk enables the

machine to be booted into medium resolution.

Many PD libraries such as Softville (0705 266509) have the patch, but to save you going to the trouble of ordering and waiting for a PD disk to be dispatched, we will include the utility on issue 9's Cover Disk. If you're desperate for an immediate cure, consult the Desktop pages in this issue which contain details of an amendment you can make to the *DESKTOP.INF* file.

## GST DENY PROBLEMS

As well as games, several top-selling serious software packages are alleged not to run correctly on the STE, probably the most notable of which is the *1st Word Plus* word processor from GST. Many ST owners use the package, but some STE owners have reported problems with strange combinations of



## ■ A fully compatible future for the STE?

characters appearing on screen. GST have made preliminary investigations into the problem but have yet to find anything wrong. "We've tested the program with the STE but haven't found any problems", said GST developer David Yemeraliski, "we would like to hear from anyone experiencing difficulties." If you've tried unsuccessfully to run *1st Word Plus* on the STE call GST on 0480 496789.

## "WHY WON'T MY GAME RUN ON THE STE?"

To get the most out of a machine the game programmers tend to drive the hardware directly (writes Don Maple). This, in turn, makes the programs extremely sensitive to any changes in hardware. And, you guessed it, that's exactly what's happening now.

The STE contains a number of new chips whose registers are sprinkled amongst the existing ST registers. The first catch is that if these new registers are not correctly initialised an ST program may not run. Conversely, when an ST program inadvertently writes to an address, which on the ST has no effect, this may produce undesirable results on the STE. Because these addresses have no effect on the ST the programmer may not even be aware of this runaway code.

But even if the programming is clean, the next stumbling block is the screen address itself. On the ST this address is specified using only two bytes. The third - low - byte is always assumed to be zero which is why the ST screen has to be on a \$100 (256) byte boundary. The STE, on the other hand, will allow this third byte to be set in order to provide smooth scrolling. An ST program will not initialise this STE register causing two problems. One, if the register contains an odd number - bang - address error! Two, if the register contains an even value other than zero - wham - the picture is not aligned producing an image similar to a bad horizontal hold.

And then there are colours! The STE palette contains 4096 colours which is achieved by adding a fourth bit to each RGB component. If an ST program does not explicitly clear this bit, the resulting STE colour may be random.

## COMMENT BETTER A TURKEY THAN A DINOSAUR

Great mysteries of the universe. How is it Michael Barrymore is so popular? Why do the other queues always move faster than yours? How come the best albums never quite fit onto one side of a C90? And, most baffling of all, how do Atari always contrive to snatch defeat from the jaws of victory?

Imagine it. You have, ready for launch, a long overdue upgrade to the base level ST. You unveil it in Germany one month; hide it from an eager public at the year's biggest computer show in Britain the next; and finally release it, quite unexpectedly and without fanfare, in the weeks just before Christmas.

## CREST OF A SLUMP

Then, in a quite extraordinary turn of events, the new upgrade machine fails to run dozens of top games, thereby ensuring a certain triumph is turned into disaster. It's quite something to be able to open your mouth, put your foot in it and then shoot the foot.

For the whole sorry story, see page 11. Briefly, the implications are that a large proportion of STEs should be selling to people who already own STs, but who certainly aren't going to be pleased to find that their expensive software library is suddenly decimated. Neither the people upgrading from 8-bit Spectrums and CPCs nor those new to computing are going to be overly impressed with a machine whose main claim to fame is its nomination as Christmas 1989's biggest turkey.

We here at *ST Format* have been inundated these past few weeks with bewildered, frustrated and in some cases furious readers who ordered an ST and opened the box to find an STE. They didn't order one, they didn't expect one, and, now they've seen what happens when they try and load games on it, they certainly don't want one.

## DON'T DESPAIR

If, as Denis Norden is wont to say, you are one of those people, do not despair. There's nothing wrong with your STE. In a few months Atari are expected to relaunch the machine, by which time all software houses will be eager to stress their new games are fully STE compatible. They will soon be releasing titles taking advantages of the STE's enhanced sound and graphics.

In the meantime this is hardly much help. Take consolation in the fact that at least you're able to upgrade: better a turkey than a dinosaur. Atari clearly intend the ST should be a key player in the home computer market for some years to come, and that in itself is good news. We can only hope against hope that the lessons of this bizarre tale have been learned.



# XENON CRASH!

**P**ortsmouth-based mail order company Xenon Technologies have crashed spectacularly, leaving 17-year old proprietor Stephen Lee floundering in a sea of debt. Accountants currently examining Xenon's books say that customers will be partially reimbursed if any cash remains. They stress however that customers will lose money.

Problems started when stocks failed to arrive at Xenon's premises on time, causing a severe cash-flow problem. Kingston CID have stated that they know of no criminal intent surrounding the collapse. Lee "cocked up his business" said a police spokesman: "if the accounts suggest that he has done something wrong then we will investigate, but he appears to have kept well organised books."

Meanwhile Lee's Father is sending letters to all those awaiting goods and is ensuring that cheques and postal orders sent since December 24 will not be cashed. Police advise that anyone who has sent money to the



■ Xenon Technologies: Gone bust!

company should "sit tight" and hope for the best.

If you sent a cheque since the 24th December it will not be cashed, but due to accountancy investigations neither will it be returned. Contact your bank and cancel the cheque. Postal orders sent after the 24th will be returned. If you're still waiting contact Xenon.

If your order was sent before December 24th, write to the company at Xenon Technology, 71 Wadham Road, Northend, Portsmouth PO2 9ED. You will receive an explanatory letter but may not be reimbursed. And don't order anything new from Xenon!

# CYBER CUTS

Electric Distribution have announced price cuts across the popular Cyber range of products. A total of 14 Antic products have been reduced including Cyber Studio, Cyber Paint and Cyber Control as well as the human, architectural and future design bolt-on disks.

Reductions range from £10 to £30 providing a significant increase in value for money. Two Migraph products, *Easy Draw 2* and *Supercharged Easy Draw 2* have been cut by £30 and £20 respectively. In addition, *Data Manager Professional* from Timeworks is reduced from £69.95 to £39.95. Electric Distribution are contactable on 0480 496666.

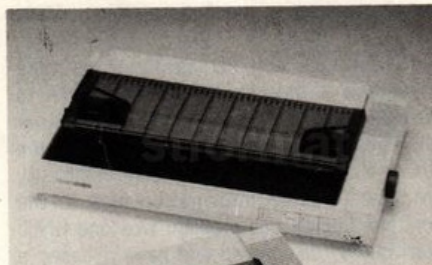


■ Cyber range; reduced in price

# CITIZEN GETS SET UP

Printers can be a hazardous stumbling block for novice and experienced computer users alike. Rarely can you simply plug the device into your ST, switch on and print. Software has to be configured, printer drivers chosen, dip switches flicked and by the time the printer's finally ready to do its stuff, you could have written a small novel by hand. But now, respected printer manufacturers Citizen are set to wipe away problems at a stroke with their latest gizmo, the ProDisk24.

ProDisk24 is supplied free of charge with the Citizen ProDot24 printer. Contained on the disk are five utility programs designed to get you up and printing with the minimum of tinkering. The programs include a printer set up program, explanation of printer options and utilities providing greater control of available options. They are menu driven making them simple to use for even the most hardened techno-phobe. Take advantage of a trouble free set-up and call Citizen on 0895 72621.



■ An easy printer set up with ProDisk24

## NEWS IN BRIEF...

■ If you're a prospective SEUCKer frantically trying to boot up the *Shoot-em-up Construction Kit*, forget it. For Palace have just announced an error in the program's duplication which successfully stops owners from using the application.

Instructions included with SEUCK tell users to switch on their ST, insert the first disk and double-click on the resulting program icon on the Desktop. In fact, the icon never appears. What you have to do, in fact, is insert the disk *before* applying power to the ST. Switch on and the program will boot. If you have problems, Palace will be exceedingly pleased to help you on 01 278 0751.

## NEWS IN BRIEF...

■ Is your mouse on its last legs? Are slow pointer movement and sluggish buttons leading to a marked lack of activity on your Desktop? Basildon mouse experts Romulus Data Systems have the answer.

For an all inclusive price of £5.95 Romulus will replace the switch buttons, clean the rollers (squeaky clean?) and lead and repair any broken internal components.

For £8.50, your mouse will receive all of the above and a new lead.

Contact Romulus Data Systems at 44 Ayletts, Basildon, Essex SS14 1UL. Tell 'em ST Format sent you.

## NEWS IN BRIEF...

■ Remember when Paradise Computers PD Library offered free condoms with public domain orders? The company that spells tacky with a capital T are now giving away free Easter eggs in a bid to win your custom. All orders over £6 sent before Easter will be accompanied by the chocolate necessities.

Paradise regain a modicum of credibility, however, by including STE compatibility details with their catalogues and testing their full range with the latest Atari machine.

Free catalogues can be obtained by sending a 28p SAE to Paradise Computers, 9 Westfield Crescent, Brighton BN1 8JB.

## NEWS IN BRIEF...

■ ST DTPers feeling they've been pushed out into the cold by the Apple Macintosh, the IBM PC and their expensive suites of publishing applications can take heart in the latest DTP package sales figures. A survey has shown that *Timeworks Publisher* has a 34% share of the micro DTP market compared with the Mac's *Pagemaker* at 22%, *Quark Xpress* at 3% and the PC's *Ventura* and *PageMaker* at 13% and 15% respectively.

■ Finally, Digita International wish it known that they use "Environment Friendly" paper in all their packaging, manuals and press releases. So there!



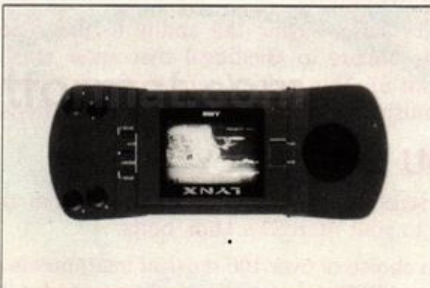
# ATARI HAND-HELD SHOWN AT TOY FAIR

**A**tari UK finally showed the Lynx hand-held games computer at the British Toy Fair in January. Primarily a trade event, the Toy Fair was a springboard for an Atari onslaught on the gift-buying public next autumn.

No official release date has been set for the hand-held games console and Atari were being noticeably reticent about the possibility of a launch date at the fair. However, an Atari spokesman has assured that "...the Lynx will be launched this year and that it will be one of the fastest selling items in this country next Christmas."

Atari have asserted that it's not in their interest to reveal release and pricing schedules due to the large amount of competition from

machines such as the Nintendo Gameboy. When pressed, Atari say that they have noted "a number of rumours of a price around £149" and that they have "found this price acceptable to high street multiples' buyers."



■ The Lynx at the British Toy Fair

## COMPETITION NEWS

There were more competitions than mistakes in January's *ST Format*, nearly. The winning entries, pulled from the box with all the ceremonial pomposity the office junior could muster (ie not much), have won prizes ranging from Ferrari F-40s (ahem, models) to a relaxing Murder Weekend, top quality camera equipment and foot-stomping CDs. And the winners are:

**Hard Drivin'**: David McIntyre from Edinburgh, S.L. Jones from Cardiff, Nigel Crooks from Yorkshire, John Dodds from East Lothian, and Peter Whittaker from Leamington Spa.

**Photofile**: Ken Parker from Nottingham.

**Hound of Shadow**: Matthew Turtle from Cirencester.

**Play It Again Sam**: Paul Deverill and J.A. Collins from Redditch, Colin Potter from Yorkshire, M.C. Ritchie from London, Miss K Roberts from Bromsgrove, Richard Hope from Crawley, Adam Jones from Croydon, Steve Boyd from Glasgow, Clare Turner from Halifax and the aptly named Mr and Mrs Strange from Luton.

Everyone who wisely bought an ST last autumn found a special edition of *ST Format* snuggled inside the box and a bumper prize offered in the **ST Format Powerpack Competition** - Atari are generously giving away a year's supply of software. The lucky winner of every single game Atari release this year is... **Miss H. Fossett from Romford!**

## CHRISTMAS CHEER FOR ST

As Gallup figures are published for the crucial Christmas period, it's clear that it was a very good Yuletide indeed for ST software sales.

As for the "all important" number one spot, that honour went to Domark's *Hard Drivin'*. It was late appearing and doesn't make the chart at all for the whole December period, but stormed in to take the number one spot. Even more unexpected was the sudden arrival of *Chaos Strikes Back*, Mirrorsoft's *Dungeon Master* data disk. Most extraordinary of all is *Robocop*'s apparently permanent residency in the charts, occupying the number ten spot almost a year after it zoomed to number one.

The ST best seller in December as a whole was *Chase HQ*, hotly pursued by *Batman*.

**ST TOP TEN** (fortnight ending 30/12/'89)

1. *Hard Drivin'* - Domark
2. *Chaos Strikes Back* - Mirrorsoft
3. *Batman* - Ocean
4. *Chase HQ* - Ocean
5. *Ghouls and Ghosts* - US Gold
6. *Ghostbusters II* - Activision
7. *Bomber* - Activision
8. *Untouchables* - Ocean
9. *Turbo Outrun* - US Gold
10. *Robocop* - Ocean

## STEREO SOUND ON THE ST

Much is made of the Commodore Amiga and its stereo sound capabilities. The new STE provides stereo sound - assuming of course that the software you're running is programmed for stereo (and runs!) - but what about STFM owners still suffering dull mono? Just for you Saxon Electronic Supplies have created an add-on "black box," the *Dimension 1*, enabling an STM/STFM to produce stunning stereo effects.

Placed between the computer and monitor, the *Dimension 1* connects to a domestic stereo amplifier (or one of those little 2 watts-per-channel gizmos that a certain high street box-shifter sells) and provides stereo effects from standard mono sound signals emitted from the ST. Games benefit immensely from the new device and do not need to be programmed specifically to support stereo reproduction.

"Hours of stereo fun!" claims the packaging spiel. If this is for you, *Dimension 1* costs £32.50 and is available from Saxon Electronic Supplies on 0455 251197.

## TECHNICAL EDITOR

### COULD YOU WRITE FOR ST FORMAT?

Britain's brightest and best ST magazine is looking for a talented and ambitious writer with a sound technical knowledge of the ST. If you are:

- excited by the prospect of working for Britain's fastest growing publishing company,
- thrilled by the opportunity to work with the *ST Format* team, and
- determined to advance your career in magazine publishing,

- we want to hear from you. We are offering an attractive package and excellent prospects based in Europe's most beautiful city (Bath). In return we expect you to produce first class copy, working to strict deadlines.

Send a CV and a sample of your writing (300 words on any ST-related subject, published or otherwise) to Steve Carey, Editor, *ST Format* at the address below.

**Future**  
PUBLISHING

### FUTURE FACTS

- Formed in 1985
- Now more than 100 staff
- 10 major titles
- Ambitious growth plans

Future Publishing, 30 Monmouth St, Bath, BA1 2AP • 0225 442244

## HAT Software

### New!! Learning to Type

A typing tutor for the young and not so young. Ladies, do you want to return to the modern office but are unsure about your keyboard skills? Brush them up at home. The kids can enjoy the "Shoot 'em up" game to improve their skills and speeds.

Only £14.95, or direct from us at £15.45 inc P & P.

Also JIGSPELL, the spelling support program, FIRST PAINT and STAGE 2, our well established graphics packages, and many more. Send for our full list.

21, Wyle Cap, Shrewsbury, SY1 1XB  
Tel: 0743 231763

## NOT ALL PUBLIC DOMAIN LIBRARIES ARE THE SAME

Thousands of ST users already know, so why don't you discover the difference and send for the latest free catalogue from Goodman Enterprises.

Now firmly established as one of the leading suppliers of Public Domain and Shareware for the Atari ST.

Send a first class stamp or telephone for further details.

New "So What" demo from the Care Bears available NOW! (Compatible with the STE)

**GOODMAN ENTERPRISES**  
16 Conrad Close, Meir Hay Estate  
Longton, Stoke-on-Trent  
ST3 1SW

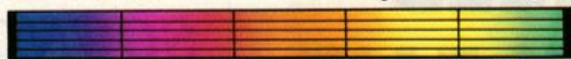


☎ 0782-335650





# QUARTET



## THE DIGITAL MUSIC MACHINE

### THE DIGITAL MUSIC MACHINE THE POWER OF A MUSIC SYNTHESISER IN YOUR ST

QUARTET is a 4-voice polyphonic music synthesiser, being polyphonic it is the first program to actually allow 4 instruments to be played back at the same time. Quartet turns your ST into a real musical Quartet. It runs on a standard 520 ST and does not require any special hardware. As you become more professional you might want to import your own sounds from Microdeal's "REPLAY" sound sampler and add a keyboard with Midi connections for input of music or playback of sounds.

QUARTET really stands up to its name having the ability to play back four voices simultaneously using programming techniques entirely unique to Microdeal that allow music playback at up to 15 kHz to give unrivalled sound quality from your ST. This style of sample sequencing has previously only been available to professional programmers and musicians, with systems costing hundreds of times more.

#### WITH QUARTET YOU CAN:

COMPOSE music on the four scrolling staves by either input from the mouse or by playing on a Midi Keyboard/Instrument connected to your Atari ST's Midi ports.

CHOOSE your instrument from a choice of over 100 musical instruments and sounds included with Quartet or import the sound from Microdeal's "REPLAY" sound sampling cartridge. Up to 20 instruments can be selected for playback in any piece of music. Imagine being able to compose your own music for your own Quartet of 2 Violins, a Viola and a Cello, and then being able to change instruments to a Piano, flute, harp and bassoon.

PLAY back from QUARTET'S four channels simultaneously through your Television, Monitor, or for really high quality through Microdeal's "REPLAY" sound sampling cartridge. From "Classical" to "Modern", "Beethoven" to "Bomb the Bass", Quartet will play them all.

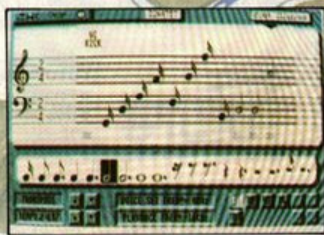
#### QUARTET FEATURES:

- ★ 4 voice sampled music synthesis
- ★ Simple, powerful mouse controlled on-score music editor
- ★ Simple to use slides and loops
- ★ Variable sample playback from 4 to 16 kHz
- ★ Up to 20 samples in memory at one time
- ★ Playback through Television, Monitor or Microdeal's "REPLAY"
- ★ A selection of over 100 sampled musical instruments and sounds
- ★ Use samples from "REPLAY" or any popular sampler
- ★ High quality playback through "REPLAY"
- ★ Sample processor allows filtering and repeating samples
- ★ Simple to add your songs to your own programs
- ★ Includes routines for GFA & Hi-Soft basics, C & Assembler
- ★ Full MIDI compatibility if you own a Midi keyboard
- ★ Digital processing software to change the pitch of samples
- ★ Also supports "REPLAY" professional.

#### MIDI COMPATIBILITY:

If you have a keyboard or instrument with a Midi Out socket then Music can be entered into one of Quartet's 4 channels by simply selecting the Midi Record mode, whilst you are recording this channel, Quartet plays back any of the other channels previously recorded.

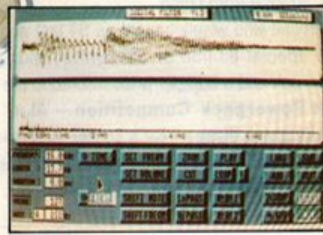
Instruments or sounds held in Quartet's memory can be replayed on your Midi instrument by selecting Quartet's Polyphonic play mode, this allows you to replay up to 4 different notes simultaneously so chords are no problem to Quartet.



QUARTET MAIN SCREEN



© MICRODEAL 1990  
ALL RIGHTS RESERVED



DIGITAL PROCESSING  
SOFTWARE

### QUARTET ORDER FORM

Quartet is £49.95 post & packing £1 (all prices inc V.A.T.)



**BY PHONE  
WITH  
CREDIT CARDS**

**(0726) 68020**



**BY POST:** with Cheque · Postal Order · or Credit Card

Name .....

Address .....

Post Code .....

Credit Card Type ..... Expiry Date .....

Number .....

**Please allow 28 days for delivery**

**Send to: Microdeal · PO Box 68 · St Austell · Cornwall · England · PL25 4YB**





# THE STE— WHAT WENT WRONG

**T**he STE was going to be an Amiga-beating computer: a machine capable of quite stunning graphics and sound, fast computation, yet priced at a level everyone could afford. Instead of the usual rannygazoo surrounding computer launches, the STE sneaked out of Atari's back door and was discovered by — instead of being forced upon — unsuspecting journalists.

News of the STE's imminent release was reported in the the press and, with the exception of one or two disgruntled programmers airing "it won't be supported" views, the machine became popular enough for enthusiasts to wait with baited breath. Rumours about price and availability were rife and everyone wondered whether they could afford to junk their existing ST and upgrade to Atari's latest baby.

Then quite without warning, reports of STEs on shelves started rolling in. The 1040 appeared first, with the 520 following swiftly on its heels. What started as a drip became a

*The new enhanced ST was going to conquer the world, but instead became Christmas 89's biggest turkey. We devote a special news feature to the continuing saga of Atari's STE fiasco*

**STORY** Jerry Glenwright

flood, and by Christmas 1989 even the high street box-shifters had shelves positively bulging with STE silicon.

Quiet releases are often used by computer manufacturers attempting to ward off criticism provoked by excessive "crash-bang" advertising campaigns — the maxim is that if you don't set yourself up, then you can't be knocked down.

Unfortunately, during the hands-on review stage, it appears that no-one bothered to test

the machine for compatibility with existing software. When Atari released the 1.09 TOS version a couple of years ago, many PD and "quick 'n' dirty" programs failed to run. PD libraries made note of this in their catalogues so that TOS 1.09 owners could avoid these programs. The STE had a significant TOS upgrade in version 1.6 — was it still compatible? It didn't take long to realise that it wasn't. Gamers, public domain libraries and software houses quickly



noticed games, utilities and business software that the STE simply wouldn't run. Top games such as *Populous*, *Kick Off*, *Strider* and *Rik Dangerous*, evergreens such as *Speedball* and even serious software such as *1st Word* collapsed without regaining consciousness. Suddenly, everyone was panicking about the STE.

Atari had urged software developers to stick to documented operating system routines and not to attempt to patch in their own code – but programmers avoid the operating system all the time in order to achieve greater speed and smoother graphics. Games are also the largest target for pirates, so programmers devise sophisticated software routines relying on undocumented features of the hardware to protect their wares. These created serious problems on the new computer.

### FOULED UP

Ocean's *New Zealand Story* and Mandarin's STOS games creator emerged as the first products not to run. The former had protection code that fouled up on the STE, the latter's problems remained a mystery but were quickly put right by STOS programmer Francois Leionet.

When questioned, Atari's Software Development Manager Bob Katz said, "The main worry is that programmers aren't writing to the ROM which is now larger, and it's in a different place in the memory map. If the programmers have written to our specifications then there won't be any problems".

Although Katz suggested that "[incompatibility]...will only affect a small number of programs, writers of PD have access to technical information through third party sources," libraries assert that up to 80% of their PD could be incompatible. "Some of the well known demos such as the *Union Demo* won't even boot," complained Mike Goodman of foremost PD library Goodman PDL. "I've found that desktop accessories requiring a medium resolution boot-up give an accessory not loaded message, and the STE boots into low res."

### BLACKLIST

Within 24 hours of the story breaking in our sister magazine *New Computer Express*, Atari were forced to admit that an estimated one in 20 games wouldn't run on the STE and had asked a major distributor to compile a list of incompatible software. They also released a software patch into the public domain to combat the medium resolution booting bug.

Leading software houses found their foremost titles refusing to load and run on the new machine. Electronic Arts, Digital Integration, US Gold, Microprose and Mirrorsoft all had to re-write existing games. Some titles deemed to be at the end of their shelf life were not updated. Mirrorsoft's *Speedball* and Electronic Art's *Arctic Fox* both fell by the wayside. But top sellers *Ghouls 'n' Ghosts*, *Strider* and *New Zealand Story* were examined and re-programmed within days of recognising the problem.

The main complaint from software houses was the lack of time they'd had to use the machine before it went on sale. Microprose spokesman Martin Moth voiced a common feeling: "The stupid thing about the STE is the amount of time we've been given by Atari. We couldn't foresee this coming because we didn't expect STE to be the main machine for the

## 30 GAMES THAT HATE YOUR STE

Reports of incompatible games are pouring in to the ST Format office. Here's a brief list of the more popular packages to avoid. STE owners are also advised to look out for "STE compatible" stickers on software packaging.

Arctic Fox .....	Electronic Arts
Barbarian .....	Palace
Barbarian 2 .....	Palace
Captain Blood .....	Psygnosis
Colossus Chess X .....	CDS
Defender of the Crown .....	Mirrorsoft
F16 Combat Pilot .....	Digital Integration
Football Director II .....	D&H
Future Wars .....	Palace
Ghouls 'n' Ghosts .....	US Gold
Gunship .....	Microprose
Kick Off .....	Anco
License To Kill .....	Domark
Microprose Football .....	Microprose
Mr Heli .....	Microprose

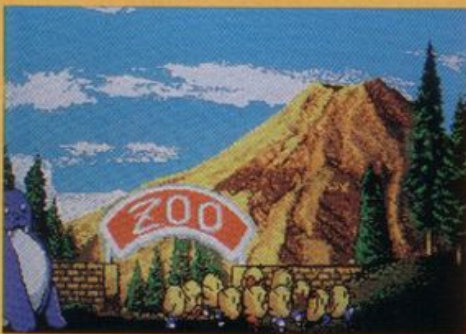
New Zealand Story .....	Ocean
Netherworld .....	Argos
Operation Wolf .....	Ocean
Paperboy .....	Elite
Populous .....	Electronic Arts
Rik Dangerous .....	Microprose
Speedball .....	Mirrorsoft
StarGlider .....	Rainbird
StarWars .....	Domark
STOS .....	Mandarin
Strider .....	US Gold
Stunt Car Racer .....	Microprose
Waterloo .....	Mirrorsoft
Weird Dreams .....	Microprose
Winter Games .....	Epyx



■ WON'T RUN: *Strider*



■ WON'T RUN: *Kick Off*



■ WON'T RUN: *New Zealand Story*



■ WON'T RUN: *Captain Blood*



■ WON'T RUN: *Speedball*



■ WON'T RUN: *Operation Wolf*

Atari are doggedly denying STE compatibility problems. The company line is that if programmers had stuck to programming guidelines none of the problems would have arisen. Bob Katz is obstinately playing down the fiasco: "We estimate that about five per cent of ST games won't run on the STE. That's about usual with any kind of upgrade. This comes from programmers jumping in and expecting to

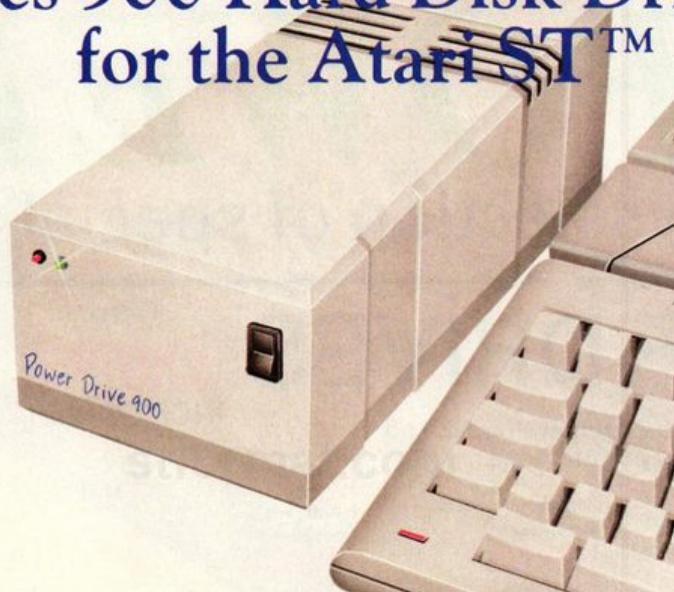
map as before."

As *ST Format* went to press, rumours about a possible recall of the STE were being emphatically denied by Atari. We'll continue to provide readers with updates detailing the ongoing STE incompatibility story, but advise existing STE owners to hang on to their machines. The STE is a superior-specified, quality computer that will soon receive the attention



# Series 900 Hard Disk Drives for the Atari ST™

FROM  
**£299**  
INC. VAT



With over two years experience in hard disk design for the ST, Power Computing now brings you the ultimate mass storage solution for your Atari ST computer. With the Series 900 hard disk comes major breakthroughs in pricing, performance and design, as well as greater choice of size from 20MB to a massive 100MB and beyond.

The sub miniature Series 900 hard disk has been designed to neatly fit on your shelf or desktop without taking up valuable space. You can choose between powering your Series 900 direct from your ST\* with the power lead provided, or from the optional external switch-mode power supply. Either way your workspace is less cluttered and heat and mains voltage is kept away from your valuable data!

\* The ST power lead requires your ST to be opened for simple plug-in fit — this may void your ST warranty.

## The features

- Autobooting
- Incredible size only 11cm wide, 20cm in length and 7cm high!
- Styled grey plastic housing with led displays and on-off switch
- SCSI drive & Controller, Fast 28ms\* access, Fast data transfer
- Interface supports CD rom, optical and streamers
- DMA through port for laser and other devices
- External PSU or Computer power lead
- Compatible with all Atari ST's including STE and SLM804
- Compatible with most emulators including PC Ditto and Spectre
- Includes easy to use formatting and partitioning software
- Up to 12 partitions
- User manual, disk caching and utility software provided

\* except 20MB 40ms, 60MB/84MB 24ms & 100MB 11ms



## Down to Business!

With each Series 900 purchase **only** you can also buy this amazing "Down to Business" software pack that includes the latest full versions of:- Timeworks DTP, First Word Plus, Over 2MB Clipart, Campus Draft, Quantum Paint

So now you can afford both your hard disk and that expensive professional software you need at the same time!

All this for the unbeatable price of only **£59.95!**

## The prices inc vat & delivery

	Drive and Cable	Drive and PSU	DTB Pack*	PSU Only
20MB	£299.00	£368.95	£59.95	£69.95
48MB	£399.00	£468.95	£59.95	£69.95
60MB	£499.00	£568.95	£59.95	£69.95
84MB	£649.00	£718.95	£59.95	£69.95
100MB	£799.00	£868.95	£59.95	£69.95

\* The 48MB Model with PSU and DTB pack is also available in a retail pack, available from Silica Shop and other good dealers for £549 rrp.

# POWER HOUSE DIRECT

Power House, the direct sales arm of Power Computing Ltd — Leaders in peripherals & software — is the natural choice for the ST enthusiast. Highly competitive prices, a wide choice, fast computerised service and the backing of a £2M+ 5 year old company are just some of the reasons for tele-shopping at Power. Large stocks, friendly reception and "if it don't work we give you a new one" are a few more!

Monday to Saturday 9.30am - 6.00pm  
Thursday & Friday 7.00pm

**Power Computing Ltd,  
Power House, 44A Stanley Street,  
Bedford MK41 7RW**

**Orders Only 0800 581742 Free Call  
General Enquiries & Orders  
0234 273000 (5 lines)**

Available for despatch 1st week February 1990

Name	
Address	Telephone
Postcode	System owned
Credit Card no.	
Expiry date	Signature
I would like to order	
Make cheques payable to Power Computing Ltd	
I enclose a cheque / PO for £	Please send me the Power House Catalogue



# PC

ALL PRICES  
ON THESE PAGES  
INCLUDE  
VAT AND DELIVERY

# POWER CO

A selection of special deals only available

## POWER DRIVES

At least £10 cheaper than the competition with no compromise on quality and performance.

- 720K Formatted capacity
- Quiet and Reliable
- Epson or Citizen mechanism as used in new ST's
- Compatible with all ST's
- Slimline and colour matched
- Free Diskette
- 12 month warranty
- Made in the UK!

40 Disks\* and lockable  
storage box

**£29.95**

INC VAT



15 Disks\* and  
Storage Box

**£9.95**

INC VAT

From  
**£59.95**  
INCREDIBLE!



**SPECIAL** Buy any Power Drive  
and get BLITZ TURBO for only  
**£19.95!**



PC720  
Power Drive  
with built-in  
240v Power  
Supply and  
connection  
leads.

**£79.95**



PC720E  
Power Drive  
powered from  
ST Joystick  
Port. Includes  
joystick  
through port

**£59.95**



DD003  
3.5" Internal  
replacement  
drive &  
instructions\*  
\*requires case  
modification and  
opening of ST

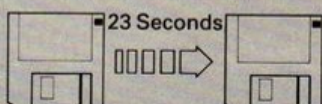
**£59.95**

## BLITZ TURBO!

**£24.95**

The ultimate personal backup tool that will backup most ST Diskettes (double or single-sides) in a fraction of the time of GEM™ or other copy programs. With Blitz a single sided turbo format and copy takes only 23 seconds and 41 seconds for double sided! Blitz works by passing the ST's disk controller chip and copying from the internal drive to an external one. Literally 1000's of users now, including all PD libraries and anyone who needs to backup in a hurry A MUST. AN EXTERNAL DISK DRIVE IS REQUIRED - See offer

1988 copyright Act. It is illegal to copy copyrighted material without the permission of the copyright owners.



## PC 5.25 Disk Drives & Emulators

Need Help?  
0234-267537

### 3.5/5.25 Multidrive

The king of ST disk drives with combined 3.5" and 5.25" units and built-in PSU. A special lead provided allows you to use both drives and your internal drive together. The 5.25" drive is 40-80 track switchable and is ideal for use with PC emulators.

**£199**



### 5.25 Disk Drive

This fully switchable 5.25" 40-80 track disk drive has a built-in PSU and is ideal for use with PC emulators or as an alternative storage medium using cheaper 5.25" diskettes.

**£99**



### Emulators

We stock a wide range of Macintosh and PC emulators  
PC ditto £79.95 (£50 with 5.25" or multidrive)  
Supercharger £299  
Spectre 128GCR £379  
Aladin + Exchanger £299

Please call us for the latest information





# COMPUTING

Available from Power House DIRECT!

**ATARI® STE**  
520STE **£299** 1040STE **£499**



## The Atari of the 90's

- Stereo Sound, Game Ports
  - Blitter
  - Memory easily upgradable\*
  - TOS 1.6
  - Faster Hard Disk Access
  - Totally ST compatible for all good software!
  - Only from Power, Hyper Draw, Hyper Paint & **FREE NEODESK v2!**
- Requires case to be opened and may void warranty



### STE DTP Business

- STE
- 20MB Hard Disk
- Timeworks DTP, First Word Plus, Superbase, Kspread 2
- Mono Monitor
- 15 Disks + Box

512K £799; 1MB £899  
2MB £999; 4MB £1099

Lattice  
C v5

### STE Programming

- STE
- 20MB Hard Disk
- Lattice C v5, Tempus 2
- Mono Monitor
- 15 Disks + Box

512K £799; 1MB £899  
2MB £999; 4MB £1099

Other Systems available including Calamus Pro DTP, Superbase Professional and Music applications

**STOP PRESS** ZIP 1MB Memory Modules for STE now available £Call

## PRINTERS

The printer deal from Power Computing!  
Complete printer systems with nothing more to buy!

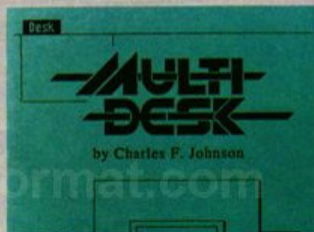
LC10 Mono £169  
LC10 Colour £229  
LC10-2 Mono £199  
LC10 24 Mono £269



## Deal includes

- Printer
- 200 sheets microperf paper
- 200 address labels
- Parallel cable
- The amazing Flexidump printer utility worth £29.95!

Power are the specialists in serious software & books for the ST enthusiast at prices that are rarely matched by our competitors. Large stocks of the latest versions and an extensive showroom display avoids disappointment.



## ART & GRAPHICS

(Typically 30-40% off rrp)

Quantum Paint Gold v2 £15  
Spectrum 512 £45  
Cyber Studio £62  
Campus Draft £69  
Dyaacadd £Call  
Easy Draw Turbo £72  
CAD 3D £19  
STAD £99

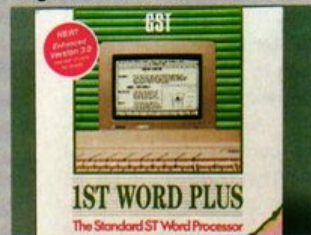
## WORD PROCESSING & DTP

Calamus £458  
Online Art for Calamus £172.50

Pagestream £149  
Timeworks £72  
Wordup £40  
First Word + Script £62  
**£89.95**  
Microsoft Write £62  
Signum 2 £184  
Protext £72

## BUSINESS

K Spread 3 £63  
K Graph 3 £35  
Logistix £87  
Superbase 2 £69  
Superbase Pro £175  
K Roget £32  
Sage Accountant £149



Sage Financial Controller £399  
Daatafax £35

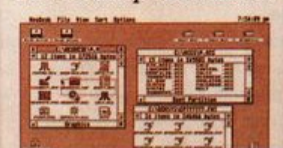
## LANGUAGES ETC

Power Basic £29

Hisoft Basic £55  
GFA 3 Interpreter £49  
GFA 3 Compiler £23  
Laser C v2 £129  
Laser C debugger £45  
**Lattice C v5 £79**  
Hisoft C Interpreter £35  
Personal Pascal £55  
K Resource £23  
Tempus 2 £35  
Devpac £40  
Werks £20

## NeoDesk 2.0

The Desktop Alternative



## UTILITIES

Twist £29  
**Neodesk II £35**  
Revolver £39  
K Com £35  
Flash £19  
Rubyview £49  
PC Ditto £79  
**Knife ST £29.95**

# POWER HOUSE DIRECT

Power House, the direct sales arm of Power Computing Ltd — Leaders in peripherals & software — is the natural choice for the ST enthusiast. Highly competitive prices, a wide choice, fast computerised service and the backing of a £2M+ 5 year old company are just some of the reasons for tele-shopping at Power. Large stocks, friendly reception and "if it don't work we give you a new one" are a few more!



"The Extensive Power House Bedford Showroom" open Monday to Saturday 9.30am - 6.00pm  
Thursday & Friday 7.00pm

**Power Computing Ltd,**  
**Power House, 44A Stanley Street,**  
**Bedford MK41 7RW**

**Orders Only 0800 581742 Free Call**  
**General Enquiries & Orders**  
**0234 273000 (5 lines)**

Order by Mail receive bonus gift of 2 free diskettes — Posted orders over £30 only

Name

Address

Postcode

Telephone

System owned

Credit Card no.

Expiry date

Signature

I would like to order

Make cheques payable to  
Power Computing Ltd

I enclose a cheque / PO for  
£

Please send me the  
Power House Catalogue



# CONTINENTAL DRIFT

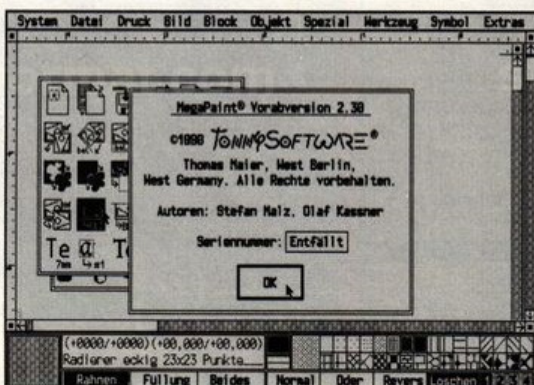
STORY Don Maple

*The latest ST news from our man in Dusseldorf*

## THE ULTIMATE GRAPHICS PACKAGE

West Berlin based Tommy Software have announced what appears to be the most comprehensive drawing/painting package released on the ST to date.

Megapaint II Professional (DM 499: £185)



is both a pixel and an object-oriented drawing program. The program requires a minimum of 1 MByte and runs in monochrome mode only.

The features, too numerous to list in full, contain a picture area of up to 7680 x 7680 pixels, laser printer, scanner, large monitor support, symbol and font libraries, user modifiable pop-up menus and import/export of various picture formats.

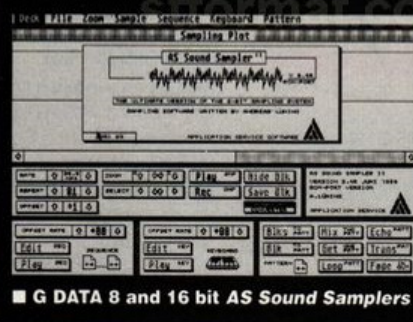
Megapaint looks a serious competitor to Atari's own graphic package, Hyperpaint, and to Signa's recently released O-Line - interested parties can contact Tommy Software on 01049 30 6214063.

■ **Megapaint (left) is the ultimate graphics package; pixel painting and object drawing in**

## CD QUALITY SAMPLING

Two new products released by G DATA are AS Sound Sampler II Maxi+ (DM 298: about £110) and AS Sound Sampler III (DM 598: about £220). The sampling resolutions are 8 bits (36 kHz maximum) and 16 bits (45 kHz maximum) respectively. Both devices plug into the cartridge port and contain a level indicator, an anti aliasing filter, LINE IN with preamplifier and LINE OUT connectors.

In addition to assorted sample enhancement and editing, the software contains a sequencer and a MIDI interface. Both samplers are supported with Sound Libraries consisting of ten double-sided disks each and sold separately. G DATA are looking for a British distributor so if you want to be one, or just wish to order directly, call 01049 2323 389858.



■ **G DATA 8 and 16 bit AS Sound Samplers**

## CLEAN UP YOUR ACT!

Anti Virus Kit from G DATA (DM 99: about £35) is one of the most complete virus protection packages available. G DATA provides free updates to existing owners and, since its original release in 1988, AVK has gone through some 20 reincarnations to keep up with the little devils. Currently up to version 3.1, AVK can recognise 19 boot sector and four link viruses. It will also check all internal ST vectors and can restore various game boot sectors.

Hard disks are supported by verification of all eight DMA ports. To top it all off AVK will, if requested, install an accessory on your drive to write-protect desired devices.

So if you want to kill 99% of all known viruses...etc, G DATA are contactable on 2323 389858.

■ **G DATA Anti Virus Kit (right) provides comprehensive protection for both floppy and hard disks**



### SNIPPETS

■ Atari Computer GmbH (Germany) has set the date for the 4th International Atari show in Dusseldorf, West Germany, for August 24-26. This exhibition is a major showcase for Atari. Last year it saw the introduction of the TT and STE machines.

Other important shows include COMDEX, one of the major US exhibitions, coming to Paris on April 23-28. In Germany, CEBIT - allegedly the world's largest computer show - is

scheduled for March 20-27 in Hannover.

■ Advanced Application Vicenza have announced GFAlib, a Basic library to facilitate translation of GFA-Basic 3.0 programs into SPC-Modula-2. The converted programs should be faster than the previously compiled Basic versions. Furthermore, using the SWISS window manager, several multitasking GFA graphics can be displayed in the same window. For info call 01049 721 700912.

### SNIPPETS

### SNIPPETS

■ Compuserve, the well-known U.S. online service, is expanding to Europe. It will be offered in the U.K. and Switzerland - the latter apparently in German.

European Atari users will be interested to learn that CompuServe contains several Atari Forums. They will all now be accessible through local gateways, which precludes the need for long distance calls, though there will be a small additional surcharge.

### SNIPPETS

■ With 68030 TT on the horizon I took the plunge and ordered the Motorola 68030 User's Manual. The one inch thick manual is well organised with detailed descriptions of the processor from both the hardware and software side of things. All for only \$8.90! It's highly recommended and available from Motorola Literature Distribution Centre, 616 West 24th Street, Broadway Building #1, Tempe, Arizona 85282, USA



# GRAVITY

Available soon  
on ST and  
Amiga



Screenshots from ST version



In 2320, interstellar travel has become as commonplace as Intercity, and man's mission to colonise the universe is well underway. But then the Outies appeared. No-one knew where they came from, but it was obvious what they were after . . . energy — and they'd stop at nothing to get it. They favour charged Black Holes. And they just turned your latest colony into one. But this galaxy's not big enough for the both of you.

Consult your 3D HoloTank (TM) before entering the scrolling isometric view of Einstein-Minkowski Four Space. EXPLORE. TERRAFORM. COLONISE. ERRADICATE. CONSTRUCT. BUT ABOVE ALL: SURVIVE!

© 1990 Mirrorsoft Limited

Gravity designed and programmed by Ross Goodley. Visuals by Pete Lyon.

Not for distribution to the Republic of South Africa.

Image Works, Irwin House, 118 Southwark Street, London SE1 0SW. Telephone 01-928 1454; Fax 01-583 3494





## Special Reserve

- Bi-monthly **Buyer's Guides**, each with reviews of 40 games.
- **Release Schedules**, issued with each Buyers Guide, with up-to-the-minute release information.
- **Catalogue, Membership Card and Folder**
- **Fast despatch** of stock items, normally the day after receipt of order. Most lines in stock.
- Games sent **individually by 1st class post**. Most fit through your letter-box.
- **7-day hotline**, until 8pm weekdays, 10 to 5.30 Saturdays, 11 to 5 Sundays.
- **Written confirmation of order** (with receipt).
- **Instant refunds** on request, if there is a delay.
- **No commitment, no obligation to buy.**
- **The best games, carefully selected, available at extraordinary prices.**

All for just **£5.00**

Annual membership.

We're miles cheaper than elsewhere. Below are a selection of offers at prices you might not believe. You can buy games at the same time as joining - or join now and select from our full catalogue. All items advertised are only for sale to members and are subject to availability. Note: Upgrade to Official Secrets is offered to members of Special Reserve

Can you afford not to join?

For the serious gamer!

# Official Secrets



Members of Official Secrets get all the benefits of Special Reserve plus:

- **Confidential.** Our 32 page bi-monthly magazine is essential reading for those interested in adventures or role playing games. Written by experts, *Confidential* has covered everything from How to Host a Murder to Which F16 Flight Simulator? Our agents, led by the Master Spy known as "The Boss Upstairs", seek out the secrets of RPG's, FRP's, MUG's, PBM's, Leisure Suit Larry, The Russians, Elvira..... and more.
- **Myth.** Written by Magnetic Scrolls, authors of The Pawn, exclusively for members of Official Secrets. Myth is a small adventure set in Ancient Greece. In it you'll meet The Ferryman, cheat Death and face the nine-headed Hydra. Myth includes the famous Magnetic Scrolls parser and graphics and is included in the price of membership.
- **Help-Line.** Manned weekdays until 8pm and Sundays. The Help-Line can help you solve most problems on most adventures.
- **Gnome Ranger.** Level 9's brilliant 3-part adventure, or *Shadowgate* as an alternative.

UK Annual Membership **£22.00**

including six issues of Confidential, Myth, the Help-Line, Gnome Ranger or Shadowgate and membership of Special Reserve.

## Atari ST Software

3D POOL.....15.49	GEMINI WING.....12.99	PAWN (MSCROLLS).....13.99
A.P.B.....12.99	GHOSTBUSTERS 2.....15.99	PERSONAL NIGHTMARE.....18.99
ALTERED BEAST.....12.99	GHOULS 'N' GHOSTS.....13.49	PHANTASIE 3 (SSI).....17.49
AMERICAN ICE HOCKEY.....15.49	GNOME RANGER (LEVEL 9).....9.99	PHOBIA.....12.49
BAD COMPANY.....12.99	GOLD RUSH (SIERRA).....16.49	PICTIONARY.....16.49
BALANCE OF POWER.....16.99	GREG NORMAN'S GOLF.....16.99	PIRATES.....15.99
BALANCE OF.....15.49	GRIDIRON (U.S. FOOTBALL).....15.49	PLANET BUSTERS.....15.49
POWER 1990 (1 MEG).....15.49	GUILD OF THIEVES.....13.99	PLANETFALL.....16.49
BARBARIAN 2 (PALACE).....15.49	GUNSHIP.....15.49	PLAYER MANAGER.....12.99
BARDS TALE 1.....7.99	HARD DRIVING.....12.99	POLICE QUEST 1 (SIERRA).....15.99
BATMAN THE MOVIE.....15.99	HEWSON PREMIER VOL.1.....17.99	POLICE QUEST 2 (SIERRA).....16.49
BATTLE OF AUSTERLITZ.....16.49	HELLSFAR (SSI).....17.49	POPULOUS.....16.49
BATTLE VALLEY.....12.99	HONDA RVF 750.....15.49	POPULOUS PROMISED LANDS.....7.99
BATTLECHESS.....16.49	HOUD OF SHADOW.....16.99	POWER DRIFT.....15.99
BATTLETECH (INFOCOM).....16.49	INDIANA JONES ACTION.....11.99	PRO TENNIS TOUR.....16.49
BEACH VOLLEY.....9.99	INDIANA JONES ADV.....16.99	PROTEKT.....16.49
BLADE WARRIOR.....15.99	INFESTATION.....14.99	WORD PROCESSOR.....47.99
BLOOD MONEY.....14.49	INTERPHASE.....15.99	QUEST FOR THE TIMEBIRD.....16.99
BLOODWYCH.....15.49	IRON LORD.....16.49	QUESTRON 2 (SSI).....17.49
BLOODWYCH DATA DISK.....9.99	JINXTER (MSCROLLS).....13.99	RALLY CROSS CHALLENGE.....12.99
BOMBER.....18.49	KICK OFF.....12.99	RED LIGHTNING (SSI).....19.99
BRIDGE PLAYER 2150.....18.49	KICK OFF EXPANSION DISK.....7.49	RED STORM RISING.....16.49
CABAL.....13.49	KINGS QUEST 1, 2 & 3.....22.49	RICK DANGEROUS.....15.49
CARRIER COMMAND.....16.49	KINGS QUEST 4 (SIERRA).....21.49	RISK.....12.99
CHAMBERS OF SHAOLIN.....12.49	KNIGHTHOOD.....14.99	ROBOCOP.....12.99
CHAMP BASKETBALL.....9.99	LANCELOT (LEVEL 9).....13.49	ROCK 'N' ROLL.....12.99
CHAOS STRIKES BACK.....15.99	LASER SQUAD.....12.99	SCAPEHOST (LEVEL 9).....12.49
CHASE H.Q.....12.99	LEADERBOARD BIRDIE.....13.49	SHINOBI.....12.99
CHESSMASTER 2000.....15.49	LEISURE SUIT LARRY 1.....18.99	SHOOT 'EM-UP CONSTR' KIT.....18.49
COLLOSUS CHES X.....15.49	LEISURE SUIT LARRY 2.....18.99	
CONFLICT EUROPE.....12.99	LIGHT FORCE (R-TYPE, VOYAGER, BIO-CHALLENGE, IK+).....15.99	
CONTINENTAL CIRCUS.....12.99	LIVERPOOL.....11.99	
CORRUPTION (MSCROLLS).....13.99	LOMBARD RAC RALLY.....14.99	
CYBERBALL.....12.99	MAGNUM 4 (COMPLATION).....18.99	
DAMOCLES.....15.49	MANHUNTER NEW YORK.....18.49	
DAY OF THE VIPER.....16.49	MANHUNTER S-FRANCISCO.....18.49	
DEADLINE (INFOCOM).....16.49	MANIC MANSION.....16.99	
DEJA VU 2.....15.49	MATRIX MARAUDERS.....12.49	
DEMONS TOMB.....12.99	MAVIA BEACON TYPING.....17.99	
DEMONS WINTER (SSI).....17.49	MICROPROSE SOCCER.....15.99	
DOUBLE DRAGON 2.....13.49	MIDWINTER.....15.99	
DR. DOOM'S REVENGE.....16.49	MINI OFFICE PRO.....17.49	
DOOMS OF FLAME (SSI).....17.49	COMMUNICATIONS.....17.49	
DRAKHEN.....16.99	MINI OFFICE PRO GRAPHICS.....17.49	
DRIVING FORCE.....16.49	SPREADSHEET.....17.49	
DUNGEON MASTER.....15.49	MOONMIST (INFOCOM).....16.49	
DUNGEON MASTER EDITOR.....7.49		
DYNAMIC DEBUGGER.....16.49		
DYNAMITE DUX.....13.49		
ELITE.....15.49		
ELVIRA.....19.49		
EYE OF HORUS.....15.99		
F16 COMBAT PILOT.....15.99		
F16 FALCON.....15.49		
F29 RETALIATOR.....15.99		
FED OF FREE TRADERS.....19.49		
FERRARI FORMULA 1.....16.49		
FINDISH FRED'S BIG TOP.....17.49		
FIFTH GEAR.....15.99		
FIRST CONTACT.....16.49		
FIRST WORD PLUS.....58.99		
FISH (MSCROLLS).....13.99		
FLIGHT SIMULATOR 2.....25.49		
FUN SCHOOL 2 (2-6).....12.49		
FUN SCHOOL 2 (6-8).....12.49		
FUN SCHOOL 2 (8+).....12.49		
FUTURE WARS.....16.49		
GALDREGON'S DOMAIN.....12.49		
GAUNTLET 2.....13.49		

**SONY 3.5" 69p**  
DS/DD DISK

**MONITOR STAND 19.99**  
FITS OVER ST OR AMIGA

"An excellent adventure... witty, cunning and just plain good fun! If you liked Fish! you'll probably like this, because they're very similar in style: you may even prefer Myth, it's that good!"

Amiga Format

"Myth is destined to become a classic."

Crash Magazine

## Myth Reviews

Crash Smash 91%, CU 90%, Amiga Format 87%, TGM 85%

## Atari ST Specials

AFTERBURNER.....8.49	IDS.....6.99
BAAL.....6.99	PACMAN.....5.99
BALLISTIX.....6.99	PANDORA.....5.49
BALLYHOO (INFOCOM).....9.99	PASSING SHOT (TENNIS).....8.99
BEYOND ZORK (INFOCOM).....9.99	PLUNDERED HEARTS.....9.99
BLACK LAMP.....6.99	PURPLE SATURN DAY.....7.49
BOMBZAL.....6.49	R-TYPE.....7.49
CHAMP (USA) FOOTBALL.....4.99	REAL GHOSTBUSTERS.....7.49
CHRONO QUEST.....9.49	RETURN OF THE JEDI.....7.49
DEFENDER OF THE CROWN.....8.49	ROCKET RANGER.....8.49
DEJA VU.....5.99	RUNNING MAN.....7.49
DRAGON NINJA.....6.49	SDI (ACTIVISION).....8.49
EDDIE EDWARDS SKI.....6.49	SHADOWGATE.....7.49
ELIMINATOR.....5.49	SILICON DREAMS (LEVEL 9).....5.99
EXOLON.....4.99	SKYCHASE.....7.49
F16 FALCON MISSION DISK.....9.99	SPEEDBALL.....8.99
FLYING SHARK.....6.99	SPELLBREAKER.....9.99
FM2 EXPANSION KIT.....6.99	STARGLIDER.....6.49
FOOTBALL MANAGER 2.....8.49	STATIONFALL (INFOCOM).....9.99
GATO (SUBMARINE SIM).....7.49	SUPER HANG ON.....8.49
HELLFIRE ATTACK.....3.49	TALESPIAN ADV CREATOR.....10.99
HITCH HIKERS GUIDE.....9.99	TEENAGE QUEEN.....8.49
HOLLYWOOD HUNX.....9.99	TESTDRIVE.....8.49
HOTAGES.....7.49	TETRIS.....5.49
INC SHRINKING SPHERE.....7.99	THUNDERBIRDS.....8.49
INFIDEL (INFOCOM).....9.99	TIME BANDIT.....5.99
INGRID'S BACK (LEVEL 9).....7.99	TRACKER.....5.49
INTERNATIONAL KARATE.....8.49	TRIAD VOL.1.....9.49
JEWELS OF DARKNESS.....6.99	TURBO CUP (WITH CAR).....7.49
KNIGHT ORC (LEVEL 9).....5.99	TV SPORTS FOOTBALL.....10.99
KRISTAL.....14.99	UNINVITED.....5.99
KULT.....7.99	VIRUS.....5.99
LEATHER GODDESSES.....9.99	VIXEN.....4.49
LEGEND OF THE SWORD.....5.99	VOYAGER.....8.99
LURKING HORROR.....5.99	WHIRLWIND.....5.99
MENACE.....6.99	WICKED.....8.99
MICKY MOUSE.....5.99	WISHBRINGER (INFOCOM).....9.99
MILLENNIUM 2.2.....6.99	ZORK 1 (INFOCOM).....9.99
NIGEL MANSELL'S G.P.....4.99	ZORK 2 (INFOCOM).....9.99
NORTH AND SOUTH.....10.49	ZORK 3 (INFOCOM).....9.99

**TV SPORTS FOOTBALL 10.99**

SALES LINES 0279 600204. PLEASE NOTE THAT THERE IS A SURCHARGE OF 50P PER GAME FOR ORDERS PLACED BY TELEPHONE. INNEVITABLY, SOME OF THE ABOVE GAMES MAY NOT YET BE RELEASED. ALL GAMES ARE DESPATCHED AS SOON AS POSSIBLE.

## Order Form

Non-members please add the membership fee

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Post Code \_\_\_\_\_ Phone No. \_\_\_\_\_  
Computer \_\_\_\_\_ \*5.25"/\*3.5"/\*3.0"/\*TAPE  
Payable to: Special Reserve or Official Secrets  
P.O. Box 847, Harlow, CM21 9PH

Special Reserve and Official Secrets are trading names of Inter-Mediate Ltd.  
Reg. Office: 2 South Block, The Mallings, Sawbridgeworth, Herts CM21 9PG.  
Registered in England Number 2054713. VAT reg. no. 424 8532 51

Existing members please write your number in this box

Special Reserve membership £5 UK, £6 EEC, £7 World or  
Official Secrets membership £22 UK, £25 EEC or £30 World  
with Gnome Ranger and Myth ☐ or with Shadowgate and Myth ☐

Item \_\_\_\_\_ STFORM \_\_\_\_\_

Item \_\_\_\_\_

TOTAL \_\_\_\_\_

Credit card expiry date \_\_\_\_\_

\*CHEQUE/\*POSTAL ORDER/\*ACCESS/\*VISA  
(Including Connect, Mastercard, Eurocard, Switch etc)  
\* Delete where applicable

Overseas orders must be paid by credit card  
Prices include UK Postage and Packing  
EEC orders please add 70p per item  
World orders please add £1.50 per item



# ST FORMAT

## Side A

## Side B

■ **GFA RAYTRACE** – tremendous useable demo of GFA Data Media's 512-colour raytracing and animation package

■ **ANI ST** – a complete animation package offering unbelievable tweening facilities (tutorial page 27)

■ **TOWER OF BABEL TOWERS** – three more testing towers to improve Microprose's ace game

■ **C SERIES** – source files (tutorial on page 101)

■ **MASTER SOUND** – rap to the monster beat of Pandaal's funky sound sampling package

■ **SUPER VIRUS KILLER** – extraordinary utility that identifies five viruses, seven anti-viruses, and 133 other boot sectors

■ **SAVER** – nifty memory resident screen saver

■ **FASTCOPY** – when it comes to copying and formatting nothing beats this devilishly quick utility

# COVER DISK

There's over 800K of demos, games and utilities crammed on the ever so palatable *ST Format Cover Disk*. Make sure you taste the delights of this month's feast.

Not all 520ST owners are lucky enough to have double-sided drives. For that reason a special format disk is used which can be read by both single-sided and double-sided drives. Single-sided drives can still only access the top side of the disk.

That jovial chap Rob Northern is responsible for the latest disk format which allows everyone to access the wonderful useable demo of *GFA Raytrace*, the full version of *Ani ST* and all the other exceptional programs on side A. Double-sided owners get a double dose of delicious delicacies with all the dynamic

demos on side A plus the mouth watering utilities on side B. Yum!

To get at side B – assuming, of course, you have a double-sided drive – simply double-click on the folder **SIDE\_2**.

If you have a single-sided drive, a box appears with the rather alarming message that there's an error on the disk. Don't panic! The data is not damaged – it's just a consequence of the format. Click on **CANCEL** and everything will be fine. Do remember though, you won't be able to access anything on side B if you've got a single-sided drive.

Don't dabble with the disk without making a backup first. See page 24 for instructions on how to back up your disk.

# GFA RAYTRACE

**BY:** GFA DATA MEDIA

**SIDE:** A

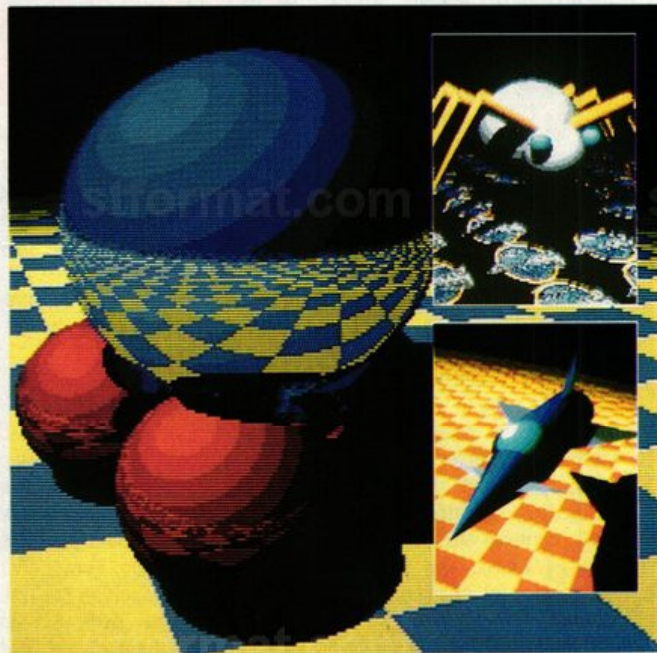
**MACHINE:** ALL COLOUR STs

**FILES:** GFA\_RAY.PR  
GFA\_RAY.DOC, GFA\_RAY.SYS,  
BOX.SYS

Fancy that, 512-colour raytraced images on your ST! Raytracing is a technique which adds shading and reflections to images by simulating light sources from various directions. As you can see by the pictures, GFA raytraced images are stunningly realistic and colourful compared to ordinary pictures.

There have been special mode paint packages for the ST almost since day one – however none have offered raytracing and animation combined. The full version of *Raytrace* allows you to generate up to ten frames of raytraced action and then animate them. Unfortunately this feature has been knocked out of the demo, but there are plenty of other options that haven't.

You'll find two main areas within *Raytrace*: the editor and raytrace department. The editor enables you to create a scene with primitive objects and position them



together with imaginary lamps (light sources), the floor and horizon. Once everything is to your satisfaction, the wire-frame is rendered from within the raytrace section in glorious technicolour – or 512 colours at least.

*GFA Raytrace* can be a little tricky to get to grips with at first,

so follow this brief tutorial to generate a raytraced object.

### GETTING STARTED

You'll find **GFA\_RAY.PR** inside the **RAYTRACE** folder. Ensure you're in medium resolution before running this program. To create a simple raytraced image do the following:

■ A full screen image in *GFA Raytrace* takes anywhere between 40 minutes and an hour to produce. Half, quarter and eighth screen size images can be produced to save time. Don't expect this sort of quality the first time, but persevere and you'll soon be producing stunning graphics

■ Click the Add item in the top right corner of the screen with the left mouse button. A new menu will appear.

■ You'll notice an RGB slider towards the middle right of the screen. Click on one of the sliders until you get a colour. Then click on the first of the icons towards the top right of the screen. Hit the right mouse button. Click on the Ground option when the new menu appears. Move the mouse until you notice the line in the Front window is towards the bottom. Press the left mouse button to plant the Ground.

■ Change the colour in the RGB window and then click the right mouse button. Click on Horizon. Moving the mouse causes the horizon to move in the View window. Click the left button to drop the Horizon.

**DON'T BE DUMB!** BACK UP YOUR COVER DISK NOW! How? See page 24



■ Change the colour in the RGB window and then click on the parallelogram icon. Click the right mouse button, move the mouse, and then press the left button. Move the mouse until a single side of the parallelogram is the shape and size you require. Click the left button to continue. Move the mouse again and click the left mouse button to finish off the parallelogram.

■ Highlight the lamp icon (the last in the group of icons towards the top right of the screen) and then click the right mouse button. Position the lamp somewhere to the left of the parallelogram when viewed from the Front window. Click the left button to continue.

■ Click on the Exit option towards the bottom right of the screen.

■ Click on Raytrace from the menu that subsequently appears.

■ Highlight the number 2 at the bottom right of the screen. Then click on Do Raytracing to render the image. Wait...

That briefly shows you how to create a raytraced image. There are many more features, but it's for you to discover how these work!

## Tower of Babel Towers

**BY:** RAINBIRD/MICROPROSE

**SIDE:** A

**MACHINE:** ALL COLOUR STs

**FILES:** CREATE.TOS,  
CREATE.DOC

Another three towers for Microprose's stunning hunt 'n' kill strategy to load into the playable demo given away on issue 6 or the full commercial game. Exclusively designed for *ST Format* by Pete Cook, the three additional towers will make a challenging game stretch your thought powers to the limit.

### GETTING STARTED

You must have a blank disk to use the program provided inside the BABEL folder. Before clicking on the CREATE.TOS program, write-protect the Cover Disk. ➤

### WARNING!

The extra towers for *Tower of Babel* are held in a file called CREATE.TOS. When this file is run, the program will attempt to format the disk in drive A and write the three towers to disk. Make sure you have a blank disk in drive A and not the Cover Disk.

# ANI ST

**BY:** JIM KENT

**SIDE:** A

**MACHINE:** COLOUR STs

**FILES:** ANIST.PRG, ANIST.DOC,  
CPSCR.TTP, REEF1.NEO,  
EEL.STR, FISHLOOP.STR,  
FLUER.SCR, FRAGS.SCR,  
LITLSEA.SCR, PLANTLOO.STR,  
PLTLOOP2.STR, TETRA.STR

What an unbelievable deal! The complete *Ani ST* on the *ST Format* Cover Disk. *Ani ST* was, until a short while ago, called *Aegis Animator* and sold for around £80 by the US software publisher Aegis. Jim Kent, author of *Aegis Animator*, recently retrieved the rights to the program and decided to place it in the public domain. What a nice man.

So what you've got on this month's disk is the complete *Aegis Animator* (the name was changed for legal reasons). There's nothing missing. In fact, the only change to the program is a fix which cures a problem with GDOS. As for the manual; there's a very comprehensive help file on the disk. And, as if that wasn't enough, Mark Pickavance reveals all the tricks and treats of the package in his tutorial on page 27.

Unlike other animation software, *Ani ST* does not base its animation on sprites – though sprites may be included if desired. The best way to understand *Ani ST* is to think of it like a CAD system. Images are constructed from objects like lines, circles, stars and squares.

Objects are stored in a list which contains size, colour and position details. The animation is created by changing these factors.

The things *Ani ST* does best



■ Neochrome or Degas backdrops can be loaded into *Ani ST*; polymorphic objects can then be added on top



are transformations from one shape to another. It achieves polymorphic animation by using an in-built function called tweening. This means that you only have to create the key positions in the animation and the program will generate all the pictures in between.

### GETTING STARTED

Double-click on the ANIST folder. Inside you will find a file called ANIST.DOC. Double-click on this file to get a good idea of how the software works. If you're itching to continue, double-click on ANIST.PRG. Click on the disk icon when the work screen appears (it's above the exit

■ All functions are accessible from *Ani ST*'s main work screen

icon). Click on the extension .SCR when the file selector appears. Then click on the filename LITLSEA when it shows up. Next click on load. Click on the close window icon in the top left corner of the file selector window. Click on the large movie camera icon towards the bottom right of the screen. Sit back and enjoy.

Read the comprehensive instructions on the disk to find out what all the other features do.



■ This sequence is easy to produce with *Ani ST*: read Mark Pickavance's tutorial on page 27 to find out just how easy it is



# New Products

## Spectre GCR

### The only 128K Macintosh™ Emulator

Spectre GCR is the long-awaited sequel to the Spectre128 Mac™ emulator, itself immensely popular because of its support for the 128K ROMs, allowing you to run the majority of up-to-date Macintosh™ programs.

Now comes Spectre GCR which allows you to read and write Mac™ disks using your Atari ST's disk drive! Transferring data from the Mac™ to the ST and vice versa is now a snap; no more fiddling with serial leads and comms programs, just push in the disk!

Spectre GCR runs all your favourite programs like Pagemaker 3™, Quark Express™, Aldus Freehand™, Microsoft Word 4™ etc. on your ST and you get a 30% bigger screen and 25% more speed (than a Mac Plus™).

Spectre GCR works on all Atari STs with 1Mb of RAM or more, supports all regular SCSI hard disk drives and costs only £389 including VAT. Please phone or write for full details, or to get in the order queue!

Macintosh and Mac are trademarks of Apple Computer Inc. All other trademarks recognised.

## KnifeST

### The Ultimate Disk Recovery System

KnifeST is all you need to recover files that you thought you had lost forever, to learn and understand how ST disks work or to simply enjoy a good hack! Some key features are:

- Works with floppy, RAM and hard disks
- Copies damaged disks sector by sector, ignoring bad data
- Extensive File Allocation Table (FAT) utilities
- Full statistics on directories, BIOS parameter blocks etc.
- Formats a wide range of ST & IBM PC disks
- Powerful 'Build File' commands for easy recovery of files
- Undelete program restores many deleted files, instantly
- GEM-based for ease-of-use and convenience
- Full printer support

KnifeST can edit many disks that can be physically read on the ST e.g. those of the Archimedes and Sinclair QL and can also read entire tracks, including sync bytes and track address fields. You can even run other programs from within KnifeST. Comes complete with a 64 page manual full of information and help on ST disks and costs £29.95 inclusive.

## Both Shipping Now!

KnifeST and Spectre GCR are just two of our growing range of software products for the Atari ST. Other titles include: 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) & many more.

All software should be available from your local dealer. In case of difficulty, you can order directly from HiSoft by phone, using your Access or Visa card or by mail, using Access, Visa, a cheque or postal orders. Our prices include VAT and shipping within the UK.

HiSoft, The Old School, Greenfield, Bedford MK45 5DE.  
Tel: (0525) 718181, Fax: (0525) 713716

# HiSoft

STOP PRESS STOP PRESS

Thank you, ST World readers, for voting us:

- ◆ Best Software House
- ◆ Best Customer Support
- ◆ Best Programming Language (DempacST)

STOP PRESS STOP PRESS

**HiSoft**  
High Quality Software



CREATE.TOS formats a disk to Babel specifications and write three towers to the disk.

Be very careful not to format the Cover Disk. Future Publishing will not be held responsible if you mess up your Cover Disk or any other disk. Follow carefully the instructions that appear when you run CREATE.TOS.

## C Series

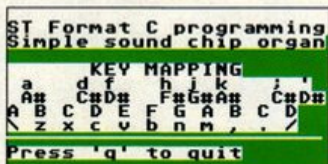
**BY:** WARWICK GRIGG

**SIDE:** A

**MACHINE:** ALL STs

**FILES:** C\_SERIES.DOC, MUSIC.PRG, SOL3.PRG, SOL4.PRG, SOL6.PRG, MUSIC.C, SOL3.C, SOL4.C, SOL6.C, WORDS.TXT

The second of Warwick Grigg's C tutorials can be found on page 100 of this month's *ST Format*. To save you typing in the lengthy program listing, Warwick has provided the source files on the disk. Don't worry if you don't have a C compiler; compiled versions of the programs are also on the disk.



■ Using C (page 100) to turn your keyboard into a piano

## GETTING STARTED

Double-click on the C\_SERIES folder. Inside you will find numerous files. Anything with the file extension .C is a C source file; this can be loaded into your C compiler and compiled. Anything ending in .PRG is a directly executable file. The C\_SERIES.DOC provides you with further notes on this issue's tutorial.

## Master Sound

**BY:** PANDAAL MARKETING

**SIDE:** B

**MACHINE:** ALL COLOUR STs

**FILES:** MASTER.PRG, MASTER.DOC, MASTER.PI1, MASTER.SEQ, MASTER.TXT, FONT.PI1

Master Sound had a very shaky start in life – but that's all in the past. Software Horizons originally marketed the product, but sadly went into liquidation. After months of uncertainty Kempston/Pandaal Marketing stepped in and the product's future is now assured.

The complete package consists of a hardware cartridge



■ Shake your funky thing to Pandaal's Master Sound

and comprehensive sampling, editing and sequencing software. For a full run down of Master Sound's features refer back to issue 1 of *ST Format*.

What you'll find on the disk is a great sequence of sampled sound. The mix, lasting many minutes, is a real treat for your ears.

## GETTING STARTED

Get to side B of the disk by clicking on the folder SIDE\_2. Be warned, if you have a single-sided drive you won't be able to get to the second side. Double-click on the MASTER folder and, once inside double-click on the MASTER.PRG file. Clean your ears out and listen.

## Super Virus Killer

**BY:** PUBLIC DOMAIN

**SIDE:** B

**MACHINE:** ALL STs

**FILES:** VKIL.PRG, VKIL.DOC, VKIL.RSC, VKIL.INF

What a fantastic utility! Not only can it detect (and kill) five different boot sector viruses, distinguish seven anti viruses and 133 other types of boot sector (commercial games, odd formats and so on), but it also lets you add intros with your own messages onto the bootsector.

The Super Virus Killer detects the ACA, Ghost, Mad, Signum and Fun viruses. Anything suspicious is highlighted.

It's possible to store a boot sector as a file, load a previously saved boot sector and install it, display the contents of the boot sector in ASCII or hexadecimal and see the disk BIOS parameter block.

In addition to that lot you can write a special intro to the boot sector which will flash colours and scroll a message. There are six

types to choose from:

■ Rasters and Message – this neat intro scrolls colour bars onto the screen with a message of your choice.

■ Bladerunners – a variant of the above.

■ English Anti Virus – makes disks unattackable by viruses, but also spreads itself onto un-immunized disks like wildfire.



■ You can check the boot sector of any disk and view the contents in ASCII or hex before wasting it or waving it by

■ Medway Boys – a simple boot sector that checks memory for any viruses or reset-proof programs.

■ NeoChrome Picture Booter – place a NeoChrome format picture into the root directory of your disk, tell the program the filename to search for and add a message on boot.

■ Mega Colour Bars – an explosion of colours occurs when you boot.

## WARNING!

You must be very careful when using Super Virus Killer. Only check standard ST format disks. And only write boot intros to disks that you've made a backup of. Future Publishing will not be held responsible if you mess up your cover disk or any other disk.

## GETTING STARTED

Enter the SIDE\_2 folder. Double-click on the VKIL folder and finally double-click on the VKIL.PRG file.

Insert a disk you wish to check for a virus or add a boot intro to (remember it must be a GEM ST formatted disk or one you've made a backup of) and click on one of the options in the menu bar.

## Saver

**BY:** URI GOLAN

**SIDE:** B

**MACHINE:** ALL STs

**FILES:** SAVER.PRG, SAVER.DOC

This utility allows you to save the contents of the screen as a Degas picture file. The program is memory resident so it's possible to grab screens from within many applications and even some games.

## GETTING STARTED

To install the program, double-click on SAVER.PRG which can be found inside the SAVER folder. A message will appear telling you if the installation was successful; press a key to continue. Run the application or game of your choice. At the desired spot in the application or game press both Shift keys simultaneously. The screen will turn black and you'll be asked to enter a character to be used as the picture's filename. Insert a disk in the drive with at least 32K bytes free before pressing Return. The original screen will be redisplayed and saved in Degas format with the proper extension. After saving has ended, the program will wait for you to insert the original application or game disk. Press a key to continue.

## Fastcopy

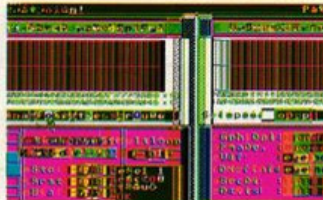
**BY:** PUBLIC DOMAIN

**SIDE:** B

**MACHINE:** ALL STs

**FILES:** FCOPY2\_1.PRG, FCOPY2\_1.DOC

Not only does FastCopy allow you to copy disks using one or two drives, but you can specify how many tracks to copy and whether or not the destination disk should



■ All the options you need to copy or format ST disks at high speed are in the amazing FastCopy



# STOP PRESS

FOR A LIMITED PERIOD ONLY!  
MERLIN ARE OFFERING A TRULY  
MAGIC ST STARTER PACK AT A  
WIZARD PRICE!  
1 - MICROBLASTER JOYSTICK  
10 - BLANK TDK DISKS  
(Plus one disk FREE!)  
1 - LOCKABLE DISK BOX  
(100 Capacity)  
1 - TAILORED DUST COVER  
1 - MOUSE MAT  
**ONLY £36!**

WORTH  
£48.85



PHONE NOW  
FOR NEW STE

# MERLIN

## POWER PACK

### MONITORS

ATARI SM 124	£109
12" High Res. Mono Monitor	
ATARI SC 1224	£264
12" Medium Res. Colour	
PHILIPS CM8833	£239
14" Medium Res. Colour	
Twin speakers, Green screen switch, with tilting stand.	

ALL our monitors are supplied with  
FREE cables to connect to ST's

### DISK DRIVES

ATARI SF 354 0.5Meg. Single, 3.5"	£115
ATARI SF 314 1 Meg. Single, 3.5"	£139
CUMANA CSA 354	£99
1 Meg. 3.5" Single	
CUMANA CSA 1000S	£125
1 Meg. 5.25", Single	
ATARI MEGAFILE 30 30Mb H/D	£449
ATARI MEGAFILE 60 60 Mb H/D	£609

### PRINTERS

STAR LC 10 Mono	£189
STAR LC 10 Colour	£229
STAR LC 24 10	£249
STAR LC 10 MkII	£199
CITIZEN 120D	£139
PANASONIC 1180	£199
PANASONIC 1124	£299

FREE...ST Connector  
Leads - All Printers!

### SUNDRIES

10 - TDK 3.5" BLANK DISKS	£14.95
(Plus one FREE TDK DISK)	
DISK STORAGE 50 Capacity	£9.95
BOXES... 100 Capacity	£10.95
MOUSE MATS	£4.00
STFM KEYBOARD DUST COVERS	£6.00

## ATARI 520 STFM

*Plus* PLUS 23 GREAT  
SOFTWARE TITLES  
WORTH OVER £500!

- ☐ 512K RAM
- ☐ Internal Power Supply
- ☐ Built in 1 Meg D/S Drive
- ☐ Complete with FREE Mouse
- ☐ Built in TV Modulator...

AFTERBURNER  
BLACK LAMP  
BOMB JACK  
BOMBZAL  
DOUBLE DRAGON  
ELIMINATOR  
GAUNTLET II  
NEBULUS

XENON  
OUTRUN  
OVERLANDER  
PACMANIA  
PREDITOR  
R-TYPE  
SPACE HARRIER  
SUPER HUEY

STAR GOOSE  
STARGLIDER  
STAR RAY  
SUPER HANG-ON  
FIRST BASIC  
MUSIC MAKER  
ORGANISER (Diary, Address File,  
Spreadsheet and W.P. Package)

*Plus...*  
Atari  
CX 40  
Joystick

*Plus...*  
ST Basic  
Worth  
£24.99

## NOW HERE'S THE MERLIN BONUS!

BUT HURRY WHILST  
STOCKS LAST!

Not only do you get a FREE GIFT FROM MERLIN, but YOU CAN CHOOSE IT YOURSELF!

FREE HYPERPACK SOFTWARE  
HYPERDRAW, HYPERPAINT,  
BORODINO & £50 DISCOUNT  
VOUCHER (Redeemable for  
Atari 'Mind Games' software)

WORTH A  
MASSIVE

£129.97!

OR

FREE ATARI VCS2600 GAMES CONSOLE  
IT'S TRUE - WE'LL GIVE YOU THE TOP  
SELLING ATARI VCS2600 GAMES  
CONSOLE, COMPLETE WITH GAMES  
CARTRIDGE AND A JOYSTICK FREE!

WORTH  
ALMOST

£40!

You may claim ONE of the two FREE GIFTS above with every 520STFM Powerpack

# £349

520 STFM POWER PACK

520 STFM POWER  
PACK & ATARI  
SM 124 MONO  
MONITOR...

## £449

520 STFM POWER  
PACK & ATARI  
SC 1224 COLOUR  
MONITOR

## £609

SAVE EVEN MORE WITH  
A MONITOR PACK!!!

## OTHER GREAT STFM OFFERS...

All our STFM's can plug directly into a domestic TV via their built in modulators, have built in power supplies, a 1 Meg. internal disk drive and a FREE mouse.

*Plus Free...*

### ST BASIC

...with EVERY STFM  
supplied by Merlin  
including a 240  
page manual!  
WORTH £24.99

- ☐ 520 STFM EXPLORER PACK...520 STFM supplied with Ranarama, an ST Tutorial & desktop accessory (on one disk, colour only) **£269**
- AAA FREE HYPERPACK WORTH £129.97 WITH EVERY 520 STFM EXPLORER! AAA
- ☐ 1040 STFM BUSINESS PACK...1040 STFM with VIP Professional, Microsoft Write & Superbase Personal (Worth £359.85) **£439**
- ☐ 1040 STFM GAMES PACK...1040 STFM with 22 Great Games and an Atari CX 40 Joystick (Worth £458.97) **£439**

Phone for details of other packs at GREAT PRICES!

ALL OUR PRICES INCLUDE V.A.T. AND POSTAGE (UK Mainland)  
FOR ADVERTISED PRODUCTS, SUBJECT TO AVAILABILITY, E&OE.

- ORDERING: Just phone our order line using your Access/Visa card, OR, send a cheque/postal order with requirement details. (Cheques need clearance prior to despatch)
- DELIVERY: You choose either, by post at no extra cost, or simply add £5 per large item for next working day courier service. (UK Mainland).
- WARRANTY: Goods that prove faulty within 30 days will be EXCHANGED FOR NEW. After 30 days, but within 12 months, faults will be repaired AT OUR EXPENSE.

# MERLIN

EXPRESS LIMITED

DEPARTMENT STF/T3, 5 REDWOOD COURT  
SALISBURY STREET, NOTTINGHAM NG7 2BQ  
Telephone: 0602 424444 (24 Hour Order Line)

GREAT VALUE, THAT'S THE MAGIC OF MERLIN

24 HOUR

0602 42-44-44

HOTLINE



be formatted.

Formatting is possible using nine or ten sectors per track and, if your disk drive can cope, can go all the way to 85 tracks.

You'll find comprehensive help in the documentation file on the disk. Ensure you read this before proceeding.

### GETTING STARTED

Double-click on the SIDE\_2 folder. Find the FCOPY folder and double-click on it. Finally, double-click on FCOPY2\_1.PRG to start. By all means experiment with all FastCopy's features – just make sure you've got an unimportant disk in the drive when you start. ■

### WARNING!

Formatting completely erases anything on disk. Do not fiddle with FastCopy's formatting options while you've got the Cover Disk or any other valuable software in the drive. A slip could cost you considerable anguish.

Once again, Future Publishing cannot be held responsible if you screw up your Cover Disk or any other important disks.

## COVER DISK HOTLINE 0225 765086 4PM 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 4pm 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:

March B-Side Disk,  
ST Format, Beauford Court,  
30 Monmouth St,  
Bath, Avon BA1 2AP

## 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 will halt. 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: how to give up smoking in 15 minutes with the ST Format thumbscrew.*

## BACK UP YOUR DISK!

Because the oh-so-delicious ST Format Cover Disk is non-standard and squeezes in a whacking great 400K 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!

## FAULTY DISK?

In any disk duplication run as massive as ST Format, it's possible that a minuscule proportion of the disks might be faulty. If you're unlucky, sorry. You're guaranteed a working replacement, however, if you send your corrupted disk to:

### ST FORMAT

March disk returns,  
Discopy Labs Unit A,  
West March, London Rd,  
Daventry, Northants NN11 4NA

DO NOT SEND YOUR DISK TO ANY OTHER ADDRESS OR YOU WON'T GET IT REPLACED

## THE DISK NEEDS YOU!

We need *your* software – games, utilities, demos, anything good, original and preferably short. If you've written anything worthy of the ST Format Cover Disk (and remember, it's the ones we reject that makes ours the best), send it with this form and full documentation to: Richard Monteiro, ST Format Cover Disk Editor, 71 Barn Glebe, Trowbridge, Wiltshire, BA14 7JZ. Allow four weeks for a reply.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
DAYTIME 'PHONE \_\_\_\_\_  
PROGRAM TITLE \_\_\_\_\_  
SIZE OF FILES IN K \_\_\_\_\_  
WHAT'S SO BRILLIANT ABOUT IT: \_\_\_\_\_

Don't forget to: ■ Enclose an SAE ■ Include on-disk and paper documentation ■ Write your name and address on the disk ■ Use a virus-free disk ■ Avoid exposure to deadly radiation

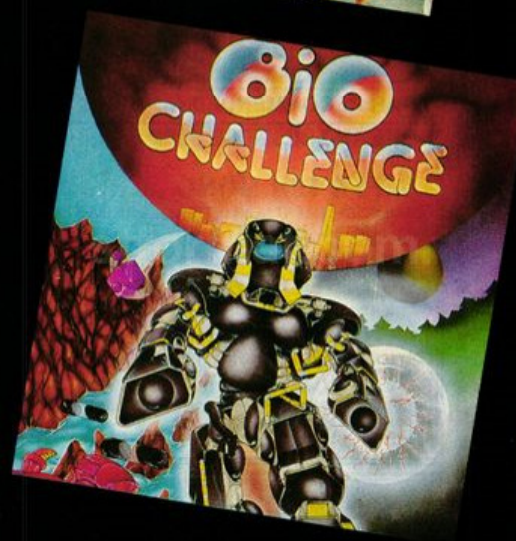
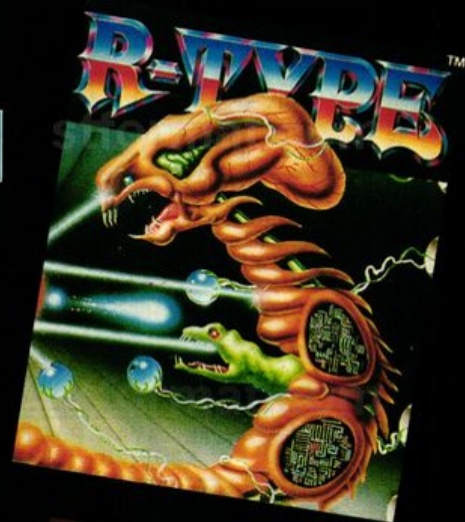
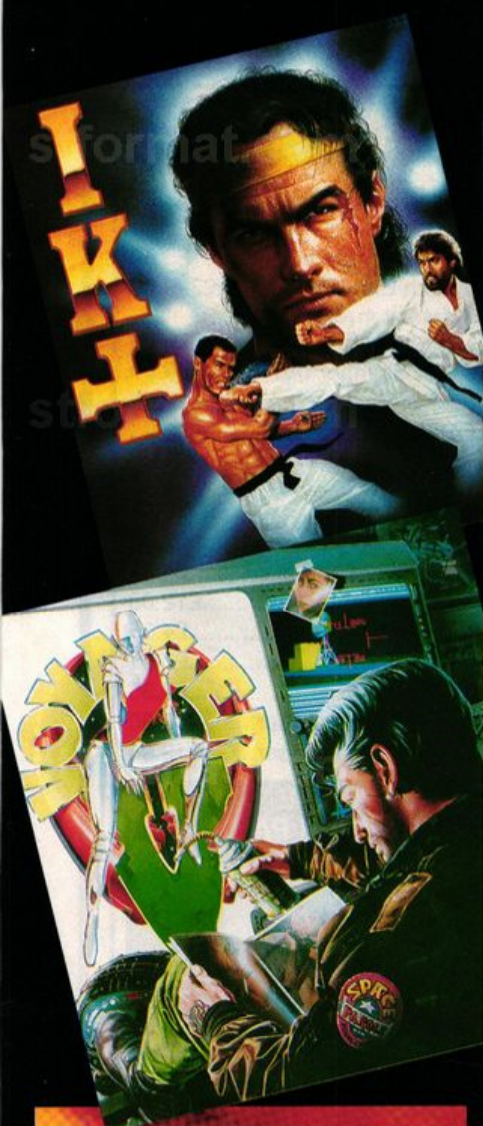
Please sign the following declaration: This program is submitted for publication in ST Format. It is wholly my own work and I agree to indemnify Future Publishing against any legal action should copyright problems arise.

Signed \_\_\_\_\_

Note: we pay out up to £800 for contributions to our Cover Disk. But to earn that kind of dosh, of course, you'd have to write something pretty spectacular, original and complex.



# A POWERFUL PACK OF FOUR



# LIGHT

# FORCE

## IK+

They called International Karate 'the greatest Karate beam 'em up yet' (Commodore User). And who are we to argue? But ARCHER MACLEAN has come up with a stunner: A third fighter. An amazing animated background. New moves (including double head-kick and a spectacular backflip). Re-mixed music by ROB HUBBARD. And balls!

© 1987 Archer Maclean.  
© 1987 System 3 Software Ltd.

## BIO CHALLENGE

For centuries mankind has been on the wane. The genes that each generation of humans passes onto the next are becoming weaker. The human body will soon become too frail to survive. Finally, scientists seem to have the answer. They have discovered a revolutionary technique to graft the human brain into the body of a robot. The results of these experiments are to be tested in the BIO CHALLENGE – the ultimate ordeal. You are a K.L.I.P.T. – the latest generation of human robot engineering – an extremely sophisticated human brain in a highly manoeuvrable precision-engineered steel body. Your only mission is survival... for the human race.

© DELPHINE SOFTWARE

## VOYAGER

In 1977 Voyager II was launched – inviting all life forms in the Universe to visit our planet. Get ready – company's coming. Luke Snayles – returning to Earth after completing a 50 year sentence of "investigative exploration" is not a man you'd wish to meet. After half a century of solitude, he's bored and hungry. On Earth the gate crashers are about to arrive – they are the ROXIZ, but Snayles has got other ideas – no-one, but NO-ONE is going to spoil his home-coming party!

© Ocean Software Ltd. 1989.

## R-TYPE

Deep in the cosmos, the ultimate terror... The Bydo Empire – evil, horrific, deadly. In the dark recesses of time and space, its terrifying creatures roam the cosmos, waging war on the Planet Earth. The desperate battle has just begun... As pilot of the R-9 fighter plane, it is your mission to crush these interstellar monsters using every sophisticated weapon at your disposal. Only your skill and reactions stand between brilliant victory – and the devastation of Mankind... At last, the arcade sensation bursts on to your home screen with several stages, terrains and a compelling scroll feature – the ultimate in thrilling gameplay.

R-Type © 1987 IREM Corporation  
Licensed to Electric Dreams.

ATARI ST AMIGA

**£24.99**

DISK



Ocean Software Limited · 6 Central Street  
Manchester · M2 5NS  
Telephone: 061 832 6633

Telex: 669977 OCEANS G · Fax: 061 834 0650



£50.00 SOFTWARE VOUCHER

**FREE HYPERDRAW/**

**FREE Pocket Calculator with every AMIGA**

**A M I G A**

**A500 BAT-PACK**

**INCLUDES:**

- Batman The Movie • New Zealand Story • F18 Interceptor • "D" Paint II
- Workbench 1.3 • Kickstart 1.3
- Amiga Basic • Desktop Utilities
- New Tutorial Pack • TV Modulator

**£379.00**

**WITH TENSTAR PACK  
£399.00**

**WITH EVERY ST & FREE**

HYPERTYPE/ FIRST WP

**STAR**

**STAR RECOMMENDED CORPORATE DEALER**

**HOME AND BUSINESS SERIES**

	£	INC VAT
LC-10 9 PIN MONO.....	£153.00	
COMMENT: EXCELLENT NEAR LETTER QUALITY EVEN IN ITALICS MODE		
LC-10 II MONO.....	£175.00	
COMMENT: 25% FASTER, VERY ACCURATE LINEFEED FOR GRAPHICS		
LC-10 COLOUR.....	£197.00	
COMMENT: LC-10 SPECS., COLOUR FEATURES NOW WELL SUPPORTED		
LC-15 9 PIN MONO.....	£306.00	
COMMENT: IDEAL FOR LONG PRINT RUNS AND LABEL PRINTING		
LC24-10 24 PIN LQ.....	£239.00	
COMMENT: LETTER QUALITY, EXTENSIVE FONT RANGE INCLUDING SCRIPT		
LC24-15 24 PIN LQ.....	£383.00	

Approved by  
**HEWLETT PACKARD**  
**LASERJET SERIES II**  
(and compatibles)  
**SUPER**  
**CARTRIDGES**

**PostScript**

**PostScript Emulation Cartridge 35 Font Families Requires only 2 Mbytes of memory ONLY £545.00 plus VAT**

**25 cartridges in 1**

**Fonts from 25 different Cartridges in one 172 Fonts and 20 complete Symbol Sets Supports Portrait and Landscape printing ONLY £359.00 plus VAT**

**HPGL Plotter CART**

**Full HPGL Plotter Emulation 20 Black pens in user defined sizes of 0.003" to 0.16" Compatible with ALL major CAD / CAM software packages Plotting speed upto a 100 times faster ONLY £305.00 PLUS VAT**

**SPECIAL EDUCATIONAL DISCOUNTS AVAILABLE!**

**CLASS**  
**of the 90's**

**FREE F18 INTERCEPTOR worth £24.95**

**EDUCATION PACK**

**PACK BREAKDOWN**

**HARDWARE**

	£	INC VAT
Amiga A500 Computer.....	399.99	
Midi Master Interface .....	34.99	
TV Modulator .....	24.99	

**SOFTWARE**

Tutorial Pack .....	
Deluxe Paint II.....	49.95
Publishers Choice .....	99.95
Maxiplan 500 .....	99.95
Superbase Personal .....	59.95
Dr. T's Recording Studio .....	49.95
Workbench 1.3 .....	
Kickstart 1.3 .....	
Desktop Utilities .....	14.99
BBC Software Emulator .....	49.95
Amiga Basic Language .....	
Amiga Logo Language .....	82.00

**ACCESSORIES**

Mouse Mat .....	4.39
10 Blank 3.5" Diskettes .....	9.99
Disk Wallet .....	12.95
1 yr. Sub to Amiga User .....	23.00
Education support file (after 1 yr sub to Amiga User)	

**TOTAL RRP = 1016.99**  
**PACK DISCOUNT = 437.00**  
**PROMOTION PRICE = 579.99**  
**OUR PRICE = £535.00**

**BUSINESS, SCIENTIFIC, EDUCATION AND VIDEO GRAPHIC SOFTWARE**

ST PC Speed .....	£255.00
(IBM PC Emulator)	
ST Mega Co-processor .....	£125.00
ST Macintosh Emulator .....	£229.00
(Runs 20% faster than a Mac Computer)	
Amiga Macintosh Emulator .....	£229.00
Cameron A4 Scanner (AM/ST) .....	£459.00
Amiga Flicker Master.....	£12.00
Amiga DOS to DOS.....	£39.95
(MS DOS File Converter)	
LC10 Mono ribbons .....	£3.50
LC10 Colour ribbons .....	£6.00
LC24-10 Mono ribbons.....	£4.50
FR/XB Mono ribbons.....	£12.00
Atari 1029 Mono ribbons .....	£4.95
100 x 3.5" disc box .....	£7.95
10 x 3.5" DS/DD discs .....	£7.35
60 gsm x 2000 sheet paper.....	£16.95
85 gsm x 1000 sheet paper.....	£12.95

**520 STE EXPLORER PACK  
£279.00**

**520 STE POWER PACK PLUS  
£365.00**

**1040 STE HYPER PACK  
£459.00**

**MEGA 1 ST HYPER PACK  
£489.00**

**PORTFOLIO PORTABLE PC  
£235**

**FREE!! Utilities and tools pack with every ST purchase.** Software Blitter, ST Diagnostics, Disk Editor/Custom Formatter, Disk Boot Construction Set, Alarm Clock, Quick Formatter, Calculator, Custom Format Disk Duplicator, Printer Customiser Tool, Desktop Games, ARC Construction Set, System Selector, 50/60 HZ Switcher and Synchronizer, Snapshot Dumper, RAM/Print Spooler, Word-processor **AND MUCH MUCH MORE!!**

**AMIGA STARTER KIT**

**£59.95**

Includes  
**KINDWORDS WORD-PROCESSOR**  
with 100,000 online Spell Checker, 470,000 Word Thesaurus, Colour Graphics and Professional Typefaces supports LC10 Colour Printer  
**FUSION PAINT**  
An advanced feature packed Art Package  
**CRAZY CARS/MINIATURE GOLF/SUPER SKI**  
Three top quality arcade games  
\*\* All packed in one presentation box \*\*

**AMIGA ADDITIONS**

**A500 3 1/2" 1 Meg Drive  
£75.00**

**1/2 Meg A500 RAM Upgrade with switch & clock.....£84.00 without clock.....£69.95**

\*\*\*\*\*  
\* All prices include VAT \*  
\*\*\*\*\*

**COMPUTERHOUSE UK**

TEL: (01) - 731 - 1276

14, ROMILY COURT, LANDRIDGE ROAD, FULHAM, LONDON SW6 4LL





# GET ANIMATED!

STORY Mark Pickavance

**O**n this month's *ST Format* Cover Disk you're lucky enough to get the best of the few animation packages available for the ST. *Ani ST*, previously known as *Aegis Animator*, written by Jim Kent, gives you animation options not possible on any other package. Now you have your own free copy, *ST Format* presents a tutorial using *Ani ST* to create metamorphic polygon animation.

*Aegis Animator* was one of the first animation packages available when the Amiga A1000 was launched in late 1985. This was the true dawn of the 16-bit era; everyone marvelled at the resolution and colour of the graphics, gloated over the sheer power of the 68000 architecture, and yes, gasped at the frequency with which the Amiga curled up its software toes and Gured a fond farewell. Some things just don't change, do they?

The Amiga's pre-occupation with resigning from active service during an important operation – like saving your work to disk – made any serious use of *Animator* impossible. Fortunately Jim Kent made a bold move and converted *Animator* onto the ST. Then in 1987 he wrote *Cyber Paint* which filled in the "bit map" side of *Animator*. Both programs have their own strengths – each can do things the other can't – and perhaps one day, who knows, they may even be combined to make an amazing animation package.

The main limitation of *Animator* was that you couldn't port the animation to any other system, but when Jim Kent wrote *Cyber Paint* he put an "Animator to Cyber sequence" conversion utility on the disk.

## IF YOU DON'T OBJECT

So what makes *Ani ST* so special? All other animation software on the ST uses sprites – drawn images – which you must generate in order to produce animation. If you've read any of our animation tutorials you'll be familiar with the fundamental ideas surrounding moving graphics. If you haven't then shame on you – better get those back issues of *ST Format* now!

*Ani ST* doesn't base its animation on sprites, though they may be included if you desire. The best way to understand *Ani ST* is to think of it as being like a CAD system. The images are constructed from objects, lines, circles, stars and so on. The objects are stored in a list together with their size, colour and position. The animation is created by changing these factors. The software looks up a table of ingredients for each frame in the animation and creates that picture.

*Close the door, turn down the lights, insert the Cover Disk and get down to some serious polymorphic animation with our Ani ST graphics tutorial*

This system has advantages and disadvantages. The things it does best are transformations – from one shape to another. It achieves polymorphic animation using an in-built function called tweening. This means you only have to create the key positions in the animation and *Ani ST* generates all the frames in between. A by-product of this technique is that the file sizes and the amount of memory used are small.

Unfortunately it can't do very detailed animations. I wouldn't consider trying to create a character animation using *Ani ST*, it's just not suitable.

The document supplied with *Ani ST* is fairly comprehensive. It explains how each of the options work and how they combine to create an animation sequence. What I want to cover is what the text doesn't tell you.

The *Ani ST* document states that if you set the "global speed" to certain values then the

animation takes exact times. This is true, but not the times it suggests. I assume the reason for this is that Jim Kent is American, which means his ST would be running off a 60Hz power supply – not 50 as we have in the UK. This would also explain why he uses jiffies as a measurement (a jiffy is 1/60 of a second, not a popular condom as some people would try to make you believe). Only experimentation will lead to animation with exact timing.

As with all animation, good results come from forward planning. If you don't set out your ideas before you begin you may well find yourself in a muddle. One area which causes major confusion using *Ani ST* is the precise order in which you perform your actions. An example;

**Create a STAR in the top left of the screen. Move it to the bottom left.**

**View at start.**

**Rotate it.**

When you run this animation you may be expecting the STAR to move to its new location while rotating – wrong. What happens is that the STAR moves along the path but rotates around the starting point, resulting in it moving to a totally unpredictable position. What you need to do is this;

**Create the STAR.**

**View at start.**

**Rotate it.**

**Move it to the bottom left.**

This produces the desired effect. If you're not sure that the modification you're going to make will produce the intended effect then save your work. You can use UNDO, but your changes may involve several stages, so be prepared. Everything you do will have a knock-on effect later in the animation.

## COSMIC ANIMATION

In the *Ani ST* document it briefly mentions that the animation SCR files are in ASCII (text) format. What it doesn't tell you is that you can create animations within a word processor, as long as you understand the language of *Animator*. This is the animation file of the STAR example;

```
*script STAR.SCR 1 320 200
*version 16
*ground_z 512
*speed 32
```

```
*tween 0 199 199 5
*act INIT_COLORS -1 0 16
(0 0 0 ) (224 0 0 ) (224 160 0 )
(192 224 0 )
(0 224 0 ) (0 160 192 )
(128 96 224 ) (192 0 224 )
```



**Confused? Load up the ST Format Cover Disk and follow the instructions in the disk pages. Click on the Ani ST .prg file and you're presented with the palette. Choose your option and colour and get animated - it's all downhill from here!**



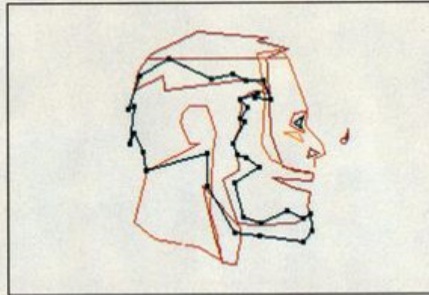
## EVOLUTIONARY ACCELERATION



■ Each element is just one polygon



■ The loop manipulates the shape



■ Use ghost mode with complex shapes

```
(160 96 0 ) (128 96 96 )
(32 128 32 ) (192 160 64 )
(96 96 128 ) (128 128 160 )
(160 160 192 ) (224 224 224 )
*act REMOVE_BACKGROUND -2
*act INSERT_POLY 0 0 1 10 1 0 0
(72 32 512 0 ) (64 22 512 0 )
(66 10 512 0 )
(55 15 512 0 ) (43 9 512 0 )
(45 21 512 0 )
```

ters. By experimenting I'm sure you'll be able to work out the basic instructions.

As I said at the beginning, *Ani ST* can do things that no other package can. To show these features off I've devised a small example. The idea was borrowed from an Amiga demo, though my ST version is much better – as you'd expect.

This is the basic idea: a side view of a Neanderthal human head transforms into a

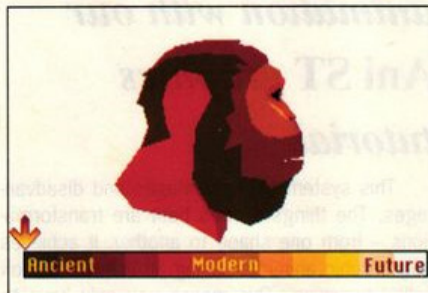
third shape it's necessary to "next tween" so that the system understands that all changes from this point onward are performed on the modern man image, not the Neanderthal. If this hadn't been done my prehistoric man would have changed into a future man without ever becoming a modern man.

Once these key designs are complete the animation between each stage is generated by *Ani ST* without any further input. I was pleased

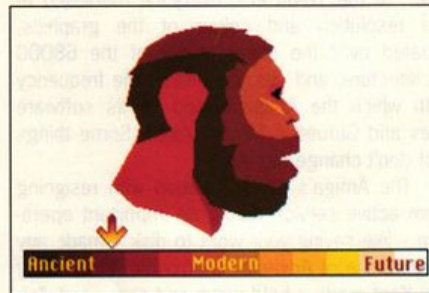
## USING ANI ST



■ Using the fast menu speeds things up



■ The evolution from ape man...



■ that took millions of years...

```
(35 31 512 0 ) (48 32 512 0 )
(53 45 512 0 )
(59 33 512 0 )
*act ROTATE_POLY 0 54 25 512 0 0
-842 0 0 16384
*act MOVE_POLY 0 221 137 0
```

If you understand what all the \*act functions do and what all the numbers mean then you can produce animation outside *Ani ST*, and you can fix mistakes in *Ani* generated files. I'm not going to detail what each command does because they're too numerous and have many param-

modern Homo Sapiens and finally into a future man, Homo Superior. This gives us just two tweens with three images to move between.

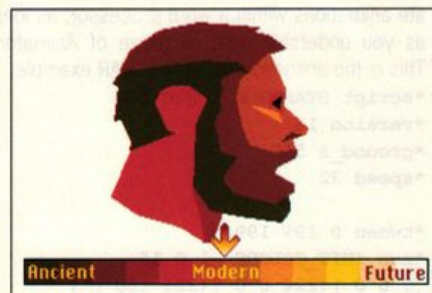
The head and hair were styled from a polygon, making sure I had sufficient points to carry out the transformation I required. This involved using the easy metamorphic tool – the loop. With this I could pull each point to its new location. After all the polygons had been "morphed" to their new positions I tested the animation by clicking on the small camera icon (fast menu).

When the first change was completed I added a tween. To make the changes into the

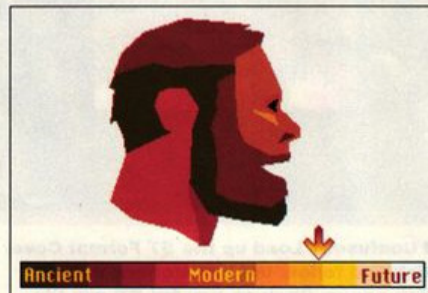
with the results but the presentation wasn't quite what I'd intended. The animation didn't hold at the start or end and needed a pause in the middle. Some additional graphics would have to be created and the timing of the animation extended.

One feature lacking is the ability to insert a tween. You can only add one on the end, which is fine until you need one at the start or middle. Although *Ani ST* wouldn't insert a tween for me, all was not lost: I could always edit the SCR file. For this to work you must at least comprehend how the \*tween command works.

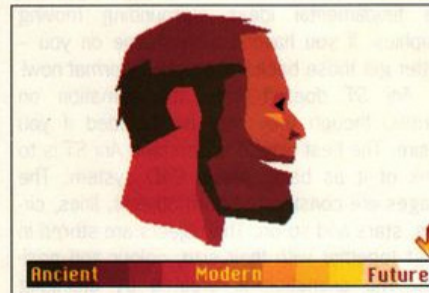
## IS A CIVILISING PROCESS



■ is completed on your ST...



■ in just 30 seconds:



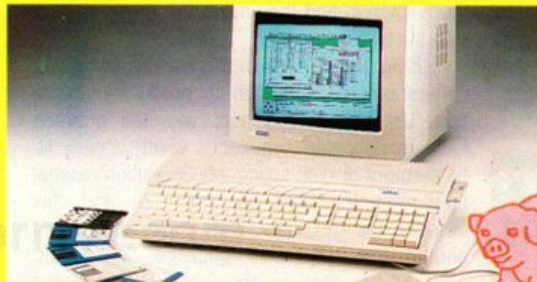
■ behold the man of the future!



# ATARI 520STFM POWER PACK

only

# £299



## COMPUTER EXPRESS

MERRY CHRISTMAS TO ALL OUR CUSTOMERS

with 1 Megabyte Drive and Free Software CX40 Joystick and Atari Basic.  
Including Afterburner, Black Lamp, Bomb Jack, Double Dragon, Eliminator, Gauntlet II, Outrun, Pacmania, Predator, R-Type, Space Harrier, Star Goose, Starblaster, Super Hang-on, Super Huey, Xenon, Plus Business Software - Organiser, Hisoft First BASIC, and First Music.

Only £299.00

(£348.00 including VAT and next day delivery)

### ATARI EXPLORER PACK

Atari 520STFM with 1Mb built-in Disk Drive, Mouse, Panarama, Tutorials, Atari ST BASIC. Special Low Price **£233.75**

### ATARI 1040STFM

1Mb RAM and built-in 1Mb Disk Drive and TV Modulator.  
Special Low Price **£346.00**  
with Power Pack Games **£411.25**

### ATARI 1040STFM PROFESSIONAL

As above with Business Software - Microsoft Write, Superbase Personal, VIP Professional, Atari BASIC and Manual. Perfect for and small business. Special Low Price **£389.00**

### ATARI 1040 HYPER-PACK

Atari 1040 with Hyperpaint, HyperDraw, Organiser, First BASIC and £50 Voucher towards Atari Mind Games. **£373.00**

### ATARI HARDWARE

Atari SM124 12" High Resolution Mono Monitor.	<b>£119.00</b>
Atari SC1224 12" Med Resolution Colour Monitor.	<b>£239.00</b>
Atari SF314 Double Sided External Drive.	<b>£119.43</b>
Cumana CS354 1Mb Double sided 3.5" Disk Drive.	<b>£96.71</b>
Philips 8833 Medium Res Colour Monitor	<b>£199.99</b>
Supra Drive 30Mb External Hard Disk - Auto Boot.	<b>£469.00</b>
Atari SLM804 Laser Printer - 8 Pages/min 300dpi	<b>£1097.00</b>
Supra 2400 Modem V21/v22/v22bis	<b>£129.88</b>
Pace Linnet Modem V21/V23 - Economy And Speed.	<b>£104.77</b>

### ATARI MEGA ST

With 1Mb Drive, Mouse, and Professional Pack Software.  
MEGA 1 - 1Mb RAM. **£499.00** MEGA 2 - 2Mb RAM. **£753.53**  
MEGA 4 - 4Mb RAM. **£979.48**

### PRINTERS

Star LC-10 - THE Number One Low Cost Printer.	<b>£125.95</b>
Star LC-10 Colour - Colour At Very Little Extra.	<b>£169.99</b>
Epson LX400 - Epson Quality But A Low Cost.	<b>£139.99</b>
Epson LQ550 - The Favourite For Letter Quality.	<b>£279.87</b>
Panasonic 1180 - 4 Fonts and Fast Printing.	<b>£169.73</b>
NEC P2200 - Never Beaten For Value For Money.	<b>£289.00</b>

### ATARI SOFTWARE

First Word Plus - Word Processing For Everyone.	<b>£125.95</b>
Word Perfect for the Atari.	<b>£200.51</b>
Mark Williams 'C' Compiler.	<b>£127.00</b>
Easy Draw II - And It is Easy Too.	<b>£44.56</b>
Flight Simulator - Ideal Xmas Present.	<b>£36.00</b>
Timeworks DTP - The Most Popular DTP.	<b>£95.47</b>

### ACCESSORIES

Full range of Atari accessories available.

All PRICES EXCLUDE VAT AND DELIVERY.

All goods guaranteed.

Next Day Delivery Service on most popular lines. All prices subject to change without notice. Official purchase orders accepted from Government, Local Authorities, Universities and PLCs. Prices/Specifications subject to change without notice. All special offers are subject to availability. Credit Cards not debited until despatch.

CALL FOR FULL PRICE LIST  
EXPORT AND TRADE ENQUIRIES WELCOME  
CREDIT CARDS NOT DEBITED UNTIL DESPATCH

SHOWROOM OPENING HOURS:  
Monday-Friday 9am-6pm Saturday 10am-5pm  
Open all Xmas/New Year except  
25th, 26th, 31st and 1st.

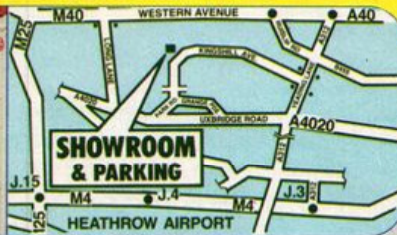
**CALL 0727 37451/47774**

HEAD OFFICE: COMPUTER EXPRESS LTD

CAXTON CENTRE • PORTERS WOOD • ST ALBANS  
HERTS • AL3 6XT • (0727) 37451 • FAX 0727 50819



WEST LONDON



304 Kingshill Ave, Hayes, Middlesex. UB4 8BX. ☎ 01-841 8744



NORTH LONDON



99 Park Street Lane, Bricket Wood, St Albans, Herts. AL2 2JA. ☎ 0727-72790



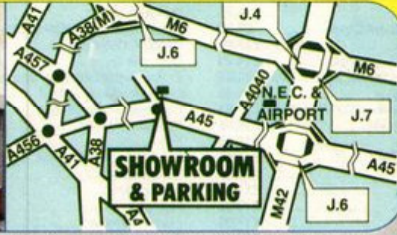
MANCHESTER



85 Washway Road (A56), Sale, Manchester. M33 1TQ. ☎ 061-962 0780



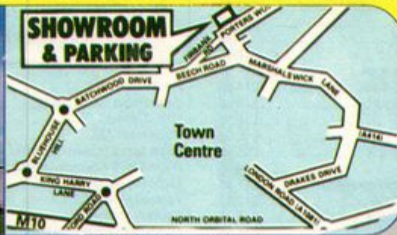
BIRMINGHAM



1046 Coventry Road (A45), Haymills, Birmingham. B25 8DP. ☎ 021-772 5212



HEAD OFFICE & SHOWROOM



Caxton Centre, Porters Wood, St Albans, Herts. AL3 6XT. ☎ 0727-37451/47774

### SPECIAL OFFER

#### STAR LC-10

Our Christmas Special

Price £125.95

or with VAT & delivery £152.31

Available 15th Nov to

31st Dec. only.

**CHRISTMAS  
OPEN SUNDAY 24 DEC.  
10am-5pm**

Order in advance, collect on Sunday.  
Large stocks of Atari, Amiga and IBM  
compatibles and Printers, Accessories,  
Software etc, etc, etc.



It has four parameters a,b,c and d. It works out d first: it's the number of '\*' commands between this tween and the next. The value of c is always a + b, and a is always the c from the previous tween and is 0 in the first tween. The value of b is a constant 199, which means c increments by 199 every tween.

If you're looking for logic in this, don't worry, I couldn't find any either. The upshot of it is that if you insert a tween you must alter all the numbers to the above rules - but at least it's possible. One additional modification: the

very first line must also be changed. The form is `*script STAR.SCR 1 320 200`, the number after the name of the file is the total number of tweens - count up the \*tween's if you're in any doubt. As a matter of interest the two final numbers are horizontal and vertical resolution respectively.

Following these instructions I was able to insert a tween in my animation so it started with a static display before movement began. More tinkering gave me another tween in the middle, which meant I could pause the sequence.

## DEGAS AND DARWIN

My animation required a scale showing at what stage the head was in the evolutionary process. I created two sprites on a Degas format screen, loaded them into Ani ST and re-saved them in the CEL format. From here it was a straightforward operation to position them at the start of the animation and then move the arrow in sync with the transformation.

Using Ani ST is a real pleasure once you understand the approach to producing animation. Using this technique, you can produce long, complicated sequences which occupy little memory or disk space. My "evolution" animation example takes up only 12k and this includes the CEL files. With these advantages and a free animation package, you've no excuses left, load up the Cover Disk and get animated!

## NOW IT'S YOUR TURN

Create an exciting graphic sequence using Ani ST and you could win £25 and appear on the ST Format Cover Disk. Forget the Tate Gallery - we have something far more prestigious in mind. We'll be putting a selection of the best entries on the peerless ST Format Cover Disk which will guarantee you a lifetime of hassle from the paparazzi. We're looking for original ideas, so start exploring your ST's graphic potential!

Entries should arrive before 31st March 1990 and be addressed to: Ani ST Graphics Competition, ST Format, Future Publishing, Beauford Court, 30 Monmouth St, Bath, Avon BA1 2AP.

# GET THE MOST OUT OF ANI ST! GUIDELINES FOR SUCCESS

To get the most out of Ani ST you should remember the following guidelines. Using these simple rules will prevent unnecessary mistakes, muddles and hours of maddening frustration. Remember how those ever-so-bohemian artists used to destroy their canvases in outbursts of frustration? Well we wouldn't want you to set fire to your ST just because you forgot to save your file.

- Plan your animation before you start. If you have a clear idea of what you're aiming for, there's less chance of getting confused
- It's always better to have excess tweens than too few
- If you're unsure of the effect a certain action will have make sure you save the file
- Successive rotations will eventually distort a polygon, so don't expect complex designs to fit exactly after being rotated
- Beware of combined movement - you can easily end up with objects off the screen where you cannot get to them
- Coloured CELs look very good but slow down the animation - use MSK-graphics if colour is not critical
- Finally always keep a copy of the original SCR file if you start editing it by hand - you may get confused and trash your file

**WORLDWIDE SOFTWARE**  
1 Bridge Street  
Galashiels TD1 1SW



**WORLDWIDE SOFTWARE**



**WORLDWIDE SOFTWARE**  
106A Chilwell Road, Beeston  
Nottingham NG9 1ES

Atari ST Software		Atari ST Software		Atari ST Software		Atari ST Software		Atari ST Software	
Advanced Rugby Simulator	£4.99	Double Dragon 2	£14.95	Gridiron	£17.95	New Zealand Story	£14.95	Space Ace	£32.95
Advanced Ski Simulator	£4.99	Dr Dooms Revenge	£16.95	Gunship	£16.95	Ninja Warriors	£14.95	Space Harrier 2	£14.95
After the War	£14.95	Dragons Breath	£22.95	Hard Drivin	£14.95	Nitro Boost	£4.99	Space Quest 2	£17.95
Altered Beast	£14.95	Dragon Spirit	£14.95	Highway Patrol 2	£16.95	North and South	£16.95	Space Quest 3	£22.95
Aquanaut	£17.95	Drakkhen	£21.95	Hillstar	£17.95	Oil Imperium	£16.95	Space Rogue	£21.95
Asterix	£16.95	Dungeon Master	£16.95	Hollywood Poker Pro	£9.99	Omega	£21.95	Speedboat Assassin	£4.99
Atari ST Keyboard Cover	£6.99	Dungeon Master Editor	£9.99	Hound of Shadow	£17.95	Onslaught	£17.95	Star Breaker	£14.95
Austerlitz	£17.95	Dynamic Debugger	£17.95	Hyperaction	£17.95	Ooze	£16.95	Star Command	£22.95
Australian Rules Football	£14.95	Dynamite Dux	£14.95	Indy Last Crusade Adventure	£17.95	Operation Thunderbolt	£14.95	Starblaze	£14.95
Axels Magic Hammer	£14.95	Emlyn Hughes Internat. Soccer	£14.95	Interphase	£17.95	Outlands	£14.95	Starglider 2	£16.95
Bad Company	£16.95	European Space Shuttle	£26.95	Iron Lord	£22.95	Outlaw	£4.99	Steve Davis Snooker	£14.95
Balance of Power 1990 (1Meg)	£17.95	European Super League	£14.95	Jump Jet	£4.99	Overlander	£14.95	Strider	£14.95
Batman the Movie	£14.95	F16 Combat Pilot	£16.95	Karate	£4.99	P47	£16.95	Stunt Car	£16.95
Battle Tech	£17.95	F16 Falcon	£16.95	Kelly X	£4.99	Paperboy	£14.95	Super League Soccer	£16.95
Battlehawks 1942	£17.95	F16 Falcon Mission Disk	£14.95	Kennedy Approach	£4.99	Pinball Magic	£14.95	Super Wonderboy	£14.95
Beach Volley	£14.95	F29 Retaliator	£17.95	Kenny Dalglish Manager	£14.95	Pirates	£16.95	Switchblade	£14.95
Betrayal	£17.95	Fallen Angel	£14.95	Kenny Dalglish Soccer Match	£16.95	Player Manager	£14.95	Table Tennis	£14.95
Black Tiger	£19.95	Fast Lane	£14.95	Kick Off	£14.95	Police Quest 2	£17.95	The Kristal	£22.95
Blade Warrior	£17.95	Ferrari Formula 1	£17.95	Kick Off Extra Time	£7.99	Police Quest	£17.95	Tiger Tiger	£17.95
Bloodwych	£17.95	Finnish Freddie Big Top	£17.95			Populous Promised Lands	£7.99	Time	£21.95
Bloodwych Data Disk	£11.99							Tin Tin on the Moon	£14.95
Bomber	£22.95							Toobin	£14.95
Cabal	£14.95							Tower of Babel	£16.95
Captain Blood	£4.99							Tracksuit Manager	£14.95
Castle Warrior	£17.95							Treasure Island Dizzy	£4.99
Centrefold Squares	£14.95							Trivial Pursuit Genus	£14.95
Chaos Strikes Back	£14.95							Turbo Outrun	£14.95
Chariots of Wrath	£16.95							Tusker	£17.95
Chase HQ	£14.95							TV Sports Football	£17.95
Chess Player 2150	£16.95							Twin World	£17.95
Colossus Chess X	£16.95							Ultima V	£22.95
Commando	£14.95							Ultimate Darts	£14.95
Commandos (infragames)	£17.95							Ultimate Golf	£17.95
Conflict in Europe	£17.95							Untouchables	£14.95
Continental Circus	£14.95							Vulcan	£14.95
Crossbow	£14.95							Wall Street	£17.95
Cyberball	£14.95							Warp	£14.95
Daily Double Horse Racing	£14.95							Waterloo	£17.95
Damocles	£16.95							Wayne Gretzky Hockey	£16.95
Dan Dare 3	£14.95							Weird Dreams	£16.95
Darius Plus	£14.95							Western Europe Scenery	£14.95
Dark Century	£16.95							Wild Streets	£16.95
Day of the Viper	£16.95							Winners US Gold	£22.95
Days of the Pharaoh	£16.95							World Class Leaderboard	£7.99
De Luxe Scrabble	£14.95							X-Out	£14.95
De Luxe Strip Poker	£14.95							Xenomorph	£16.95
Debut	£16.95							Xenon 2 Megablast	£17.95
Dominion	£17.95							Xenophobe	£16.95

Europe (other than UK)  
shipping costs are:  
£1.50 per disc for normal airmail  
£2.50 per disc for express airmail

Please make cheques or postal orders payable to **WORLDWIDE SOFTWARE**  
All prices include postage and packing in the UK. Fast Delivery On All Stock Items By 1st Class Mail In UK. Credit Card Orders Accepted by Phone Or Mail.  
**ADVERTISED PRICES ARE FOR MAIL AND TELEPHONE ORDERS**

Outside Europe shipping costs are:  
£2.00 per disc for normal airmail  
£3.00 per disc for express airmail



# INFESTATION



## INFESTATION

Are you ready for a new level of realism in computer games? Are you prepared for an atmospheric experience you will never forget? Can you cope with super-fast solid 3D vector graphics? Will you venture into the unknown, alone, and armed only with a single pulse rifle? Can you overcome the INFESTATION?

**INFESTATION** takes computer games to a new level of realism. It creates a complete environment stunningly rendered in super-fast solid 3D vector graphics. You are completely free to move within the game world, examining and manipulating objects just as you would in a real world. And, as in reality, you are not alone. Only, unlike those on Earth, the other occupants of Infestation's world are not very friendly at all...

Your task as Kal Solar, Agent of the Interplanetary Federation, is to travel to Alpha II, investigate and end the alien threat. Your mission will not be an easy one. As well as the mother alien and its eggs, you will have to deal with hostile droids and computer systems, radioactive areas, and things unknown.

**INFESTATION** is a truly atmospheric experience. Don't play this game when you're alone... it may well be your last!

Screen Shots from the Atari ST version AMIGA/ATARI ST £24.95

**PSYGNOSIS - GAMES PEOPLE PLAY**

**PSYGNOSIS  
FREEPOST  
LIVERPOOL L3 3AB  
UNITED KINGDOM  
Tel: 051-709 5755**





# Player Manager

BY DINO DINI

BRINGS THE QUALITY OF 'KICK OFF' TO THE ART OF MANAGEMENT

- \* Play the BEST soccer simulation. Blistering Pace - Pixel Perfect Passing.
- \* Unique facility to design your own TACTICS.
- \* Over 1000 individual players each with a unique combination of attributes.
- \* A lively transfer market. Hagggle for the best deal.
- \* Focus camera on the ball or any player on the field.
- \* Load and Save game facility. League and Cup tournament.

Bring Back The Glory Days, the brief of the newly appointed **PLAYER MANAGER**, an International class player, as he takes charge of a third division club. His success depends on four distinct aspects of the game.

## PLAYING SKILLS OF THE MANAGER

This part of the game is a refined version of the KICK OFF, retaining it's pace, flavour and the universally acclaimed game play. Play in your position or control the nearest player. The first option combined with a tailor made tactics can play havoc in the opposition goal mouth.

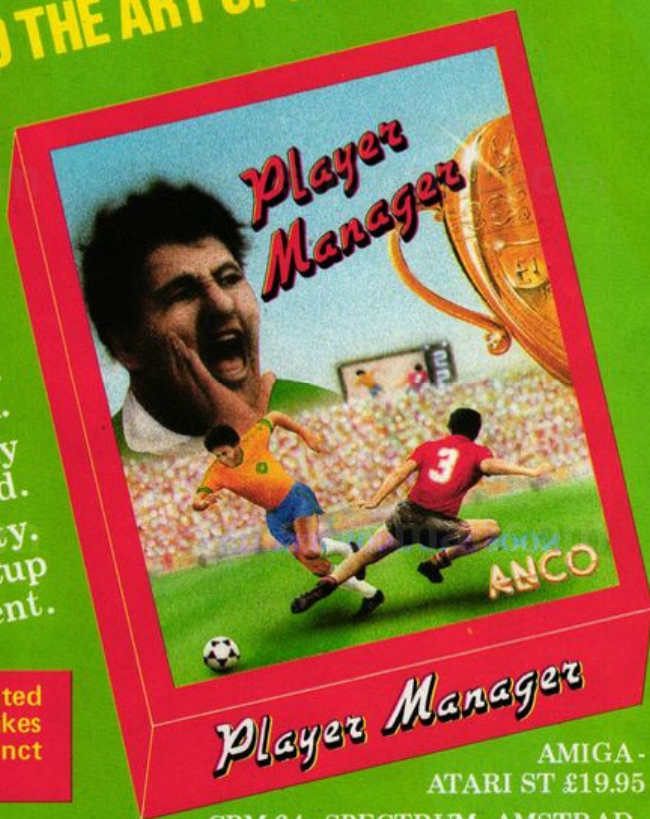
## MANAGERIAL SKILLS

Devising winning tactics, acquiring players with right skills from the Transfer market and selecting a well balanced team is the test of his Managerial skills. When to hang his boots up is the toughest decision he has to make.

## TACTICS

Four well proven tactics are provided to suit most situations but you can design your own tactics. See the tactics in action using the Ray Trace facility.

Hosts of other factors like referees, injuries, disciplinary problems, team morale etc. can lay to waste the best laid plans of a manager. The **PLAYER MANAGER** brings everyday realities of a Manager's life, his talents as a manager and a player into a sharp FOCUS. THE FOCUS IS ON YOU.



AMIGA -  
ATARI ST £19.95

CBM 64 - SPECTRUM - AMSTRAD -  
ATARI 800 £9.95 (Cassette) £14.95 (Disc)  
8 BIT VERSIONS OUT SOON

## THE PLAYERS

Over a thousand players in the four division league. Each player with a unique combination of the following attributes: SHOOTING ACCURACY, PASSING ACCURACY, PACE, STAMINA, APPLICATION, AGGRESSION, HEIGHT and TACKLING SKILL.

These attributes are influenced by the player's Age, Mental and Physical Dexterity, Quality of Experience, Weight, Temperament and Morale. There are several other factors such as injury, disciplinary points, unsuitable playing position which influence a player's performance.



Player Information			
Z. Barnes			
Name	Position	Midfield	Skills
Age	21	Passing	111
Height	180 cm	Shooting	41
Weight	81 Kg	Tackling	60
Pace	181	Keeping	23
Dexterity	106	Morale	108
Stamina	120	History	
Resilience	149	Injured	2
Temperament	143	Born	1
Work rate	84	Goal	2
		Matches	10
		Int 1st 2nd 3rd 4th	
		0 0 0 1	

# ANCO

ANCO SOFTWARE LTD., UNIT 10, BURNHAM TRADING ESTATE, LAWSON ROAD, DARTFORD, KENT.  
Mail Order by Cheque, Postal Order, ACCESS or VISA.  
Telephone No.: 0322 92513/92518. FAX No.: 0322 93422.



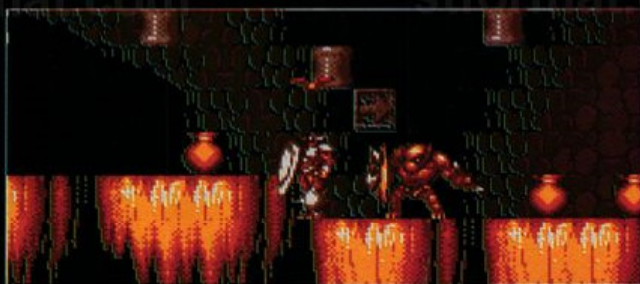
WELCOME TO THE BEST IN ST ENTERTAINMENT

# SCREENPLAY

It's truly gratifying to observe the steady climb in quality of ST games. We're beginning to see the first signs this month of a new surge in innovative software such as the addictive *Rings of Medusa* (p40) and the inventive *Gravity* – catch the full mammoth review (p42). But we haven't waved goodbye to the traditional games. This month sees Peter Turcan's latest wargame *Austerlitz* (p48) and US Gold's delayed Capcom conversion, *Black Tiger* (p35). If you want the first, definitive reviews, you've come to the right place. Nobody does them better



■ Go hunting Outies in *Gravity*'s unique space environment and catch our Herculean three-page special on page 42



■ *Black Tiger* finally makes it from the arcades to the ST – was it worth the wait?



■ *Rings of Medusa* is Starbyte's new adventure



■ Replay Napoleon's finest battle in *Austerlitz*

## THE ST FORMAT RATINGS SYSTEM

### GRAPHICS

The ST is capable of some superb graphics and animation: the last thing you want is crummy 8-bit graphics with tiny sprites and jerky movement. The graphics rating takes both still and moving graphics into account.

### SOUND

Your ST holds the power to output some great audio effects – not just sampled music but also some pretty nifty tunes using the sound chip. One thing which doesn't go down well with our experts is the notorious beep.

### INTELLIGENCE

Some games you can just pick up and play: if you've seen half a dozen vertical-scrolling shoot-'em-ups you know what to expect. Other games however, take some thought and intelligence to play. Look out for a high score here if you like your games brainy.

### INSTANT APPEAL

If there are 1,001 instructions to read before you can even boot up then it's hardly instantly playable. You need to be able to shove the disk in, pick up your joystick and play for lots of instant appeal.

### LONG-TERM INTEREST

Here we measure the appeal of a game after several hours' play. Combine this, and the previous score to find out how long a game needs working at to appreciate its finer points.

### OVERALL

Taking all the above into consideration and comparing it to recent similar games, we award a percentage score. Remember though, that ST games are becoming better all the time so a game rated Format Gold a year ago may well no longer warrant such a score now.



■ *Black Tiger* is a straightforward scrolling action game littered with enemies and obstacles. In between the blasting, you'll also want to collect coins for buying extra weaponry.

Hit the vases and they break, releasing coins

This is Audrey the orchid. Stamp on her and she'll fill you with poison

It takes precision to jump this chasm

Last year US Gold established themselves as a serious 16-bit software house; a position confirmed at the Indin awards where they won best 16-bit adventure for *The Last Crusade*. After superb achievements with *Strider* and *Ghouls 'n' Ghosts*, they're now launching *Black Tiger*, an arcade conversion that's been poised for release since last September

Capcom's *Black Tiger* was one of the lesser-known arcade games, making only a brief appearance in 1986, but thanks to US Gold it's finally found its way onto the ST. The scenario is the usual formulaic nonsense: three evil dragons descending onto a once peaceful kingdom causing the usual heady mixture of mayhem and massacre.

Your character, the oddly-named Black Tiger, is (surprise, surprise) the only one who can defeat them.

*Black Tiger* is a four-way push-scrolling action game that sets you off on a journey exploring eight levels. The idea is to follow the red arrows leading you either along the ground or upwards. Just negotiating the ladders and leaping across gaps in the ground can be bad

enough, but there are all sorts of monsters after your blood as well – and some of them are completely indestructible.

You don't make the journey alone; you come equipped with an armful of impressive weaponry. Your private arsenal can be built up even further after you visit the shop. To reach it you need to track down an old man who's been

turned to stone. If you stand close to him, he slowly comes to life. He's so grateful for your assistance that he offers you as much ammo as you can afford. If you're entertaining ideas of leaving the shop and blasting him, forget it. Once you've raided the ammo stores, the old man disappears, preventing you from returning to him later.

US GOLD

# BLACK

■ As well as vertically-scrolling action, you're also encouraged skyward. With a considerable number of screens pieced together, you can get a good idea of how it's often not the monster that's your biggest enemy, but the terrain

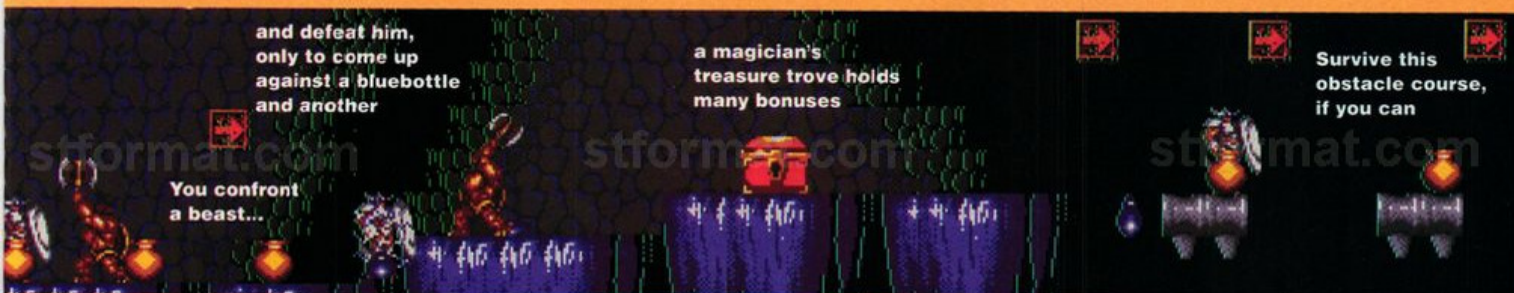
You've climbed all the way to the top, but more beasts await your presence

Finding a way up to that next level is harder than it looks

Get your hiking boots on to climb up here

Flashing your sword won't do you much good





# TIGER

£19.95

Money to pay for your supplies is obtained en route by smashing vases with your weapons. When the vases shatter they spill their contents of much-needed coins or keys.

You'll also come across the occasional treasure chest. Provided you either found or bought a key earlier, you can open the chest and reap the rewards. Some contain fire columns, and one breath will send your energy levels plummeting, but the majority hold useful bonuses such as hourglasses, lanterns and gold. The hourglass is the most useful of these, granting you extra time to move through the game.

When you reach the end of a level, you find the customary Bad Guy, for whom all the extra weaponry was designed. End-of-level monsters consist of ugly blocks of stone and various spitting dragons. They aren't spectacular, but they still take some beating.



■ A standard screen shows only a small area. Consequently, you don't know what's coming up until you've walked into it

*Black Tiger* ends in one of three ways: either you run out of time, you're killed by monsters, or you fall down a chasm and are impaled on the spikes below. Since it's extremely difficult judging your jumps, falling onto the spikes tends to be a depressingly regular experience.

ing would be a better description. The ST is renowned for its scrolling problems but programmers have learnt to overcome them. It comes as a disappointing surprise to see the same mistakes repeated all over again in what is tipped as a major release.

Sound effects suffer from the

## EFFECTS

The gameplay may be interesting but the graphics certainly don't live up to expectations. The main character sprite is tiny compared to those in games like *Strider* and *Batman*. Play *Wild Streets* and then switch to *Black Tiger* and you'll be hunting high and low for a magnifying glass. Nevertheless, the sprites are colourful and the animation is reasonable.

Top of the list of grievances, though, must come the horizontal-scrolling – perhaps horizontal-jerk-



■ Find and revive an old man and you'll get the shop keys

limitations of the ST's sound chip and are uniformly standard.

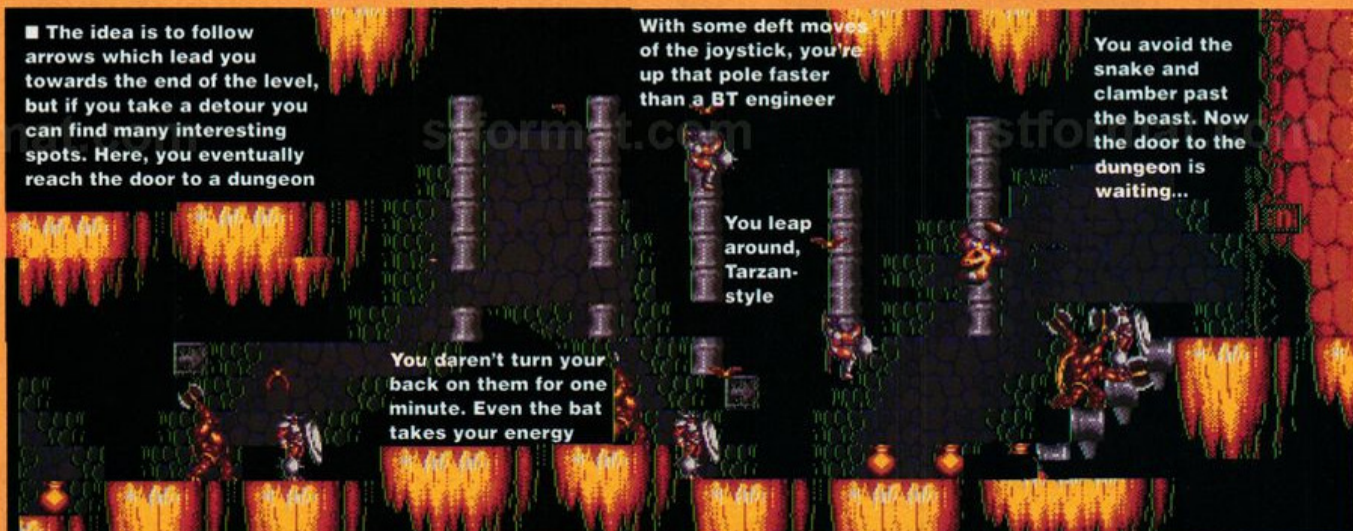
## VERDICT

*Black Tiger* should have been released before US Gold's *Strider* and *Indy* games, but it wasn't. As a result, it looks dated and unoriginal. On the positive side the game's style is similar to *Ghouls 'n' Ghosts* but more colourful and violent. Backdrops are visually exciting and tackling the terrain is challenging.

*Black Tiger* will appeal to fans of the arcade game and anyone who enjoys a decent *Strider*-type action game. It has considerable playability but the sub-standard horizontal-scrolling and the small sprites just don't do the game any favours.

MARK HIGHAM

GRAPHICS	7
SOUNDTRACK	5
INTELLIGENCE	1
INSTANT APPEAL	8
LONG TERM INTEREST	7
<b>OVERALL</b>	<b>70%</b>





# LOST DUTCHMAN MINE™

Available  
for  
Amiga, Atari ST,  
IBM & Tandy



*Journey to  
the Old West in  
search of the fabled  
LOST DUTCHMAN MINE!*

Enter the town of Goldfield to buy food and supplies. Play poker in the saloon, read the local news, or visit the bank, jail, livery, doctor or assay office.

Out in the desert, you can fish in the river, pan for gold, and explore over 100 abandoned mines and caves. Freezing nights, scorching days, rattlesnakes, bandits and renegade Indians are a constant threat. Features digitized sound, fabulous graphics and animated sprites.

Available for: Amiga, Atari ST, IBM CGA/EGA/MCGA & Tandy. Suggested Retail: \$49.95.

EUROPEAN DISTRIBUTION BY: THE SOFTWARE BUSINESS LTD, BROOKLANDS, NEW ROAD, ST IVES, CAMBRIDGESHIRE PE17 4BG. TEL: 0480 496497

**Magnetic  
Images™**

Distributed by  
**INNERPRISE**  
Software, Inc.

138 Cockeysville Rd • Hunt Valley, MD 21036 • (301) 786-0388





# TITUS DARK CENTURY

£24.95



**P**rogrammers are constantly looking at games from new angles. *Hard Drivin'* brought classic 3D routines to the jaded car genre and *Space Ace* looks set to bring sophisticated animation onto the ST. Now we have *Dark Century* boasting ray-traced graphics that add a startlingly realistic reflective surface to 3D objects.

It's the year 2250 and you're in Outer Space heading for a planetary prison. Unfortunately, the convicts imprisoned there have assembled sophisticated tanks to break free. Your job is to go after the fugitives and prevent them from invading Earth. You have your own tank to track them down and a radar screen to tell you roughly where the enemy tanks are located.

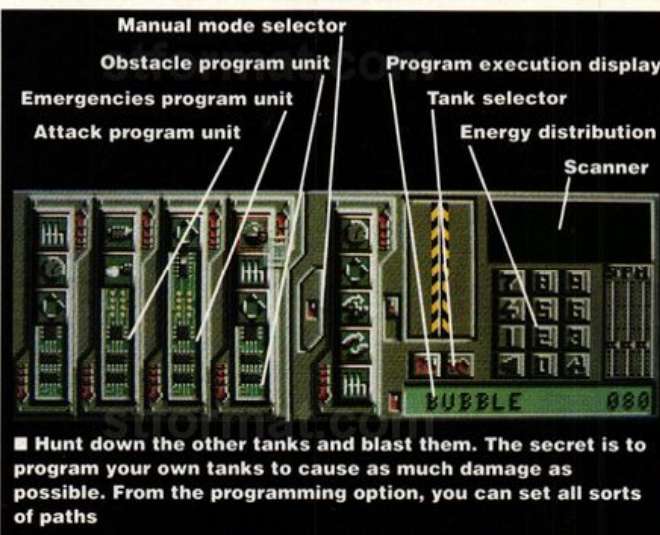
The more you play *Dark Century*, the faster you realise that "catch" and "blast" are mere buzzwords. Tanks hurtle towards you at such great speeds that it's impossible to keep on their tail without switching onto auto-pilot mode.

At the start, you're given the option of programming your tanks to go off in all directions. A series of icons guide the tank's movement and firing mechanisms. Simple programming instructions can send a robot scouring space in search of enemies or even track down special energy bubbles. There are also provisions for emergency action allowing you to issue commands to self-destruct the tank when it's under fire, killing any nearby fugitives kamikaze-style.

Instructions can be issued during play and once the game gets going, the best way to keep on top of the action is to program one or two tanks and despatch emergency tanks only when the situation warrants it.

## EFFECTS

The ray-tracing graphics are *Dark Century's* boldest boast, but unfortunately the tanks used in the game are so small and move so quickly that it's impossible to appreciate the ray-tracing effect.



■ The tanks hurtle towards you at terrifying speeds. If you're lucky they just zoom straight by...



■ but if they're feeling malicious, they could insist on ramming you until one of you goes up in smoke

Only the title screen, enhanced by two massive revolving tanks, really grabs your attention.

Take away the tanks and you don't have much left. The display is a featureless expanse of Outer Space; a boring vista of stars, more stars, and even more stars. The only hint of colour is in the control panel. During two-player mode even this is replaced by another view of space, taken from the second player's viewpoint.

Sound effects are limited, unexciting and no compensation for the boring visuals.

## VERDICT

This is the first game to incorporate ray-traced graphics and if they were up to the standard set by ray-traced demos, there's little doubt *Dark Century* would have won some major prizes.

You're left instead with unflattering visuals and no in-depth gameplay or action to compensate. Although there's the opportunity to program tanks and send them out after the opposition, it's never a very exciting challenge. The tanks move too quickly to play the game as a straight shoot-'em-up and you'll spend a sizeable chunk of your time cynically considering if it might just not be more fun to stick all the tanks on auto-destruction mode and send them out into the great black yonder.

**MARK HIGHAM**



■ In two-player mode the screen is split in two and both players are treated to their own dedicated view

GRAPHICS	7
SOUNDTRACK	4
INTELLIGENCE	5
INSTANT APPEAL	6
LONG TERM INTEREST	6
<b>OVERALL</b>	<b>52%</b>



Tynesoft

# BEVERLY HILLS COP

£19.99



■ Level one is full of thugs and lethal mines

**B**ig movie licences were topping the charts all last year. *Robocop*, *The Last Crusade*, *The Untouchables* and *Batman* were all transformed on the pixel palette. Released the same year as the film, they cashed in on the tidal-wave of marketing hype and publicity that surrounds a Hollywood blockbuster.

It's strange then that *Beverly Hills Cop* has missed the hype boat by half a decade. As a result the programmers have had more than enough time to get it right; the usual rushed programming of film tie-ins as software houses struggle to meet film release deadlines, and the communication problems of programming while a film is still being shot, are no longer viable excuses. So is *Beverly Hills Cop* a well-designed and polished product, an anachronism, or just a marketing timetable disaster?

It's split into four distinct games. The first puts Axel on night patrol duty in Beverly Hills. Direct him through a horizontally-scrolling level, shooting at anyone who moves. The objective is to reach the end of the level where a gang are loading crates of arms into a van. The criminals are easily killed with a single shot, but they toss the occasional mine in your direction and if you stand in the wrong place, you're dog meat.

The second game is a car chase. The gang have loaded the van and you're racing after them, but the chase is complicated by them throwing crates at you. It takes some clever steering to avoid them. If you get close enough to the van, try blasting them off the road by shooting the crates stacked in the back.

By the third game, Axel has discovered the location of Mr Big (yawn). He's holed up in a luxury mansion protected by his gang of baddies. Guide Axel through the garden, indicating his direction by moving an on-screen cursor, and knock out scores of Mr Big's trigger-happy cronies. Fire by using



■ Your first task is to find the van at the end of level one. Unfortunately, you have a substantial element of Beverly Hills' criminal community to contend with



■ Get through to level two and you're in for some fast-moving car action. Find that truck and stay on its tail



■ When you get close to the truck, fire at the crates in the back. If you're lucky, you'll blast the truck off the road



■ Follow that truck - but watch out for those crates!

the same cursor to indicate the direction of your bullets.

At the finale, Axel is inside the mansion searching for hostages held by Mr Big. In this horizontally-scrolling level you need to kill all the guards and find Mr Big. When you track him down, he sets off a time bomb. Kill him and escape from the mansion before the whole thing blows sky high.

## EFFECTS

There nothing to rave about in the graphics department. The scenes are unimaginatively coloured and badly designed. The Axel graphic looks nothing like Eddie Murphy unless he's suffered a severe bout of anorexia and emerged as a seven stone weakling.

Sound effects are traditional "computer music." The intro tune is taken from the movie but there are no digitised effects at all.

## VERDICT

One of the things which made the film so entertaining was Eddie Murphy's humour, but the programmers have closed their eyes to this, focusing solely on the action, and lost all the original appeal. What you're left with is a series of four ordinary games brought under the protective umbrella of a well-known title. When are software houses going to start utilising film licences instead of hiding mediocre games behind them? The movie was a fast-paced street-sharp vehicle for Murphy's machismo and verbal razzle-dazzle, but the game doesn't have the speed of action or the variety of graphics to even sustain your interest past the first few levels.

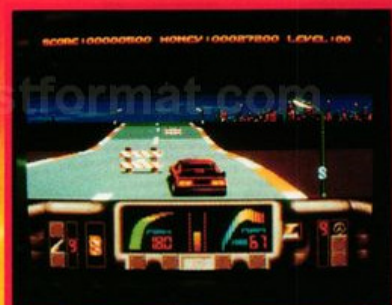
**MARK HIGHAM**

GRAPHICS	5
SOUNDTRACK	2
INTELLIGENCE	1
INSTANT APPEAL	6
LONG TERM INTEREST	3
<b>OVERALL</b>	<b>49%</b>



# OVERLANDER

## The road game that blasts the way



**mis'sion** (mish'n) *n.* sending or being sent on some service.  
**miss'ile** (-il, -il) *n.* that which may be thrown or shot to do damage.  
**car** *n.* a wheeled vehicle; motor-car.  
**en'emy** *n.* hostile person; opponent; armed foe; hostile force.  
**scum** *n.* froth or other floating matter a liquid; waste part of anything; vile person or thing; riff-raff.  
**rock'et** *n.* firework or stick that can be shot up in the air by igniting it's contents; automatically fired aid controlled weapon, armed and remote object.  
**fu'el** *n.* (fû-) *n.* material for burning.  
**mer'cenary** (-s-) *a.* hired; working simply for reward. - *n.* hired soldier.  
**arm'our**, (us arm'or) *n.* defensive covering or dress; plating of warships, task forces.  
**choose** *v.t.* pickout, select; take preference.  
**weap'on** (wep'n) *n.* implement to fight with.  
**carg'o** *n.* vehicle's load, it's freight.  
**reward'** *v.t.* pay, make return, for service, conduct etc.  
**Elite** (-a-l-et') *n.* choice or select body; purveyor of video games; video games that will get better and better as time passes.  
**OVERLANDER** *n.* wicked 21st century video game where mercenary completes mission by delivering cargo in a car for reward and uses reward from successful missions to choose fuel or armour and weapons including rockets and missiles to improve his car so that he can defeat scum in further more treacherous missions.



**NOW ! AVAILABLE  
FOR...  
COMMODORE  
AMIGA £19.99**

# elite



**F**ortified by inventive programming skills, recent releases have been reaching new heights of originality. Last month *Iron Lord* scored high marks for its novel angle on the traditional adventure game. This month *Gravity* proves to be one of the most arresting games in aeons. And now *Rings of Medusa* marries elements of strategy and action to produce an exciting new adventure format.

You assume the role of a young prince and must prevent the Goddess Medusa ravaging your kingdom. Since she has unearthly powers, you can't just wander into the green pastureland with a sub-machine gun and blast her brains out. You have to locate five rings sprinkled across the landscape and piece them together in a temple. This forces Medusa to fight you. The conflict makes up the end sequence only, so the real objective of the game is to unearth the five hidden rings.

Unfortunately, you don't begin the game in a very healthy position. You need money to build up an army and there are several ways to get it: you can trade with other characters, attack caravans, raid towns, gamble in the casino (if you can find it) or search out raw materials.

*Medusa* is split into three parts: there's the rural landscape where the mouse-driven character moves through fields and forest, a town section where wealth and arms are accumulated and the combat area where fight sequences take place.

In the town, you need to visit the harbour, store, bank, castle and park in your drive to amass money. Certain cities are abundant in specific items; so, for example, if a city spends all its time producing apples, apples will be cheaper here than anywhere else. The bank



is enormously useful since you can borrow money (at a high interest rate). You need to pay the money back otherwise traders in the area won't deal with you. Take a trip to the park to buy soldiers. There are several types of troops, each with different fighting skills, including cavalry, artillery, dragonriders, wizards and archers.

You're goaded into fights at various points of the game, usually by bumping into another character. Unfortunately, you don't know the size of the army you're confronting, but you do have the option of sending out scouts to discover what you can about your opposition.

The battles themselves aren't graphically exciting; strategic interest lies instead in your judgement of which troops to use. The victor collects rings or money and this is how you'll eventually collect the five rings you need.

#### EFFECTS

The map and the towns are represented as colourful and clearly drawn graphic images, but this is the extent of the game's visual appeal. Sprites are little more than a few points high because it's more important to squeeze a large portion of the map on screen. But the biggest frustrations is the time it takes to move between two screens of the map. For some reason, it takes as much as a couple of seconds to move between screens, even though no disk accesses are made.

No spot effects are used but a tune plays constantly in the background, sounding atmospheric at first, but soon driving you to reach for the volume control.

#### VERDICT

For the first few hours *Medusa* is breathlessly entertaining. Sending your hero around the map and

looking into the wide range of towns is frighteningly addictive. Since you can't progress far without bumping into an army, it stays that way, at least until you discover the first few rings.

Without the variety of graphics and sound, however, *Medusa* soon loses its appeal. We've compared it to *Iron Lord* but the latter's programmers recognised this problem and developed the game beyond the limitations of the map sequence. With nothing more in *Medusa* you're left feeling you only have half a challenge.

**MARK HIGHAM**

<b>GRAPHICS</b>	<b>6</b>
<b>SOUNDTRACK</b>	<b>2</b>
<b>INTELLIGENCE</b>	<b>3</b>
<b>INSTANT APPEAL</b>	<b>7</b>
<b>LONG TERM INTEREST</b>	<b>4</b>
<b>OVERALL</b>	<b>69%</b>



**■ You move your character around the map with the mouse. You need the icons to help in battle or to search for elusive treasure**



**■ When you enter a town you're presented with a detailed view of the places you can visit. Click on one of them to go inside. Your starting point will probably be the bank in order to borrow the dosh essential for the adventure**

CURRENT ACCOUNT : -1000  
 BAL. CREDIT : 0  
 YOUR MONEY : 2000  
 SELECTED MONEY : 1000  
 TODAY'S DUTY : 42  
 TODAY'S DISCOUNT : 102  
 THE DUTY AND DISCOUNT CALCULATION WHEN YOU REENTER THE BANK



# SPACE HARRIER II™



ATARI ST



C64



SPECTRUM



AMIGA



SEGA

© 1989 SEGA ENTERTAINMENTS LTD.  
This game has been manufactured under  
license from Sega Enterprises Ltd.; Japan  
and "SPACE HARRIER II"™ and "SEGA"®  
are trademarks of Sega Enterprises Ltd.

GRANDSLAM

stein



The last Imageworks game acclaimed for its originality was *Interphase* – not just a generic re-hash with a thin veneer of novelty but a fully-fledged forerunner of a totally new breed of game. Mirrorsoft's *Gravity* is in the same spearheading category, a strategy/action space game incorporating into its gameplay new theories about black holes and space travel.

The game is set in the year 2320, after space travel experimentation has discovered the ultimate way to move. It's been discovered that if an object is dropped into a black hole, it continues in a straight line at infinite velocity until it reaches a second black hole, where it emerges with zero time elapsed.

This theory has allowed humanity to venture into Outer Space and colonise planets. Unfortunately, conflict developed when one of the populated planets was turned into a black hole by an Outie (a coloniser) looking for a quick short-cut through space.

Your role in the game is to continue the process of terraforming and colonising space and to find and harass the Outies whenever you can.

*Gravity* is played on a scrolling isometric space grid. The grid delineates the spatial dimensions and the field of gravitational forces. All the planets and black holes are represented by detailed sprites which affect the grid. Newton makes a guest appearance because spacecraft react to the gravitational influence of the planets and black holes in accordance with the laws of Newtonian mechanics.

You equip your spacecraft to take on this challenge remembering that different missions and different situations require different types of equipment. Some of the equipment can be purchased in Outer Space but the majority are



IMAGEWORKS/MIRRORSOFT

# GRAVITY

£24.95



**Mirrorsoft have a fine record of producing original and intriguing games. Now they've come up trumps again with their latest release, *Gravity*, truly a force to be reckoned with. Watch action, strategy and Newtonian physics fuse in our game of the month...**

best obtained by returning to your colony. Since you'll need to return home to receive fresh orders, it's sensible to wait until then.

The game can be played in two ways; either with you controlling the strategy element, deciding where to go and what to do, or with the colony controlling it. If you

take command, you give missions and destinations to up to eight spacecraft, taking personal control of one of them. There are five missions which can be given:

Exploration: a trip to a particular system to discover if it's occupied by Outies and to see the size and type of planet.

Terraforming: making a planet ready for possible occupation.

Military action: either chasing and destroying Outie craft in the Outie occupied system, or removing the Outie presence altogether by converting a black hole back into a sun.

Colony Protection: protecting a







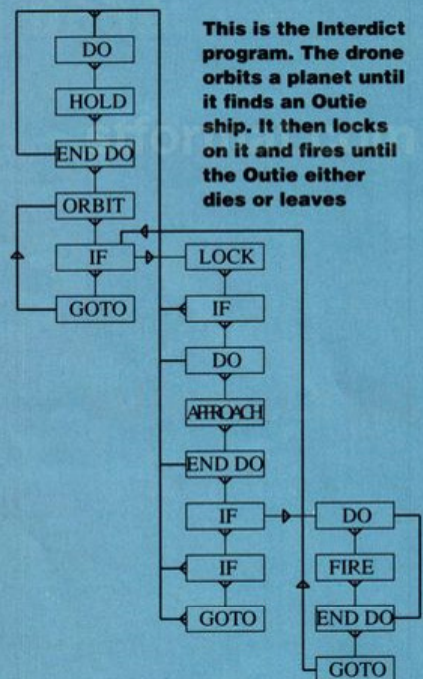
## PROGRAMMING THE DRONES

If the drones are used efficiently they can provide enormous amounts of useful information, as well as ridding the solar system of alien presence.

The drones come equipped with several standard programs, such as free-fly and Interdict (the Interdict program is shown far right). These programs are available to be edited but the real power of the drones can only be exploited once you try programming them yourself.

To program a drone, drag icons from the bottom of the

screen, into the programming window. Various connectors appear, allowing you to link the icons together. The diagram (right) shows the general construction of a program, although the actual icons used, are far more informative and colourful. These icons are explained below, but the ones of particular importance are the Orbit and Approach commands. These instruct the drone to find a certain area and stay there. Using the IF icon, you can make the drone respond to a given situation.



convoy of people as they colonise a planet and set up its defence systems.

Route Construction: generating a black hole to establish a new route in space.

It's important to colonise as many planets as possible because colonised planets are key places in the system. They enable you to restock supplies and communicate with other craft. Although you may lose your colonies to the Outies, you must not lose your main base, known as Starcom.

Once you've generated a colony somewhere, it continues to develop without your interference. The longer it survives, the more useful it becomes to you. All the planets have a technology (or Tech) level which increases with time and enables you to purchase more and more stock to re-equip your spacecraft without returning home. It's only back at Starcom, though, that you'll be able to purchase the full range of equipment.

Using drones is the easiest way to confuse and destroy Outie craft. Drones are equipped with eight of their own special programs, but you can also program them yourself. This makes it possible to send them into space, patrolling designated territory, and use their lasers or nova guns to hassle the Outies and prevent their imperialist encroachment.

A simple programming language needs to be understood before you can fully utilise the drones. This language consists of icons employed in a flow diagram. The drone follows the instructions and responds to the Outies with the programmed results. One of the standard programs found in the game runs as follows:

label1:

if no Outies are detected then

hold station

goto label1

else

attack until Outies destroyed

goto label1



Missiles can be homing or free-flight

The warhead explodes after a set time or on contact with enemy craft

Thrust can be either short burn engines or continual thrust



In the missile programming section, you can change the kind of missile on the launching pad. The most dangerous option to alter is the warhead. Two types are available - either shafter or fusion. The fusion warhead is straightforward, causing localised damage to the target. But the shafter head can cause more problems because it's so powerful it tears holes in the grid



To move through time, you need black holes, not planets



Follow the radar and you'll find one soon enough

## A TRIP TO THE SUPERMARKET



As you progress you can start buying add-ons like the black globe. Once you put the globe on you're unable to change direction - but that's a very small price to pay for invincibility!

If you're visiting colonised planets supplies should be available, but certain items will not be in store until the colony has had time to fully develop and achieve a high enough tech level. Fortunately, all the items are also on sale back at Starcom. It's usually easier to go home and buy things unless you've let the enemy through to your own colony.



# When there is no room left in Hell... ...dead people come back to Earth

## The nightmare has just begun

For mysterious reasons, dead people come back to life to feed themselves on the flesh of human beings. The Earth is inhabited by millions of Zombies, who are spreading terror, and by gangs of hooligans, who are ready to do anything to survive. Yet four people didn't lose hope and decided to run away to new horizons.

"What a great game ! UBI SOFT have taken a video nasty and an arcade/adventure, and combined them, coming up with a real winner in the process. Moving your four characters around the building, trying to find a way out, all the time fighting off attacks from zombies, is very atmospheric. There are some good puzzles to work out, and a hell of a lot has gone into the game. By all

means, get hold of this game."

"Everything is nice and detailed, with the background graphics looking particularly effective."

AMIGA ACTION



Available now for your  
ST, AMIGA and PC



Amiga screenshots

## UBI SOFT

Entertainment Software



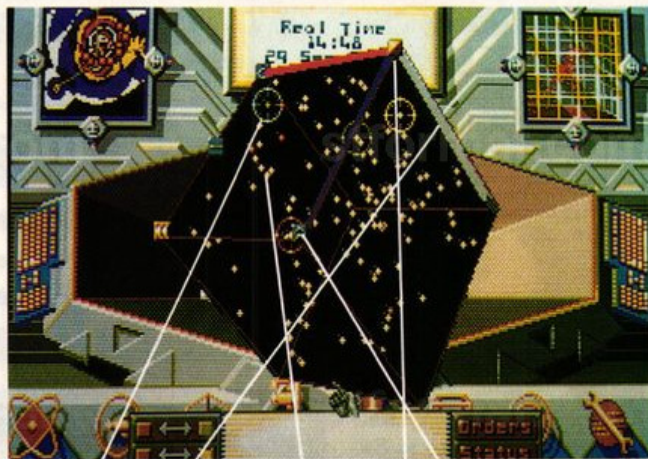


## INSIDE THE CUBE

You spend much of your time in the cube working out where to go next. Your home base is indicated by a cyan ring around the planet. A red ring indicates where your most recent order has sent you. The next black hole you fall through will automatically bring you out at this point. Also shown on this map are details about how the Outie's front line is advancing, indicated by planets flashing in a variety of colours.



■ You can get additional information about a planet simply by double-clicking on it. This brings up a detailed message, including details such as when you last viewed it. Another click shows a picture of the planet



■ The cube, an important area of the game, shows how the Universe is shaping up. In this case, the number of alien-inhabited planets looks lethal

As you can see from the diagram, the drone patrols its area until it detects an Outie presence. In this event, it launches an attack which can have only two possible outcomes; either the destruction of the Outies or the destruction of the drone.

Gravity is intended to be played initially as a strategy/arcade game with the computer handling your missions. As you become more adept at manipulating the controls, though, you can take over the process of giving out orders and start to develop your own strategy, dispatching your own forays off into the Milky Way.

Your spacecraft can be moved using the mouse or joystick – but the keyboard gives the finest control.

### EFFECTS

The electrifying strategic nature of Gravity means that it's gameplay which matters here and not graphics. Consequently, you don't switch on your machine and expect to be assaulted by great visuals. But this is exactly what happens.

Original games are often renowned for having something special in their graphics. Those elements in both *Virus* and *Interphase* which made it so exciting stemmed from the graphics. The same happens here, due largely to the grid. This gives a perfect impression of the gravitational field with lines which carefully weave their way around planets and into black holes and still hurtle along when the going gets rough.

Besides the grid, there are rousing static sprites of the planets

and an animated view of your own spaceship. These again give some prodigiously realistic views to the point that you even find yourself picking out familiar planets. In no time, you'll be screeching: "Wasn't that Saturn we just passed?" and waving affectionately.

The visuals are the work of graphic artist, Pete Lyon. He's responsible for drawing sprites and designing the front screen containing all the icons. Sound effects are as polished as the graphics but there's little more than warning tones and the occasional blast.

### VERDICT

It takes a while to get to grips with Gravity but it's well worth the effort. The moment you start understanding how it works, you get involved in the action to the

point that you daren't blink for fear of losing sight of the Outies. Thankfully, an easily digestible manual means you don't spend hours suffering at their hands before you come up with a winning formula.

Originality is now high on the list of the big 16-bit boys, so we may be seeing the end of routine and unimaginative imitations and the birth of a new market for programmers with ideas. Gravity is just the beginning.

MARK HIGHAM

GRAPHICS	8
SOUNDTRACK	6
INTELLIGENCE	7
INSTANT APPEAL	5
LONG TERM INTEREST	9
<b>OVERALL</b>	<b>93%</b>

## THE INSIDE STORY

Gravity has been a year in the making, and when you start playing you understand why. There's so much detail to the game that it can take a long time to know exactly what you're doing. Once you do find out what goes where, you begin to appreciate how much care has gone into the game.

Programmer Ross Goodley explained how he "wanted to write the big game." Although Ross is a games programmer, the one thing he never does while working on a new title is to play games. "It's distracting," he says. "You start questioning how the programmer did this or that, or you look at an

effect and want to put it into your own game. So I don't bother playing anything at all." When he does find time to play games, his favourite, after years of play, is still *Dungeon Master*.

Ross' last game was *Bombuzal* – a cutesy 3D platform game which never received the attention it deserved.

That was a year ago. Since then Ross has been concentrating solely on Gravity, his programming a refreshing alternative to programmers who underestimate the intelligence and enthusiasm of committed games players.



■ Programmer, Ross Goodley. Gravity has taken him a year to program and it shows



■ The grids were the hardest part to program because of the way they're used to represent the gravitational field. They come as either filled or unfilled



■ View your spacecraft in 3D to see exactly what it looks like. No damage so far



■ You read the results of a probe. Is it worth continuing? You bet!



# EMPIRE

## CAP ARRIVES AT DR. DOOM'S CASTLE

# DR DOOM'S REVENGE

£19.95

**C**omic licences have been popular for a long time, spawning hits such as *Batman*, *Garfield*, *Snoopy*, *Asterix* and even *Tintin*. But it's the Superheroes who have always come top of the list. Captain America and Spiderman may not have Batman's mega-fame but they do still have the *Marvel* magic. Paragon Software, new to ST programming, were given the job of translating that magic into gameplay.

There's a vague plot to *Doom's Revenge* that suggests you use Spiderman and Captain America to find a way into the mysterious fortress of the evil Dr. Doom. This is merely an excuse for stringing together a series of action levels in which you pit your joystick skills against an enemy.

You're launched into the game as Captain America and must quickly acquaint yourself with an illogical set of joystick moves to defeat a robot who wheels into the room and proceeds to punch you. This is the Superhero equivalent of a street-fighting game, with the added bonus that you have Cap's shield to strike out at the robot.

There's an energy scale for each character at the base of the screen indicating who's doing best in the fight. When you've hit the robot enough to take his energy to zero, he dies and you move onto the next level.

Level two is horizontally-scrolling and the aim is to dodge fireballs by either leaping over them or rolling along the floor. Unfortunately the screen scrolls so slowly that it's laughably easy.

You then adopt Spiderman's persona, leaping onto walls and



■ You'll learn tricks to knock out enemies only moments into the level. Fortunately the rhino doesn't stand for any nonsense and is much harder to kill



■ Captain America lays into the robot, using his shield for the best results



■ Spiderman takes his turn, using his web to defeat the metallic monster

ceilings and whipping out a web for dealing with the bad guys. Sadly, Spidey's hopeless at hand-to-hand combat. Your first problem is to overcome Cap's robot again but in different surroundings. When he's dead, another creature appears and the surroundings change, but the fight is still the same.

The scenario continues like this with each Superhero performing heroics in two scenes. An energy level is assigned to Spidey and Cap which plummets during a

fight. If either character's energy hits zero, the game is over.

### EFFECTS

For all its problems in the playability department, *Doom* does have some auspicious still graphics. They're not as polished as they could be, but they certainly capture the *Marvel* spirit. Unfortunately, the animation is jerky and hopelessly amateurish.

Although most of the game is played against a still backdrop, it's

obvious the programmers came up against the infamous ST horizontal-scrolling problems and came up with their own original solution; forget scrolling and go for good old-fashioned jerks.

If you're looking for digitised sound or even a half-decent spot effect, you won't find it here. Sit back and listen to a ridiculous beep bop bap computer tune and laugh yourself silly as your mind floats back to the days of the diminutive 8-bit micro.

### VERDICT

The *Marvel* licences make a great base for computer games and with two characters in the action *Doom* should lend itself to more good ideas than usual. But the programmers, who quite obviously didn't have a clue about the possibilities for ST games, have turned out nothing more than third-rate mediocrity. *Doom* is boring, dated and deadeningly dull.

Another frustrating aspect is the loading times. The initial loading wait is long enough, but this is followed by a coffee break "time-out" between every scene.

Apparently the 8-bit versions are supposed to be playable – so if you really insist on buying *Doom*, you'd better start dusting down your old micro.

### MARK HIGHAM

GRAPHICS	3
SOUNDTRACK	1
INTELLIGENCE	1
INSTANT APPEAL	4
LONG TERM INTEREST	2
<b>OVERALL</b>	<b>29%</b>

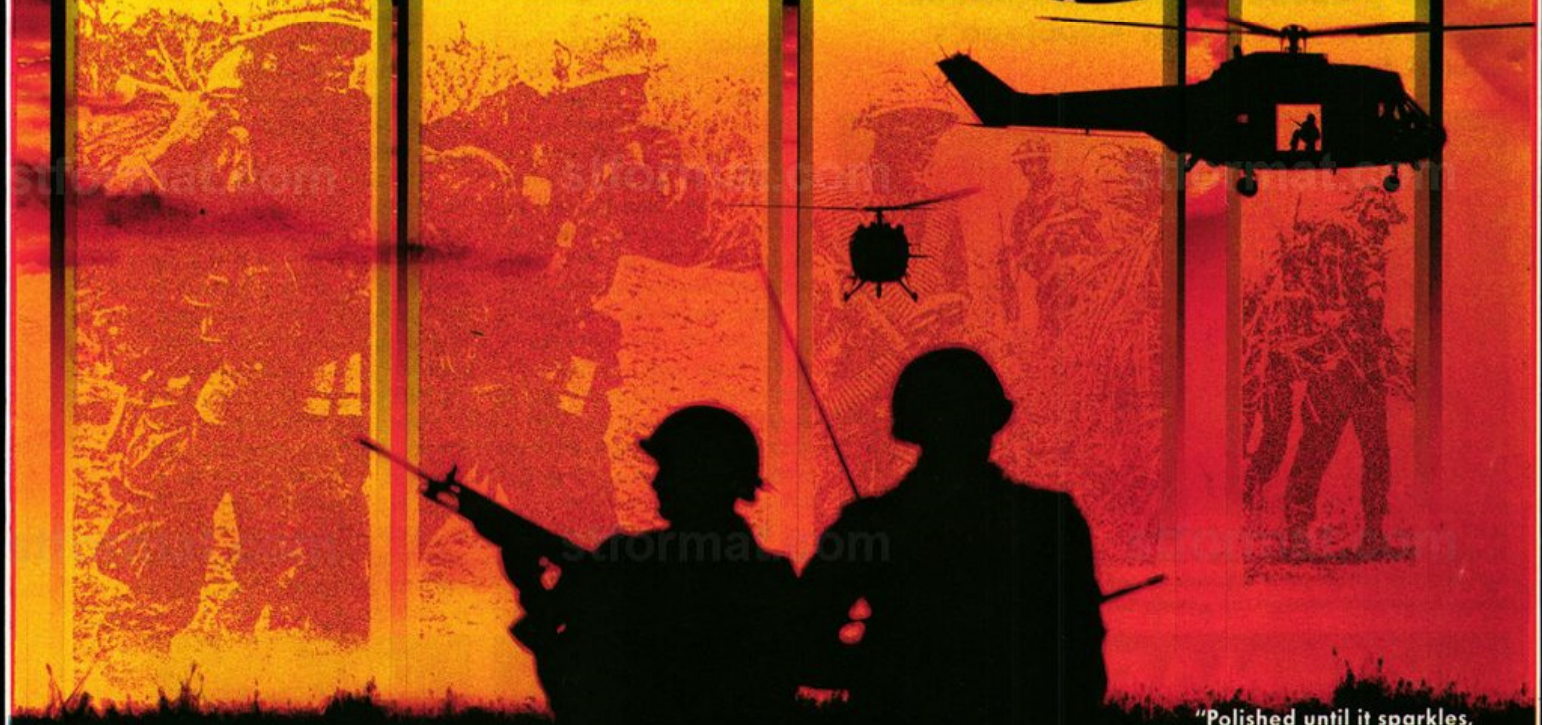


■ The fireballs look exciting but sadly the scrolling is much too slow and jerky to make them remotely interesting



**WE'RE FIT, WE'RE ALIVE, BUT...**

# LOST PATROL



"Polished until it sparkles,  
The Lost Patrol features  
animated screens the like of  
which we've never seen before"  
The Games Machine

# WE'RE NOT BACK HOME



**AMIGA**



Ocean Software Limited - 6 Central Street - Manchester - M2 5NS  
Telephone: 061 832 6633 Telex: 669977 OCEANS G Fax: 061 834 0650

**ATARI ST**



## MIRRORSOFT

## AUSTERLITZ

**Unscarred after *Borodino* and *Waterloo*, Dr Peter Turcan continues on his triumphant path, realistically reconstructing historical battles. Deploy your troops around the 19th Century Czechoslovakian town of Austerlitz and replay Napoleon's finest hour**



■ It's December 2nd, 1805. Things look quiet but last night Napoleon was manoeuvring his troops ready for battle. Today will see the outcome of this war. In reality, Napoleon was victorious, but who'll emerge the winner today?

## NAPOLEON'S FINEST HOUR

On the 1st December, 1805, the battle of Austerlitz was fought between the French and Allied armies. The fighting continued until the following day when 68,000 French soldiers under Napoleon's command were led into battle against the 90,000-strong Russian and Austrian army, led by the Russian field marshal, Kutuzov.

The battle reached its climax close to Austerlitz (now Slavkov u Brna in Czechoslovakia), with Napoleon outmanoeuvring the Allies and winning the war.

Napoleon considered this his finest battle. His strategy had been to lodge himself between the Allies' left and right flanks by winning Pratzen Heights and taking the important village of Blaswitz. That was at nine o'clock in the morning on December 2nd.

At half past ten, Kutuzov moved the troops on his left flank to attack the French centre and at one o'clock the Russian Imperial Guards

charged the weakening centre line and almost captured it.

A division was sent up to reinforce the front line. Napoleon was already in a strong position but he now converted that to victory by pinning the Allied centre and right flanks with a frontal attack and circling round from the South. By half past three, most of the units had surrendered.

There's a story that some of the units slipped through the French ring and fled across the frozen lakes around Telnitz village. Napoleon supposedly spotted this and to prevent their escape ordered his troops to fire into the ice, causing 2,000 Russians, their horse teams and cannons, to drown. Much later, the lake was drained, but only two bodies were found.

It was Napoleon's victory which forced the Austrians to finally make peace with France - signified by the Treaty of Pressburg.

Following the example of his earlier successes, Turcan is laying considerable store on the realism of this game. *Austerlitz* isn't just another simulation in which you move pieces around a map as if they're part of a chess set. Instead, you assume the role of either Napoleon or Czar Alexander I, and face the same situations in your living room as they faced nearly two hundred years ago on the battlefield.

To move your armies you must first dispatch riders with orders. The orders will not be followed until the rider reaches his destination. He can, of course, be killed before he reaches the relevant unit.

Your view of the battlefield is restricted to what the leaders would have seen at the time. Judgements about which unit to dispatch where must be based on reports received, adding the extra problems of being unable to see the formations of the enemy.

Since this is a simulation of an actual war, considerable research has gone into making certain that every part of the French and Allied

strategies are followed. At the start of a new game, a set of questions enable you to select which leader you want to play, whether to display various messages about what's happening (so you can "cheat" and watch the game from both sides), or whether to change the historical orders. Normally both sides are issued with the orders given at the start of the real battle but these can be changed to give variations on the battle scenario.

The war begins at 7am on December 2nd, 1805 and is played as a series of turns. Within your turn, you have 15 minutes of simulated play and a maximum of eight orders. The orders are taken from a specific set of commands (see the panel of battle orders). The battle comes to a close when one side has crushed the other to a pulp. When this happens, your progress is assessed and you're presented with a full battle report that details your final position and takes stock of your troops. This is useful for planning your strategy in the next game.

Mail: 1 15 pm Alexander, a report has arrived from Langeron, 18 45 am, Pratze, I have 18100 men and 24 guns.

Napoleon the effective French army is now 54600 men with 106 guns, having suffered 14800 casualties

■ Mail flies thick and fast at the height of battle. This is often the only way you'll be aware of how the battle is progressing



■ By clicking with the mouse you can look at an area of the screen...



# AUSTERLITZ



£24.95



■ Austerlitz aims to be as realistic as possible by giving you the view of the battlefield which your leader would have seen

## EFFECTS

Unlike many other wargames, the map is presented as a solid 3D view, even detailing the heights of hills and mountains. This is regularly updated as the battle progresses. You can obtain additional information about the scene by clicking the mouse on any part of the screen and can also view the scene from different directions to give you a more complete assessment of your position.

Since this is a strategy wargame aiming for historical authenticity, no sound is necessary and hasn't been included.

considerate of almost all aspects of war that even unit morale is taken into account.

Nevertheless Austerlitz still doesn't claim to look at everything and admits to ignoring such things as gun smoke blocking the line of fire and the breaking down of regiments into lines of skirmishers.

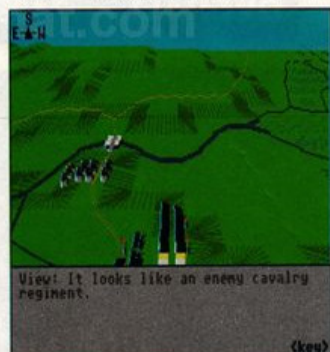
Austerlitz excites more than Borodino and Waterloo because it was Napoleon's greatest strategic victory. If you're looking for a wargame that's as realistic as possible, there's no beating any of Turcan's three great battle simulations.

MARK HIGHAM

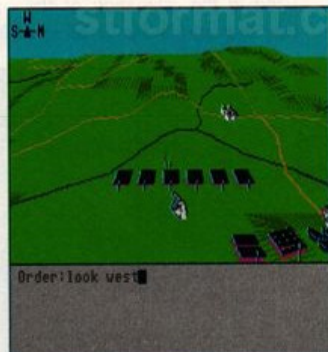
## VERDICT

The reality factor is Turcan's ace card. The reality of war made hits of Waterloo and Borodino and it's certain to endear wargame addicts to this latest release. As yet, there's no wargame system to beat Turcan's, which is so

GRAPHICS	7
SOUNDTRACK	N/A
INTELLIGENCE	8
INSTANT APPEAL	4
LONG TERM INTEREST	9
<b>OVERALL</b>	<b>92%</b>



■ see the entire battlefield or view the scene from different directions...



■ to get a more rounded idea of the layout and assess your strategies

## BATTLE ORDERS

At the start of your army's movement phase, you may move your headquarters by specifying a compass direction and clicking on an area of the map with the mouse. Just as in a real battle, you cannot move your army straight to that spot but may move only as far as time allows.

After this, basic orders let you make direct commands to the program. These are not treated as part of your turn. You may use the LOOK command to change the compass direction from which you view the field, or you may find out your point situation - points are awarded according to the current size of your army, prisoners taken, casualties caused and farms and villages under your control.

Battle orders are the real meat of the game and these comprise MOVE, ATTACK, DEFEND, SHELL, STAY IN RESERVE and RETREAT.

**MOVE:** moves your army to another location

**ATTACK:** sends your army onto

the battlefield in an all-out offensive attack

**DEFEND:** defends a spot

**SHELL:** fires artillery batteries

**STAY IN RESERVE:** Be ready for more orders

**RETREAT:** Withdraw the troops

**GIVE/TAKE SUPPORT:** Transfer troops

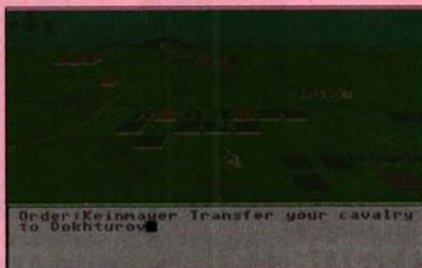
**REPORT:** Request report from Corps Commander

**FORM ATTACK/DEFENCE LINE:** An order to the front line Corps Commander

Added to these are the place names and Corps Commander so that an order may look like any of the following:

*Murat move to Bosenitz Stream. Bernadotte shell the enemy cavalry one mile east of you. Davout send me your battle report. Keimayer transfer your cavalry to Langeron. Soult form a defence line from the north flank to Menitz linking with Legrand.*

Since these conform closely to how you would dispatch orders anyway, you become accustomed to the lingo within an hour.



■ Your orders are made up of army commands and place names. Places can be shortened to the smallest number of unique letters - such as Prat, standing for Pratzen



■ Things get problematical at the finale. Suddenly armies are surrendering everywhere



■ At the end of the battle, you're given the opportunity to assess how things went and what troops you're left with. Such information can prove helpful in playing the next game





■ Use the gun to blast away the bad guys. Find more ammo and you're safe for another six shots

# TITUS WILD STREETS

£19.99



■ Empty your barrel on those nasty thugs. One well-aimed shot and they drop straight to the ground

After *Shinobi*, *Double Dragon I and II*, *Robocop* and a fistful of lesser-known street-fighting games, you'd have thought the beat-'em-up had finally been beaten to death. Programmers have obviously tired of churning out macho kerb brawlers and started to release a new breed of beat-'em-up; one which does its damndest to pretend it's something else. *Barbarian* introduced prehistoric monsters, *Untouchables* let you play with pistols, and even this month's *Dr. Doom* replaces street gangs with Super-heroes.

The same can't be said for *Wild Streets*, a game which certainly isn't fighting shy of its generic heritage, however hackneyed that might be. It goes straight back to the original formula where the sole objective is to march across the screen raising your fists against a never-ending stream of scuzzy thugs.

The game is arranged as a set of levels with the usual monstrous brute at the end of each one. He's a larger sprite than anyone else you'll meet and predictably harder to kill. When it comes to the bone-mashing crunch, an energy status bar at the bottom of the screen lets you know how the fight is going.

*Wild Streets* makes an inventive detour from its routine with the addition of a panther and a pistol. The panther accompanies you through the levels leaping on thugs and causing instant death. This is a useful little moggy to have around when you're faced with several enemies at once. Unfortunately the panther never makes an



■ A street-fighting game with a difference: a pet panther and a Magnum 357 at your disposal when things get tricky



■ You're through to the end-of-level bad guy. The gun is the fastest way to bring his energy level down but you don't have many bullets left



■ You resort to fists but he's a tough cookie and as a result you come off far worse - where's that panther when you need it?

attack on the end-of-level bad guy, leaving you to resolve this confrontation on your own.

The Magnum 357 is your other ally. You have six bullets and can fire them at any time. Your best move is to earmark them for the end-of-level bad guy or the hordes of thugs who sometimes rush you all at once. In the first few levels, you'll find ammo belts along the way. They buy you six new bullets, provided the gun is already empty.

The gun can be fired from the opposite end of the screen and only one shot is needed to kill thugs. The end-of-level bad guy is more resilient and you won't kill him using the gun alone.

## EFFECTS

The tall sprites and well-drawn backdrops give *Wild Streets* a classy feel. So many frames are used in the animation of the panther that you find yourself spending

more time watching the feline creature in action than you do fending off criminals. The downside is that the characters move in such a leisurely fashion that the action sequences lack any force or sparkle, and although it's no slouch, a little more speed would definitely make it more challenging.

The impressive spot effects manage to realistically emulate the panther's growls and the sickening thud of fist on flesh.

## VERDICT

Standard street-fighting games have had their day and even a good one is unlikely to survive without some element of originality. Titus have tried to introduce that element by arming the main character with a panther and a pistol. To an extent these do make the game more fun to play, but it's a shallow variation of a formulaic pattern.

*Wild Streets* is a beat-'em-up with smooth graphics, large sprites and a very sexy black panther. If you like beat-'em-ups, there's no reason why you shouldn't fall head over heels for this one; but if you aren't instantly attracted to the idea of simply randomly smashing your fist in other people's faces, there's nothing likely to endear you either.

MARK HIGHAM

GRAPHICS	7
SOUNDTRACK	5
INTELLIGENCE	1
INSTANT APPEAL	7
LONG TERM INTEREST	5
<b>OVERALL</b>	<b>71%</b>

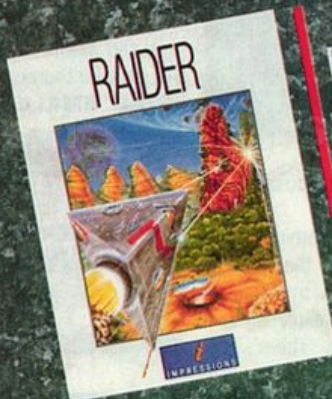


■ When things look tough, the panther comes to the rescue. He leaps up and devours your opponents in one swift move



PACK OF 4 COMPUTER GAMES

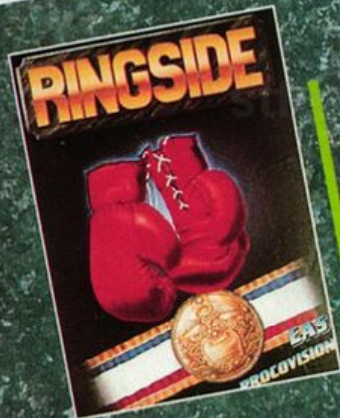
# HYPERACTION



RAIDER



STAR RAY



RINGSIDE



HELLBENT



AVAILABLE ON **ATARI ST & AMIGA**

**£24.99**

From your local stockist



## ADDICTIVE

## AQUANAUT

£24.99

In apocalyptic gobbledegook, *Aquanaut's* packaging blurb describes how "in the year 1999 Mankind finally came to its senses. All wars ceased and the nations of the world did, in fact, become united." Our lovely Earth, however, is once again under threat from those beastly aliens and it's up to you to save it.

Once you begin playing, the plot thankfully becomes irrelevant – this is a straightforward right to left scrolling shooter with a tad of collecting and lots of mindless trigger action.

■ Instant death in the murky depths of the second level



Looking like a downmarket version of an ageing Speccy game called *Scuba Dive*, that has beautifully smooth graphics of sharks and swordfish, the sprites in *Aquanaut* are large but only have about three frames of animation each –

which is crude and inexcusable on an ST.

The title tune is nothing more than bearable and the sound effects are limited to the hissing harpoon variety and explosions if they hit their target. There's no

underwater noises and no bubbles or sub-aqua inhaling sounds to capture the atmosphere of the submarine depths.

The gameplay consists solely of shooting fish (how very unsportsmanlike) and collecting objects. Because the sprites are large and you can't see that far ahead, it's all too easy to bump into a shark or swordfish and lose a life.

It's an unspectacular, frustrating game and unless you're a sub aqua freak, or a violently suppressed marine biologist you'll find *Aquanaut* a thoroughly damp squid.

PHIL "SMALL BOY" JONES

GRAPHICS	4
SOUNDTRACK	3
INTELLIGENCE	2
INSTANT APPEAL	4
LONG TERM INTEREST	3
OVERALL	41%

## ANCO

## KICK OFF EXTRA TIME

£9.99

Anco's expansion of the original *Kick Off* provides a sizable pack of new bolt on options. All five play levels have been speeded up and there are four new tactics, making eight altogether. There's a manic all-out attack option called "Blitz" and, if you're a goal up and sitting on your laurels, a packed defence option called "Lockout". You can control the strength of kicks and stop or dribble the ball.

There are four options to alter the playing surface. Choose between a hard pitch, a wet one, artificial turf, or a soggy mudbath. Each of these supposedly affects the players and the motion of the ball in a different way. On the arti-



■ Frantic goalmouth action but *Extra Time* is a waste of time

cal pitch, the players' stamina is reduced and the ball bounces higher – but the difference is hardly noticeable.

The major novelty is the varying strength meter, positioned below the player with the ball, that allows you to determine the



■ The *Kick Off* data disk is a nice idea but *Extra Time* includes nothing that makes the original game any better

strength of a kick. The last thing you want when you're in front of goal is to have to concentrate on timing your shot to a colour-coded display. It's an unnecessary ornament that just gets in the way of a damned good game. If you've got an ST, you've just gotta have *Kick Off*, but you don't need to face the tiresome prospect of *Extra Time*.

PHIL JONES

GRAPHICS	8
SOUNDTRACK	6
INTELLIGENCE	4
INSTANT APPEAL	3
LONG TERM INTEREST	4
OVERALL	49%



# SCRAMBLE SPIRITS™

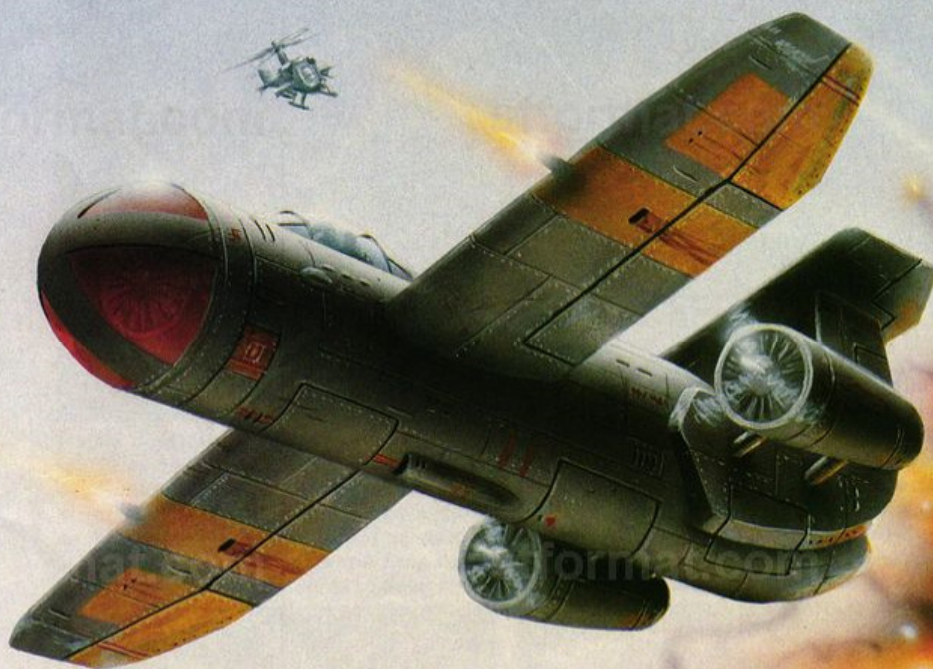
ATARI ST

SPECTRUM



Set in the indeterminable future, this high-speed game sends the player into battle against hoards of deadly opponents. Sealed in your vintage fighter plane you take on wave after wave of enemy attack craft and huge aircraft carriers. Dodge their lethal fire-power to survive!

A fast and furious shoot-em-up with all the gameplay, action and excitement you'd expect from a top SEGA product.



**SEGA®**

© 1989 SEGA ENTERPRISES LTD  
This game has been manufactured under license from Sega Enterprises Ltd., Japan, and "SCRAMBLE SPIRITS™" and "SEGA®" are trademarks of Sega Enterprises Ltd.

Grandslam Entertainments Ltd  
56 Leslie Park Road, Croydon, Surrey CR0 6TP

**GRANDSLAM**

AVAILABLE ON:

ATARI ST & AMIGA £19.99

C64, SPECTRUM & AMSTRAD DISKS £14.99

C64, SPECTRUM, AMSTRAD & MSX  
CASSETTES £9.99

CREDIT CARD HOTLINE

TEL: 01-655 3494 (VISA/ACCESS)





■ (Above) **CLOUD KINGDOMS** (Logotron): if you're a fan of mega-cutesy games like last year's *New Zealand Story*, and have a tough time keeping both feet on the ground, then you'll love Logotron's new release. Floating kingdoms in the clouds, with yours truly bouncing jauntily around collecting diamonds and fruit (sigh) – well what do you expect from a cutesy game? Logotron are claiming the game features "Amiga-quality sound," whatever that might be and the first "injection-moulded, eight-way scrolling, rubber bottomed software hero." Ouch!



■ (Above) **KID GLOVES** (Logotron): *Rick Dangerous* was one of last year's surprise success stories and Logotron are claiming *Kid Gloves* will be "the *Rick Dangerous* of 1990." A platform game set against scenes from the Ice age, Amazonian Rainforest, Egyptian pyramids, 1960s California and Industrial Revolution, it must have a plot more tortuous than *Dynasty* to be able to string together scenes from a fistful of different continents and historical periods. Read the full *ST Format* verdict before buying this one – we don't treat anything with kid gloves!



■ (Above) **NEVER MIND** (Psygnosis): oddly-named games are back in vogue and Psygnosis are chucking in their two bits' worth. *Never Mind* is a mind-bending puzzle featuring an amazing 300 levels and is due out shortly. The aim is to rebuild a video wall-picture by picking up blocks and dropping them into place. It sounds easy, but rogue chess pieces are attempting to disrupt your design. Described as "a totally interactive thinking man's animated puzzle," the *ST Format* boys felt unqualified to pass on their verdict.

# PREVIEW EXPECT

*Originality is the marketing buzzword of the 90's. If it's not unique, it's hasn't a hope in hell of streaking clear of the crowd. From Psygnosis' promising *Infestation* to Palace's intriguing *Dragon's Breath*, bold new games are on the horizon. Put on your shades and hold your breath, the future's looking bright!*

## DRAGON'S BREATH (Palace)



(Above and Below) Nothing to do with the stench of your breath after a late-night curry, Palace's new fantasy strategy is stuffed full of trading, role-playing and arcade action. Centring around the bizarre entrepreneurial fancy of breeding dragons in your back room, its amazing

graphics and haunting soundtrack should turn it into one the hottest games of the year. Just as well because Palace have hung a whacking £29.99 price tag on it, enough to burn a hole in anyone's pocket. Read next month's *Format* review to see if the hype is all hot air.





# 'S: GREAT 'ATIONS

## INFESTATION (Psygnosis)

(Below) Psygnosis are blaming programming problems for *Infestation's* delayed release. We've been hearing about the problem-infested game for so long now that it's beginning to take on mirage-like qualities. The game features

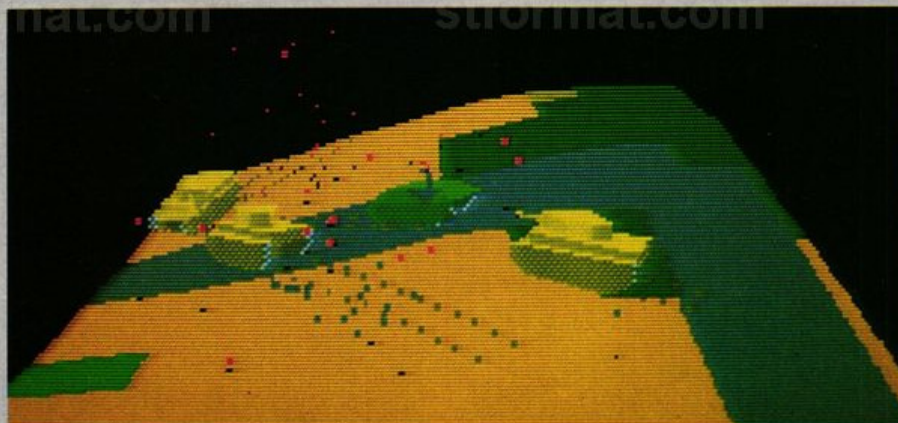
3D lightning-fast vector graphics and a nasty plot that involves poisoning alien eggs with cyanide gas and atomising planets. Read the hard-hitting toxic-free *ST Format* review to see if it lives up to expectations.



## CONQUEROR (Rainbow Arts)

(Above and below) If the demos are a taste of things to come, *Conqueror* looks like it's going to be one of the best tank games around. The screenshots look similar to *Virus*, so it's no surprise that the main action sequences were written by the same programmer. It's this environ-

ment which makes a traditionally boring tank game into something really special. It's an action/strategy game involving tactical deployment of tanks to defeat an opposing army. Big hit or unplayable turkey? We give it a thorough reviewing in next month's *ST Format*.



■ (Above) *STRYX* (Psygnosis): this one's a giant step backwards in the graphics department, featuring the smallest animated characters ever - two-thirds the size of those in *Barbarian* according to Psygnosis. The reason for this (so we're told) is to squeeze as much as possible of the playing field on screen at once. It's a strategy game, with the hero fighting to the death against Cyborg robots. A good idea or a programming disaster?



■ (Above) *EMLYN HUGHES INTERNATIONAL SOCCER* (Audiogenic): football games are multiplying like proverbial rabbits. Everywhere you look, software houses are luring big names to support new releases. *Gazza's Soccer* and *Kenny Dalglish* have already made it onto the shelves, but one of the biggest jokes must be Audiogenic's forthcoming contribution. How they expect Emlyn Hughes to still sell computer games is beyond comprehension. The old man has smoothed out the wrinkles, dug up his boots, and trotted out like an old war-horse to put his name on two new games - a soccer and a quiz title. We'll let you know if the boy done good.



■ (Above) *MIDWINTER* (Microprose): an environmental chiller set in the Azores during an Ice Age triggered by fluctuations in the global climate, *Midwinter's* action sequences include skiing, hang-gliding, snow-bugging, driving and fighting. Phew! Read the earth shattering review in next month's *ST Format*, and keep a close eye on the weather - Microprose's "extensive consultation with eminent professors" has unearthed the alarming possibility of an Ice Age in the next 50 years. Ha!



**D**oesn't that shiny ST look good on your desktop? The machine you've always dreamed about – speed, colour, sound – right there in your home with lots of software to support it, right?

But sometimes, when it's late and you're tired, don't you get just a little frustrated when the floppy drive

continues to whirr, the mouse crawls oh-so-slowly across the Desktop and the television you're using as a display makes your eyes feel like a pair of skinned maraschinos?

OK, you think, maybe it is time to examine the upgrade possibilities. But just what are the possibilities – and how do you decide between them? This month, *ST FORMAT* delivers into your hands the definitive guide to upgrading, expanding and improving your ST and its peripherals. We take you from basic enhancements costing little or no money to hard drives, monitors, memory and the like, requiring a bank roll that would choke a donkey. A gargantuan grab-bag of impressive improvements at prices to suit all pockets.

Welcome to the...

*The A to Z of upgrading,  
expanding and generally  
improving your ST*

# POWER SURGE!



# WHY UPGRADE?

When computers first appeared in the home, owners were lucky to have machines with 16 or 32K of RAM. Floppy disk drives were as rare as Sinclair C5s at Snetterton and machines had about as much colour and sound as a Charlie Chaplin movie.

Nowadays, even the entry-level Atari ST has a fast 68000 central processor, half a megabyte of RAM and more ports than you can shake a stick at. New owners of the computer positively gloat over their silicon acquisition.

Programmers however, are a jaded lot. They soon outgrow the limitations imposed by .5MByte of RAM and start to write ever bigger software packages which make heavier and heavier demands on your ST. Sooner or later, you'll want to run a top application or a game everyone's raving about only to find that your system simply doesn't measure up any more. But fear not, for you are about to discover how to stop the programming Schwarzeneggers kicking software sand into your silicon face.

**STORY** Jerry Glenwright,  
Mark Higham  
and Jon Bates



# £19.95 **SOCCER GLORY** FOR ATARI ST

Take the challenge of not only managing a 1st Division club but playing for the team as well. SOCCER GLORY gives you the choice of being the player manager or taking the role of club manager only. Whatever your choice skill, good judgement, and luck will be needed to be successful in this exciting and realistic soccer management game. In depth research and attention to detail gives Soccer Glory its reality. Joystick control does not play a part in this game, instead you must evaluate players, team strengths, playing format and the wealth of information available as you play the game. Success will be hard to achieve but if you build a strong squad and make the right decisions the following can be won:

**1st Division Championship - European Cup - Cup Winners Cup - UEFA Cup - FA Cup - League Cup.**

*Richard Charlston of Leeds - "I am very impressed with the depth and accuracy of Soccer Glory".*



Proprietor  
Mr J. Moss

Here are some of the features of SOCCER GLORY: 20 First Division teams - over 1200 named players - individual players skills reflecting ball winning - goal making - goal scoring abilities - physio and coach reports - pie charts of players skills etc. - team selection - playing format - named goal scorers - goal tally - substitutions - injuries - penalties - corners - free kicks - negotiate players contracts - free transfers - suspensions - success rating - apprentices - P.W.L.D.F.A. pts. League tables - relegation - promotion - save game - and so much more!

To obtain your copy of Soccer Glory send a cheque or postal order for £19.95 to:

ALL ORDERS  
SENT  
1ST CLASS POST

**TANGLEWOOD SOFTWARE, Dept BB,  
157 Warwick Road, Rayleigh,  
Essex, SS6 8SG**

COME AND  
SEE US

## THE COMPUTER STORE

POST  
FREE

DISKS LOW LOW PRICES and HIGH HIGH QUALITY

**3 1/2"**  
**DSDD**

**ONLY  
59p  
EACH**

**3 1/2"**  
**DSDD**

Our disks are packed in boxes of 10 and come complete with labels. They are of the highest quality and come with a no quibble replacement guarantee. Order any quantity of disks you want at only 59p each post free.

25 Disks + 80 Capacity Lockable Box .....	£19.95
40 Capacity Lockable Disk Box .....	£5.99
80 Capacity Lockable Disk Box .....	£6.99
100 Capacity Lockable Disk Box .....	£7.99

STAR LC24-10 .....	£249
STAR LC-10 Mono .....	£159
STAR LC-10 Colour .....	£219
Cumana 2nd Drive .....	£84.95
Commodore 2nd Drive .....	£84.95
Ashcom Half Meg + Clock .....	£79.95
Ashcom Half Meg no Clock .....	£69.95
Mouse Pad .....	£3.99

Call in and visit The Computer Store, produce this advert and we will give you a FREE 3.5" disk. We are in the In Shops Complex in Chelmsley Wood Shopping Centre

**THE COMPUTER STORE**  
Unit 82 In Shops,  
2-8 Greenwood Way,  
Chelmsley Wood,  
Birmingham, B37 5TL  
Tel: 021 770 0468

Near Junction 4 M6. Park across the road in the open air car park in Chelmsley Circle. Parking is free.

A590 Hard Drive .....	£379.00
A590 + 1 Meg Fitted .....	£499.00
A590 + 2 Meg Fitted .....	£599.00
1 Meg of Memory for A590 .....	£119.00
2 Meg of Memory for A590 .....	£229.00

**Courier Delivery £5.00**  
**C.O.D. by Courier only £10.00**

**THE PRICE YOU SEE  
IS THE PRICE YOU PAY -  
NO EXTRAS**





## auto-booting

● Come on, admit it. More than once you've wanted to stick a disk in the drive and dash off to make a cup of coffee while your ST automatically loaded your favourite word processor. And you thought your ST couldn't handle it, didn't you?

Most games load themselves anyway so if you're an ardent joystick fan you already know how useful it can be. But people who use serious software, or write their own programs, aren't able to auto-boot them.

It's a cinch to do provided the word processor has a .TOS file extension – if it's a GEM program (with a .PRG extension) you're going to have some headaches. Auto-booting TOS files is simply a case of creating an AUTO folder on the disk, moving the program file (your word processor) into it and re-booting the machine. It may be necessary to move associated program files such as the resource files. Trying this trick with GEM program files only causes your machine to plunge headlong into a crash, and even though the sight of the bombs might be entertaining, it's not much use on the speed enhancement front.

GEM programs are those that

■ The blitter considerably speeds up screen operations. Unfortunately Atari haven't put the chip onto the market



include drop-down menus and alert boxes. Atari remedied this problem in TOS 1.4 (found in the STE) so GEM files can be auto-booted from within the INSTALL APPLICATION drop-down menu option. But if you have an STFM, you'll need to buy a piece of PD software.

Disk 357 or 548 from the South West Software Library is exactly what you're looking for. It costs only £2 and works by asking you to enter your GEM program name. You then copy the auto-booting software into an AUTO folder on the same disk as your own program. When you re-boot your machine, you'll see the Desktop appear and then your program will be automatically loaded. The South West Software Library can be contacted at PO Box 562, Wimborne, Dorset BH21 2YD.



## blitter

● Originally promised as a plug-in chip upgrade for all STs, Atari have never quite managed to release any of the little beasts to the general public. Blitter is an acronym for Block Line Transfer.

Computers manipulate graphics pixel by pixel. If you want to draw, re-draw or animate something on-screen, each pixel must be individually attended to – allocating the process far more time than necessary.

Manufacturers soon came up with the idea of the sprite in order to get around this time consuming problem. Instead of moving individual pixels, the entire sprite could be moved in one go, speeding up graphics and making computer versions of arcade games playable for the first time. Unfortunately most computers are severely limited in the amount of sprites available to the programmer.

Atari decided to take the idea of the sprite one stage further by introducing a custom chip, the blitter, that would move around whole blocks of lines at once. Windows would appear on screen almost instantly and all GEM screen updates would be incredibly fast. Nice idea, right? But as stated earlier, the company just never bothered to bring the chips onto the market. So if you want one, you must upgrade your entire machine to a Mega or STE where the device is fitted as standard.

There is, however, another option: the software blitter. A little utility program that hides away in the memory and attempts to perform in software what the real blitter does using silicon substrate. See under Utilities for more information.



## clocks

● Although your ST is capable of keeping time, and using it to stamp your files, you must input the current time and date whenever the computer is switched on – it's a drag, right?

Files almost invariably end up being stamped DATE HERE, the date the system was programmed. What if the machine could be provided with the correct time and date every time power was applied? No need to boot up the control panel and go through the tedious process of setting the time, and all your files would be set with the correct date of creation.

Several manufacturers market add-on clocks for the ST. These come in two forms; a circuit board that fits inside the ST's case, or a plastic box containing a circuit board which plugs into the cartridge port.

The former, although slightly more difficult to fit, is a far more elegant solution. Once inside, the clock can be completely forgotten, except for the once yearly change of batteries, and your cartridge port remains free for emulators and scanners. Fitting is a matter of undoing half a dozen screws, plugging in the circuit board and reassembling the ST. It's a process everyone except the most hardened technophobe can handle.

The latter is simply removed from its packaging and plugged into the cartridge port – your granny could do it. Easier and quicker to fit, but then the port is tied up. If you want to use a sound sampler cartridge or similar device, the clock must be removed.

Both roughly cost the same and ultimately provide the same results. Decide how badly you need the cartridge port to be free and base your choice on that. One of the best external clocks costs £29.99 and is marketed by Datel Electronics 0782 744707.



## data switches

● Are you one of the lucky few who owns more than one printer, disk drive or monitor? Perhaps you have two 3.5 inch drives and

want to add a 5.25 inch device to your system. Or maybe you have a mono monitor for word processing and a colour monitor for games and fun. Isn't it a bore when you have to



# ATARI WORKSHOP

★ We Specialise in Atari Add-On's ★

## LOOK!!!

The Mega STE has arrived !!!

2040meg STE including Blitter .....£549.50  
4080meg STE including Blitter .....£649.50

Hypercache ST (16Mhz CPU & cache) call .....£165.90

-> Up to 100% Performance increase

-> 100% compatible with all applications

Thats PC-Speed (IBM XT Emulator board) .....£phone

1Meg upgrade kit 520 to 1040 STF .....£65.95  
1/2 Meg to 2.5 Meg memory upgrade .....£250.00  
Blitter chip .....£phone  
Eproms 27C256 .....£3.50  
Blitter TOS upgrade .....£29.95  
720k 3 1/2" Floppy drives .....£69.50  
2Meg memory upgrade for STE .....£199.50  
4Meg memory upgrade for STE .....£349.50  
520STE upgrade to 1040 .....£phone  
Fast Hard disk fitted into Mega ST .....£phone

**PHONE for best prices and  
our FAST fitting service**

All prices include VAT  
VISA and ACCESS welcome  
Mail Order add Package & Posting

We repair all Atari ST computers.  
Got a faulty mouse?  
We repair them, too!

## RADIO SERVICE COMPANY

Unit 19,  
Sumner Workshops,  
80 Sumner Road,  
London SE15 6LA.

**Business Hours:**

**Monday -**

**Friday 9.30  
am - 5.30pm**

**+ answer-  
phone.**

**Telephone:  
01 708 5755**

**Fax:  
01 708 5754**

## TELETEXT

A world of information  
at your fingertips

Is your ST  
up to date?

**MICROTEXT**  
TELETEXT ADAPTOR

Now you can keep it informed with the latest weather, financial news, sports results, current affairs and much more from Ceefax or Oracle. But unlike a Teletext TV all this valuable information isn't trapped behind glass. Now you can.....

**Save to disc.** Pages may be saved in Raw, Word Processor or Degas format Print. You can print as just text (for a fast result) or a screendump.

**Review.** Instant access to the last 16 pages which have been received.

**Multiple display.** The software works in all three display resolutions and with any type of monitor. In high or medium resolution it can display and update two pages on screen simultaneously!

**Fast Text.** True FastText - gets pages in advance and reduces the waiting time.

**Tuning.** Just connect an aerial - it tunes itself in! Although the prime function is to receive Teletext, it also will convert a CM8833 monitor to a colour TV.

**Programmable.** The system can be programmed to get a series of pages and then save or print them. With just three mouse clicks it will print the whole days TV times! Your own programs could process the latest sports results or share prices.

Only a Microtext adaptor can provide all these facilities, it's easy to use and connects to the printer port of your ST, a printer can be reconnected to the adaptor. Everything is supplied, all you need is any ST and a normal TV aerial.

At just £129.50 + VAT inc p/p for an advanced Teletext TV its excellent value for money. Make sure you're always up to date, and get yours now from:-



**MICROTEXT**



Dept SF, 7 Birdlip Close, Horndean, Hants PO8 9PW  
Telephone: 0705 595694 Fax: 0705 593988

## PUBLIC DOMAIN

- |                |                   |                  |
|----------------|-------------------|------------------|
| ★ Games        | ★ Disc Copiers    | ★ Art & Graphics |
| ★ Education    | ★ Disc Formatters | ★ Disk Magazines |
| ★ Databases    | ★ Programming     | ★ Demonstrations |
| ★ Spreadsheets | ★ Music & Midi    | ★ And lots more  |

**FOR EVERY 3 DISCS YOU BUY, YOU MAY  
CHOOSE ANOTHER DISC ABSOLUTELY FREE**

**OUR NEW CATALOGUE IS AVAILABLE NOW**

There is something in the Public Domain for Everybody

- ★ Public Domain - Buy 3 - Get 1 FREE
- ★ Books - FREE software with every book
- ★ Large range of Business Software
- ★ All the latest games
- ★ Blank disks and accessories
- ★ And lots of great offers

**RING OR WRITE FOR YOUR FREE COPY**

## MT SOFTWARE

WOODSTOCK HOUSE, 14 LANES END, TOTLAND,  
ISLE OF WIGHT PO39 0AL

**0983-756056**

9AM-9PM MONDAY-SATURDAY



Help and Advice always Freely Available



Licensed Distributors for Budgie UK  
Same Day Despatch



start unplugging the mono monitor in order to use the colour device? And good though the ST undoubtedly is, it can only use two floppy drives at any given time – there's no room for a third.

That's where the dataswitch comes into its own. For a smidgeon under 20 quid, you can connect two or more printers, both the monochrome and colour monitor or a third drive and switch between them easily and quickly.

The switch itself is a plastic box with a knob or switch at the front and several outlets at the back. Using the switch couldn't be simpler. For example; suppose you have two printers – a daisy wheel and a dot matrix – and you're fed up with unplugging the one in order to use the other. Plug the ST's printer port into the dataswitch and the dataswitch into both printers. Choosing between them now is a straightforward matter of flicking the switch or turning the knob at the front of the device.

Dataswitches are a cheap, simple and effective solution to the problem of plugging and unplugging equipment to and from your system. If you're convinced of the need for a dataswitch, Datel Electronics market a comprehensive range of printer switch boxes enabling several printers to be connected to one computer or vice versa. The devices cost around £25. Contact Datel on 0782 744707. If a monitor switch box is the answer to all your prayers, call Best Prices on 0903 700714. For the paltry sum of £14.95, you can end the misery of plugging and unplugging monitor cables.

## emulators

● You've got the best computer, so why on earth should you want it to behave as if it were an inferior piece of silicon? Well, although the ST is extremely popular and has been around for several years now, a lot of business and publishing-orientated software houses haven't bothered to convert their wares for the Atari – why spend megabucks converting code when sales might be limited? If you want to use *WordStar*, *dBase*, *Lotus 1-2-3*, or any one of a myriad of professional publishing packages then you're going to have to get an emulator, a device that transforms your ST into an entirely different machine.

The moment the ST became



available, the emulator started to make its mark. The ST is so powerful that getting it to copy the behaviour of other machines is relatively easy. A software-based CP/M emulator was bundled with the machine, PC and Mac emulators soon followed and you can now choose from any one of almost a dozen quality emulators mimicking a variety of computers.

Probably the computer and operating system which most people want to emulate is the IBM-PC and MS-DOS. Your choice is limited by cash flow rather than the availability of the kit. The best known PC emulator is *PC-Ditto*, an unusual software-based DOS mask. To run PC software, you boot up the *Ditto* disk, insert an MS-DOS disk and Bob's your aunt's live-in lover, the ST is a PC – albeit an incredibly slow one. *PC-Ditto* provides comprehensive PC emulation, support for the CGA and MDA display standard and makes your ST's mouse appear to be a PC compatible Microsoft rodent. The program costs around £70 and is available from Power Computing on 0234 273000.

If you want a fast PC, then you'll have to plump for a hardware emulator costing rather more. Hardware emulators have almost all of the genuine PC chips such as Intel's 8086 CPU on the circuit board and consequently run at a reasonable speed. The best of the recent hardware PC emulators is definitely *SuperCharger* from Condor Computers. The device is housed in a grey plastic box which attaches to your ST via the DMA port. If you're the lucky owner of a hard drive this can be connected to *SuperCharger*. The

emulator comes with .5MByte of RAM and is very fast. *SuperCharger* costs £299 and can be obtained from Condor Computers on 0734 810066.

Next on the list of favourite emulation targets is the Apple Macintosh. The ST has attracted a lot of comparisons with the Mac due to their similar technology and user interface. Several Mac emulators, like *Spectre 128* and *Magic Sac*, have come and gone – although *Aladin* continues to sell well. The latest release from HiSoft, however, is set to wipe the floor with all comers.

*Spectre GCR* is a Mac Plus emulator that comes complete with 128K Apple ROMs and converts the ST's disk drives to the decidedly funny format used by the Mac. It provides a larger screen display than the Mac and more speed (typically 25% faster). The emulator plugs into the ST's cartridge port, you fire up the boot disk and, in the blink of an eye, the ST is a Mac Plus.



Simple to install and easy to use, *Spectre GCR* costs £379 and can be obtained by calling HiSoft on 0525 718181.

That's the main machines out of the way, but what if you have a burning desire to run QL's *Quill* word processor or even the CP/M version of *WordStar*?

■ Turn your ST into a PC with *SuperCharger*. It's easily the best PC emulator for your machine – fast, reliable and easy to fit

■ Are you looking at an ST or a PC screen? Emulators don't just enable you to run other people's software; they also change your display. Here, you're limited to just the four colours found in CGA mode





■ A replacement drive upgrades your ST's internal drive and increases the available storage space of each disk

Worry not, for there's a CP/M emulator and a QL emulator in the public domain and an Atari 8-bit emulator and even a program that purports to transform your ST into an Amiga, but why you should want to do that, remains a mystery...

So there you have it; the ST is a machine with a thousand faces. And remember, it's precisely because your ST is a powerful machine that it can emulate other computers so successfully.

## floppy drives

**f** ● original 520STfMs were shipped with single-sided, half megabyte disk drives as standard. Fine if all you want to do is play arcade games, but sooner or later you might want to make use of a word processor or perhaps a database to catalogue your stamp collection, and wouldn't it be nice not to have to send the fabulous *ST Format* Cover Disk away just to be able to access the flip side?

Perhaps the time has come to upgrade your ST's internal drive with a brand spanking new 1MByte version that provides you with complete software compatibility and decreases your expenditure on blank floppies every month by increasing the available storage space of each disk.

Since the dawn of the ST, third party hardware suppliers have offered replacement drives. Some good, some not so good, but nowadays demand is high, prices are low and everyone can

afford to upgrade.

## fitted up

● You don't need to be an avid techno-tinkerer in order to upgrade your ST's internal drive; the operation is simple and can be completed by anyone with a screwdriver, a kitchen table and a modicum of common sense.

So just what is involved? The ST's case is held together by half a dozen screws. Undo the screws and you'll encounter a metal shield. This can be removed by straightening the twisted metal tags located in slots around the edge of the ST case. Once you've removed this metal shield, you have complete access to all parts of the ST. Unplug the existing drive and plug in its replacement. Re-fit the metal shield, screw down the case and the job's done. Simple, right?

What if you re-assemble the ST, switch on, and it refuses to respond? Don't panic! Open the case, remove the metal shield and check connections to the drive. If they're snagged somewhere then you may have a short (the signal passes into the shielding or onto the circuit board instead of along the cables into and out of the drive), or the connectors may not have been pushed fully home. Ensure that connectors fit tightly and are fully engaged with those of the drive. If it still doesn't work, remove the new drive and replace the old one. If your machine now boots up, you may have a faulty replacement drive and should contact the supplier who will inform you of return procedures. If the ST still refuses to boot then your installation procedure may have damaged it. If

this is the case then you're going to need a computer repair service. But don't worry, drive installation is very easy and safe and hardly ever goes wrong(!).

So you can handle the installation, you've got the cash – where are you going to get the drive from? Well, the best source of suppliers are the classified pages in the magazine you have in your hands. Several advertisers offer replacement drives and the only real consideration is the price. One of the best drives on the market in terms of price and after sales service is that marketed by Evesham Micros. The device costs £79.95 and can be obtained by contacting Evesham on 0386 765500.

## graphics

● If you have a modicum of artistic talent and an ST graphics package, you can throw away your prized paintbox and pick up the mouse instead. The first art packages were fairly primitive, offering you a simple way to combine the ST's 16 colours with some lines and circles and come up with a cave drawing. In no time at all, programmers started tinkering with palette

switching and some bright spark came up with a way of having 4096 colours on screen at once. Voila, suddenly you could recreate Rubenesque nudes. But even they wouldn't look like they were about to step off the



# DISCOUNT SOFTWARE

For The Atari ST

## WORD PROCESSING

Protext See Specials	£64.95
First Word Plus	£58.95
K Word II	£29.95
K Spell	£13.95

## FINANCIAL/BUSINESS

Cashbook Controller	£37.95
Final Accounts (for above)	£21.95
Cashbook Combo (Cashbook + Final)	£54.95
System 3 (Invoicing, C/Flow, Stock)	£37.95
K-Spread III (spreadsheet)	£59.95
K-Spread IV	£99.94
Mini Office Spreadsheet	£15.95
Digicalc (spreadsheet)	£28.95
Digita Home Accounts	£18.95
Personal Tax Planner	£28.95

## DATABASES

K Data	£31.95
Data Manager Professional	£49.95
B Base II (BWare)	£11.95
Base II (Antic/catalog)	£34.95
Pro Data by Arnor	£59.95

## GRAPHICS/ PRESENTATIONS

Timeworks DTP	£68.95
Easy Draw II	£39.95
Supercharged Easy	
Draw II	£59.95
K Graph III	£39.95
Mini Office Pres. Graphics	£15.95
Degas Elite	£18.95
Flair Paint	£25.95
Spectrum 512	£23.95
Cyber Studio	£39.95
Cyber Paint	£39.95
Cyber Sculpt	£59.95
VIDI-ST Digitiser	£79.95

## PROGRAMMING

Tempus II - Programmers Editor	£29.95
Hisoft Power Basic	£28.95
Hisoft Basic (inc. GEM IIbs)	£58.95
GST C Compiler	£14.95
Hisoft C Interpreter	£39.95
Prospero C	£99.95
GST Macro Assembler	£19.95
K Seka	£32.95
Hisoft Devpac ST V2	£39.95
Nevada Cobol (CP/M required)	£33.95
Prospero Pascal	£74.95
Hisoft/DSS Personal Pascal	£58.95
Prospero Fortran	£99.95
Hisoft Weracs (resource const)	£21.95
Hisoft Weracs Plus (inc GDDS)	£33.95
STOS see specials for range	

## SPECIALS

### PROTEXT V.4.2

Our most popular Word Processor on our favourite machine. Very fast, non-GEM, and command based, it offers fast conversion routines to and from other versions of Protext as well as First Word, First Word Plus and Wordstar files, 70,000 Word Spell checker and very powerful mail-merge commands included.

RRP £99.95

**Our Price £64.95**

### PRODATA

Arnor's new database has arrived and won't disappoint! Non-GEM, menu driven, features include; 5 indexes per data file; good data layout options including printer features; excellent range of printer drivers; uses many of Protext's editing commands.

RRP £79.95

**Our Price £59.95**

### VIDI ST

Grab 16 shade digitised images from your ordinary video and save as Neochrome or Degas format files for your graphics or D.T.P programs

R.R.P. £99.95

**OUR PRICE £79.95**

### STOS -

#### THE GAME CREATOR

STOS Basic Program	£18.95
STOS Add-on Compiler	£11.95
STOS Plus Compiler	£28.95
STOS Games Galore	£13.95
STOS Sprites 600	£9.95
STOS Maestro Software	£14.95
STOS Maestro Plus	£59.95

Software and Sampler

### MINI OFFICE

Spreadsheet  
Presentation Graphics  
Communications

**Price £15.95**

**£30 for any two**

## EDUCATIONAL

Fun School 2 under 6's	£13.95
Fun School 2 6-8 yrs	£13.95
Fun School 2 8-12 yrs	£13.95
French Mistress (12-adult)	£14.95
German Master (12-adult)	£14.95
Spanish Tutor (12-adult)	£14.95
Italian Tutor (12-adult)	£14.95
Mavis Beacon Typing (12-adult)	£23.95
B-Spell (5-8)	£10.95
Schoolltime Maths (5 and over)	£10.95
Play-Spell (7 and over)	£19.95

## SOUND SAMPLERS

Mastersound	£29.95
STOS Maestro Plus	£59.95
ST Replay 4	£69.95
Replay Professional	£114.95

## BOOKS

### Abacus

ST Basic Training Guide	£14.95
ST for Beginners	£14.95
ST 3D Graphics	£18.95
ST Machine Language	£16.95
ST Internals	£16.95
ST GEM Prog Ref Guide	£16.95
ST Tricks & Tips	£16.95
ST Disk Drives Inside & Out	£18.95
ST Basic to C	£18.95

### Others

C Programming Lang (K&R)	£23.95
Big Red Book of C	£7.50
Pascal: A beginners guide	£6.50
Using ST Basic	£9.95

## OTHER SOFTWARE

Day by Day (Electronic Diary)	£22.95
Michtron Utilities Plus	£23.95
Mini Office Communications	£15.95
K-Comm 2 (V2)	£32.95
Hi-Soft Twist	£28.95
Hi-Soft Turbo ST	£28.95

## ACCESSORIES

3.5" Disc Head Cleaner	£6.95
ST-Parallel Printer Lead	£6.95
Neoprone Mouse Mat	£3.95
ST-FM Dust Cover	£3.95
Philips CM 8833	
Dust Cover	£4.95
Star LC10 Dust Cover	£4.95
Panasonic KXP-1081	
Dust Cover	£4.95
Citizen 120D Dust Cover	£4.95
Quickshot 2 Turbo Joystick	£9.95
Competition Pro 5000	
Joystick	£13.95
Replacement Mouse	£29.95
ST Joystick + Mouse ext.	£5.95
Unbranded 3.5" Disks	
10 off	£9.95
Unbranded 3.5" Disks	
20 off	£18.95
Sony branded 3.5" DS	
Disks, 10 off	£12.95
Sony branded 3.5" DS	
Disks, 20 off	£24.95

## PRINTERS

All printers listed have a ten inch 80 column carriage, and accept continuous or single sheet paper. They are Epson-compatible and have centronics parallel interface and are supplied with the cable required for your computer. Prices shown include VAT, delivery by Royal Mail Insured Parcel (which takes 7-10 days, and 12 month 'return to us' guarantee.

For courier Despatch add £5.00  
For on-site 'call-out' Warranty, add £5.00

### CITIZEN 120-D

A Cheap Epson FX Compatible giving a range of text sizes and effects in draft mode and limited range in Near Letter Quality.

**£139.95**

### PANASONIC KXP-1081

Well built and reliable, offers all sizes and effects of the Citizen 120-D, but offers NLQ in all combinations.

**£159.95**

### STAR LC-10 MK1

On a par with the Panasonic for build, speed and NLQ combinations, but offers 4 different NLQ styles and double height as well as double width text. Great value for money.

**£179.95**

### STAR LC-10 MKII

Identical to the MK1 but 25% faster

**£199.95**

### STAR LC-10 COLOUR

Based on the LC-10 Mk 1 but offers seven basic text colours. With the correct printer driver (Epson JX-80) offers hundreds of shades from graphics programs.

**£229.95**

### STAR LC 24-10

24 pin version of the LC-10, offering great text output in one of five Letter Quality styles, available in combination with all the usual sizes and effects. Two additional effects, Outline and Shadow, are also available.

**£259.95**

### CITIZEN SWIFT 24

Fast 24-pin offering all the usual sizes and effects from four Letter Quality fonts. Easy to use control panel with LCD Display.

**£359.95**

**Please Note All prices include VAT and postage in the UK.**

We ONLY advertise products actually available at time of going to press. We DO NOT advertise products "Due Shortly" as they rarely are!!  
Overseas orders welcome - Please write for prices

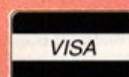
CALLERS WELCOME! MON-FRI 9.30am TO 5pm SAT 10am To 4pm

**M.J.C. SUPPLIES (SF)**

**40A Queen Street, Hitchin, Herts. SG4 9TS**

**Tel: (0462) 420847, 421415 or 432897 for Enquiries / Credit Card Orders**

Prop M. J. Cooper





# 3 1/2"

## BENCHMARK DISKS AND BOX OFFER

20 3 1/2" DS/DD 135TPI +	
80 Cap. Box	£20.00
40 3 1/2" DS/DD 135TPI +	
80 Cap. Box	£34.50
50 3 1/2" DS/DD 135TPI +	
80 Cap. Box	£40.00
70 3 1/2" DS/DD 135TPI +	
80 Cap. Box	£54.00

All disks 100% certified & guaranteed  
135TPI  
All boxes inc. Lock & Dividers

# 3 1/2"

## BENCHMARK DISKS DS/DD 135TPI

25	£17.80
50	£34.80
100	£63.25
200	£117.88
400	£223.68
600	£319.13
1000	£503.13

## DISK BOXES

3 1/2" 100 Capacity Lockable	£6.95
3 1/2" 80 Capacity Lockable	£6.50
3 1/2" 40 Capacity Lockable	£5.25
3 1/2" 10 Cap. Library Case x 5	£4.75
3 1/2" 10 Cap. Wallet Type Library Case x 5	£4.75

## ACCESSORIES

3 1/2" Head Cleaner	£2.50
Mouse Mat Rigid	£4.50
Mouse Bracket	£2.50
Parallel Printer Cable	£7.25
25 Pin M - 25 Pin M Cable	£7.25
36 Pin M - 36 Pin M Cable	£8.25
2 Way 25 Pin Data Switch	£12.50
2 Way 36 Pin Data Switch	£14.50

# 3 1/2"

## UNBRANDED DISKS DS/DD 135TPI

25	£17.00
50	£32.00
100	£55.00
200	£109.00
400	£210.00
600	£298.00
1000	£471.00
2000	£892.00
5000	£2097.00

inc. labels

## PLEASE NOTE:

ALL DISKS SUPPLIED ARE 100%  
CERTIFIED & GUARANTEED MIN. WRITE  
TO READ CLIP 60% INDUSTRIES  
STANDARD IS 40%.

ALL PRICES INCLUDE VAT & P&P. UK & BFPO ORDERS ONLY

# M C S

Cheques and  
Postal Orders to:



24 HOUR ORDERLINE 0597 87784

## Manor Court Supplies Ltd

Dept AF3, Glen Celyn House,  
Penybont, Llandrindod Wells,  
Powys, LD1 5SY

Tel:  
0597  
87792

EDUCATION AND GOVERNMENT ORDERS WELCOME

## TURBOSOFT

Dept (ST Format)  
41 South Street  
Leighton Buzzard  
Beds. LU7 8NT  
MAIL ORDER ONLY  
Tel: 0525 377974  
Fax: 0525 852278

### FORTHCOMING ATTRACTIONS

Addidas Golden Shoe	£13.99
Blade Warrior	£16.99
Commando	£13.99
Contact	£16.99
Cyberball	£11.99
Drakhen	£16.99
Fast Lane	£16.99
Fiendish Freddy's Big Top Fun	£19.99
Fighting Soccer	£13.99
Goldrunner III	£15.99
Hyperforce	£10.99
Infestation	£16.99
Iron Lord	£16.99
Ivanhoe	£13.99
Knight Force	£11.99
Kristal	£17.99
Lancaster	£13.99
Last Ninja II	£13.99
Lords of the Rising Sun	£19.99
Lost Patrol	£13.99
Manhunter in San Francisco	£20.99
Midwinter	£16.99
Moonwalker	£13.99
Myth	£13.99
Ninja Warriors	£13.99
Omega	£19.99
Oriental Games	£13.99
P-47 Thunderbolt	£16.99
Pirates	£16.99
Quartz	£16.99
Rainbow Island	£13.99
Renegade III	£13.99
Shadow of the Beast	£22.99
Shoot 'em up Const. Kit	£19.99
Slayer	£13.99
Space Ace	£26.99
Stormlord	£13.99
Stryx	£13.99
Super Wonderboy	£13.99
Switchblade	£16.99
Test Drive II	£16.99
The Punisher	£16.99
Time	£18.99
Tin Tin of the Moon	£13.99
Toobin	£13.99
Tower of Babel	£13.99
Tusker	£13.99
UMS II	£16.99
Verminator	£16.99
Wayne Gretzky's Hockey	£14.99
Wild Streets	£13.99
Zombi	£16.99

## THE CHART TOP 30 MOVERS

Xenon II Megablast	£16.99	Bomber	£19.99	Onslaught	£15.99
Continental Circus	£13.99	California Games	£13.99	T.V. Sports Football	£16.99
F29 Retaliator	£19.99	Maniac Mansion	£16.99	Untouchables	£13.99
Batman The Movie	£13.99	Damocles	£15.99	Chase HQ	£13.99
Strider	£13.99	Chaos Strikes Back	£16.99	North and South	£16.99
Double Dragon II	£13.99	Cabal	£13.99	Hound of Shadow	£16.99
Hard Drivin	£12.99	Gazza's Super Soccer	£15.99	Dragons of Flame	£16.99
Pro Tennis Tour	£16.99	Turbo Outrun	£13.99	Ultima V	£16.99
Ghostbusters II	£16.99	Operation Thunderbolt	£13.99	Ghouls 'N' Ghosts	£13.99
Stunt Car Racer	£16.99	Indy Jones & Last Crusade (Adv)	£16.99	Power Drift	£16.99

For Every £20 Spent you will receive a Mystery FREE  
Game from our Special Offers Section.

### ACTION ST VOL I ONLY £8.99

Defektor, Northstar, Trailblazer, 3D Galax,  
Masters of the Universe

### ACTION ST VOL II ONLY £12.99

Artura, Motor Massacre, Cybernoid,  
Technocop, Defektor

### PREMIER COLLECTION ONLY £12.99

Nebulus, Exolon, Netherworld, Zynaps

### COMPUTER HITS II ONLY £8.99

Tetris-Tracker, Joe Blade, Tau Ceti

### PREMIER COLLECTION II ONLY £19.99

Eliminator, Custodian, Backlash,  
Mercenary

### MAGNUM 4 ONLY £16.99

Afterburner, Batman - Caped Crusader,  
Operation Wolf, Double Dragon.

### PRECIOUS METAL ONLY £15.99

Captain Blood, Xenon,  
Super Hang On, Arkonoid II

### LIGHT FORCE ONLY £16.99

IK+, Bio Challenge,  
Voyager, R-Type

## SPECIAL OFFERS • SPECIAL OFFERS •

Outrun	£6.99	Crazy Cars II	£8.99	IK +	£6.99
Leaderboard	£6.99	Uninvited	£7.99	Asterix	£9.99
Hollywood Poker Pro	£7.99	Pacmania	£8.99	Dragon Spirit	£7.99
Casino Roulette	£3.99	Nigel Mansell's Grand Prix	£4.99	The President is Missing	£6.99
Brian Cloughs Football	£6.99	Fernandez Must Die	£5.99	Tau Ceti	£2.99
Strip Poker II Plus	£6.99	Shadow Gate	£7.99	Academy	£2.99
Trivial Pursuits New Beginning	£6.99	Spitfire 40	£4.99	Catch 23	£2.99
Tanglewood	£4.99	Stike Force Harrier	£4.99	Skull Diggery	£2.99
Joan of Arc	£7.99	Hunt For Red October	£9.99	Shufflepuck Cafe	£7.99
Speedball	£9.99	Powerplay	£7.99	Netherworld	£4.99
Rocket Ranger	£9.99	Football Manager II	£7.99	Slaglider II	£9.99
R-Type	£6.99	Rings of Ziffin	£9.99	Nebulus	£4.99
Super Hang On	£5.99	Phantassie II	£9.99	Cybernoid II	£4.99
Alternate Reality	£4.99	Running Man	£4.99	Bards Tale I	£7.50
Afterburner	£7.99	Pacland	£7.99	Marble Madness	£7.50
Fish	£8.99	Flintstones	£6.99	Dark Castle	£5.99
Millennium 2.2	£8.99	Airball Const Kit	£7.99	Peter Beardsley Soccer	£4.99
Time & Magic	£7.99	OIDS	£6.99	Thunderbirds	£4.99
Sorcerer Lord	£6.99	Deja Vu	£6.99	Saint & Greavsie	£5.99

Please Note: Some Titles may not be released at the scheduled time.

\* These will be despatched within 24 hours of release, subject to availability.

Please make Cheques &  
Postal Orders payable to:

**TURBOSOFT.**

P&P in UK FREE

elsewhere please add  
£2.00 per item.

N.B. Please state make of  
computer when ordering

### CLASSIC COLLECTION

Airborne Ranger	£15.99
Balance of Power 1990	£16.99
Bards Tale	£7.99
Battle Chess	£16.99
Battlehawks 1942	£16.99
Battletech	£16.99
Blood Money	£16.99
Bloodywch	£16.99
Colossus Chess X	£13.99
Daily Double Horse Racing	£13.99
Dragon Ninja	£13.99
Dungeon Master	£15.99
Dungeon Master Editor	£7.99
F-16 Combat Pilot	£16.99
F-16 Falcon	£15.99
Falcon Mission Disc	£13.99
Ferrari Formula I	£16.99
Flight Simulator	£26.99
Forgotten Worlds	£13.99
Gunship	£15.99
Heroes Of The Lance	£16.99
Hillstar	£16.99
Interphase	£16.99
Kick Off	£12.99
Kings Quest IV	£19.99
Kings Quest Triple Pack	£23.99
Leisure Suit Larry	£16.99
Leisure Suit Larry II	£19.99
Lombard Rally	£15.99
Micro Soccer	£15.99
N.Z. Story	£13.99
Oil Imperium	£16.99
Operation Wolf	£13.99
Operation Wolf	£13.99
Populous	£16.99
Populous Promised Lands	£7.99
Red Storm Rising	£16.99
Rick Dangerous	£16.99
Robocop	£13.99
R.V.F. Honda	£16.99
Scenery Disc 7, 9 or 11	£13.99
Scenery Disc Japan or Europe	£13.99
Shinobi	£13.99
Silkworm	£13.99
Space Quest III	£19.99
Steve Davis Snooker	£11.99
S.T.O.S.	£16.99
S.T.O.S. Compiler	£13.99
S.T.O.S. Maestro	£15.99
S.T.O.S. Maestro Plus	£54.99
S.T.O.S. Sprites 600	£10.99
Tank Attack	£16.99
Ultima IV	£16.99
War In Middle Earth	£13.99
Zak McKracken	£16.99



page and flaunt their fleshy tones, because no matter how good the colours are, there's no art package that escapes the ST's screen resolution. If you want to do that, you need a hardware add-on, and at the end of last summer even that was made possible.

Art packages have been around since the ST popped out of Atari's womb. The first was a PD program – *Neochrome* – which only includes 16 colours and bog-standard drawing tools but still enables you to cut and paste sections of the screen and to edit pixel by pixel. *Neochrome*'s only limitation is that it refuses to run in anything but low resolution mode.

If you want something which runs in all three, give Electronic Arts a ring on 0753 49442. *Degas Elite* might only provide 16 colours on screen at once but they're in a form which can easily be used in your own programs. For this reason, games programmers still swear by *Degas*. For just £24.95 you can do everything that *Neochrome* can do and lots more besides. Magnifying the screen to ten different resolutions and the opportunity to wildly distort any image, will give many a budding artist the taste of freedom, while airbrush, stipple and smear options make even the crudest drawing look reasonable.

If you're quite happy to slave over a hot picture and never see it used in your programs, turn to *Spectrum 512* from Electric Distribution 0480 496666 at £59.95, or *Quantum Paint* from Eidersoft 0234 273000 at £19.95. Both of these have 16 colour modes but they also include a 512 colour option which works using a simple trick known as palette switching. The drawing tools aren't as extensive as those found in *Degas* but when you've got so many colours at hand, you don't need to be as careful with the drawing.

For a paltry £19.95 *Quantum Paint* makes *Spectrum* look crude. A gobsmacking 4096 colours will make your eyeballs roll as you find there's just nothing you can't do with colour. Unfortunately, because *Quantum* is trying to do so much, it ends up being particularly hard to use. Not only have drawing options withered away but you can spend six months trying to find the colour you want to use.

If the only reason you purchased your ST was because you couldn't afford a Cray 2000, there are still ways to improve the quality of the graphics beyond belief. Elmtech have created the *Parsec* graphics board which is the first high-resolution graphics system available for under £2,000. You have to be a serious artistic buff, however, to

want to use it. The board gives you access to an eyeball-shattering 16 million colours and a resolution of 1024 X 768 pixels.

If you want to upgrade, this is the way to go. This high-end model costs around £1,500 but contact Elmtech on 021-472 5719 and they'll tell you about a cheaper version for £799. Although this only includes 4096 colours, the resolution is still the same so high-quality pictures remain possible. An excellent paint package which fully utilises the board's power is included in the price. Imagine filling boxes at 12.5 million pixels per second, or drawing lines at 1.25 million pixels per second: this is the board to do it.

## hard drives

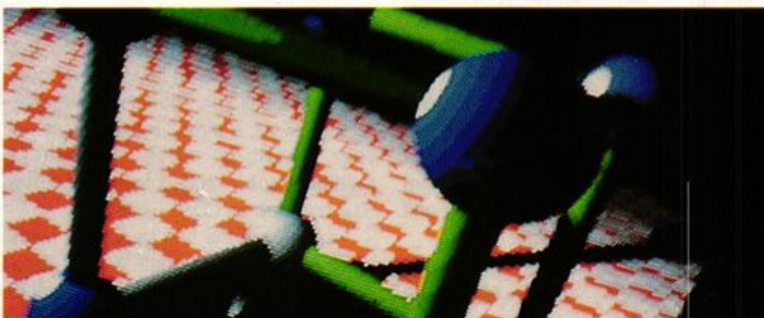
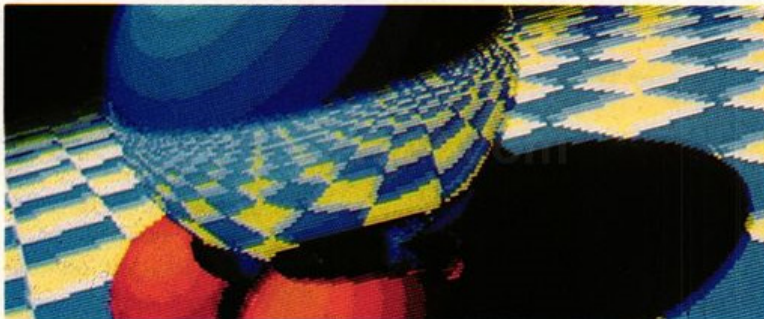
● Did you ever use a computer that had cassette-based storage? Abysmal, right? When you unpacked the ST, fired up the word processor and loaded and saved files to and from a floppy drive you couldn't believe the speed, capacity and ease of use – and quickly came to wonder how you ever managed to compute without one.

Some time later, however, you're cursing the floppy for operating at a snail's pace. A half dozen files and the damned device is complaining about being full! OK, you've just sold your second child into slavery to raise some money, maybe now is the time to get a hard drive.

At their heart, hard drives have a spinning, inflexible disk of Mylar (the platter) coated with a magnetic substance. A read/write head rides on a cushion of air above the platter. The gap between the head and the surface of the disk is so small that a single molecule of cigarette smoke would make the head crash into the platter. The disk revolves at 3,600 rpm (compare that with the floppy's 300rpm) and because of the speed of the platter and close proximity of the head to the disk, vast quantities of data can be stored and retrieved at great speeds.

The original hard drives offered a capacity of between 5 and 10MBytes. Today you can buy drives with 300MBytes of space. ST hard drives range in size between 20 and 85MByte and are priced according to manufacturer and capacity. For example a 20MByte device from Atari may cost almost as much as a 40MByte drive from a third party supplier. Should you

■ The ST's graphics capabilities are gloriously shown off by GFA Raytrace images







•just one of the many quality hard drives available for the ST, this Third Coast offering is sleek, fast and extremely good value for money

stay with Atari or plump for the third party offering?

Names to watch out for are Vortex (cheap 40MByte drives from a variety of UK suppliers), Supra (American drive manufacturers. Quality, fast, but rather expensive), and Third Coast. The latter offer a range of quality drives at reasonable prices and should be at the top of any prospective buyer's shopping list. Third Coast's prices fall all the time, so check out the latest advertisement in *ST Format* for up to date details, or call them on 0257 472444. You can even buy a kit from them and build your own drive on the cheap. And remember, that hard drive you're looking at may cost several hundred pounds, but compared to the cost of floppies per megabyte and their incredible lack of speed, you're getting a bargain!

## internals

● You don't need a degree in C programming to make use of internal ST calls. Surprisingly, anyone tinkering with Basic can come up against the occasional problem which only internal calls can solve. For example; *ST Basic* refuses to let you read the joystick port, and setting the internal clock can be a nightmare. So if you've half considered resorting to another language, consider making a direct internal call instead.

The ST internals are made up of

```
real%=XBIOS(2) !read start of screen address
PRINT real%
fake%=real%-32000 !make fake screen reside 32000 bytes lower
in memory
PRINT AT(1,1); "This text is written on the REAL screen"
c%=XBIOS(5,L:fake%,-1,-1) !move to invisible, fake screen
PRINT AT(1,1); "This text is written on the FAKE screen"
c%=XBIOS(5,L:real%,-1,-1) !move back to real screen
PRINT AT(10,12); "Press any key to see FAKE screen!"
i=INP(2)
BMOVE fake%,real%,32000
```

three main types of operating system calls: GEMDOS, BIOS and XBIOS. GEMDOS calls are almost identical to the MS-DOS calls found in the old UNIX systems. These comprise of standard calls to make directories, examine free disk space and even set the date and time of the machine.

As an example; you could find your ST's version number using GEMDOS \$30. Different languages make calls in different ways but a standard GFA Basic call would run as `C%=GEMDOS(&H30)`.

The BIOS and Extended BIOS (XBIOS) calls are used for basic input/output calls, such as the printer, screen and keyboard. XBIOS calls are widely used in all sorts of applications. One of the most useful is the creation of a second screen which cannot be seen.

When writing graphic routines the second page is used to make up the image which is then copied onto the first page to be displayed.

This method ensures that you cannot see the complicated processes which are used to make up the image until it's been completed and moved onto the main screen.

For the complete list of ST internals, including all GEMDOS, BIOS and XBIOS

## joysticks

● Originally available as a straight plastic stick with a couple of buttons, the humble joystick has developed into a stylish peripheral that the first home computer enthusiasts just wouldn't recognise. They now come in every colour, shape, form – and price! Wouldn't your copy of *Flight Simulator II* or other flight sim benefit greatly from being used with an exact copy of a small aircraft control yoke?

SpectraVideo market a full-size, full-control yoke that fits neatly into the hand and gives you positive control over any flight simulator. The device attaches to the ST as a direct replacement for your existing stick – without modifications – and is available from SpectraVideo on 0273 675503.

Konix were the first to pioneer handheld joysticks with their *Speed King* range. Joysticks previously needed to

■ A program to create two screens when writing graphics routines would run, using GFA Basic, as shown right:

Xbios(2) returns the start address of the screen memory, while Xbios(3) returns the physical address, ie. the address used in all output functions. To set these to different values you must use Xbios(5). The -1 values in this Xbios call are ignored.



# ATARI ST and AMIGA

## Sixteen Bit Superdeals from the Sixteen Bit Specialists !

**CUSTOMERS PLEASE NOTE! When comparing prices remember ours include fast delivery by courier.**

**NEW!!**

### 520 STE Power Pack

**£359.00**

*Inc. VAT and Next Day Delivery*

#### Power Pack includes:

- ★ 520 STE 512K Keyboard with Built-in 1 Megabyte disk drive and TV Modulator
- ★ 4096 Colour Palette
- ★ 8 Channel digital stereo sound
- ★ 4 Joystick Ports
- ★ Over £550 worth of games software, including OutRun, Gauntlet 2, R-Type, Space Harrier, Super HangOn and 16 more Top Games
- ★ Organiser Business Software including WORDPROCESSOR, SPREADSHEET and DATABASE.
- ★ First BASIC and First Music Utility Software
- ★ FREE JOYSTICK AND FREE MOUSE MAT WORTH £4.95
- ★ All leads, manuals PLUS MOUSE and free mains plug!

**REMEMBER!** Many ST's do not come with BASIC - ours come with ST BASIC REV D by Metacomco.

**NEW STE**

### AMIGA A500 BAT GAMES PACK

**£399.00**

*Inc VAT and Next Day Delivery*

#### BAT Games Pack includes:

- ★ Amiga A500 512K Keyboard with Built-in 1 Megabyte disk drive.
- ★ Free TV modulator worth £24.99 allowing you to use the Amiga with a normal TV.
- ★ DELUXE PAINT II GRAPHICS PACKAGE
- ★ PHOTON PAINT II graphics package with animation worth £70.00
- ★ FREE, only-just-released BATMAN - THE MOVIE games software.
- ★ NEW ZEALAND STORY arcade games software.
- ★ F16 - INTERCEPTOR - amazing 3D flight simulator software.
- ★ A further £230 worth of Games Software, including BUGGY BOY, MERCENARY, BARBARIAN, WIZBALL & six more games.
- ★ FREE JOYSTICK, MOUSE MAT AND 10 BLANK DISKS
- ★ Amiga BASIC, Amiga EXTRAS 1.3, Workbench 1.3 PLUS the Amiga Step by Step Tutorial.
- ★ All leads, manuals PLUS MOUSE and mains plug!

**NEW!**

### 520STE Explorer Pack

**£279.00**

- ★ Explorer Pack Includes 520STE 512K Keyboard with built-in 1 Megabyte Disk Drive and TV Modulator
- ★ 1 FREE Game, ST Tutorial and METACOMCO Basic worth £25.00
- ★ All Leads, Manuals PLUS MOUSE and FREE Mains Plug! ★ Free mouse mat worth £4.95

**NEW STE**

### 1040STE Super Pack

**£479.00**

- ★ Includes the new 1 megabyte 1040STE keyboard plus £450 worth of software. Comprising 21 games and Organiser Business Software. Also includes Metacomco BASIC, Mouse Pad, all Leads, Manuals and Mouse.
- ★ 1040 STE keyboard without software **£439.00**

### MEGA 1 BUSINESS PACK

**£529.00**

#### Features:

- ★ Separate Keyboard and System Unit
- ★ £385 worth of Business Software including MICROSOFT WRITE word processor (£150), SUPERBASE PERSONAL Database (£60) and VIP PROFESSIONAL Lotus 123 Spreadsheet clone (£150). Metacomco Basic (£25.00)
- ★ Blitter chip installed for faster graphics
- Inc SM124 Mono Monitor..... £628.00

### ACCESSORIES

- |  |  |
|--|--|
| Quickshot II Turbo Joystick.....£9.95                              | Branded Memorex 3.5" DS DD Disks         |
| Competition Pro 5000 Joystick ....£13.95                           | Box of 10.....£13.95                     |
| Competition Pro with Autofire .....£14.95                          | Memorex Disk Box                         |
| Konix Speedking Joystick .....£11.95                               | For 40 3.5" Disks .....£8.95             |
| Red Mouse Mat with Amiga logo.....£5.95                            | Amiga 1/2 Meg Expansion .....£119.95     |
| Plain blue Mouse Mat .....£4.95                                    | Control Centre Atari or Amiga.....£44.95 |
| Contriver Amiga and ST Mouse with FREE Holder and Mouse Pad £20.95 |  |

### PRINTERS

- |  |         |
|--|---------|
| Star LC24-10 24 pin incl. lead ST/Amiga .....                  | £249.00 |
| Star LC10 including interface lead for ST/Amiga.....           | £169.00 |
| Star LC10 colour including interface lead for ST/Amiga.....    | £219.00 |
| Citizen 120D including interface lead for ST/Amiga .....       | £159.00 |
| <b>SEIKOSHA 80 COLUMN PRINTERS - AMAZING PRICES</b>            |         |
| Seikosha 9 pin NLQ including interface lead for ST/Amiga.....  | £139.00 |
| Seikosha 24 pin LQ including interface lead for ST/Amiga ..... | £239.00 |

### AMIGA 1 MEG BAT GAME PACK

**£529.00**

#### 1 Meg Bat Games Pack includes:

- ★ Fitted 1 Megabyte Memory Expansion + Real Time Clock Card
- ★ Everything listed for the A500 Bat Game Pack
- ★ DRAGON'S LAIR 1 MEG MEGAGAME!

**NEW!**

### AMIGA A500 CLASS OF THE 1990'S BUSINESS + EDUCATIONAL PACK

**£549.00**

#### FEATURES:

- |                                |                             |
|--------------------------------|-----------------------------|
| ★ Amiga A500 + TV Modulator    | ★ Maxiplan 500 Spreadsheet  |
| ★ Midi Interface + Software    | ★ Amiga Logo, BBC Emulator, |
| ★ Kind Words II word processor | Deluxe Paint II             |
| ★ Page Setter DTP              | ★ Mouse mat, 10 blank disks |
| ★ Super Base Personal Database | and disk wallet             |

### EXTERNAL DISK DRIVES

- |  |         |
|--|---------|
| Atari SF314 1 Megabyte .....                   | £139.00 |
| Amiga A1010 1 Megabyte .....                   | £109.00 |
| Cumana 1 Megabyte Atari or Amiga .....         | £89.95  |
| NEC 1 Megabyte Atari or Amiga .....            | £79.95  |
| Atari Megafile 30 Hard Disk.....               | £439.00 |
| New! Commodore A590 20 meg hard disk.....      | £369.00 |
| A590 Hard Disk + Memory Upgrade installed..... | Phone   |

### MONITORS

- |   |         |
|---|---------|
| Commodore Amiga A1084 Stereo colour Monitor inc lead .....          | £249.00 |
| Atari SC1224 Colour Monitor inc lead.....                           | £259.00 |
| Atari SM124 Mono Monitor including lead .....                       | £119.00 |
| Philips CM8833 stereo colour monitor inc. lead for ST or Amiga..... | £259.00 |



**CREDIT CARD ORDERLINE ☎ 0908 378008 (Mon - Sat 9am - 6pm)**  
To order either call the orderline above with your Credit Card details OR make a cheque or P.O. payable to Digicom Computer Services and send it with your order to the address below. Callers are also most welcome at the address below

**DIGICOM**

**Unit 36, Wharfside, Fenny Stratford, MILTON KEYNES MK2 2AZ**

*All prices include VAT and delivery by courier*  
*\*Written details on request APR 34.5% Variable*

**INSTANT CREDIT  
NOW AVAILABLE \***







be attached to a desk top via rubber suction caps. The latest Konix joystick – the Navigator – is another of the high quality, hand-held, easy to use joysticks that Konix are justly famous for. Contact Konix on 0495 350101.

The Cruiser from Power Play is an innovative joystick that allows you to adjust the stick to set degrees of response. Pulling up on the shaft eases the action, a downstroke makes it tighter and more responsive. The Cruiser comes in a variety of wacky colours, costs around a tenner, and is available from your local computer store.

## keyboards

● What were Atari thinking about when they created the wonderful ST? They constructed a powerful machine, gave it a tiny price tag, and then bolted on what is probably the worst keyboard this side of "Uncle" Clive's Spectrum. Large and fully featured, sure, but with as much life as one of Freddy Krueger's throwaways. So what can you do to improve the quality of the ST's keyboard?

One rather novel method of getting more response from the keys is to fit the ST with a set of Springz. Springz are – as their name suggests – a set of little springs which fit under each key and provide that key with more bounce. Keypresses are supposed to become more positive and the keyboard as a whole more lively. Unfortunately the fitting process is a drag. Prying off the keytops with a screwdriver is dangerous for you and your ST. And when you finally have all the Springz in situ, the keyboard doesn't feel much different from its original state. Springz cost £15 and are available from ISM on 0983 864674.

There are no replacement keyboards on the market for the ST. Unlike the IBM-PC, you can't unplug the

keyboard and plug in a new device. You could try buying keyswitches from an electronic components supply store such as Maplins and building your own keyboard (as did ZX81 owners of yesteryear) but there's no guarantee that you'll end up with anything better. You'll just have to soldier on with that awful keyboard.

Of course, you could buy a Mega ST. That machine comes with a keyboard unit which is separate from the CPU housing. The keyboard accompanying the Mega is excellent; it has light, responsive keys that make typing a pleasure and you can position the device anywhere your heart desires. An expensive solution perhaps, but the only one open to you.

## laser printers

● There was a time when the humble dot matrix printer was an almost unattainable prize, owned by only the most affluent computer user and looked upon with pride. The rest of us had to inflict letters on our friends that were printed on the Sinclair tinfoil device. Its description probably contained the words "absolute" and "junk," but at a smidgeon over 40 quid, the budget would just stretch to it. Now the world and its dog owns a dot matrix printer, many enthusiasts have a daisy wheel device too for correspondence, so where do you go from here?

Laser printers are the next rung on the great ladder to perfect printing. They cost megabucks but provide you with the clearest, crispest, cleanest copy possible. Most laser printers connect directly to the Centronics parallel printer port but have provision for RS232 serial connections too.

The Atari laser printer connects to the DMA port enabling the printer to run slightly faster than third party offerings, it's cheap and serviceable but you need an ST with at least 1MByte of memory and preferably two. It costs £919.99 from Atari themselves (0753 333444) – but shop around, it's often discounted.

Third party names to look for are Hewlett Packard and their Laserjet II and Qume's Crystal Series II. The former costs an eye-watering £1,900, was one of the first available laser printers and is still one of the best. Contact Hewlett Packard on 0734

777828. The latter is a cheap, yet quality alternative to mainstream printers. Qume devised the industry standard for daisy wheel printers and are well known for the quality of their machines. The Crystal printer costs £1,555 and Qume await your order with baited breath on 0635 523200.

For the definitive review of popular laser printers grab a back copy of ST Format (issue 4).

## monitors

● Have you ever staggered to bed bleary-eyed after a long session at the keyboard? Next morning your eyes feel like they've been plucked from their sockets, rubbed around on sandpaper and re-inserted. Fine for Mr Optrex's bank balance, but lousy for those of you tied to the domestic television as a computer display.

Throughout the computer industry, the Atari monochrome monitor is known as one of the best available. Its rock-steady, clear, crisp display is easy on the eyes even after long periods staring at the screen – and the price is easy on the pocket. Heavily discounted by a number of ST suppliers, the SM124 can be had for around £100.

The SM124 and other monochrome monitors only work with software designated as being "Hi-res" – that is, software that supports the ST's 640 x 400 mono display resolution. Included in this list are most word processors, spreadsheets, databases, utilities, and almost all serious software. Games, with one or two exceptions, work only in "Low-res" (320 x 200 pixels).

Unfortunately, the ST cannot drive more than one display at a time, so if you're using the monochrome monitor for word processing and want to play a game, you must unplug the SM124 and plug in your TV or colour monitor.

The benefits of using a monitor aren't restricted to serious software. Games are a lot more playable when displayed on a colour monitor instead of a TV. The picture is clearer and sprites are easier to discern. Colour monitors, however, cost megabucks (£300 to £400), so unless you perform a lot of serious graphic work, the TV is probably fine.

There is, however, a third option. That is the combined TV and monitor. Many modern televisions such as Hitachi's latest model offer a Scart connector to enable STs and other

■ So what if the keyboard handles like a corpse, there's always the veritable platoon of joysticks to use.



# The ST Club

- ☐ The ST Club Newsletter - £8 for 12 issues or 80p for a sample copy.
- ☐ Disk Mags - Newsletter subscription plus a disk full of the best PD software with every other issue - £22.50
- ☐ Public Domain Software - Our current catalogue details over 1,300 disks. Same day despatch on all orders and help available on using PD software.
- ☐ Fontkit Plus 2 - The ultimate font utility for the ST. Version 2 includes a host of new features - write/phone for our information sheets on Fontkit Plus 2 and accompanying fonts disks. Cost - £14.95, or upgrade for £6.95 by returning your original Fontkit disk(s).
- ☐ Key Master - The keystroke recorder - allows up to 26 sets of 100 characters to be re-typed automatically. Price, with printed manual, £6.95.
- ☐ Virus Killer - The latest version of Richard Karsmakers excellent Virus Killer. Published by CRL at £9.95 - available from us at just £6.95!
- ☐ Your Second Manual - new version due soon.
- ☐ Books, Budgie UK games, ST accessories, Laser Printing Service and commercial software - wide range available at discount prices to members.
- ☐ Our latest 32 page A4 catalogue and Club information pack is available free of cost - write or telephone for your copy.

The ST Club - 49 Stoney Street - Nottingham NG1 1LX - (0602) 410241

Callers welcome Mon - Fri: 9.30 - 5.00  
- No surcharges on European orders -

## ATARI ST BOOKS

1001 Things to do with your ST - Tab	£11.97
1st Book of Atari ST Compute	£15.99
6800 Assembly Programming - McGraw	£18.95
ST 3D Graphics Programming Abacus	£17.95
ST Basic Training Guide Abacus	£13.99
ST Explored (tech guide) Kuma	£8.50
Atari ST Internals Abacus	£15.95
From Basic to C compute	£15.95
GFA Basic Advanced Prog + Disk Glen	£17.95
GFA V3 Development + Disk Glen	£17.95
Kids and the ST (education) Compute	£13.95
Learning C: Prog Graphics Compute	£15.95
More ST Applications Compute	£11.95
Presenting the ST Rev edition Abacus	£11.95
Programmers Guide to Gem Sybex	£17.95
Programming the 6800 Sybex	£19.95
Software Catalogue ST Atari	£13.95
ST 6800 Prog. Guide (Gem/Tos) Glen	£15.95
Advanced Programmers Guide Sigma	£9.95
ST Applications Compute	£15.95
ST Applications Guide in C. Compute	£18.95
ST Artist Compute	£15.95
Basic Source Book & Tutorial Atari	£9.50
ST Basic to C Abacus	£13.95
ST Disk Drives inside and out Abacus	£17.95
ST Gem Programmers Ref Abacus	£17.95
Graphic & Sound programming Tab	£13.75
ST Intro to Midi Abacus	£15.95
ST Logo Users Guide Abacus	£13.95
ST Machine Language Abacus	£15.95
Machine Language Prog Guide Comel	£17.95
Programmers Guide (Basic & Logo)	£15.95
Tech Reference Guide Vol 1 Compute	£17.95
Tech Reference Guide Vol 2 Compute	£17.95
The Atari ST for beginners Abacus	£13.95
Tricks & Tips on the Atari ST Abacus	£15.95
From Basic to C Compute	£15.95
Programmers Guide to Gem Sybex	£17.95
Timeworks Publisher DTP Tutor Two audio cassettes + one 3.5" disk	£26.95



## RAMARA HOUSE SOFTWARE

Quality Products for business or pleasure

### ATARI ST PROGRAMS

Accountant Plus V3 Sage	£209.04
Accountant V3 Sage	£125.00
Advanced Art Studio	£18.21
Bookkeeper V3.2 Sage	£83.11
Hisoft C Interpreter	£34.95
Cashbook Controller	£36.46
Cyber Control	£29.50
Cyber Paint V2	£36.95
Cyber Studio	£39.95
Cyber Dev/Design disks	£18.95
Degas Elite	£18.21
Devpac V2 Hisoft	£39.95
DIG Base Digita	£36.46
Digicalc Digita	£29.16
Easy Draw 2	£43.75
Easy Draw + Supercharge	£69.95
Finance Controller Sage	£334.96
First Mail (for 1st Word)	£10.91
Flair Paint	£25.51
GFA Basic 3 Interpreter	£37.95
GFA Compiler V3	£22.95
GFA Raytrace	£29.95
GFA Assembler - V3	£36.46
Hisoft Fort	£29.95
Home Accounts	£18.95
K-Resource 2	£28.95
K-Resource 1	£18.95
K-Spread 1	£43.75
K-Spread 2	£65.65
K-Spread 3	£28.95
K-Word 2	£36.45
K-Data	£21.85
Knife ST Hisoft	£21.85
Lattice C V5	£72.95
Logistix New V1.2	£83.95
Mark Williams C New Ed.	£91.95
MASTERPLAN Spreadsheet 166.56	£18.21
Mini Office Professional	£18.21
Neo Desk II	£18.21
Perfect Touch Digita	£18.21
Personal Pascal Hisoft	£54.96
Prodata Armor	£25.51
Protext Office	£25.51
Protext V4.2	£69.95
Quantum Paint	£18.21
Spectrum 512	£24.95
Superbase Personal II	£68.95
Superbase Personal V1.2	£43.76
System 3 Digita	£36.46
Tempus 2 Hisoft	£29.16

### Timeworks DTP

Turbo ST Hisoft V1.6	£29.16
Twist Switcher Hisoft	£18.21
VIP Professional	£109.46
Werks Resource Editor Hisoft	£19.95
Word Up	£43.76
Word Writer	£36.46

### RECREATION SOFTWARE

Batman the Movie	£14.99
Battle Squadron	£14.95
Chaos Strikes Back	£14.95
Chase HQ	£14.95
Ghouls 'n' Ghosts	£14.99
Hard Driving	£14.99
Operation Thunderbolt	£14.99
Shadow of the Beast	£26.95
Stunt Car	£19.95

### 520STE EXPLORER PACK

520STE POWER PACK	£275.00
520STE POWER PACK	£379.00
1040STE (choice of 4 kits)	£455.00
With SM124 MONITOR add	£99.00
PORTFOLIO POCKET PC	£220.00
AMIGA BATMAN PACK	£385.00
Amiga Ten Star Game Pack	£38.00
PHILIPS SM833 MONITOR	£258.00
SCART MONITOR CABLE	£9.95
13 PIN DIN CABLE (open ended)	£7.50
Dust Covers ST 520/1040	£5.25

### \* SPECIAL OFFERS \*

TIMWORKS DTP + EASY DRAW 2	£81.00
HYPER DRAW	£10.00
HYPER PAINT	£10.00
1ST WORD PLUS NEW V3	£54.95
BORODINO	£12.50
HISOFT BASIC	£49.95
HISOFT POWER BASIC	£29.95
DATA MANAGER PROF	£29.50

ALL PRICES ARE FULLY INCLUSIVE, FOR 24 HOUR EXPRESS COURIER PLEASE ADD £10.00

PLEASE SEND CHEQUE/PO MADE PAYABLE TO:

RAMARA HOUSE SOFTWARE, 22 Grange Road, Staincliffe, Nr. Batley, West Yorkshire WF17 7AT  
TEL: 0924 473556 Visa/Access/Mastercard/Eurocard

24 Hr. 7 Day service (Answerphone after 9pm)



A highly rated hand-held scanner with easy-to-use GEM based software for the transfer of graphic images to an Atari ST. The scanner is connected to the ST through an interface which fits into the ROM cartridge port and has two sockets for the scanner and PSU. The scanner controls include contrast, start-of-scan and choice of scan mode. The scanner has a scan width of 105mm, a 200 DPI res and a scan speed of 2cm/sec. It can operate in black and white or 16 Quasi-tones (using dither patterns). The software is a menu driven application supporting IMG, DEGAS and NEOCHROME image formats and boasts extensive image enhancement facilities including RESCALE, COPY, CUT & PASTE,

NEGATE, FILL, ROTATE, ZOOM and BRIGHTNESS controls as well as PIXEL EDITING. Scanned images are displayed within an A4 page window while detailed viewing and pixel editing are carried out within a separate ZOOM window. Images can be pasted anywhere on the A4 page using OPAQUE MODE (overwrite existing image) or TRANSPARENT MODE (picture overlaying). Extensive FILE HANDLING facilities allow any portion of an image to be saved in any supported format in NORMAL or COMPRESSED form. TWO print modes (GDOS/EPSON) and THREE PRINT resolutions (HIGH, MEDIUM & LOW) are available for a range of printers. DISK FORMATTING has been made available internally.



	Qty
DATAscan	£199.95
DATApro Joystick	£12.95
DATAfax	£34.95
Disk Drive	£84.95
Mouse	£24.95
Master Sound	£29.95
TOTAL COST	£

ORDER HOTLINE 0234 855666

- ☐ Postal Order/Cheque payable to PANDAAL MARKETING
  - ☐ Please debit my Access/Visa
- Card No: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Expiry Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_  
Signed: \_\_\_\_\_

Name.....  
Address.....

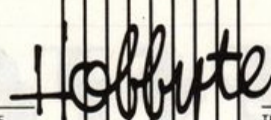
Post Code..... Daytime Tel No.....

Send to:  
**PANDAAL MARKETING LTD**  
182A Bedford Road  
Kempston  
Bedford MK42 8BL





# HOBBYTE BUSBYTE COMPUTER CENTRE



10 MARKET PLACE  
ST ALBANS  
HERTS AL1 3DG  
TEL (0727) 56005/41396

THE GALLERY  
ARNDALE CENTRE  
LUTON, BEDS LU1 2PG  
TEL (0582) 457195/411281

## AMIGA 500 inc vat

All A500s are full UK 1.3 versions, with 30 day replacement warranty plus 12 Months guarantee and include Mouse, Workbench, Basic, Utilities, Manuals, Tutorial and Modulator (not with monitor), 24 games on 4 discs: Arcade, Adventure, Board and Shoot-em-up games.

### BATMAN PACK

BATMAN the Movie, Interceptor, New Zealand Story, Deluxe Paint II £355  
Batman upgrade - software as above, without computer £59  
Also with 1064D/8833 monitor £565

### BATMAN PACK PLUS

BATMAN the Movie, Interceptor, New Zealand Story, Deluxe Paint II, PLUS 10 £389  
Star Games, Joystick, Mouse Mat, Disc Box, 10 Blank discs, Dust Cover £599  
Also with 1064D/8833 monitor

### A500 "CLASS OF THE 90s" PACK

Midi Interface, DPaint II, Superbase Personal, Publishers Choice, Maxplan 500 spreadsheet, Dr. Te Midi Recording Studio, Amiga LOGO, BBC Emulator, 5 BBC programmes, 10 Blank Discs, Mouse Mat, Disc Wallet £529  
Class of 90s upgrade pack for A500 users £199

SCHOOLS, COLLEGES AND GOVERNMENT DEPTS - BUY 20 GET 1 FREE, 7 DAY GUARANTEED REPAIR TURNAROUND

## AMIGA 2000 ex vat

All B2000s are full UK 1.3 versions, with 30 day replacement warranty plus 12 months guarantee and include Mouse, Workbench, Basic, Utilities, Manuals, Tutorial. We will price match any genuine offer.

B2000 £760  
B2000 plus 1064D/8833 monitor, inc lead £979  
B2000, 8833/1064D, 3.5" and 5.25" 1.2 Mb Drives, 20MB Autoboot HD and AT (80286) Bridge Board, £1595  
As above, but with 40MB Autoboot HD £1795  
Any pack, with Publishers Choice + £69

## ATARI 520 inc VAT

A limited number of STEs are available. All Atari STs are full UK versions and come with 512K RAM, internal power supply, internal 1MB DS Drive, mouse

### EXPLORER PACK

Ranarna, Desktop Accessories, Starter Kit, £259.00

### POWER PLUS PACK

Joystick, 20 arcade and sports games as standard, First Basic, Music Maker, Organizer, Star Raiders, Final Fantasy, Ranarna, 1st Word, £343.85  
With 8833/1064D colour stereo monitor and lead Add £210.00

## ATARI 1040 inc VAT

A limited number of STEs are available. All are full UK versions and come with 1024K RAM, internal power supply, 1 MB DS drive, mouse and modulator, plus:

### SUPER PACK

Joystick, Arkonoid II, Beyond the Ice Palace, Black Lamp, Buggy Boy, Chopper X, Eddie Edwards Super Ski, Ikari Warriors, Marble Madness, Quadralin, Ranarna, Return to Genesla, Roadways, Seconds Out, Starquake, Summer Olympiad, Test Drive, Thrust, Thundercats, Wizball, Xenon, Zynapse and Organizer software £429.00  
With 8833/1064D colour stereo monitor and leads Add £210.00

### ULTIMATE HYPERPACK

Hyperpaint graphics, Hyperdraw, Borodino Organizer, First Basic, a £50 voucher towards 3 "Mind Games" - Backgammon, Go-Moko, Bridge Master, Bridge Tutor, Armada £429.00  
With 8833/1064D colour stereo monitor and leads Add £210.00

### MUSIC PACK

Steinburg Pro 12 Sequencer or MIDI Drummer £529.00  
With 8833/1064D colour stereo monitor and leads Add £210.00

## COMMODORE PC/ATs ex vat

What Micro, October 1989 rates PC20 top big-name PC, based on value and performance. The PC40 is one of the only AT machines which can be fitted internally with both a 5.25" and 3.5" floppy.

### COMMODORE PC STARTER PACK, includes:

- Start-up tutorial video
- MS DO's Tutor
- Typing Tutor
- Secretary Bird Word Processor, Spreadsheet, Database
- Free one year on-site maintenance

	Mono	CGA	VGA Mono	VGA Col
PC10 5.25" single drive	549	699	749	849
PC10 5.25" Double drive	599	749	799	899
PC10 5.25" and 3.5" drive	629	779	829	929
PC20 5.25" with 20MB hard disc	799	949	999	1099
PC20 5.25", 20MB hard disc + 3.5"	879	1029	1079	1179
PC 30 3.5"	1199	1399		

### UP TO £520 OFF PLUS FREE 24 HR RESPONSE ON-SITE MAINTENANCE

PC40 VGA 286 5.25" with 40 MB hard disc 1299  
PC40 VGA 286 5.25" with 40 MB hard disc and tape streamer 1499  
PC40 with 40 MB HD, 3.5" + 5.25" floppies 1279 1379

## PRINTERS ex vat

£118.99	CITIZEN 120D	£249	PANASONIC 1124	£679
£138.95	STAR LC10	£299	STAR LC 15	£699
£178.95	STAR LC10 COLOUR	£299	AMSTRAD LG 5000	£135.00, £4.99
£189.95	AMSTRAD 3250 di	£399	STAR LC 24-25	£149.99
£198.95	STAR LC 24-10	£895	QUME CRYSTALPRINT	£149.99
£228.95	AMSTRAD LG 3500	£1114	QUME CRYSTALPRINT	£149.99
£178.95	AMSTRAD DMP 4000	£2895	QUME CRYSTALPRINT	£149.99

NO DEPOSIT INSTANT CREDIT (PERSONAL CUSTOMERS) AND LEASING TERMS (LIMITED COMPANIES AND PLCs) AVAILABLE. ASK FOR DETAILS  
PLEASE QUOTE WHERE AD SEEN WHEN ORDERING. All prices, except where stated are ex VAT and based on cash or cheque with order. Prices correct at time of going to press, but are subject to change without notice. Please use orders accepted from PLCs and Government bodies. Carriage on warranty repairs is paid by customer. E & OE

### OUR COMMITMENT TO CUSTOMER CARE

We believe our customers have less problems than those who deal with some of our competitors. However if you do have any grievances please contact Linda in our Customer Services Department who will do everything possible to help

### TEST ON REQUEST

Equipment is generally reliable and all items are batch-tested before despatch. However, please state if your purchase is to be given as a present so that we can fully test, just in case and ensure that we have no Christmas morning disappointments

### ORDERING

To place your order send cheque, postal order or official order, plus £9 + VAT per box (software free) for next day courier delivery and VAT to Dept STF, Hobbyte Computers Ltd, 10 Market Place, St. Albans, Herts AL1 3DG, or call in with a copy of this ad at our branches in St. Albans and Luton. You may also phone your order to our sales desk on St. Albans (0727) 56005. Access/Visa and official orders from government, education, medical authorities and PLCs are accepted



TELE-ORDER (0727) 56005



# B-SOFT

PUBLIC DOMAIN SOFTWARE  
FOR ALL MODELS OF ATARI ST

- |     |  |     |   |
|-----|--|-----|---|
| H01 | ST WRITER ELITE. The best PD WordProcessor available for the ST, with full documentation.  | AT1 | NEOCHROME AND PICTURES. Superb art disk with instructions, and a slide block puzzle generator programme. Have fun with your art.                            |
| H04 | PROGRAMMABLE DATABASE. Very comprehensive high quality database.   | AT3 | PALLART. Possibly the best PD art package for the ST. Full instructions included.   |
| H06 | SUPERB PROFESSIONAL QUALITY SPREADSHEET. Double sided disk with full instructions £3.50.   | DE1 | DEMO DISK OF GREAT MOVING GRAPHICS AND MUSIC. Sit back and enjoy the show. Shows what the ST can do.  |
| BG1 | CHESS, MONOPOLY, BACKGAMMON, LASERCHES.  | LA1 | ASSEMBLER, LOGO, XLISP, TINY BASIC.   |
| BG2 | CRIBBAGE, OTHELLO, YAHTZEE, WHEEL OF FORTUNE.  | LA2 | SUPERB "C" COMPILER BY M. JOHNSON.  |
| BG3 | DRAUGHTS, HANGMAN, SOLITAIRE, DALEKS.  | PN1 | Various programmes and files to aid graphic printout for 24 pin printers, Epson and NEC.  |
| K12 | These KID disks are the famous KID series from America. This one includes KID GRAPH, KID GRID, KID MUSIC, KID NOTES & KID PIANO. | GG4 | VEGAS. Visit a casino, gamble your money on POKER, ROULETTE, BLACKJACK, SLOT MACHINES. Great graphics.  |
| K13 | KID SKETCH, KID ABC, KID POTATO, KID STORY.  | GG5 | PIN BALL, DRAWPOKER, WALL STREET, a stocks and shares trading game.   |
| K14 | KID SONG and other educational programmes.   | UT1 | EXPANDER, turn single sided disks into double, without losing data. Also superb mail merge programme, and a utility to immunise your disks against viruses. |
| K15 | KID PUBLISHER and other fun programmes.  | UT3 | FULL GRAPHICS LABEL PRINTING programme. Lots of example pictures to include on disk. Also FORMATTERS AND CALCULATOR.  |
| K16 | KID REBUS WRITER and others.   | A01 | AUTOROUTE P.D. The route planning programme, demo version, fully working but covers only a part of the country.   |
| ST1 | ST BATTLE, STARTREK, OGRE, SCORE 4 and others.   | BB1 | ST BASIC PROGRAMMES, and language to run them. "New" TOS compatible.  |
| AD1 | HACK, role playing type adventure classic.   | K11 | FRUIT MACHINE AND PAC MAN TYPE PROGRAMME. Also others.  |
| AD2 | COLOSSAL CAVE. Another classic text only adventure. The best around on PD.   |     |   |
| AD3 | WIZARDS TOWER, great text and graphics adventure.  |     |   |
| AC1 | DESKPAC, repair disk, RAM disks, accessory loader, file handlers and others.   |     |   |
| AC3 | DISKCOPIERS, FORMATTERS, SPEATIK, VIRUS KILLER, and many others.   |     |   |

ALL DISKS £2.50 EACH

Price includes P&P. Overseas orders add £1.50

SEND PAYMENT, MADE PAYABLE TO B-SOFT, TO

33 CORSHAM ROAD, CALCOT, READING, BERKS RG3 5ZH

TEL. READING (0734) 416492 (after 6pm)

SAE for full description

# Flexidump

Superb quality printer dumps for graphics, spreadsheets, text including Degas and NEOchrome formats. Vary dump size from 1mm square up to 10 metres in length, choose from a variety of densities and passes (up to triple pass quad density). Other features include text insertion, upright or sideways dump, invert, frame, spool, auto calculates on 1:1 aspect ratio or deselect this and stretch the dump. Any part of a screen can be selected, graphics/editing, auto greyscaling for colour, on screen help. All this plus Label making. From computer art to production labels Flexidump is an unrivalled software package. Now including 24 pin option.

MONO 9 pin	£17.35	£19.95c
COLOUR LC10 JX80	£26.00	£29.90c
FLEXIDUMP PLUS	£33.00	£37.95c

Enhanced Colour Version, plus many new features, 9 and 24 pin, Mono or Colour, the ultimate Screen Dump for your ST.  
UPGRADES AVAILABLE, PLEASE PHONE FOR DETAILS

NEW

## HEAT TRANSFER RIBBONS

NEW

Just print on normal paper and iron onto a T-shirt.

LC10 4 colour heat transfer ribbon	£17.00	£19.55c
Epson FX80, LX80, LX800/Star NL10, NX10/		
Okidata ML80/Citizen 120D, (Black)	£10.00	£11.50c
Epson FX100 (Black)	£11.00	£12.65c
Star LC10 (Black)	£12.00	£13.80c
Heat transfer colour pens set of 5 large	£15.00	£17.25c
Heat transfer colour pens set of 5 small	£12.00	£13.80c

Heat transfer ribbons for other makes of printer available soon  
Phone for details

Atari Rom Cartridge	Takes two 27256 (32K) or 27512 (64K)	£9.00	£10.35c
---------------------	--------------------------------------	-------	---------

### READY MADE LEADS

Atari to Scart (not Sony)	£12.00	£13.80c
Atari printer lead centronic	£12.00	£13.80c

For your convenience first price EX VAT, second price INC VAT.  
How to Order. Enclose your cheques/PO made payable to:  
Care Electronics or use ACCESS/VISA.  
Please add carriage a = £10.35, b = £3.45, c = £1.38, d = £2.30

CARE ELECTRONICS, 800 ST ALBANS RD, GARSTON, WATFORD, HERTS. WD2 6NL. TEL 0923 672102.



computers to be connected, and although not quite as good as a dedicated monitor, the display beats standard TVs into a cocked hat. If you do want to connect both a monochrome and colour monitor at the same time without having to plug and unplug, cast an eye, preferably unsandpapered, over the Dataswitch section listed under D.

## mouse

● Although a significant improvement over the archaic command line interfaces of certain inferior computers, the ST's mouse isn't everything a silicon rodent could be. Clunky and with buttons that would tire Arnie Schwarzenegger's fingers, a replacement for this Gorgon of the mouse world is a must. Keen to cash in, many third party manufacturers offer replacements ranging from extremely high resolution rats that whizz across your Desktop, to highly exotic tail-less offerings that help to reduce the tangled mess of your table-top.

A quality example of the former is the Naksha mouse, a stylish and ultra-useable mouse of quality construction that's as smooth as Emma Freud's inner



thigh (pure guesswork, I'm afraid). The Naksha comes with a mouse mat and mouse house for around £40 and is available from Naksha on 0925 56398.

If money is no problem then the tail-less infra-red mouse is a gadget you've simply got to have. American company Practical Solutions have developed an infra-red mouse that works rather well. At first using the mouse is akin to using the ST's standard rodent under water, but familiarity soon breeds wrist-flicking, ultra-fast, smooth mouse control. The Cordless Mouse is distributed in the UK by Bath Computer Shack, costs £79.95 and can

be purchased by calling 0225 310300.

## networks

● Connectivity is supposedly the way ahead for small systems. Getting a bunch of powerful little micros to share peripherals and data increases productivity and efficiency. The IBM-PC and compatibles have a variety of networks available costing hundreds of pounds. Now, at last, several networks are available for the ST and they're cheap compared to equivalent offerings.

Why connect STs together? For the average home user, the network is just an interesting concept. S/he simply doesn't

need to connect to other STs. But for small businesses - perhaps a typing pool - with several machines, why provide each ST with a hard drive, printer and software when you can network the STs and use only one of each?

■ The mice that rawed? Well, at least these stand-ins for the ST rodent will be less of a strain on the fingertips

MONTHLY PAYMENT TERMS ARE NOW AVAILABLE THROUGH LOMBARD TRICITY FINANCE ON ALL PURCHASES OVER £150 PLEASE RING FOR DETAILS

### ATARI 520ST NEW!! POWER PACK

#### PACK A

Atari 520ST with 1Mb Disc Drive, Mouse, 20 Game Software Pack, Business Organiser, Metacom Basic, First Basic, Basic Guide, First Music, Owners Handbook, Atari Joystick

ONLY £359.95

Plus FREE!! A software starter pack including Wordprocessor, Spreadsheet, Word Count, Spellchecker, Neochrome, Mono Monitor Emulator, Database, Towers Of Hanoi, Virus Killer, Sensori, Fruit Machine Simulation.

#### PACK B

Contains all items in Pack A PLUS!! Vinyl Computer Cover, Disk Cleaner, Disc Box for 80 disks, Mouse Mat, Twin Joystick Extension Lead, Ten DS/DD Disks, 2nd Joystick

ONLY £389.95

Plus FREE!! Our superb starter pack as detailed in Pack A above.

#### PACK C

Contains all items in Pack A PLUS!!

A Philips CM8833 Colour Monitor

ONLY £599.95

Plus FREE!! Our superb starter pack as detailed in Pack A above.

### ATARI 520ST EXPLORER PACK

Atari 520ST with 1Mb Drive, Mouse, Owners Manual, Sourcebook and Tutorial, UK Basic, Tutorial Disk

ONLY £279.95

Plus FREE!! Our superb starter pack as detailed in Pack A above.

\*\*\*\*\*  
★ FREE! WITH ALL 520ST COMPUTERS  
★ HYPERTIME, HYPERTIME DRAW,  
★ BORODINO  
★ ONLY WHILE STOCKS LAST  
\*\*\*\*\*

\*\*\*\*\*  
★ ATARI 1040STE  
★ STARTER PACK  
★ INCLUDES: 1040STE WITH TV  
★ MODULATOR, MOUSE, MANUAL, BASIC,  
★ SOURCEBOOK/TUTORIAL HYPER PAINT,  
★ HYPER DRAW, BORODINO  
★ ONLY £449.95  
\*\*\*\*\*

PLUS FREE!! A SOFTWARE STARTER PACK.  
INCLUDES WORDPROCESSOR, SPREADSHEET,  
DATABASE, WORD COUNT, SPELLCHECKER,  
NEOCHROME, TOWERS OF HANOI, VIRUS  
KILLER, SENSORI, FRUIT MACHINE SIMULATION

#### VINYL COVERS

Atari 520STFM	£5.95
Atari 1040 STFM	£5.95
Philips CM8833	£6.95
Panasonic KXP1081	£4.95
Star LC10	£4.95
Citizen 120D	£4.95
Atari SM124 Monitor	£6.95
Atari SM125 Monitor	£6.95

#### FLIGHT SIMULATORS

Flight Simulator 2	£24.95
Jet	£24.95
European Scenery Disk	£10.95
Japanese Scenery Disk	£10.95
Hawaiian Scenery Disk	£10.95
Scenery Disk 9	£10.95
Falcon	£17.95
Falcon Mission Disk One	£14.95
F16 Combat Pilot	£16.95
Bomber	£20.95

#### STRATEGY GAMES

Borodino	£20.95
Armada	£20.95
Dungeon Master	£17.95
Chaos Strikes Back	£17.95
Battletech	£18.95
Bloodwych	£17.95
Bloodwych Data Disk	£10.95
Waterloo	£17.95
Austerlitz	£17.95
Red Storm Rising	£16.95

### ACCESSORIES PRINTERS

Panasonic KXP 1081	£169.95
Panasonic KXP 1124	£295.00
Star LC10 (UK)	£169.95
Star LC10 Colour (UK)	£209.95
Citizen HOP 45	£369.95
Citizen 120D	£138.00
Citizen 180E	£158.00
Star LC2410	£259.95

ALL PRINTER PRICES INCLUDE CONNECTING LEAD

#### MONITORS

*****	*****
★ PHILIPS CM8833 COLOUR MONITOR	★
★ ONLY £249.95	★
★ INCLUDING LEAD	★
*****	*****

ATARI SM124	£139.95
-------------	---------

#### DISC DRIVES

CUMANA CSA354 1Mb	£92.95
-------------------	--------

#### ABACUS BOOKS

Presenting the ST	£12.95
ST for Beginners	£14.95
St Internals	£16.95
GEM Programmers ref	£16.95
Machine Language	£16.95
Tricks and Tips	£16.95
Intro to MIDI	£16.95
ST Basic to C	£14.95
3D Graphics Prog.	£18.95
Disk Drives in/out	£18.95
Basic Training Guide	£14.95

#### ACCESSORIES

Mouse Mat	£4.95
Twin Joystick Ext.	£5.95
Disk Cleaning Kit	£2.95
Mouse Pocket	£2.95
Furry Mouse House	£6.95
Printer Stand (2 PCE)	£9.95
Contriver Mouse	£29.95
Sony 3" Disks Box 10	£10.95
3M 3" Disks Box 10	£9.95

\*\*\*\*\*  
★ SPECIAL OFFER  
★ 50 BLANK DS/DD 3" DISCS FOR THE  
★ ATARI ST SERIES  
★ ONLY £29.95  
\*\*\*\*\*

#### JOYSTICKS

Euromax Professional	£13.95
Euromax Professional Plus	£15.95
Cheetah 125+	£6.95
Cheetah Mach 1	£9.95
Konix Speedking	£9.95
Konix Speedking Auto Fire	£10.95
Konix Navigator Auto Fire	£11.95
Comp Pro 5000 Black	£12.95
Comp Pro 5000 Clear	£13.45
Crystal Red	£10.95
Crystal Green	£10.95
Crystal Turbo (A/F) Red	£12.45
Crystal Turbo (A/F) Green	£12.45
Cruiser Clear Autofire	£10.95
Cruiser Multicoloured	£8.95
Cruiser Black	£10.95

#### SERIOUS SOFTWARE

First Word Plus	£58.95
Wordwriter	£36.95
Timeworks D.T.P.	£72.95
Superbase Personal	£44.95
Home Accounts	£18.95
Hisoft Basic	£59.95
Power Basic	£32.95
Fast Basic (ROM)	£69.95
Degas Elite	£18.95
STOS	£20.95
STOS Compiler	£13.95
STOS Maestro	£16.95
STOS Maestro Plus	£59.95
STOS Sprites	£10.95
Mavis Beacon Typing Tutor	£22.95
Lets Make Series: Greetings Cards	£8.95
Signs and Banners	£8.95
Calendars and Stationery	£8.95
Art Library 1 or 2 (state)	£8.95

\*\*\*\*\*  
★ NEW LOW, LOW PRICES  
★ SPECTRUM 512.....£26.95  
★ DATA MANAGER PROF.....£34.95  
★ CYBER STUDIO.....£39.95  
★ EASY DRAW 2.....£39.95  
★ HYPER DRAW.....£29.95  
★ HYPER PAINT.....£29.95  
\*\*\*\*\*

### MAIL - CENTA

17 Campbell Street, Belper, Derby DE5 1AP. Tel: 0773 826830

All prices include VAT and Delivery. However, for orders under £10.00 please add a 50p handling charge. Personal callers welcome at our retail shop but please bring this advert as prices may vary. Closed Wednesdays. All items despatched same day whenever possible. Cheques may require a seven day clearance period. Proprietor Martin Bridges





# COME TO THE PROFESSIONALS



NOW TAKEN



## Castle Software

2 Williams Clowes Street  
Burslem,  
Stoke on Trent  
ST6 3AP  
Tel: 0782 575043

ALL ORDERS UNDER £6 REQUIRE 75P TOWARDS P&P. OVER £6, ANY GAME NOT RELEASED WILL BE SENT ON DAY OF RELEASE.

### ATARI ST SPECIALS

Bomber.....	£19.95
Manchester United.....	£15.95
Fighting Soccer.....	£15.95
Strider.....	£15.95
Vigilante.....	£9.95
Hollywood Poker Pro.....	£7.99
Waterloo.....	£15.95
Turbo Outrun.....	£14.95
Tusker.....	£15.95
Paperboy.....	£13.99
Steve Davis Snooker.....	£8.99
Ghostbusters 2.....	£16.99
Falcon.....	£15.99
Player Manager.....	£13.99
The Untouchables.....	£13.99
Light Force.....	£16.99
Bloodwych.....	£15.99
Xenon 2.....	£15.99
Beach Voll.....	£13.99
Batman the Movie.....	£13.99
Operation Wolf.....	£13.99
Operation Thunderbolt.....	£13.99
Populous.....	£16.99
Robocop.....	£13.99
Targhan.....	£15.99
Stunt Car.....	£15.99
Honda RVF.....	£15.99
F-16 Combat Pilot.....	£15.99
Lost Patrol.....	£15.95
Shoot Em Up Con. Set.....	£19.95
Power Play.....	£7.99
TV Sports Football.....	£15.99
Fernandez Must Die.....	£4.99
Golden Path.....	£3.99
The Grail.....	£3.99
Dogs of War.....	£13.99
Kick Off Extra Time.....	£7.99
Space Ace.....	£29.95
Red Storm Rising.....	£14.95
Live and Let Die.....	£7.99
Bomb Jack.....	£6.99
F29 Retaliator.....	£16.95
Indy Jones the Adventure.....	£16.95
Lazer Squad.....	£14.95
Cabal.....	£13.95
Super Wonderboy.....	£15.95
Gunship.....	£14.95
Microprose Soccer.....	£14.95
Lombard Rally.....	£14.95
Pirates.....	£14.95
Last Ninja 2.....	£16.95
Turbo Cup (+ Car).....	£7.99

### ATARI ST SPECIALS

R-Type.....	£7.99
I.K.+.....	£8.99
Afterburner.....	£8.99
Buggy Boy.....	£7.99
Talespin.....	£10.99
Bismarck.....	£8.99
Foundations Waste.....	£4.99
World Class Leaderboard.....	£7.99
Alien Syndrome.....	£7.99
Fast Lane.....	£10.99
Batman Cape Crusader.....	£8.99
Soldier 2000.....	£9.95
Days of the Pharaoh.....	£15.95
Knight Force.....	£15.95
Power Drift.....	£15.95
Hard Drivin.....	£13.95
Chase HQ.....	£13.95
Chambers of Shaolin.....	£14.95
Toobin.....	£13.95
Continental Circus.....	£13.95
Joe Blade.....	£4.75
Joe Blade 2.....	£4.75
Soccer Supremo.....	£4.99
Nebulus.....	£4.99
Hollywood Poker.....	£4.99
War Machine.....	£4.99
Cyberoid 2.....	£5.99
Custodian.....	£5.99
Vulcan.....	£6.99
Soldier of Light.....	£7.99
Pacland.....	£6.99
Snoopy.....	£14.95
Virus.....	£5.99
Whirligig.....	£4.99
Return to Genesis.....	£4.99
Lancaster.....	£13.99
Conflict Europe.....	£9.99
New Zealand Story.....	£13.95
Stunt Car.....	£14.99
Saint and Greavsie.....	£6.99
Darius.....	£14.95
Interphase.....	£13.99
Human Killing Machine.....	£4.99
Ferrari Formula One.....	£16.95
Teenage Queen.....	£7.95
Knightmare.....	£5.99
Time Scanner.....	£9.95
Oil Imperium.....	£16.95
North and South (Dual Drive Only).....	£16.95
Targhan.....	£9.99

### ATARI ST SPECIALS

Karate Kid 2.....	£5.99
Peter Beardsley Soccer.....	£7.99
Omega.....	£19.95
Corruption.....	£8.99
Fish.....	£7.99
Legend of the Sword.....	£6.99
Tracker.....	£4.99
Knight Orc.....	£8.99
Dungeon Master.....	£15.95
Chaos Strikes Back.....	£13.95
Phantasm.....	£2.99
Hyper Dome.....	£2.99
Rampage.....	£5.99
Voyager.....	£7.99
Space Quest 1.....	£9.99
Drakhen.....	£15.99
Space Quest 3.....	£19.99
Outrun.....	£7.99
Bards Tale.....	£7.99
Mini Golf.....	£6.99
Jug.....	£5.99
Running Man.....	£7.99
Tangle Wood.....	£4.99
Football Manager 2.....	£6.99
FM 2 Expansion Kit.....	£5.99
Hits Disc Vol 1.....	£9.99
Power Struggle.....	£3.99
Silent Service.....	£17.95
Blood Money.....	£15.99
Postman Pat.....	£7.95
Fun School 2 under 6.....	£12.99
Fun School 2 6-8.....	£12.99
Fun School 2 over 8.....	£12.99
Passing Shot.....	£7.99
Rick Dangerous.....	£15.99
Kick Off.....	£12.99
Double Dragon 2.....	£14.99
Onslaught.....	£15.99
Commando.....	£13.99
Flying Shark.....	£6.99
Gato.....	£6.99
Hell Raiser.....	£4.99
Mickey Mouse.....	£7.99
Pandora.....	£4.99
Sinbad.....	£6.99
Butcher Hill.....	£5.99
Cyberoid.....	£6.99
Night Raider.....	£8.99
Kill Dozers.....	£1.99

### ATARI ST SPECIALS

Road Blasters.....	£7.99
Future Wars.....	£15.95
Roy of the Rovers.....	£4.99
Catch 23.....	£2.99
Shadow Gate.....	£6.99
Deja Vu.....	£6.99
Uninvited.....	£6.99
STOS.....	£18.99
STOS Compiler.....	£13.95
STOS Maestro.....	£13.95
STOS Maestro Plus.....	£52.99
STOS Sprites 600.....	£9.50
Master Sound.....	£27.95
Ghouls and Ghosts.....	£16.95
Blade Warrior.....	£15.95
Tower of Babel.....	£15.95
Hound of Shadow.....	£16.95
Terry's Big Adventure.....	£8.99
Treasure Island Dizzy.....	£4.99
Nitro Boost Challenge.....	£4.99
Advanced Rugby Sim.....	£4.99
Prince.....	£16.95
Borrodino.....	£16.95
Battle Chess.....	£16.95
Star Wars Trilogy.....	£16.95
Star Glider 2.....	£9.99
Hit Discs Vol 1.....	£9.99
Hit Discs Vol 2.....	£9.99
Speedball.....	£9.99
Winners.....	£19.99
Sargon 3 Chess.....	£9.99
BMX Sim.....	£4.99
Adv. Pro Ski Sim.....	£4.99
Iron Trackers.....	£9.99
Chariots of Wrath.....	£9.99
Pro Tennis Tour.....	£15.95
Little Computer People.....	£4.99
Bombuzal.....	£6.99
Phobia.....	£6.99
Thunderbirds.....	£7.99
Annals of Rome.....	£9.99
First Contact.....	£15.99
Darius.....	£15.99
Ninja Warriors.....	£13.95
Gazzers Super Soccer.....	£15.99
Garry Linekar Super Skills.....	£6.99
Ghouls & Ghosts.....	£14.99
Player Manager.....	£13.99

Type of computer \_\_\_\_\_

Title:	Amount

☐ ACCESS ☐ VISA ☐ CHEQUE ☐ P/ORDER Total Enclosed £

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Exp. Date:

Name .....

Address.....

.....

.....

Postcode.....

Tel No.....

PLEASE MAKE CHEQUES/POSTAL ORDERS  
PAYABLE TO: CASTLE SOFTWARE



It's costly to provide each typist with a word processing program and it's a drag when typist A has to copy a file to floppy disk and pass it over to typist B. A network would give everyone access to all programs and files. For two or three hundred pounds all STs can be connected together and share one copy or piece of software and hardware on the system.

Signa Publishing, famed for serious ST products *Calamus*, *Imagic* and *O-Line*, are just about to launch a token ring-based ST network featuring comprehensive password entry, file protection, messaging and other stunning wrinkles. For further information contact Signa on 0252 341600.

At the cheaper end of the market comes SGS Net, an American network distributed in the UK by Bath BBS. SGS Net connects via the MIDI ports providing speed and easy set-up. There's file protection and server utilities enabling creation of a range of privileges for each terminal. SGS Net costs £145.95 and for that you receive equipment and software to set up one file server and one node. Other nodes can be added later by purchasing add-on packs. Wait for the full review in next month's *ST Format*, or if you're wildly impatient contact Bath BBS on 0225 836182, or via a modem 0225 835841/840060.

■ Just what am I supposed to do with this small, silver, plastic horn type thing then eh? Just suck it and see what happens!!!

## orchestration

● To start with a note of gloom, the one thing you cannot do is upgrade the ST's internal sound chip. Although various improvements are promised for the STE, which may or may not be exciting, we must look realistically at upgrades to software as the most important area in upgrading musically.

The first thing to consider on the 520 is the monitor. You're probably painfully aware that the better programs usually require a hi-res monitor. Although they may well run on the 520, without the definition that either a SM124 or SM125 monitor gives you won't get a peep out of them. The best known programs that run on the hi-res monitor are *C-Lab Notator/Creator*, *Steinberg Pro 24 version III* and *Virtuoso*.

If you're using a 520, memory space is usually inadequate for any serious work. One program that still operates successfully on the 520 is *Virtuoso's* soon-to-be-released modular version of the normal *Virtuoso* program. It enables you to select which parts of

the program you wish to be resident in the ST's memory and which to leave on the disk. Since *Virtuoso* can perform disk operations without interrupting other functions this may be worth more than a passing thought.

The usual memory upgrades don't appear to have caused any problems, but again the single-sided disk is counted out with most sequencing software costing over £100.

With much time, effort and advertising space devoted to the *Multiple Program Environment/MROS/CHAOS* (call it what you will), it is only in the small print that you realise that to have anything like the ability to use two or three programs simultaneously you will need at least 2MBytes, and 4MBytes would be better.

Apart from very low priced programs, the good news is that most software houses upgrade the software you have. For example, if you have *Steinberg Pro 24* and are eager to rush out and spend more money (£500 to be exact) on *Cubase*, the latest sequencer and multiple environment software from Steinberg, you can get a trade in of £200 on your *Pro 24* against a new *Cubase*. You have to surrender your dongle to complete the deal, though - *ST Format* cannot be held responsible for what may happen should you be foolish enough to

turn up with a pirat copy!

The story is very much the same across the board. You can trade in *Creator* against *Notator* and *Track 24* against *Studio 24*. The general rule seems to be that if you have software from a reputable software house and you want to upgrade that particular type of software, then contact the importing company.

It's not a universal swap-shop, however: Dr T, for example, require a modest fee to upgrade you from KCS 1.6 to KCS 1.7, but they won't take too kindly to exchanging it for a voice program or film scoring software. The underlying fear is that this sort of dealing encourages piracy on a large scale and would result ultimately in software houses going bust and prices rising enormously.

The people to go to are the importers, if the program was developed outside of the UK, or the software company direct if they are a UK company. The dealer where you bought the software may do a similar deal, but more than likely won't.

This covers the main points about upgrading the computing side of the coin. If you want to upgrade your synths and sound recording systems the world is your oyster - or rather, a bottomless black hole into which folding money can be dropped endlessly!







# Computer Technology



53 Riefeld Road,  
Eltham, London, SE9 2QE  
Telephone: 01-692 8700/294 1867  
Opening Hours: 10am - 10pm  
7 days a week.  
Hours to suit your requirements.  
All orders despatched same or  
next working day.

## Top Quality Unbranded 3.5" Disks

10	£10.00
25	£20.00
50	1for 2 replacement guarantee £35.00
100	£63.00
500	£205.00

ATARI 520STE Power Pack £359.00

External 3.5" disk drives £85.00

Philips 8833 Col.Mon. £270.00

Star LC10 Printer £179.00

Star LC10 Colour Printer £229.00

Citizen 120D £138.00

Citizen 180E £159.00

We accept VISA, ACCESS,  
AMEX, DINERS CLUB

Prices include VAT and delivery.

## ASTROLOGY FOR BEGINNERS ONLY £12.50

A starter Pack comprising a simple program to calculate a horoscope,  
an introductory booklet &  
2 self-teaching programs  
(how to interpret the horoscope)

**No previous Knowledge  
required**

many more programs for **EXPERIENCED ASTROLOGERS**  
also **GRAPHOLOGY, I CHING, TAROT, etc.**

Payment with order by cheque, Access or Visa or large S.A.E  
for a free catalogue to:-

ASTROCALC (Dept STF)  
67 Peascroft Road, Hemel Hempstead  
Herts HP3 8ER, England Tel: 0442 51809

## ST Music Matrix Midi Disk Magazine

Dedicated to the MIDI user on the ST. Educational by design, + covering every aspect of the MIDI  
and MUSIC data available for the ST computer. Each issue has files with Synth Editors, New  
Voices, Original Sequences (Most are in MFS), e.g. Eroica Passage (Issue 5), News, Reviews,  
MIDI tutorials, MUSIC tutorials, MASTERTRAKS PRO sequencer demo (Issue 3) and even  
complete Sequencers. (Issues 1,7) Available now - Issue 7 has a new 8 track Sequencer which  
supports MIDI THRU, MULTIPLE VOICE RECORDING and EDITING also a full K1 EDITOR

Issue 8 is now available with another 50 M1 voices, STOS Midi

Algorithmic tutorial, 32 new K1 voices.

Data in the Matrix includes Editor and new voices/patterns, for the Korg M1, Roland D10/20/110, MT  
32, P/330, Kawai K1, Yamaha SB/01, TX/81Z, DX7, RX5, MSS Sequences available on disc.  
New Year introductory disc for MIDI beginners. 1990 Special only £10 or get our new MIDI P/D  
library update on disc for only £2. Also guaranteed blank D/S disks only £7.50.

All prices inclusive of P&P and 1st Class Delivery - 24 hour service.

The Matrix is released Bi-Monthly and is in Dual Drive Format After Issue 6  
Single Issue Price is £10. Any 4 Issues may be bought for £35.

The Music Matrix is ONLY available from **The Music Matrix**,  
Jongleur House, Dept SF, 14 Main Street,  
East Wemyss, Fife, KY1 4RU. Phone 0592 714887.

Barclaycard

VISA

## PUBLIC DOMAIN LIBRARIES

are all the same - aren't they?

OVER  
800 DISKS FULL!



SAME  
DAY SERVICE

Below is a small selection

### ACCESSORIES/UTILITIES

- ACC1 - Over 50 files of desk accessories and utilities on one disk, great selection!
- ACC3 - T159 scientific calculator, 2 format prog, GOODIES accessory (the best around)
- ACC24 - Mono Emulator, makes your TV think it's high rez - CODER, set up your printer
- ACC16 - PRIVATE EYE, see what's going on, RAMDISK, STARTUP (3in1 utility, very good).
- ACC26 - DATABASE, very good GEM driven program, all you'll ever need.
- ACC31 - ST-SHEET, gem driven SPREADSHEET program, very comprehensive indeed.
- ACC69 - MOUSE POINTER, re-design your mouse pointer, over 50 on disk already, good!
- ACC70 - STICKER, design and print your own disk labels (high-res only). Loads on disk.
- ACC76 - OPUS200, SPREADSHEET with built in charting, the BEST around. 1meg needed.

### ART-DRAWING PROGRAMS

- ART1 - NEOCHROME, the standard drawing package, create your masterpiece now!
- ART4 - MASTERPAINTER, works in all resolutions and supports multiple screens.
- ART8 - LANDSCAPE, a Fractal Generator for those interested in this fascinating world.
- ART19 - PEARLE, Ray Tracing program and BLASTRAM, animator/show program to use.

### GAMES & EDUCATION

- GAME11 - KIDGRAPH, KIDGRID, KIDNOTE2, mouse driven colourful games for youngsters.
- GAME62 - KIDSONG, GO-ROUND, NUMBER MAZE as above, great for the younger ST'ers
- GAME63 - KIDPUBLISHER, desk-top publishing for kids, (plus instructions for adults), great.
- GAME38 - MISTER POTATO HEAD (kid potato), JIGSAW, QUIZWIZ, STARCHART
- GAME19 - PICKPOCKET, BARNYARD, (for youngsters) and CRIBBAGE, the classic game.

If you want to know more  
about the **BEST**  
Send S.A.E (28p stamp)  
and state ST for your  
**FREE 60 page catalogue**

**DISK PRICES**  
1 to 5 disks - £3.00 each  
6 to 9 disks - £2.75 each  
10 or more disks - £2.50 each  
Prices include Disk, 1st Class P&P, spare label.  
Mail and phone orders received before noon  
despatched same day, **GUARANTEED**  
Deduct £1 from above prices if sending your  
own blank disks

**Same day despatch - GUARANTEED (no more waiting)**  
**Knowledgeable staff on hand - ring any time for advice.**  
**Three years experience collecting/distributing PD disks.**  
**Huge range of programs sent on Branded, Unbranded media, or**  
**your own disks, the CHOICE is yours.**

## SO, YOU COLLECT DEMO'S DO YOU?

- DEMI16 - THE UNION DEMO, simply the BEST demo available on the ST.
- DEMI55 - UNION DEMO No.2, the legend continues, prepare to be amazed by this one.
- DEMI143 - THE DEFINITIVE DEMO by The Lost Boys, 1meg memory needed (but worth it).
- DEMI144 - GHOSTBUSTERS DEMO from the ST Squad, the longest scroll in the world?
- DEMI145 - SWEDISH NEW YEAR DEMO by the Care Bares, one of the very best around.
- DEMI156 - THE SKUZZ, brilliant AVS video animation and music, fabulous (1meg needed).
- DEMI158 - CALIFORNIA RAISINS, THE cutest animation produced so far, (1meg needed).
- DEMI164 - WHATAHECK DEMO, another brilliant display from the Care Bares (D/Sided)

### CLIP ART & WORD PROCESSORS

We have over 15 disks FULL of clip art, this is a selection

- WP12 - V3.0 of STWriter Elite, the best PD Word Pro' available.
- WP23 - EDIMAX, a fast text editor, fully GEM'd, VGood.
- WP24 - 144 trade marks from the 1920's
- WP26 - 17 screens of MAC clip art (includes Pictswitch/Tinyview)
- WP31 - 21 Screens of 'Whimsical animals and Figures'
- WP32 - 14 screens of 'Office Humour'
- WP37 - 22 screens of 'Foods'
- WP39 - 14 screens of 'Sports'
- WP41 - 15 screens of 'Christmas Designs'



### MUSIC & MIDI

- MUS5 - 32 TRACK sequencer, SYNTH PATCH GENERATOR ETC.
  - MUS23 - MIDIMIKE, MIDISAVE, EZQ-SEQUENCER, EZQ-1, FB01 ED'
- PLUS we have hundreds of EZ-Track songs, Voice editors, Libraries etc. Over 30  
disks full of the best programs for the ST musician.

plus LANGUAGES, BASIC programs, COMMS/HAM RADIO, GAMES,  
INFORMATION, ASTRONOMY PICTURES compilations, etc. etc. etc.

## SOFTVILLE

Unit 5, Stratfield Park, Elettia Ave, Waterlooville, Hants PO7 7XN  
24hr Orderline on

**0705 266509**

Fax 0705 251884





● **P** is definitely for public domain: the ST has a truly comprehensive range of superb PD applications. Often derided, the PD is in reality full of useful accessories and utilities that can save you a fortune when you're thinking about upgrading your machine, memory or disk drive. Indeed, using PD software can significantly improve the speed, efficiency and power of your ST at a tiny fraction of the cost of commercial products.

RAM disks have suddenly become very important. You may have rubbished them in the past – but then who can blame you when your ST only had 512K? There's no excuse with 1Mbyte or more; there's plenty of memory to have a RAM disk and run an application at the same time.

Likewise, the various disk formatters that abound are instantly doubly useful. With a single-sided drive you might have been able to squeeze 400K on a disk – with a double-sided drive, and the right software, you can store an amazing 800K plus on a disk!

It's not only extra utilities that become available when you expand your machine, but demos too. Many require 1Mbyte and often they come on double-sided disks. Let's see what the public domain holds in store for those people upgrading their ST.

### pd: rat trap

It's a *Rat Trap* – but you ain't been conned. This great accessory prevents menus dropping down whenever the mouse pointer strays in the direction of the menu bar. Menus are locked out until the left button is pressed while the pointer is over a menu heading. In fact, this is how Atari originally intended the Desktop to work: unfortunately Apple kicked up a fuss and demanded things

be made different from its own system. Want to make your ST operate in tidier, Apple Mac-like fashion? *Rat Trap* is available from Floppyshop ST, Disk UTL23, 50 Stewart Crescent, Northfield, Aberdeen.

### pd: ram disk

No matter how much memory your ST has, the operating system insists on making several passes when copying disks with only one drive. In other words it can take a lot of disk swaps before a file is copied from one disk to another. When it comes to multiple file copies you're in trouble. The operation is tedious, frustrating and time consuming.

Enter the RAM disk. A RAM disk sets aside a portion of the ST's memory which it regards as a disk drive; files can be copied to and from it and programs can run from it. So, to save hours of painful disk copying you copy all the desired files to the RAM disk, change the floppies and copy the files from the RAM disk to the new floppy. Easy. And just one disk swap.

RAM disks are also useful for

proof. If the ST crashes or you hit the reset button at the back of the machine, you lose everything in the memory. With a reset-proof RAM disk it's often possible to recover files after a crash or reset.

Once you've got a RAM disk you're unlikely to change it for another. They all do much the same; some are friendlier than others and some more configurable than others. At the end of the day, it's what you're happiest with. But a good choice appears on the South West Software Library's disk 187, available from PO Box 562, Wimborne, Dorset BH21 2YD.

### pd: diskmech

For an all-in-one set of disk utilities you can't go wrong with *DiskMech*. It's the ideal tool for getting the best out of your drive, offering disk analysis, archiving and editing.

From the sector editor you can read and edit any sector on a disk regardless of size, track number or side number. *DiskMech* provides the ideal environment for discovering exactly how data is stored on single and double-sided drives.

The format editor lets you create custom formats with any type of sector layout, alternative ID fields, different gap lengths and much more.

In addition to that lot *DiskMech* provides you with a speedy alternative to GEM's disk copying routines. Give your ST a boost with *DiskMech*, also available from Floppyshop ST (address above) on disk UTL09

### pd: disk formatter

GEM's formatter allows you to store around 360K on a single-sided disk and 720K on a double-sided disk. The Amiga's operating system offers a much more generous 880K per disk (all Amigas have double-sided drives), but there is absolutely no reason why the ST can't store near or indeed just over 800K of data on a double-sided disk.

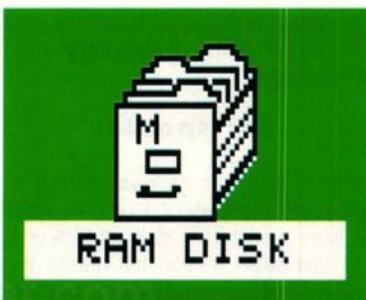
Not all ST drives are equal, so when choosing an extended formatter be sure to thoroughly test all disks initialised by the formatter.

One of the best formatters available ➤

■ A RAM disk appears like an ordinary floppy or hard drive on the GEM Desktop – it works virtually the same as any mechanical storage device

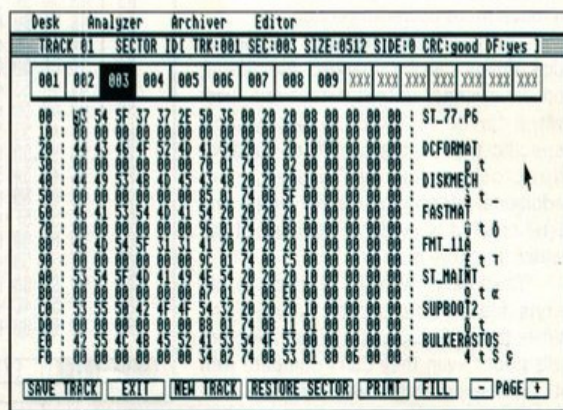
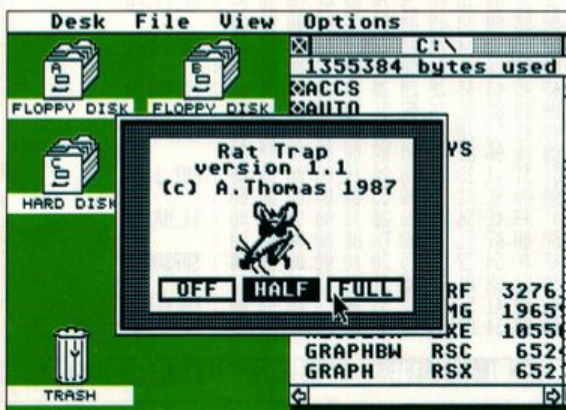
■ *Rat Trap* (right) allows you to determine what happens when you move the pointer over a menu bar heading

■ Deep into the data on your disk (far right) and things are looking interesting...

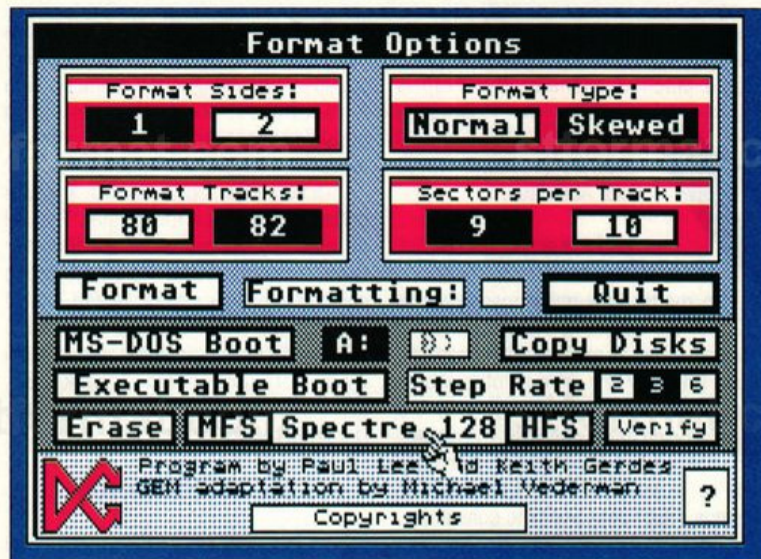


speeding up programs which make heavy use of storage devices (in this case the floppy). For instance, a picture slideshow utility will instantly show images assuming the pictures are in RAM; there'll be next to no waiting time as the images load.

There are absolutely countless RAM disks in the public domain – indeed, several have been given away on past ST Format Cover Disks. Look for something that is easily configured; preferably anywhere from a few K right up to 4Mbytes if necessary. Also, try and get hold of a RAM disk that is reset-







is DC Format. Not only does it provide extensive features for formatting extended ST disks, but also for formatting Spectre MFS, Spectre HFS and MS-DOS disks. Spectre disks can be read by Spectre GCR (HiSoft's Mac emulator) and MS-DOS disks can be read by PCs. Incidentally, the ST can read and write PC disks no problem; swapping files between these two machines is effortless. *Disk Formatter* is available from Softville PD, disk ACC57, Unit 5, Stratfield Park, Waterloo, Hants PO7 7XN.

#### pd: b-boot

Imagine this scenario: you have a single-sided internal drive A and a double-sided external drive B. You have some software on a double-sided drive that can only be auto-booted. Unfortunately there's no way you can do this on the ST, because the standard operating system only allows booting from drive A. With a tiny utility called B-Boot on ST UK's disk A82, however, it's possible to get the ST to auto boot from drive B. ST UK are at 1 Bartholomew Road, Bishop Stortford, Herts CM23 3TP.

#### pd: fsel

Upgrade your ST's file selector to be more like the one promised in TOS 1.4 and available now in the STE (TOS 1.6). When placed in the Auto directory *Fsel* replaces the usual GEM file selector with a much more powerful version.

The improvements are extensive: disk drives can be changed by clicking on drive icons, default extensions exist which can be clicked on to quickly show specific files in the directory window, directories can be printed, and additional information like file length and time created is available because of the wider directory display.

You'll never want to go back to old style file selectors after using *Fsel*. While the TOS 1.4 and 1.6 file selectors are good, even they can't compete with it. Don't even bother with standard TOS



file selectors before 1.4; get *Fsel* disk UTL36 from Floppyshop ST immediately!

#### pd: spooler

Your printer has its own "buffer" or memory, usually about 1 or 1.5K, which is large enough to hold about 30% of an A4 text page. It's for that reason that your ST locks up when printing. For instance, if you print a 10K file, the ST feeds the file a little at a time to the printer until the process is complete. Not only is this slow, but you can't get on with anything else until the file has finished printing.

A printer spooler solves that problem. Like a RAM disk, a printer spooler sets aside an area of RAM for its own use. Rather than storing files, the spooler stores data designated for

the printer. The spooler automatically passes information to the printer as needed. All this is done in the background. The bonus being, of course, that you can get on with other tasks while printing.

Spooler on Softville's ACC18 disk (address above) sets up a 30K spooler into which printer data is sent from your word processor, DTP package or any application enabling printed output.

#### pd: mono emulator

You do have a choice. Rather than buying a high resolution monochrome monitor to run all the mono software, you can run an ingenious utility written by Mike West (and available on Floppyshop disk ART03M) that tricks the ST into thinking it's running in high resolution.

Not all mono software is fooled, but a high enough percentage works to make the system worthwhile. And the difference in price between a mono monitor and a single PD disk are considerable.

Displaying just a high resolution on a colour monitor takes it out of the ST's processor. For this reason it's possible to select a combination of fast screen update (but slow program running) or slow screen update (and rapid program execution).

So think emulator before splashing that cash!

#### pd: folder extender

Due to a problem in early versions of the ST's operating system, it's impossible to open more than 40 folders in one session without the ST going haywire and possibly corrupting the contents of the disk. *FOLDR200*. PRG allows you to open up 200 extra folders. Simply by renaming the file and altering the last three digits you can select the number of folders required. A handy program, invaluable when using a hard disk system. Available from Softville PD, disk ACC13.

Desk Analyzer Archiver Editor															
TRACK 01 SECTOR 101 TRK:001 SEC:003 SIZE:0512 SIDE:0 CRC:good DF:yes 1															
001	002	003	004	005	006	007	008	009	XXX	XXX	XXX	XXX	XXX	XXX	XXX
00	53	54	5F	37	37	2E	50	36	00	20	20	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	44	43	46	4F	52	4D	41	54	20	20	20	10	00	00	00
30	00	00	00	00	00	00	70	01	74	00	02	00	00	00	00
40	44	49	53	48	4D	45	43	48	20	20	20	10	00	00	00
50	00	00	00	00	00	00	85	01	74	00	5F	00	00	00	00
60	46	41	53	54	4D	41	54	20	20	20	20	10	00	00	00
70	00	00	00	00	00	00	96	01	74	00	80	00	00	00	00
80	46	4D	54	5F	31	31	41	20	20	20	20	10	00	00	00
90	00	00	00	00	00	00	9C	01	74	00	C5	00	00	00	00
A0	53	54	5F	4D	41	49	4E	54	20	20	20	10	00	00	00
B0	00	00	00	00	00	00	A7	01	74	00	E0	00	00	00	00
C0	53	55	50	42	4F	4F	54	32	20	20	20	10	00	00	00
D0	00	00	00	00	00	00	00	00	00	00	11	01	00	00	00
E0	42	55	4C	48	45	52	41	53	54	4F	53	00	00	00	00
F0	00	00	00	00	00	00	34	02	74	00	53	01	00	06	00
ST_77.P6															
DCFORMAT															
p t															
DISKMECH															
s t -															
FASTMAT															
u t 0															
FMT_11A															
t t															
ST_MAINT															
o t a															
SUPBOOT2															
o t															
BULKERASTOS															
t S q															
SAVE TRACK EXIT NEW TRACK RESTORE SECTOR PRINT FILL - PAGE +															

■ Extend your floppies the DC Format way

■ Mick West's Mono Emulator

■ Do so much more with the improved file selector on



# PUBLIC DOMAIN AND SHAREWARE SOFTWARE

## FONT DISKS

- **A13** - Publishing Partner disk 1.6 fonts: Hudson, Columbia, Devoli, Thames, Spokane and Saturn.
- **A38** - Publishing Partner disk 2.6 fonts: Calligraphy, Elegance, Courier, Roman Bookface, Westside and Avant Garde.
- **A95** - Publishing Partner disk 3.6 fonts: Artist, Broadway, Letter Gothic, Oriental, Ultra Block and Wilkes-Barre.
- **127** - Publishing Partner/PageStream disk 4.1 PP font: Creative. 5 PS fonts: Futura, HLBV, Lubalin, Script and HAL.
- **A137** - OVER 40 GEM GDOS FONTS: 8X8, 9X14, COMPUTER, DEVIL, EDITOR, HAMPTON, OFFICE, SCRIBE, SPECTRUM, TIMES, UTOPIA, WESTERN, DLANI, FAT, TEST, COMPUT, NORMAL, THIN, BOECKEL, BRUSH, CHICAGO, DOUBLE, ENGLISH, EVIDENCE, FUTUR, BIG, GRANDE, INTEL, MAGNETIC, MEISTER, MINIPOL, MODERN, ROTONORM, STENCIL, XANTHUS, BLUB, ROT, INTEL16, GOTH22, GOTH22SH, NEWSTAND, MONICA, PC1500, SERIF30, AKASHI12, CAIRO, CHICAGO, COURIER, GENEVA9, LONDON, MOBILE, NEWYORK, PREMIERE, TIMES09, TIMES10, TIMES12, TIMES14, TIMES18, TIMES24, DUTCH10E, DUTCH10N, DUTCH12E, DUTCH12N, DUTCH18E.
- **A135** - Font Master GDOS font editor.
- **A63** and **A64** - FontKit V3.31 Epson, Degas and ST font editor.

## CLIP ART DISKS

- **A36** - Clip Art 1 - Degas format - mainly animals, sports, Walt Disney and cars.
- **A37** - Clip Art 2 - Degas format - mainly Christmas, animals, military, Atari, Commodore, flags and Zodiac.
- **A65** - Clip Art 3 - Degas format - mainly 1930's trademarks.
- **A77** - Clip Art 4 - Degas format - mainly Althabets, Easter, Christmas, Borders, animals and famous people.
- **A78** - Clip Art 5 - Degas format - mainly Pixies, titles, Halloween, Valentines and Jewish.
- **A79** - Clip Art 6 - Degas format - mainly Sports.
- **A80** - Clip Art 7 - Degas format - mainly Whimsical and cute and 2 good althabets.
- **A115** - Clip Art 8 - Degas format - mainly Atari, Walt Disney, Garfield, pointing hands, robots, hands.
- **A116** - Clip Art 9 - Degas format - mainly faces, Christmas, horses and eyes.
- **A117** - Clip Art 10 - Degas format - mainly althabets.
- **A129** - Clip Art 11 - 42 GEM pictures.
- **A130** - Clip Art 12 - 47 IMG pictures and 5 GEM pictures. The following clip art disks (13 - 25) contain IMG format files which can be converted to other formats using disks GR20 and GR17. Each disk has a slide show program for viewing the images. All images were scanned at 200 x 200 resolution. ALL ARE DOUBLE SIDED DISKS
- **A140** - Clip Art 13 - decorative scrolls.
- **A141** - Clip Art 14 - decorative scrolls.
- **A142** - Clip Art 15 - 19th century characters (men).
- **A143** - Clip Art 16 - 19th century characters including north and south American Indians.
- **A144** - Clip Art 17 - 19th century characters including Turkish/Asian.
- **A145** - Clip Art 18 - Statues.
- **A146** - Clip Art 19 - Statues.
- **A147** - Clip Art 20 - 19th century characters.
- **A148** - Clip Art 21 - 19th century characters (men).
- **A149** - Clip Art 22 - 19th century characters, scrolls and Einstein.
- **A150** - Clip Art 23 - a variety of comical/cartoonist.
- **A151** - Clip Art 24 - happy/celebrating people.
- **A152** - Clip Art 25 - Miscellaneous, photos, cartoon and Roger Rabbit.

## APPLICATION DISKS

- **A87** - Electronic Bank Statement the excellent accounts package from Budgie UK.
- **A96** - DOUBLE SIDED DISK. Sheet v2.0. powerful all features spreadsheet, includes documentation and tutorial.
- **A121** - POOLS - Expert Results Predictor v2.2 by B. Campbell very good. Programmer claims it to be more intelligent than the commercial ones.
- **W5** - Micro-Emacs editor V3.925 full screen editor includes tutorial and manual files.
- **W13** - DOUBLE SIDED DISK. STWriter Elite V3.0. English, German and Spanish versions. Includes document files etc.
- **MP21** - 6 DOUBLE SIDED DISKS. TEX the document processor and typesetting system. TEX has its own programming language, handles equations and diagrams, and has a large set of typefaces. This is a very powerful piece of software. Also includes Meta Fonts and utilities to include graphics in your printed document. TEX is not a wordprocessor, you will need a text editor such as Micro EMACS (disk W5). Requires 1Mb RAM and comes on 6 double sided disks with a Mega Pack price of £15.00!
- **A125** - DOUBLE SIDED DISK. REQUIRES 1Mb. Opus V2.10 of the spreadsheet and charting program. This package is incredible! Requires GDOS which is not PD.
- **A138** - Double Sentry V0.00 the accounting program by Graham R Hutchison. This is a fully working version that does all aspects of accounts accept VAT, although a VAT version is available. Excellent.

## UTILITY DISKS

- **A31** - This disk contains the following 1st Word printer driver files: SG10STAR, KXP1091C, PR1215, PROWRT, EPHEBREW, ST130, ESFX80, PAN109B, OLYMPIA, EPS, RX80, LO800, G, PAN109, GEMINI, LO800, SG10, GPH, EPS, LX80, OKI192, LX80, G, BRO10P, BRO12P, BRO15P, BRO, HR15, T321SLF, QUME, SG10TEWF, PROWRIST, SG10IBM, OKI92, ASCH, 1STN1X, SG10-1ST, SLM804, SMM804, G, NEC, PE, SLM804, CITOHL.
- **A40** - Hard Disk disk 1: Directory control, Gem Soft a 40 folder fix, Hard Auto, SBackup, Turtle backup v3.01 and UNTurtle restore v1.1.

- **A52** - Hard Disk disk 2: FolderXXX allows you to specify upto 999 folders - a 40 folders fix, an excellent directory lister, Hard Disk Install, Hard Disk Auto boot, and other HD utilities.
- **A41** - Monochrome emulator version 5. Run monochrome programs on a colour monitor. TOS 1.09 compatible. CMFonts converts Macintosh fonts to ST GDOS fonts.
- **A51** - This disk is packed full of Comms programs. They have all been ARCHived down to save space. The following is a list of the ARC files: Gas Term, BMODEM, Solar Term, Terminal, My Term, STerm, Con\_ST, Star Term, Term, c, Jan Term, GEM Term and XMODEM Term. Also on the disk a program to UNARC them.
- **A88** - Double Click Format v3.03 THE ST disk formatter 9/10 sector, 80/82 tracks, regular/fast format. Can format Spectre 128 disks, place MSDOS boot sector, it can write an executable bootsector to do things like bypass HD autoboot, set time, run a program that you write and call COMMAND PRG and loads of other things. Meg A Minute Elite v2.1, TOS 1.09 compatible 1Mb a minute HD backup.
- **A90** - Superboot v5.5 THE ST Boot program - choose: desktop accessories, AUTO programs to run, DESKTOP.INF, GDOS ASSIGN.SYS, display a welcome screen, date/time setter, enforce a password on booting and loads more including even stopping Super Boot from running with a 'key hold' includes a 50K document file, excellent.
- **A97** - Sticker III. THE disk label program full GEM includes dozens of icon graphics that can be included in label. Monochrome monitor required.
- **A109** - Quick Disk. Quick Find v1.5 is a program developed for locating files. it allows any number of drives to be searched, producing output which can be printed to screen, printer or file. Quick Index v1.5 - the ST System Performance Evaluation Program, Quick ST v1.2 - the screen accelerator for all Atari ST computers, Quick View v1.3 excellent document browser. Quick Inf V1.3 is a program developed primarily to allow the user to change the desktop window directory search masks. Quick Label V1.1 the label utility. Quick Print.
- **A111** - Head Start v1.1 allows you to auto-boot any type of program from your AUTO folder, including GEM programs. You can choose from among a list of up to 128 programs to auto-boot, using the mouse.
- **A124** - ARC-Viewer: ARC V5.21b, ARCSHELL V2.0 and V2.05 and a utility to switch back and forth between LHARC and ARC. DAYS2 reads in the computer's time and date, and then presents you with various alternate versions of that date: The Julian Date, the Star Date, the Earth Date, the number of days left in the year, and whether or not this is a leap year. You will also be shown what time it is in Greenwich Mean Time (GMT) in Daylight Savings Time, and in Standard Time.
- **STW41** - FSelect v3.89, ICon Acc, ACACHE, as featured in



- **G68** - Slippery Sid. ● **G69** - Paicotic - Shoot 'Em Up.
- **G70** - Space Blob - Platform type. ● **G71** - Scary - Platform type.
- **G72** - Death Camp - graphic adventure. ● **G73** - A Quest for Galaxia - Shoot 'em up.
- **G74** - Sub Hunt and Sea Fisherman - Battleships and a shoot 'em up.
- **G75** - Inferno.

BUDGIE1 - Budgie UK's 6800 Assembler library of routines.

NOTE: Only G20 and G18 work in colour and monochrome. All the other Budgie games are colour only. We always have the latest Budgie games as soon as they are released.

## GRAPHICS DISKS

- **GR3** - MASTER Painter - excellent graphics program works in ALL resolutions in NEO Degas and Doodle formats. Has multiple screens 6 on 1/2 Mb, upto 24 if you have enough RAM, animate between these multiple screens, all the usual tools plus rotate to any angle, skive, horizontal and vertical, zoom, twist, built in converter, very well laid out and designed - full GEM this is a truly brilliant printer program. Fill option is a bit dodgy.
- **GR6** - Degas disk - 155 fills, 10 brushes, 7 fonts, 20 printer drivers including NECPS and P6, Epson JX80 colour (you should be able to use this for STAR LC-10), plus programs to manipulate Degas Elite.
- **GR11** - Disk full of picture utilities: Tiny Stuff v3.4 and Tiny View v4.21, Pic Switch v0.7, NEO2Mono, Convert, Mono2Medium, NEO2Degas, plus 3 screen to disk savers.
- **GR15** - JILZ - A drafting program from Jesus Is Lord corp. Looks good and is very complicated. This disk is double sided and requires 1Mb RAM and monochrome monitor.
- **GR17** - Picture converters. Print Master/Degas converter, NEO/Degas/Tiny/IFF/SPC512 to NEO/Degas/IFF converter, IMG/AIM converter IMG/AIM to Postscript, Mac GIF stripper, Spectrum 512, SPC/SPU to GIF converter and Spectrum 512 SPC, SPS and SPU slide show.
- **GR19** - Fractal Zoom V0.7 is the most comprehensive fractal generation program available on PD.
- **GR20** - IMG utilities. Convert2IMG V0.9 converts any Degas format, Tiny, NEOchrome, MACPaint, Spectrum compressed and uncompressed to a monochrome IMG format. IMG Quick View an IMG file viewer. The IMG slide show V1.1 and IMOGAT V1.0 the IMG catalogue and printer.
- **GR21** - ANI ST the famous commercial animation package that once was £80.00 but now is PD.

## LANGUAGE DISKS

- **L13** and **L14** Modula 2 development system V1.0 from Ana systems. Consists of the M2/68 compiler, linker, libraries, development shell and Micro-Emacs editor. Requires minimum 520st with 2 drives OR a 1040ST. This is a 2 disk set. Both disks are needed.
- **L15** - Sozobon C Compiler. A complete implementation of the C language as defined by Kernighan & Ritchie and prevailing practice. The package includes a compiler, optimizer, assembler, and linker, as well as several other associated utilities. L15 is a double sided disk. Sozobon C is available on 2 single sided disks @ £3.00 each called L15a and L15b. This disk is NOT for the beginner as it is poorly documented, but it is still an excellent disk.

## MUSIC DISKS

- **M15** - The COSH 16 Voice MIDI Sequencer. A fully working MIDI sequencer by Henry Cosh, includes: Multi-Voice recording using separate MIDI channels or programs, split MIDI keyboards and/or velocity ranges. Variable resolution Map of 8 Voices on Desktop continuously. Mouse click sampling of any music in the Map. Simple editing using mouse and MIDI keyboard on blocks down to hemi-demi-semi-quavers, with no MIDI event lists! Sections for naming passages plus setting Time signature, tempo, and local quantization. Variable resolution metronome on any MIDI channel, program, note, velocity. May be driven by external MIDI clock. Full Voice/Block copy, move, quantize, randomize, transpose, velocity update. Filtering of controllers, note ranges and velocity ranges on input, output or by direct manipulation. Undo/Redo on all operations that change the music and Through channel specification for each voice. All MIDI note names and programs may be input from a MIDI keyboard, or typed on the computer keyboard. MIDI channels and program numbers base may be selected to be 0 or 1.

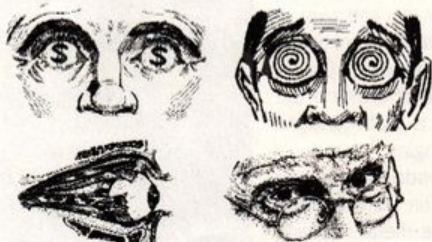
## DEMO DISKS

- **D144** - The official Atari STE demo! Only works on an STE, uses all the features of the new machine!
- **D145** - The Batman Remix.
- **D146** - The Deterious mega mega demo from France. Excellent 2 disk demo, requires 1Mb RAM and disk D147.
- **D147** - see D146 for details.
- **D122** - DOUBLE SIDED DISK. NOT STE. The Union demo! Demos from TEX, TCB, TNT crew, Delta Force, The Repliants and Level 16. This demo is absolutely brilliant! It requires a colour screen and a joystick.
- **D123** - DOUBLE SIDED DISK. Snow Man demo. Great digitised sound and picture demo of the snowman story. The song 'Walking on the air' and digitised pictures telling the whole story. Excellent. Requires colour screen, and 1Mb RAM.
- **D125** - DOUBLE SIDED DISK. NOT STE. The CareBears Cuddly demos. The CareBears did some demos on the Mega Union demo. Here they have created the best demos on the ST to date! you must move a jet propelled man about the screen landing in front on the entrances to the demos. The quality of the demos is amazing and we would go as far in saying better than the Union demo! This is a mega mega demo disk that requires a colour screen.

## GAME DISKS

Budgie UK P.D. Licenseware games:

- **G17** - Damonoid - arcade. ● **G18** - Football - speculation game.
- **G19** - Blitz III - arcade. ● **G20** - Othello - board game.
- **G33** - Doctor Boris and Fuzzler - TNT. ● **G36** - Tycoon - Adventure/simulation.
- **G38** - MoneySpinner - slot machine. ● **G39** - Ace Invaders - arcade.
- **G40** - Zenith - arcade. ● **G41** - Maelstrom - arcade.
- **G42** - Speculator - simulation. ● **G45** - Zephod and Gold Rush - labyrinth.
- **G54** - Line of Four - connect. ● **G55** - Word Puzzle generator.
- **G56** - Make a Break - Quizz. ● **G57** - Parabelum - platform.
- **G58** - Tri-bell - Arcade. ● **G59** - Perils of Penfold - Arcade.
- **G60** - Operation Angelica - Battle. ● **G64** - Bandit - One armed bandit.
- **G65** - Impulse - shoot 'em up. ● **G66** - Carrier Attack - Battleships type.



One of the Many Clip Art Pics on A116

MOST OF THE DISKS IN THIS ADVERT ACTUALLY CONTAIN MORE FILES THAN IS LISTED. THE AD ALSO ONLY SHOWS A SMALL PORTION OF OUR CATALOGUE, SO FOR DETAILS OF THE SERVICE AND A FREE COPY OF THE CATALOGUE SEND A STAMPED S.A.E. (IF YOU ARE ORDERING YOU WILL GET THE LATEST CATALOGUE).

DISK PRICES: 1 TO 5 = £3.00 EACH, 6 TO 10 = £2.75 EACH AND 11 OR MORE = £2.50 EACH!

\*\*\* PDOM SUPPLIES \*\*\*

EXCELLENT QUALITY BLANK DISKS INCLUDING LABELS:

10 £7.00, 50 £33.00, 100 £61.00.

BLANK DISK LABELS: 100 £3.00, 1000 £10.00.

DISK BOXES: 10 CAPACITY £1.50, 20 CAPACITY £3.00, AND LOCKABLES:

50 CAPACITY £4.50, 100 CAPACITY £7.00.

DISK AND BOX: 10 £8.00, 20 £16.00, 50 £35.00 AND 100 £65.00.

DISK CLEANING KITS - £2.50.

ALL PRICES ARE FULLY INCLUSIVE. TO ORDER PLEASE SEND A CHEQUE, POSTAL ORDER PAYABLE TO PUBLIC DOMINATOR OR CREDIT CARD DETAILS TO:

PDOM PD (DEPT ST UK),  
1 BARTHOLOMEW ROAD,  
BISHOP'S STORTFORD,  
HERTFORDSHIRE, CM23 3TP.  
TELEPHONE 0279 757692.

VISA







## quickies

● How about increasing the performance of your machine with a handful of useful programs? Our Desktop section provides regular hints and tips on all sorts of things to help you out, but here's a few programs which shouldn't go amiss on your utilities disk.

■ The ST takes an age copying a file from one disk to another if you only have one drive. Here's a GFA Basic program that speeds things up:

```
DIM a$(10)
b$=""
REPEAT
PRINT AT(1,1); "Select file:"
FILESELECT "A:\*.***", b$, x$
IF EXIST(x$)
OPEN "I", #1, x$
a%=LOF(#1)
i%=0
REPEAT
PRINT AT(5,5); a%
IF a% < 32000
a$(i%)=INPUT$(a%, #1)
t!=TRUE
INC i%
ELSE
a$(i%)=INPUT$(32000, #1)
SUB a%, 32000
ENDIF
UNTIL t!
b$=MID$(x$, 4)
PRINT
PRINT "Insert second disk and
press key"
i=INP(2)
PRINT "Select destination
file:"
STOP
PRINT b$, x$
FILESELECT "A:\*.***", b$, x$
IF LEN(x$) < 0
OPEN "O", #1, x$
FOR r%=0 TO i%-1
PRINT #1, a$(r%);
```

■ Here's another "quickie": how about adding digitised music to your STOS games? One way to do it is to use Power's *Prosound* or Kempston's *Master Sound* to digitise the sample. Then a program on the digitiser disk will play the sample in your own software. It's usually something like *SAMPLAY.EXE*. To use this in STOS, you must copy the file onto a blank disk along with your sample and use this code to execute it:

```
10 RESERVE AS DATA 6,1000: Rem Reserve bank for SAMPLAY.EXE
20 RESERVE AS DATA 7,(size): Rem Reserve bank for sample.
Size=size of sample
30 BLOAD "SAMPLAY.EXE",6: Rem load "SAMPLAY.EXE" into bank 6
40 BLOAD "NAME",7: Rem load sample into bank 7
50 LOKE START(6)+28,START(7)
60 LOKE START(6)+32,START(7)+LENGTH(7)
70 LOKE START(6)+36,speed: Rem Speed=Playback speed in KHz
80 CALL 6
```

## DIAGRAM FOR B-BOOT MODIFICATION (ATARI ST)

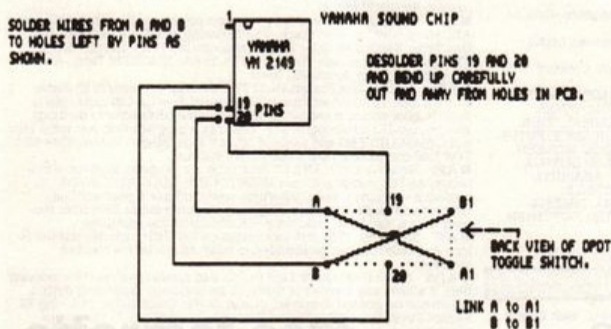


DIAGRAM BY M.ROBERTS 1989

■ This diagram (left) fools your ST into thinking of your external drive as drive A, and the internal one as B

```
NEXT r%
CLOSE
ELSE
PRINT "File not saved";CHR$(7)
ENDIF
ENDIF
UNTIL x$=""
END
```

■ And if you're a hardware boffin, how about taking the lid off your machine and making a few modifications to make your ST boot from drive B? Follow the circuit diagram above to make your ST load games from the other drive – great if your internal drive is .5MByte only. But this involves soldering and invalidates your guarantee: *don't attempt it if you don't know what you're doing!*

## ram

● The Atari ST has half a megabyte of RAM, so why on Earth should you need more memory? The ZX81, VIC, NewBrain and the rest could scarcely muster 32K between them – just what is the problem?

Actually, the need for more RAM rather depends upon the uses to which you put the ST. For those of you whose main preoccupation is blaming away at aliens and being the first kid on the block to wear out the latest stick from

PowerPlay, 0.5MByte is fine. Arcade games are written with the basic ST in mind, so they work with Atari's baby whatever the RAM quotient.

But serious software programmers are a different breed. Not for them the half meg restrictions. Monster programs requiring 1MByte of RAM just to load and at least another 0.5MByte to run frequently make it to the market place. If you want to publish, design and compose, you're going to need the memory capacity of a herd of elephants.

You have an Atari 520STFM which, until now, has served admirably. Games, word processing, a modest database, all these have been within your reach. But you just know that you could design and publish a far better *Stamp Sorter's Monthly* than *Phill Atelist*, its current editor. *Calamus* looks like a good medium for design and publishing, but that program only works with machines bearing a meg of RAM or more – you're going to have to upgrade the memory.

Although RAM shortages are still a major problem in the industry, there's never been a better time to upgrade. Sure, RAM is expensive, but third party suppliers have settled on RAM upgrades as the one last essential for ST owners. Price wars are the order of the day, and guess who benefits from these RAM wranglings? You do!

Upgrade board design has progressed to the point where you simply open the ST's case and plug in the board. No soldering, no tinkering, just a straightforward plugging-in. One of the very best upgrade boards on the market at the moment is that marketed by Third Coast Technologies.

Fitting involves undoing the half dozen screws located on the underside of the ST, removing the metal shielding covering the main circuit board (straightening several twisted metal tags and pulling the shield away from the machine), plugging the board into a socket around the MMU chip (full identification diagrams contained in the documentation), then reversing the disassembly procedure.



## Incredibly Useful People

We specialise in professional audio and midi products for your ST.

Complete range of software and midi modules available.

1040ST and sequencing software from £575.00

Also products from Yamaha, Roland, Tascam Akai Alesis Korg.

Ring Ritchie now on:

0836 284369 or 01 387 9291 for the best U.K. deals.

Complete studio systems supplied.

If you can buy cheaper we'll refund the difference.

## FREE PD CATALOGUE ON DISK

(please state Atari ST or Amiga)

When you send a blank disk and S.A.E. to:

### RIVERDENE PDL

63 Wintringham Way,

Purley on Thames,

Reading, Berkshire RG8 8BH

Telephone: (0734) 428492

Fax: (0734) 451239



## TURN YOUR COMPUTER INTO A PROFESSIONAL STANDARD WEATHER SATELLITE RECEIVE SYSTEM



The MET-2 geostationary weather satellite receiver gives excellent images from either the European Meteosat 4 satellite or the American GOES satellite.

In Europe, updated weather pictures are available live and in incredible detail from the satellite every half hour - directly on the screen of your IBM-PC, Amiga or Atari computer.

Moving pictures are available using our optional animation software.

This no-compromise system comprises a receiver and pre-amplifier, a 55 element Yagi antenna, 20 metres of antenna cable, a mains power supply, a manual and software for IBM-PC(\*), Amiga and Atari computers. Everything needed to receive high quality weather pictures similar to those shown in TV weather forecasts is included.

(\*) An additional interface card is required for use with the IBM-PC (£49.95 plus VAT).

ACCESS AND VISA ACCEPTED

SEND FOR FULL FREE OF CHARGE INFORMATION PACK NOW.

AT ONLY £599.95 plus VAT and £9.50 CARRIAGE, THE MET-2 REPRESENTS UNSURPASSED VALUE FOR MONEY

ICS Electronics Ltd. Unit V, Rudford Industrial Estate, Ford, Arundel, West Sussex BN18 0BD Telephone: 0903 731101 Facsimile: 0903 731105

## MAKE GAMES BEYOND YOUR WILDEST DREAMS



A NEW BOOK BY  
STEPHEN HILL — AUTHOR OF THE STOS MANUAL

## THE GAMEMAKER'S MANUAL ATARI ST AND STOS BASIC

HOW THIS BOOK TURNS REALITY INTO DREAMS

Only £11.95  
Get YOUR copy NOW

- ▶ All aspects of game creation included
- ▶ Complete with tested working illustrations
- ▶ Game planning, graphic design, mock-ups, sprites
- ▶ Shoot-em-ups using high speed sprites
- ▶ Simulations from economics to flight simulators
- ▶ Role playing, characters, scenarios and magic
- ▶ Animation, scrolling, sound and 3D graphics
- ▶ Assembly language programming
- ▶ Adventure games

A Sigma Press Publication Published January 1990 296 pages

✓ Please rush me MY copy of The Gamemaker's Manual I enclose £11.95 (+£1.50 p+p) payable to John Wiley & Sons Ltd ☐

Send to: Susan Barry, John Wiley & Sons Ltd., Baffins Lane, Chichester, West Sussex, PO19 1UD. Telephone: (0243) 770318. Fax: (0243) 775878.

Please debit my credit card for £11.95 (+£1.50 p+p) ☐

Card No:  Exp.

My name:

My address:

Signature:  ST FORMAT



MAIL  
ORDER

# SOFTSELLERS

MAIL  
ORDER

6 BOND STREET, IPSWICH SUFFOLK IP4 1JE

5A DOG'S HEAD STREET, IPSWICH, SUFFOLK (RETAIL)



36A OSBORNE STREET, COLCHESTER, ESSEX (RETAIL)

24hr MAIL ORDER PURCHASE LINE (0473) 257158/ (0473) 210605 FAX: 0473 213457

**ATARI 520 STE EXPLORER PACK**One game, mouse, manuals, basic and  
language disc  
**£269.95****ATARI 520 STE POWERPACK**20 games, business organiser, 1st  
basic, music maker and joystick  
**£349.95****ATARI 1040 STE**Enhanced 1040 ST  
**£449.95****ATARI MEGAFILE 30**Hard Drive  
**£449.99****ATARI MEGAFILE 60**Hard Drive  
**£599.95****SEGA MEGA DRIVE**16 bit games machine  
**£199.95****EXTERNAL DRIVE**Power Drive 1 meg  
**£79.95****ATARI SC1224**COLOUR MONITOR  
**£299.95****ATARI SM124**MONOCHROME  
MONITOR  
**£99.95****MASTERSOUND**Sound Sampler  
**£39.95****VIDI**Real time video digitiser  
**£99.95****PC ENGINE**Games machine  
**£199.95**

## HARDWARE

ALL OUR HARDWARE INCLUDES VAT AND FREE DELIVERY.  
UK MAINLAND ONLY. NEXT DAY DELIVERY BY ARRANGEMENT MOST WORKING DAYS.**JOYSTICKS**Cheetah 125 .....£6.99  
Cheetah Starprobe .....£11.99  
Pro 5000 extra glo green .....£13.99  
Pro 5000 extra glo red .....£13.99QS Turbo .....£7.99  
Euromax Racemaker .....£24.99  
Euromax prof 9000 .....£11.99  
Konix Navigator .....£11.99**DISC BOXES**3.5 40 holder lockable .....£5.99  
5.25 50 holder lockable .....£4.993.5 80 holder lockable .....£7.99  
5.25 120 holder lockable .....£6.99**DISC BOXES AND DISCS**3.5 40 holder lockable with 10 3.5 DSDD discs .....£12.99  
3.5 40 holder lockable with 20 3.5 DSDD discs .....£19.99  
3.5 40 holder lockable with 40 3.5 DSDD discs .....£33.993.5 80 holder lockable with 10 3.5 DSDD discs .....£15.99  
3.5 80 holder lockable with 40 3.5 DSDD discs .....£35.99  
3.5 80 holder lockable with 80 3.5 DSDD discs .....£55.99**DISCS****QTY 10****QTY 20****QTY 50****QTY 100**3.5 DSDD .....£7.99 .....£14.99 .....£34.99 .....£59.99  
3.5 DSDD SONY .....£11.99 .....£22.99 .....£54.99 .....£99.99**PERIPHERALS**Replacement mouse + mouse holder + mouse mat .....£29.95  
Four player Adaptor .....£5.95Mouse Mat .....£4.95  
Joystick Extender .....£5.95  
Dust Cover .....£4.95



MAIL  
ORDER

# SOFTSELLERS

MAIL  
ORDER

6 BOND STREET, IPSWICH SUFFOLK IP4 1JE

5A DOG'S HEAD STREET, IPSWICH, SUFFOLK (RETAIL)



36A OSBORNE STREET, COLCHESTER, ESSEX (RETAIL)

24hr MAIL ORDER PURCHASE LINE (0473) 257158/ (0473) 210605 FAX: 0473 213457

3D Pool.....	£15.99	Escape From the Planet of Robot	Leisure Suit Larry II .....	£19.99	Shinobi.....	£13.99
5th Gear.....	£13.99	Monsters.....	Lightforce (compilation) .....	£16.99	Shufflepuck Cafe .....	£13.99
A.P.B.....	£13.99	Eye of Hercules.....	Liverpool.....	£15.99	Silpheed.....	£19.99
Action Fighter.....	£15.99	Eye of Horus.....	Lombard R.A.C Rally.....	£16.99	Sim City.....	£19.99
Adidas Golden Shoe.....	£13.99	Final Battle.....	Lost Patrol.....	£13.99	Skidz.....	£13.99
Altered Beast.....	£13.99	Flash Dragon.....	Magnum 4 compilation .....	£19.99	Skweek.....	£13.99
Ancient Art of War at Sea .....	£16.99	F29 Retaliator.....	Majic Johnson.....	£12.99	Slayer.....	£13.99
Ancient Art of War .....	£16.99	F19 Stealth Fighter .....	Manchester United .....	£13.99	Sleeping Gods Lie .....	£15.99
Aquaventura .....	£24.99	F16 Combat Pilot.....	Manic Mansion .....	£16.99	Soccer Match.....	£13.99
Asterix.....	£16.99	Falcon.....	Match.....	£13.99	Space Ace .....	£29.99
Axels Majic Hammer.....	£13.99	Falcon Mission Disks.....	Matrix Marauders.....	£16.99	Space Harrier II .....	£13.99
Bad Company.....	£15.99	Ferrari Formula One .....	Microprose Soccer.....	£15.99	(new) Space Harrier .....	£12.99
Balance of Power 1990 .....	£15.99	Forgotten Worlds .....	Moonwalker.....	£13.99	Space Quest III.....	£19.99
Bankok Knights.....	£13.99	Fast Lane.....	Murder in Venice.....	£15.99	Space Savage .....	£13.99
Barbarian II (Palace).....	£16.99	Footballer of The Year 2 .....	Nevermind.....	£13.99	Speedball.....	£16.99
Barbarian II (Psygnosis) .....	£16.99	Frankenstein.....	New Zealand Story.....	£13.99	Star Blaze.....	£13.99
Batman (the movie).....	£13.99	Future Wars.....	Ninja Spirits .....	£16.99	Star Command.....	£19.99
Battle of Australitz.....	£15.99	Fighting Soccer.....	Ninja Warrior.....	£13.99	Startrek 5.....	£24.99
Battle of Britain.....	£16.99	Fiendish Freddy.....	North and South .....	£15.99	Starwars Compilation .....	£16.99
Battle Squadron.....	£15.99	Fighter Bomber.....	Omega.....	£24.99	Steve Davis Snooker.....	£12.99
Battlechess.....	£16.99	Full Metal Planet.....	Onslaught.....	£13.99	Stormlord.....	£13.99
Beach Volley.....	£13.99	Galaxy Force.....	Ooze.....	£15.99	Story So Far 1 (compilation).....	£12.99
Beverly Hills Cop.....	£15.99	Galdregons Domain.....	Operation Thunderbolt.....	£13.99	Story So Far 3(compilation).....	£12.99
Black Tiger .....	£13.99	Games Summer Edition .....	Oriental.....	£15.99	Street Fighting Man .....	£13.99
Blade Warrior.....	£15.99	Gazza's Super Soccer.....	P47.....	£15.99	Strider.....	£13.99
Blood Money.....	£16.99	Ghostbusters II .....	Panic Station .....	£13.99	Stryx.....	£13.99
Bloodwych Data Disks.....	£12.99	Ghouls and Ghosts.....	Paperboy.....	£12.99	Stunt Car .....	£15.99
Bloodwych.....	£16.99	Giants (compilation).....	Passing Shot.....	£13.99	Super Cars .....	£13.99
Bobo.....	£12.99	Gore.....	Pictionary.....	£16.99	Super Quintet.....	£15.99
Bomber.....	£19.99	Gravity.....	Pinball Majic .....	£13.99	Super Scramble Simulator.....	£13.99
Cabal.....	£13.99	Greenpeace.....	Planet Busters .....	£13.99	Super Wonderboy.....	£13.99
California Games.....	£13.99	Gunship.....	Player Manager .....	£12.99	Switchblade.....	£13.99
Carthage.....	£15.99	H.A.T.E.....	Police Quest II .....	£16.99	Take em Out.....	£12.99
Chambers of Shaolin.....	£12.99	Hard Driving.....	Pools of Radiance .....	£16.99	Theme Park.....	£16.99
Chaos Strikes Back.....	£16.99	Heavy Metal.....	Populous Data Disks .....	£9.99	Thrill Time Platinum (comp).....	£15.99
Chariots of Wrath.....	£16.99	Highway Patrol .....	Powerdrift.....	£13.99	Tintin.....	£12.99
Chase HQ.....	£13.99	Hillsfar.....	Precious Metal (Compilation) .....	£16.99	Tower Of Babel.....	£15.99
Chicago 90.....	£12.99	Hot Shot.....	Predator.....	£13.99	Track Attack.....	£13.99
Commandos Compilation .....	£15.99	Hound of Shadow.....	Premier Collection 1,2 or 3.....	£19.99	Triad II (compilation).....	£16.99
Commando.....	£12.99	Indiana Jones (Lucas Films).....	Pro Tournament Tennis .....	£16.99	Trivial Pursuit (family edition) .....	£16.99
Conflict Europe.....	£16.99	Indiana Jones (US Gold) .....	Quarterback.....	£13.99	Trivia.....	£12.99
Continental Circuit .....	£13.99	Infestation.....	Quartz.....	£15.99	Turbo Buggies.....	£13.99
Cyberball.....	£13.99	International Athletics .....	Quest for Time Bird .....	£19.99	Turbo Outrun.....	£13.99
Damocles.....	£15.99	Interphase.....	R.V.F Honda.....	£15.99	TV Sports Football.....	£16.99
Dan Dare 3.....	£13.99	Iron Lord.....	Rally Cross .....	£12.99	Ultima V.....	£15.99
Day of the Pharoah.....	£16.99	Iron Tracker.....	Red Heat.....	£13.99	Ultimate Darts.....	£13.99
Demons Tomb.....	£13.99	Ivanhoe.....	Red Storm Rising .....	£15.99	Ultimate Golf.....	£16.99
Die Hard.....	£13.99	Jack Boot.....	Renegade.....	£13.99	UMS II.....	£15.99
Dogs of War.....	£12.99	Jack The Ripper.....	Rick Dangerous.....	£15.99	Untouchables.....	£13.99
Double Dragon II.....	£13.99	Jumping Jackson.....	Risk.....	£13.99	Verminator.....	£15.99
Dragon Ninja.....	£13.99	Kenny Dalglish Soccer Match.....	Roadwars.....	£13.99	W.E.C Le Mans.....	£13.99
Dragon Spirit.....	£13.99	Kick Off Extra Time .....	Robocop.....	£13.99	War in Middle Earth .....	£13.99
Dragons Breath.....	£19.99	Kick Off.....	Rock n Roll .....	£13.99	Warp.....	£12.99
Dragons of Flame.....	£16.99	Killing Game Show .....	Rocket Ranger.....	£16.99	Waterloo.....	£15.99
Drakken.....	£19.99	Knightforce.....	Run The Gauntlet .....	£13.99	Wild Streets.....	£15.99
Dreadnought.....	£13.99	Krystal.....	S.E.U.C.K.....	£19.99	Wings of Fury.....	£13.99
Dungeon Master Editor.....	£9.99	Kult.....	S.T.O.S.....	£19.99	Winners (compilation).....	£19.99
Dungeon Master.....	£16.99	Lancaster.....	Saint and Greavsie.....	£13.99	World Cup Soccer 90 .....	£13.99
Dynamite Debugger.....	£15.99	Laser Squad.....	Scramble Spirits .....	£13.99	Xenon II.....	£16.99
Dynamite Dux.....	£13.99	Last Ninja II.....	Scroll.....	£12.99	Xenophobe.....	£15.99
Elite.....	£15.99	Last Stuntman .....	Seven Gates of Jambala .....	£12.99		
Epoch.....	£15.99	Legend of Djel.....	Shadow of the Beast .....	£24.99		

CHEQUES AND POSTAL ORDERS MADE PAYABLE TO SOFTSELLERS. POST &amp; PACKAGING FREE IN UK.OVERSEAS £1.50 PER ITEM.

Subject to availability and price changes without notice. Not all titles released at time of going to press.

Shop prices may vary, but personal callers can claim advertised discounts on production of cut-off slip.

TITLE	COMP	PRICE

TOTAL COST £

Have you ordered from us before? YES/ NO

Name .....

Address: .....

.....

.....

Tel No: .....

Partners M James and L.K Mitchell

STF MARCH



The board comes with a utility disk containing a RAM disk program and a board tester to make sure everything is installed correctly. The big advantage of the Third Coast board over some of the rival offerings is that you can increase the memory it carries simply by unplugging the RAM chips and replacing them with those of a higher capacity. Prices for the populated board (i.e. complete with RAM chips) start at £69.99. Third Coast eagerly await your call, order and mazuma on 0257 472444.

Frontier Software also offer easy installation, solder-free RAM upgrades with a 12 month guarantee for £69.95 (unpopulated) and £99.95 (populated). For further information contact them on 0423 567140.

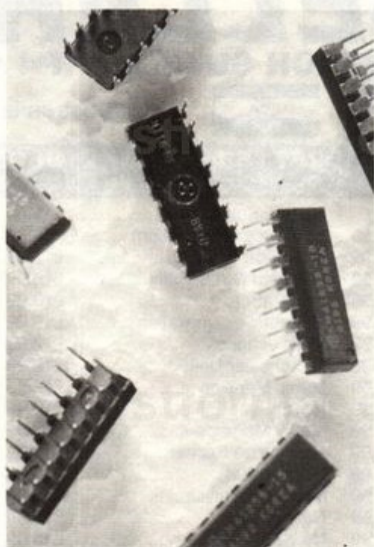
If home upgrades are to you but a step on the way to your ST ending up in broken bits, then you may like to have the RAM fitted by a competent professional, fully versed in the art of dismembering STs. Ladbroke offer a full fitting service with prices starting at around £90. Parcel up the machine, send it off and within a couple of weeks your machine should be returned safe and sound and bulging with extra RAM. Contact Ladbroke Computing on 0772 203166.

## speed

● Let's face it, speed is sexy. You don't want to hang around all weekend waiting for your ST to do stuff in its own sweet time: you want it done, and you want it done now. Fortunately, there's a whole heap of hard- and software that significantly increases the operating speed of any ST, from the 520STFM right up to the Mega 4.

The upgrade that everyone wants to get their hands on – well, everyone except Mega owners – is the blitter chip. Promised as a plug-in upgrade by Atari for longer than anyone cares to remember, the blitter (Block Line Transfer) moves around whole blocks of the display rather than individual pixels, speeding up animation and freeing the processor for other work. Unfortunately, the blitter has never been widely available and if you want one for your ST, you must upgrade to the Mega.

■ The most ambitious of the speed increasers is the HyperCache ST board from Third Coast Technologies. This plug-in board is a processor accelerator which increases the speed of your system by pushing the CPU clock rate to its maximum. The 68000 central processor at the heart of your ST usually runs at 8Mhz. With the HyperCache board, the processor runs



at 16Mhz. Third Coast guarantee a speed increase of at least twice that of the original ST.

Should you find the machine bowling along too quickly to cope, there's a switch to enable you to revert to standard system speed. Available in kit form for £189 or fitted at £209, HyperCache ST comes from Third Coast on 0257 472444.

■ If two hundred big ones is a teeny weeny bit expensive, how about a software blitter, a little program hidden in memory, which does in software terms what the blitter does using hardware? TurboST from popular language programmers HiSoft is a cheap yet very effective software blitter which, once used, is hard to live without.

With it installed in memory, GEM becomes fast and efficient and your whole machine runs at a cracking rate. On boot-up, it automatically loads into memory, hides and does its stuff. It costs £34.95, is compatible with almost all GEM applications, is installed simply by including the program on your boot disk, and you can get it from HiSoft on 0525 718181.

## tos

● The Operating System controlling the basics of your ST – Desktop, file selector boxes and suchlike – could equally well be called The 'Orrible System. Software programmers have complained unfailingly with each new version and you've only got to scour the PD to see how frustrating the variety of operating systems have been: there's a different version of the same program for most TOS versions.

Some versions of TOS have gone beyond being merely unhelpful and have

actually been bugged. Type an Underscore character in the top line of a file selector box in some TOS versions, for instance, and the machine reacts like you've just squirted speed (see S, above) up its nostril.

The Desktop has also been criticised. It's impossible to move files without copying and deleting them, and the file selector won't even let you look at a different drive without resorting to the keyboard.

Atari have attempted to resolve these problems in "Rainbow TOS," version 1.6, now found inside the STE. TOS 1.6 has resolved these problems and also performs much needed faster disk-to-disk copying. But it's come with its own batch of complications. Programmers, particularly in the games field, have used undocumented commands in their software to either achieve a particular effect or to work around a problem. Since these commands are undocumented, TOS 1.6 won't support them and the software doesn't run. Read our STE story on page 11 for more details of software that isn't running and what programmers are doing about it.

## utilities

● Upgrades don't have to cost megabucks. Sure, everyone wants a whopping great hard drive to hang off their system, but between £3 and £30 can buy you a heap of useful utilities, all of which increase productivity and your enjoyment of the ST.

■ BakPack from Computer Concepts is a plug-in cartridge that provides you with ten pop-up utility programs you can use while operating other applications. The programs range from a calculator, notepad and clock to a RAM disk and print spooler – and because they're cartridge-based they use none of the ST's RAM. Computer Concepts await your call on 0442 63933 with baited breath.

■ If you too have found Atari's mouse less than wonderful, but can't afford the Naksha or the Cordless (see M for Mouse), you'll be pleased to know you can turbocharge the timorous wee beastie for next to nothing. QMouse is a tiny utility program that greatly enhances the speed of the ST's be-tailed companion. Simply include it in the Auto folder of your favourite boot disk and watch that cursor zoom across the Desktop!

QMouse was given away free on the Cover Disk of ST Format issue 5 (back copies still available), and can also be

■ Looking like silicon centipedes, these little chips can give your ST an elephantine memory (see R for RAM)



obtained from public domain libraries, one of the very best of which is Goodmans PDL (0782 335650).

## video digitising

● OK, so you want to grab stills from video cameras and recorders – big deal, right? Well, actually it is rather a big deal. Grab a video frame, port it into one of the many quality art packages available for the ST, and the way ahead is clear to create unbelievable video collages, surreal stills – even entire movies!



■ The Realizer from Third Coast is a breakthrough, offering colour digitising on the ST – even if you only have a mono camera!

Not known for its graphics capabilities, the ST is nonetheless well supported in the video digitising field, with several major suppliers marketing digitisers.

The latest of the video frame grabbers is the first colour digitiser available for the ST. Realizer originates in Germany, supports all STs and with the aid of three little filters, provides you with full colour digitised pictures from a video recorder, colour camera or even a black and white camera! That's right, pictures in glorious technicolour from a black and white source. The Realizer received a full hands-on review in issue 7 of ST Format, so suffice it to say the device offers reasonable results, is cheap (£149.99 from Third Coast Technology on 0257 427444) and relatively easy to use.

If your needs – or cash – stretch only to black and white, then there are plenty of options available. Rombo's Vidi-ST offers 16 grey scales and a sequencing option, works with any ST and costs just £99.95. (Rombo – on 0506 414631 – are currently developing a colour add-on to be released very soon.)

## widgets

● Ah, those itty bitty slivers of silicon! You know, the ones that promise to increase the performance of the standard ST by adding all the options computer manufacturers don't consider necessary. Speech synthesisers, track counters, control line boards, you know the kind of stuff. It's akin to putting a tachometer in your Escort. You don't need it, but it impresses your pals and gives you some blinking lights to stare at.

■ When parallel printer ports were included as standard in home computers, the SPO speech chip really came into its own. Seven bits of data and a strobe line is all the chip needs to produce the kind of speech that the robots in Flash Gordon produced back in the 1930s. Almost unintelligible at first hearing, their dulcet tones quickly become familiar, and there's nothing more satisfying than booting your machine and hearing it tell you that it will "obey your every command, O great and beautiful mentor of the Universe."

■ Way back in the days when ST Format was still being held back by something called Amiga Format, the magazine printed a complete guide to building your own speech synth with cheap parts, bare hands and the ubiquitous kitchen table. Unfortunately back copies of ST/Amiga Format are no longer available, but get along to any branch of WH Smith's and you'll be able to buy the latest catalogue from Maplin, the electronic components supplier with branches up and down the country. The catalogue offers speech synth chips for sale at a few pounds and provides example synthesiser circuits.

Anyone with a modicum of technical hoo-jar ought to be able to put together their very own talking module within a few hours.

Be honest. How many times have you watched the little light at the front of your ST's drive flickering on off and thought to yourself, "I wonder which track the read/write head is currently passing over?" I know I haven't on lots of occasions. If however, this information is indispensable to you, you need the Track Analyser from ST Format issue 3, which contained exacting information detailing the complete construction process of this much-needed device.

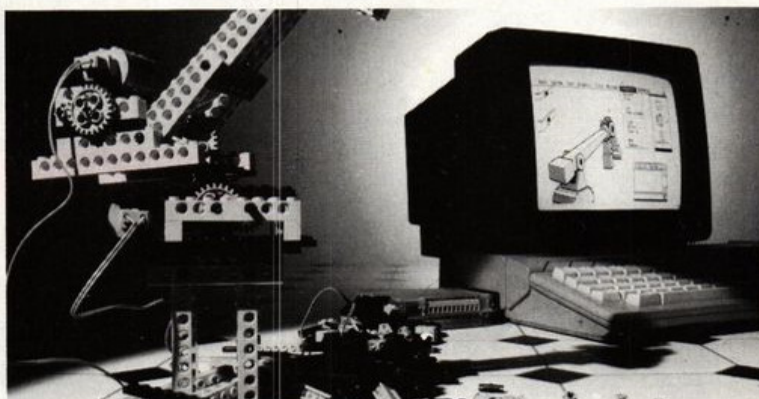
■ Thrilled by the thought of robot arms? Just think what your ST could manipulate given the required appendage. Chess pieces, glasses of water, the evening newspaper or your slippers, all placed quickly and efficiently before you by the faithful ST.

Robokit from Silica Shop provides everything – except the Lego – you need to equip your ST with an arm or leg. Unfortunately, it costs an arm and a leg to buy it, but that's another story. Fancy shaking hands with your ST? Robokit costs £99.99: call 01 309 1111 (and see the review in ST Format issue 6).

## xmodem, ymodem & wait for it... zmodem!

● If you're still struggling with XMODEM as the medium for file transfers across the airwaves, then struggle no more.

You need YMODEM, the updated, upgraded version of that original error correction and transfer program. And ZMODEM? More of the same. Upgraded, improved, whiter than white. In fact a new, blue whiteness that... All three file transfer utilities are available from bulletin boards and all good PD libraries (see P above). ■



■ Robokit may look sinister (see W for widgets), but in fact it's a great fun item, if somewhat expensive – I mean, have you seen how much Lego costs these days?



# Ladbroke Computing International

"The Country's leading  
16 Bit Specialist"



33 Ormskirk Rd, Preston, Lancs, PR1 2QP  
Open Mon. to Sat. 9:00 am to 5:00pm  
Dealer enquiries welcome.

Phone us for best prices. We will try to match any price.

This company has given years of full support to computer users from their premises at 33 Ormskirk Road Preston. Now from their Mail Order premises they can offer this "second to none" service to users countrywide. All Software/Hardware is ex stock and fully tested prior to purchase to ensure that returned goods are now a thing of the past. All hardware is supported by our on site engineers so that quick turn around on all repairs is guaranteed. There are no hidden extras WYSIWYG. All prices include VAT, and delivery on orders over £100 (Mainland UK, courier delivery + £5). All prices are correct at time of going to press and are subject to change without prior notice. Phone for latest prices, advice. We are always happy to help.

## Midistudio 20 track ST Midi sequencer

Midistudio is an attractively priced, 20 track Midi Sequencing package. It can record up to 682 bars per phrase (pattern) on up to 100 phrases. Any phrase can be placed on any track. Tracks can be soloed and muted and tracks and phrases can be named. Program numbers can be displayed in a variety of ways including 0-127, 1-128, in banks from all-b88 or a01-b64. The Desk features sliders to set relative volumes on each track and you can even do a mix on the fly. Midistudio also has a clock to display the length of the last playback. Step time note edit functions are available including copy, split, merge, append, and transpose, velocity editing (including a humanize function), full controller editing and different levels of quantizing. Midistudio works in medium and hi res and a demonstration disk is available for just £3.99.



£49.99

## IMG scanner Scan at up to 1000 Dpi

The IMG scanner is a realistic, low cost scanner which can offer high quality graphics digitising for a tenth of the cost of other scanners. This simple unit plugs into the cartridge port of the ST and accepts scanned information via optical cables which fix easily to the head of any Epson compatible dot matrix printer. The software allows grey scales to be replaced with colours, 4 in medium resolution and 16 in low resolution and offers scanning resolutions of 75, 150, 216, 300, 360 and 1000 dots per inch horizontally. Best results are achieved with photocopies. Greater than screen resolution images are saved in IMG file format and can be edited with any compatible art package. Screen resolution images can be saved in Raw data, Degas or Neochrome formats and edited with compatible art packages.



£59.99

## Midistudio Master. 30+ new features £129.99

## Low resolution demonstration disk £3.99

## Best Selling Printers

Star L.C-10.	140/36cps	£ 159.99 *
Star L.C-10 Mk II.	180/45cps	£ 189.99 *
Star L.C-10 Colour.	7 colour	£ 199.99 *
Citizen 120D.	120cps	£ 134.99 *
Star L.C-24/10.	170/57cps	£ 239.99 *
Citizen Swift.	24 pin	£ phone



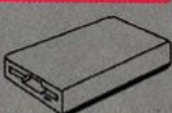
### Star Professional Series Printers

Star FR-10.	9 pin, 300cps draft, 76cps NLQ	£ 399.99 *
Star FR-15.	15" carriage version.	£ 514.99 *
Star XB-24/10.	24 pin, 80 cps SLQ, LQ.	£ 514.99 *
Star XB-24/15.	15" carriage version.	£ 699.99 *
Colour upgrade for Star XB & FR range.		£ 39.99 *
Star Laser Printer 8, 1 Mb RAM.		£ 1599.99 *
Star Laser Printer 8DB, Double bin version.		£ 2399.99 *
Atari SL M804 Laser with 90 days on site warranty.		£ 1129.99

\* All these printers carry a 12 months on site maintenance warranty and come complete with cable. On site warranty UK mainland only. All printers are top quality products for the UK, not cheap imports.

## ST & Amiga Disk Drives

Cumana 1 Mb slimline.	(ST)	£89.99
Ladbroke's 1Mb.	(ST)	£74.99
Cumana 1Mb, internal.	(ST)	£74.99
Please note, ST's case requires modification for this internal drive.		
A/B boot switch, fitted.	(ST)	£24.99
Cumana 1Mb slimline, disable switch, through port.	(Amiga)	£74.99
Ladbroke's 1Mb, disable switch, through port.	(Amiga)	£69.99



## ST & Amiga Hard Drives

Megafile 30	(ST)	£499.99
Megafile 60	(ST)	£614.99
Supra 30Mb	(ST)	£474.99
Third Coast 65Mb	(ST)	£599.99
Third Coast 65Mb	(Amiga)	£659.99
Vortex 40Mb	(ST & Amiga)	£499.99



### Ladbroke Computing Hard drives

We have a range of high quality ST hard drives at affordable prices. All have the following minimum specification. Full metal case (same size as Mega ST), 60 watt PSU and room for a second mechanism. The low power, controller is full SCSI and can support up to 8 drives. The software includes Autopark, Autoboot from any partition, partition size up to 1 GigaByte, any number of partitions, 100% AHDI 3.2 compatible driver and write protect any partition.

40HD 42Mb formatted, 11Ms, 64K on board cache.	£ 549.99
50HD 48Mb formatted, 30Ms average access time.	£ 499.99
85HD 83Mb formatted, 28Ms average access time.	£ 699.99
180HD 180Mb formatted, 20Ms average access time.	£ 1299.99

## Monitors & Peripherals

Atari SM124 Mono	£109.99 *	Joysticks from	£ 4.99
Atari SC1224 Colour	£284.99 *	Portfolio add-on's from	£ 39.99
Philips 8833 Colour	£249.99 *	Trak ball (ST / Amiga)	£ 19.99
Philips 8802 Colour	£239.99 *	Mouse mats from	£ 5.99
Philips 15" JST, remote, Scart		Mouse/joystick extension	£ 5.99
input, Tv with 60 tuner presets,		Amiga modulator	£ 19.99
timer and teletext.	£259.99	Hawk scanner	£ 1249.99
* Deduct £10 if bought with computer, Scart cable included			

## Repair Centre & Upgrades Ex - stock

512K STFM RAM Upgrade fitted.	£ 84.99 *	512K STFM RAM upgrade, kit.	£ 99.99 *
512K STM RAM Upgrade, fitted.	£ 84.99 *	512K unpopulated ST board, fitted.	£ 49.99
512K populated ST board, fitted.	£ 119.99	512K populated ST board, kit.	£ 109.99
2Mb populated ST board, fitted.	£ 299.99	2Mb populated ST board, kit.	£ 249.99
2Mb unpopulated ST board, fitted.	£ 59.99	4Mb populated ST board, fitted.	£ 499.99
STFM Blitter chip, fitted.	£ 49.99 *	STFM Blitter chip, kit.	£ 49.99 *
512K unpopulated Amiga board	£ 19.99	512K populated Amiga board	£ 69.99
512K unpopulated Amiga board+clock	£ 29.99	512K populated Amiga board+clock	£ 79.99

\* Please check configuration before ordering. Our Atari trained engineers can repair all hardware, including Amigas, in minimum time at competitive prices. Fitting prices quoted for machines not previously tampered with. All upgrades and repairs carry our 3 months parts and labour guarantee.

## Networking & Mac Emulation

► Network up to 32 ST's.	► Turn your ST into a Mac Plus.
► Up to 500 Ft between ST's.	► Reads and writes to Mac disks.
► 31K Baud data transfer rate.	► Supports 99% of all packages.
► Full data correction.	► Supports Hard drive and second floppy drive.
► File locking.	► Compatible with STE.
► Networking permissions.	► 30% bigger screen area than Mac Plus.
► Allows upto 12 hard/RAM disk partitions.	► 128K ROM's in stock.
► SGSnet Starter kit £ 149.95	► Spectre GCR £ 299.99
► SGSnet add-on kit £ 99.95	► With 128K ROM's £ 399.99

## Entertainment packs

520 STE Explorer	£284.99
520 STE Power pack	£374.99
1040 STE Hyper pack	£464.99
Amiga Class of 90's	£549.99
Amiga Batman pack	£369.99
Amiga Batman + pack	£399.99

Explorer pack includes a game, Metacomo Basic and tutorial disk.

Power pack consists of Organiser software, First Basic, First music and games including, Afterburner, R-Type, Gauntlet II, Super hangon, Space harrier, Mousetrap, Buggy boy, Super huey, Eliminator, Nebulus, Pacmania, Predator, Bombjack, Bombuzal, Xenon, Double dragon, Blacklamp, Outrun, Stargoose, Starry.

Hyper pack includes Hyper Paint art package, Hyper draw vector drawing package, Borodino strategy game and Metacomo Basic.

Batman + pack includes A500 Batman pack, mouse mat, joystick and the Tenstar games pack with Photon paint.

## Quality 3.5" Disks

Quantity	Loose	Boxed	Sony Branded Boxed
10	£6.99	£7.99	£9.99
100	£64.99	£74.99	£89.99

All disks are Sony, Maxcell or Kao and carry an unconditional lifetime guarantee. Please add 60p P&P for each pack of ten disks.

## Connectors & Dustcovers

ST Centronics lead	£9.99	Monitor covers from	£4.99
Atari Monitor lead	£5.99	LC-10 printer cover	£7.99
Pair of Midi leads	£7.99	Hard drive cover	£4.99
Amiga Scart with sound	£14.99	ST cover	£3.99
Null Modern cable	£10.99	Amiga A500 cover	£3.99
8 bit Printer interface	£29.99	Mega 2 cover	£7.99
Atari DMA cable	£15.99	Disk drive cover	£2.99

Disk boxes from £4.99. Phone for care kits.

## Business & DTP Systems

Mega ST1 + SM124	£ 614.99
Mega ST2 + SM124	£ phone
Mega ST4 + SM124	£ 1229.99
Portfolio (pocket PC)	£ 229.99
Atari PC4 (80286)	£ 1383.99
Atari PC5 (80386)	£ 2121.99
DTP Mega 2 pack	£ phone
DTP Mega 4 pack	£ 2049.99
A4 Flat bed scanner	£ 449.99

This high quality 200dpi flat bed scanner is also a thermal printer and photocopier. It can scan high resolution images in up to 16 grey scales. ST or Amiga software allows capture, printing, load & save of images in a number of formats. This is probably the most cost effective piece of office equipment you could own. Cable included.



(0772) 203166

Fax 561071

Ladbroke Computing International is a trading name of Walton Marketing Limited. Copy date: 24/01/90

To assist us in processing your order please quote this code.

SST2.7



# DESKTOP

## FONTASTIC PD

GDOS fonts are a standard type of font which can be used in many applications. Degas Elite and Microsoft Write both use GDOS fonts and these can easily be interchanged using the fonts in other software. **Mark Incognito** from Norfolk has written in, asking if it's possible to purchase additional fonts. Several of the PD libraries contain GDOS fonts, as do various bulletin boards. Try the South West Software Library (PO Box 562, Wimborne, Dorset BH21 2YD) who sell the Calligraphy font, among others.

## KEYBOARD CRAZY

After last month's query on how to connect a PC keyboard to an ST, we've received this advice from a German subscriber, **Tom Steed**. The German company RTS Elektronik provide a modified PC keyboard which can be connected to a Mega ST. RTS Elektronik can be reached on 010 49 7234 6915 or 5232.

The Germans love customizing STs and lots of other companies specialise in performing major surgery on your machine. Hard & Soft at 010 49 2305 157 64 provide similar PC keyboards and Lighthouse at 010 49 7131 78480 let you transform an ordinary ST into a Mega.



■ A modified keyboard for the Mega ST



■ Transform your 520ST into Mega

## A DODGY SOURCE

If you try to perform an ordinary disk-to-disk copy by dragging the A drive icon over the B drive icon, the destination disk must be in the same format as the source disk. This is fine provided both disks have been formatted using the Desktop Format option, but if you start formatting some disks to maxi-format you won't be able to simply drag the icon.

**George Homatopoulos** from Harwich has found a way to fool the ST into thinking that the destination and source disks are in the same format. Simply leave your source disk in the

*Put our sound advice to work and who knows what your ST will be doing. This month we take our last look at file formats and answer your GFA Basic problems*

## LINE INPUT

If you want to use GFA's LINE INPUT command to input data into a program, you're limited by certain operations. For example, you cannot specify that the ESC key should take you out of the input statement and you cannot select LINE INPUT to ignore certain codes such as numeric characters. The way around this is to write your own data entry routine and use that instead on LINE INPUT. Surprisingly, it isn't that difficult.

This GFA Basic routine must be entered

```
PROCEDURE inp
LOCAL t%,p%,b$
t%=LEN(a$)
PRINT AT(x%,y%);a$;
p%=TIMER
DO
i$=INKEY$
EXIT i$=CHR$(13) OR i$=CHR$(27)
IF i$=CHR$(8) AND t%>0
a$=LEFT$(a$,t%-1)+MID$(a$,t%+1)
p%=0
DEC t%
ENDIF
IF i$=CHR$(0)+CHR$(75)
DEC t%
IF t%<0
t%=0
ENDIF
IF i$=CHR$(0)+CHR$(77)
INC t%
IF t%>LEN(a$)
t%=LEN(a$)
ENDIF
```

with five parameters. X% and Y% are the x and y co-ordinates of the text. They should be treated as if they're the parameters used in a Print At(x,y) statement. AS is the character data, put forward to be edited. This is also the returned character string. Z% is the maximum permitted length of AS. Finally, BS are the permitted characters which can be used in the string. For most applications, this would be set to contain the full set of alpha-numeric characters. The subroutine ends when either Return or ESC is pressed.

```
ENDIF
IF i$=CHR$(127) AND t%<LEN(a$)
a$=LEFT$(a$,t%)+MID$(a$,t%+2)
p%=0
ENDIF
IF INSTR(1,b$,i$)>0 AND LEN(i$)>0
AND LEN(a$)<z%
a$=LEFT$(a$,t%)+i$+MID$(a$,t%+1)
p%=0
INC t%
ENDIF
IF TIMER>p% AND TIMER<p%+60
PRINT AT(x%,y%);a$;" ";
ENDIF
IF TIMER>p%+100
PRINT AT(x%+t%,y%);".";
IF TIMER>p%+150
p%=TIMER
ENDIF
ENDIF
LOOP
PRINT AT(x%,y%);a$;" ";
RETURN
```

drive when it asks you to insert the destination disk (leave the write-protect on to be safe). This is the only time GEM checks to see if formats are the same so you can easily trick your ST into copying all the files onto the disk.

## 2-PLAYER - HERE WE COME

Last month we looked at the range of 2-player games available and we pointed out that the cheapest method was to purchase an RS-232 lead and link it directly to your friend's machine. But what if you can't afford the £15 which an RS-232 lead costs? You can make up your own

lead for less than £5, but there's a considerable amount of hassle involved in soldering all the connections together.

Nevertheless, if you want to proceed, you need two 25-way, female D-connectors and five core wire. Link both pin sevens directly together. Then swap pins two and three over so that the data transmitted from one ST goes into the received data line of the other. Perform the same trick with pins four and five. Most applications don't use these anyway and if you choose to leave them out, just link pins four and five directly together on both STs. And there



## HINTS AND TIPS

you have it. Plug one end into each ST and away you go.

### JOY DIVISION

Want to find a way of accessing the joystick port from within GFA Basic? If you're using version 3 then you have the STICK command which reads the joystick port into a variable, but in earlier versions this command was omitted, as **David Maddox** from Suffolk discovered.

The way around this problem is to resort to using direct memory calls. Atari ST Internals from Abacus Software is recommended reading before performing this kind of operation. Briefly, the memory locations \$14-\$19 report on the condition of the joystick. Read these locations and see how they change as the joystick is moved.

### SCART AT THE BEGINNING

The occasional television features a SCART socket. Using a special lead you can connect this to the monitor port on the back of your ST. **Stuart Wheeler** from London wants to know to what extent the picture quality is improved.

The standard TV port on the back of your ST takes the different red, green and blue signals and combines them. This signal is sent to your television, at which point the different colours are separated causing the picture quality to suffer. If you use the SCART socket, the red, green and blue signals are never combined so you get stronger colours and a sharper picture.

This picture will never be better than using a straight monitor because the TV resolution isn't as high, but it's certainly the preferred option if you have a suitably-equipped television.

Most local computer stores will stock the lead but if you have any trouble, give SDL a ring on 01-309 1111.

### METAMORPHOSIS

**P. Singh** from Cornwall wants to find a circuit which converts his television into a monitor with the option of a green screen. He complains that a colour monitor is too expensive.

The reason monitors are expensive is because they output signals at an exceptionally high resolution. If you can bear a lower quality picture then connect the ordinary RF output on the back of your ST to the aerial socket on your television. But you don't get something for nothing. Some TV's come with a SCART socket (see tip above) which give a better quality picture but it's still not up to the standard of a monitor. If

you want a green screen, the best advice is to get a sheet of cling-film, paint it green and place it over the screen.

### MEDIOCRE STE

As reported in last month's news item, it's not that easy to make the STE boot up in medium resolution. However, **Norman Laird** from Aberdeen has found a way to do this.

The answer is to switch into medium resolution and save the Desktop as normal. Now use a simple text editor to edit the DESKTOP.INF file. This is arranged as a series of lines labelled with a letter. Find line E and it should look something like this: #E D8 01. Change the last digit to a 3 and now resave the file. Re-boot your STE and the Desktop magically appears in medium resolution.

### HELPLINE - EMPTY BOXES

If you've ever tried using the GFA Basic menu commands to call a Desktop accessory, you'll have noticed that the window occupied by the accessory is replaced by a green "hole" when you exit from it.

**Simon Hudson** from Hull wants to know if it's possible to GET the screen before the accessory is accessed and then PUT it back again when you exit. The way around this is to intercept the accessory call from Basic but how do you do it? If anyone can help, send your tip to the usual address (below).

### CARTRIDGE CRAZY

The ST's cartridge port looks an appetizing port to play with, especially when you look at the pin out diagrams and see what each line does. But what can you do with it, asks **D. Plows** from Suffolk?

Many applications such as digitisers, scan-



■ Lakmeyer's EPROM programmer

ners, and even languages, plug into the cartridge port which is treated similarly to an additional, read-only disk drive. If you insert a cartridge, set up a drive c icon (note, it must be in lower-case) and double-click on it, you can see various programs there. If you try loading a PRG file, depending on the application, it should load instantly.

But what if you want to put your own programs on cartridge? You can buy an EPROM blower, a CMOS chip and an empty cartridge. There aren't too many EPROM blowers available for the ST, but Lakmeyer sell a good one. Combine this with the empty cartridge from Dattel and you'll have just the kit you need. The process works by "burning" up to 128K of software onto a chip. Any type of program or data file can be placed there, but once on the chip, it's impossible to remove it.

For more details about the EPROM blower, contact its distributors, J.E Sinclair, on 01 316 1779.

### WHIZZING PAST

README files often whizz straight past your eyes without pausing after one screenful, particularly if they contain printer codes. **Mr Vest** from County Durham wants to know if it's possible to prevent this from happening.

There are three solutions: the first and easiest method is to load the file into a word processor and read it that way; the second is to look through the file with a text editor, chop out all the control codes and re-save it; the third and hardest solution is to write your own program to do the job. It should read in a character at a time, ignore any code below CHR\$(32) and above CHR\$(126) and print the remainder ■

## WIN LOADSA DOSH

If you're having trouble with your ST or if you have any hints or tips which you think other ST owners will drool over, send them immediately to: Desktop, ST Format, Beauford Court, 30 Monmouth Street, Bath BA1 2AP.

Each month we give away £30 for our favourite tip so if you're looking for some extra dosh, get writing. **Norman Laird** wins this month's coveted prize for his STE advice.

## MACPAINT FILE FORMAT

Our last look at picture file formats concentrates on MacPaint documents. It's only intended to be a general look at the construction of MacPaint files. If you intend writing software to convert picture files, you'll need to play with the codes to properly understand the picture construction.

These picture file formats have been enormously popular. If you want Desktop to examine other types of files or if you have any information about the construction of program or sound file types, drop a line to Desktop at the usual address (listed above) and you could earn yourself some money.

header:

1 long

version number (if zero, entire header is ignored)

38 X 2 long

pattern data

83 long words

reserved

(total 160 longwords for header)

< 51200 bytes compressed bitmap data

< 51716 bytes total

Bitmap compression:

The bitmap data is arranged for a 576 pixel

by 720 pixel monochrome image. All data is stored as a sequence of records with each record consisting of a control byte followed by one or more data bytes. The control byte is arranged as follows:

For a given control byte, x:

0 < x < 127 Use the next x + 1 bytes literally (no repetition) -128 <= x <= 0 Use the next byte -x + 1 times

There are 72 bytes per scan line with each bit represents one pixel; 0 = white, 1 = black.



# 3 1/2" Disks for 50p

Minimum quantity of only 10 disks  
880k Certified error free D/S  
135 tpi Disks including labels  
Lifetime replacement  
guarantee

- 10 or more Disks - 50p a disk
- 100 or more Disks - 49p a disk
- 250 or more disks - 48p a disk
- 500 or more disks - 47p a disk
- 1000 or more disks - 45p a disk

Make Cheques or Postal Orders Payable to  
**Seven Disk**

All prices include VAT and Postage  
Send a SAE for price list/order form

Seven Disk, Digswell Water Lodge,  
Digswell Lane, Welwyn Garden City,  
Herts. AL7 1SN

## Seven Disk



(0438) 840 456



## MERLIN COMPUTERS

OUR PRICES ARE MAGIC

AMIGA 500 ONLY £379.00 INC BATMAN PACK

ATARI 520 STFM POWER PACK .....£359.99

TRY THE ST's MIDI POWER

CASIO MT 240 AN EXCELLENT LOW COST MIDI KEYBOARD £89.99  
OTHER CASIO KEYBOARDS ALSO AVAILABLE

1 MEG 3.5" DISK DRIVES ST AND AMIGA .....£85.99

ATARI STFM 1 MEG INTERNAL DRIVE UPGRADE .....£74.99

1 MEG INTERNAL DRIVE FOR AMSTRAD 1512/1640 .....£85.99

The above drive is an easy to fit 2nd drive complete with mounting tray/facia

STAR LC 10 COLOUR PRINTER.....£215.00

STAR LC10 MONO PRINTER .....£169.99

STAR LC10 COLOUR HEAT TRANSFER RIBBONS - IDEAL  
FOR PRINTING YOUR OWN T-SHIRTS ETC.....£17.99

BLANK DISKS AT  
AMAZING LOW PRICES

10 3.5" DS/DD life time guaranteed.....£7.50

10 5.25" DS (per 10).....£3.50

Bulk buyers please phone for bulk prices

WE STOCK MANY ITEMS NOT LISTED HERE PLEASE PHONE  
FOR ANY ITEMS NOT LISTED

All prices include VAT and P & P

PLEASE NOTE ATARI 8-BIT OWNERS WE SUPPORT YOU

PLEASE PHONE FOR DETAILS

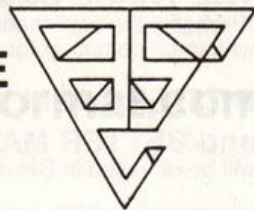
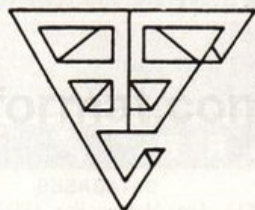


**MERLIN COMPUTERS**

154 Uplands Ave., Connah's Quay,  
Deeside, Clwyd. CH5 4LG  
Tel: 0244 821843



## CAMBRIDGE BUSINESS SOFTWARE ATARI ST PRODUCTIVITY SOFTWARE



### ACCOUNTS

Bookkeeper .....	£84.95
Accountant .....	£129.95
Accountant Plus .....	£209.00
Financial Controller .....	£329.00
Small Business Accounts .....	£89.95
Small Business Accounts Extra .....	£99.00
Small Business Accounts Plus .....	PHONE
Personal Accounts Plus .....	£26.95
Personal Tax Planner .....	£34.95
Cashbook Controller .....	£39.95
Final Accounts .....	£24.95

### DATABASES

Autotools .....	£127.00
Base Two .....	£49.95
Data Manager Professional .....	£35.00
Super Base Personal 2 .....	£89.95
Super Base Professional .....	£175.00
Digital DBASE .....	£39.95
Prodata .....	£89.95

### DESKTOP PUBLISHING

Timeworks DTP .....	£89.95
DTP Clip Art Pack .....	£19.95
Page Stream .....	PHONE
Fleet Street Publisher .....	£86.95

### COMPUTER AIDED DESIGN

PC Board Designer .....	£135.00
BeckerCAD .....	PHONE
GFA Draft Plus (NEW VERSION) .....	£79.95
Campus Draft .....	£89.95
CAD 3D V1.0 .....	£18.95
Cyber Studio CAD 3D V2 .....	£45.00
Cyber Control .....	£35.00
Cyber Paint .....	£45.00
Cyber Sculpt .....	£59.95
Cyber Texture .....	£39.95
Architecture Design .....	£24.95
Human Design .....	£24.95
Cartoon Design .....	£24.95
Future Design .....	£22.95
Easy Draw 2 .....	£45.00
Supercharged Easy Draw 2 .....	£89.95
Easy Draw 2 Tech Art .....	£29.95
Easy Draw 2 Scan Art .....	£29.95
Easy Tools .....	£29.95
Easy Draw 2 Art .....	£39.95

### LANGUAGES & COMPILERS

Prospero C .....	£99.00
Prospero Fortran .....	£99.00
Prospero Pascal .....	£79.95
Prospero Toolkit .....	£59.95
ST68881 Libraries .....	£59.95
Mark Williams C .....	£92.00
Mark Williams C.S.D. .....	£45.00
GST C. Compiler .....	£14.95
GST ASM .....	£14.95
Lattice C V5 .....	PHONE
HiSoft Power Basic .....	£39.95
HiSoft Basic .....	£59.95
HiSoft C. Interpreter .....	£39.95
FTL Module 2 .....	£52.00
FTL Module 2 Developer .....	£69.95
Personal Pascal V2 .....	£82.95
WERCS plus GDOS .....	£39.95
GFA Basic Compiler V3 .....	£24.95
GFA Basic Interpreter V3 .....	£45.00
Nevada Cobol (with C/PM) .....	£42.00
MPE Forth 83 (GEM) .....	£39.95
Minix .....	PHONE

### SPREADSHEETS

Digicalc .....	£29.95
K-Spread 3 .....	£67.95
K-Spread 4 .....	£99.00
VIP Professional .....	£149.00

### WORD PROCESSORS

GST First Word Plus V3 .....	£57.95
Protex .....	£89.95
Wordperfect .....	£179.95
Wordwriter .....	PHONE

### MISCELLANEOUS

Hyperpaint .....	£19.95
Hyperdraw .....	£19.95
Flairpaint .....	£29.95
GFA Ray Trace .....	£39.95
Neochrome .....	£19.95
Neodesk .....	£34.95
Degas Elite .....	£19.95
Spectrum 512 .....	£44.95
Tempos 2 Editor .....	£34.95
Protex Office .....	£29.95
K-Graph 3 .....	£39.95
Mailshot .....	£19.95
Mailshot Plus .....	£35.95
STOS .....	£22.50
Video Tiling .....	£24.95
SLM 804 Epson Emulator .....	£24.95

### EASY DRAW SPECIAL

SUPERCHARGED DRAW 2  
EASY TOOLS

**£85.00**

### CYBER STUDIO CYBER CONTROL CYBER PAINT

**NOW £120.00**

ALL PRICES LISTED INCLUDE VAT AND DELIVERY  
PLEASE MAKE CHEQUES PAYABLE TO  
CAMBRIDGE BUSINESS SOFTWARE

No surcharges on European orders!

### TIMEWORKS DTP

+  
DTP CLIP ART PACK  
**£85.00**

Melbourn Science Park, Moat Lane, Melbourn, Royston, Herts. SG8 6EJ

IMMEDIATE DESPATCH (subject to availability)

ORDERS WELCOME FROM EDUCATION, GOVT. & BPPO

HOW TO ORDER:

TEL 0763 262582 • FAX 0763 262425 • TELEX 817932



**PROSPERO C  
PROSPERO FORTRAN  
PROSPERO PASCAL  
NOW £250.00**



# SCHOOL SOFTWARE LTD.

FREE Catalogue Amstrad CPC, PCW, PC1512, Commodore, BBC, IBM PC, MSDOS.

Additional Dealers Wanted.

24 hour Visa/Access Hotline.

Ring UK 010353 - 6149477 (Office Hours)

(Irl. 061 - 45399).

Direct UK 010353 - 6145399 (24 hr.)

## NEW RELEASES

Our Highly Acclaimed educational software is being released on the Atari ST. From ALL good dealers in NOVEMBER.

### MAGIC MATHS (age 4-8) £22.95

Five superb programs dealing with numbers, addition and subtraction. "Excellent sound and graphics". A first class educational product.

### MATHS MANIA (age 8-12) £22.95

"Five brilliantly conceived programs". Logical thinking, multiplication, division, memory training. "Excellent value."

### THE THREE BEARS (age 5-10) £22.95

"Probably the best reading and adventure program ever written on computer for young children."

### BETTER SPELLING (age 8-Adult)

### and BETTER MATHS (age 12-16)

will be released in December.

Full catalogue of Educational Software for IBM PC, Amstrad CPC, Amstrad PCW, Commodore and BBC.

We accept Access, Visa - see phone numbers above

#### ORDER DIRECT TO:

School Software Ltd., Tait Business Centre,  
Dominic St., Limerick, Ireland.  
Tel: (UK) 010353 - 6145399  
(UK) 010353 - 6149477

PC DISCS £22.95 (5.25", 3.5")

CASSETTES £10.95 (£1.00 P&P)

PCW & CPC DISCS £16.95 (£1.00 P&P)

☐ Access/Mastercard/Eurocard/Barclaycard/Visa

Expiry Date

Card No:

☐ Cheque/PO made payable to:

School Software

My Machine..... Titles.....

Name.....

Address.....

Postcode.....

#### COMPUTERS DRIVES PRINTERS ACCESSORIES

Atari 520STFM.....£269	AVAILABLE FROM GASTEINER TECHNOLOGIES AND ALL GOOD STORES	Epson LX400.....£POA	Sony, TDK, Philips 3.5" DS/DD
Atari 1040STFM.....£399		Epson LQ400.....£POA	Box of 10.....£10
Atari Mega 1.....£519		Epson LQ550.....£POA	Kempston Data Scan.....£229
Atari Mega 2.....£POA		Citizen 1086.....£POA	Mouse.....£24.95
Atari Mega 4.....£POA		Citizen Swift 24.....£285	Vidi ST.....£95
Atari 1040STF.....£POA		NEC P7+.....£POA	Midi Lead.....£POA
		NEC P6+.....£POA	Twin Joystick Extension.....£5
		Star LC10.....£POA	Mouse Mat.....£POA
		Star LC10 Colour.....£POA	Ribbons.....£POA
		Star LC24-10.....£POA	Internal Clock.....£POA
		Panasonic KXP1180.....£POA	External Clock.....£POA
		Panasonic KXP1124.....£POA	Dust Covers.....£POA
		Others Please Ring!	Toners.....£POA

#### MONITORS

SM124 (Atari).....£99	GAS 40MB	11 milliseconds.....£599
SM1224 (Atari).....£259	GAS 50MB	28 milliseconds.....£479
Philips 8833.....£229	GAS 85MB	28 milliseconds.....£679
Philips 8852.....£259	Autoboot, Auto Park, 12 months guarantee, 12 par- titions full SCSI DATA in and out. Back up program.	

#### COMPUTER PACKS

Atari Power Pack.....£349	Supra 30Mb.....£POA
Atari 1040 PRO.....£439	Atari 30Mb.....£389
Atari PC Pack.....£499	3.5" 1Mb.....£85
	5.25".....£POA

#### LASER

Atari SLM804.....£POA
Star LP8.....£1249
HP Laser II.....£POA
HP Laser IID.....£POA
Panasonic Laser.....£POA

UPGRADE FOR ATARI  
COMPUTERS UP TO  
4MB 599  
Available from Gasteiner  
and all good stores.

#### MS-DOS ON THE ST WITH THAT'S PC SPEED - THE HARDWARE PC EMULATOR

Supports monochrome as well as colour monitors. Supports all hard disks and disk drives connected to the serial and parallel port of your ST. Mouse supporting, IBM monochrome, CGA, Olivetti and Hercules graphics emulation.

Extensive test available in ST magazine

#### The Ultimate Challenge.. PC compatibility for Atari ST owners

1. PC SPEED is small but powerful measuring only 9.5 x 9.5 cm
2. PC SPEED is fast and compatible
3. PC SPEED does not require the ROM port therefore leaving it free to be used by other valuable programs
4. PC SPEED can be built into any ST including the 520
5. PC SPEED is easy to work with
6. PC SPEED runs MS-DOS software fast and bug free
7. PC SPEED supports all hard disks that rely on the DMA port and it also uses ATARI hard disk driver
8. PC SPEED supports all external 3.5 and 5.25 drives
9. PC SPEED supports the parallel and serial ports, can even use PCmouse
10. PC SPEED supports all sound capabilities
11. NORTON factor 4.0 (four times faster than 4.77 MHz XT)
12. PC SPEED provides the user with 704K ram (64K more than an XT)
13. PC SPEED emulates CGA and Hercules graphic cards
14. The processor in PC SPEED gains direct access to the RAM via the systembus, therefore requires no RAM and thereby does not lose speed, the known problem when accessing the ram via the serial port.

#### OFFICIAL DISTRIBUTORS FOR THE "THAT'S SERIES" OF PROGRAMS

ALL THIS FOR ONLY £249 inc VAT PLUS  
FURTHER DISCOUNT OF £49  
FOR PEOPLE WHO OWN PC. DITTO 1

#### SOFTWARE

##### WORD PROCESSING

That's Write.....£99
First Word+.....£59
K-Word.....£POA
Word Perfect.....£199
Protext V4.2.....£POA
Tempus II.....£POA
Microsoft Write.....£49
Word Writer.....£69

##### GRAPHICS

Cyber Studio.....£POA
Cyber Paint.....£POA
Cyber Sculpt.....£POA
Cyber Texture.....£POA
3D Developer's Disk.....£POA
Architectural Design Disk.....£POA
Cartoon Design Disk.....£POA
Future Design Disk.....£POA
Human Design Disk.....£POA
Microbot Design.....£POA
Video Titling.....£POA
Sterotek.....£POA
3D Font I + II.....£POA

##### LET'S MAKE

Greeting Cards.....£POA
Sign + Banners.....£POA
Calendars + Stationery.....£POA
Art Library 1 + 2.....£POA
Spectrum 512.....£POA
CAD 3D.....£POA
Plotter + Printer.....£POA

##### MUSIC

C-Lab Notator.....£319
C-Tab Creator.....£POA
Steinburg Pro 24.....£POA
Mastertracks Pro.....£POA
GIST.....£POA
Neo-Desk.....£POA

##### DATABASES

Data Manager Pro.....£POA
Data Manager.....£POA
Base II.....£POA
Superbase.....£POA
Superbase Pro.....£POA

##### PROGRAMMING

Mark Williams.....£POA
GSTC.....£POA
Prospero C.....£POA
Prospero Fontan.....£POA
Prospero Pascal.....£POA
Hi Soft Basic.....£POA
68000.....£POA
Genesis.....£POA
Start.....£POA
ST Basic.....£5
C-Breeze.....£POA
GFA Basic.....£POA

##### SPREADSHEETS

K-Spread.....£POA
VIP.....£49
Swiftcalc.....£POA
Saga.....£POA
Mini Office.....£POA

THAT'S FUNFACE including  
THAT'S SWAPSHOT - £34.95

TIMEWORKS DTP +  
EASY DRAW II - £95

## GASTEINER TECHNOLOGIES LTD

UNIT 12, MILLMEAD BUSINESS CENTRE,  
MILLMEAD ROAD, LONDON N17 9QU

Telephone: 01-365 1151. Fax: 01-884 2418.



# SEQUENCE DANCING

STORY Jon Bates

*Two MIDI sequencers with a prodigious array of features are released this month; you certainly get more music software for your money now than you did twelve months ago!*

## Sequencer One

MACHINE: ALL STs

PRICE: £79

FROM: GAJITS MUSIC SOFTWARE

CONTACT: 061 434 2768

**S**equencer One is a 32 track sequencer with a high level of recording accuracy/resolution – no less than 192 clicks per quarter note. This means that for each quarter note (crotchet), the ST records it to an accuracy of 192 and it takes 192 clicks to make up a beat.

The main screen is divided into several sections. On the left-hand side is the list of tracks recorded. You see 10 of them at any one time but can scroll up or down to see others. The right-hand side is occupied by a cue sheet. It's a great idea allowing any position in the piece to be copied from the song position counter and put into the cue sheet together with your own references and comments. To locate a point in the song simply click on the appropriate part in the cue sheet. It's so simple and lets you find your way around songs so quickly, I can't believe no-one has thought of it before.

The bottom section of the screen is taken up by the usual tape recorder controls with various options of auto rewind. Go to the beginning or end of the piece by double-clicking on the rewind buttons. As well as a bar/beat counter Sequencer One also registers the time elapsed from the start of recording or playback. To the right of these are the start and end position counters/markers. These are more important than they first appear because all editing, looping, cut and pasting routines are defined by them.

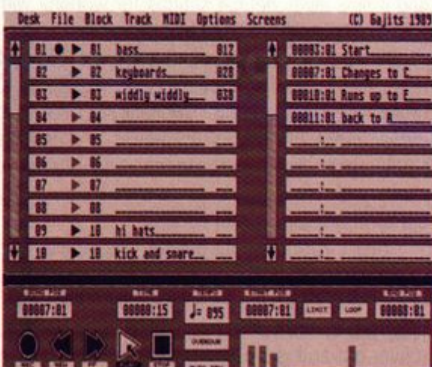
### MOUSE TAPPING

A nice idea which speeds things up is the ability to drag bar positions from one counter to another: for example, from the cue sheet to the start and end locators, which saves you fiddling around with numbers to match up positions.

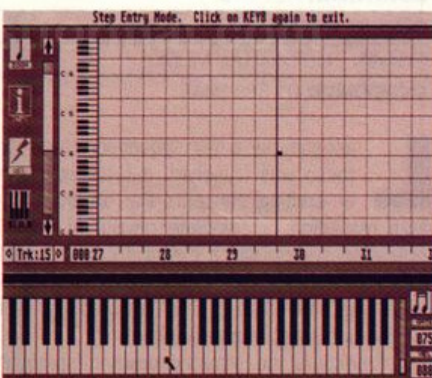
In the centre of the lower screen is the tempo display. This can be set in three ways. A single click lets you type in the tempo and double-click lets you use the mouse as a slider to find the tempo you want. The third option is rather smart: select Click Tempo from the



■ The main screen of Sequencer One playing Beethoven's Eroica. Instruments are listed on the left of the screen



■ The cue sheet on the right enables any point within the piece to be dragged to either song position or locator marks



■ The note editing screen has an unfussy arrangement – just hit the keyboard on the screen and the notes appear on the grid

Options menu, simply tap the mouse button at the speed you think the piece will feel best at and presto, the correct tempo appears. To round things off there is an animated bar graph style display in the bottom left corner which shows you which MIDI channels are currently in operation.

Recording is easy. Select the track you want, hit record and play away. There's an internal metronome which plays a MIDI note (definable) on your instrument that keeps you in time. You can overdub parts on each track or put it in loop mode and keep going over the section until it sounds right. A provision for count-in bars would have been a useful additional feature here.

Each track has a generous 16 character name space. To the left of the name is a space to put in the patch number. This is excellent – usually you have to look at the edit page to find out what sound you're using and with a few multi-timbral modules running simultaneously this is time consuming stuff. The idea of simply altering the patch number on the main screen gets my vote. It would be nice to have an "audition" feature here so that it actually sent the patch change as you dialled it on screen, allowing you to hear it before you played or recorded the track. For each track you can call up a Track Info box giving you further details such as pan and volume settings and number of events.

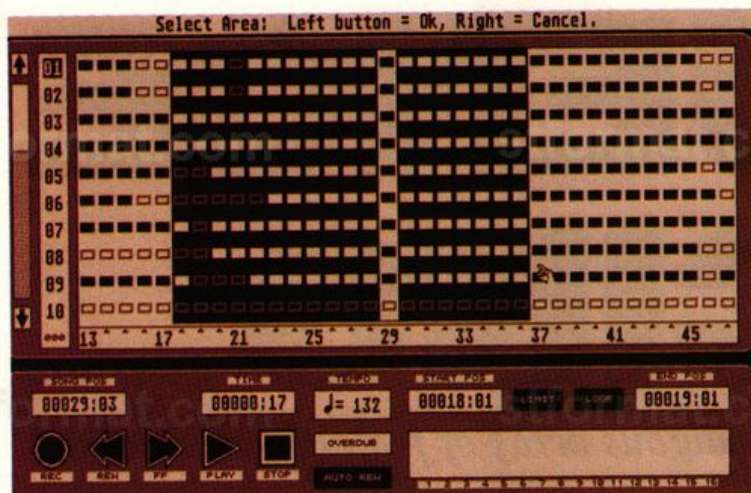
### ACTIVE TRACKS

A black triangle indicates active tracks and a black circle denotes the one you're recording (the same icons as Play and Record). Any track can be muted by clicking on the triangle. A Solo feature would have been useful because flicking through a dozen tracks and turning them off is frustrating.

After recording you need to tidy up the timing by using the Quantize operation. Although you can select any value to quantize to, the program only gives you two options. You can move the complete note or just the starting time of the note. More features, such as a percentage of accuracy to remove the robotic feel that the quantize options give you, would have been useful.

The note editing screen shows the contents of a track in graphic form – the notes scroll from right to left on a grid. The horizontal lines





■ **Sequencer One's block editor enables you to select tracks and put them anywhere within the piece. The shaded area on the left is about to be cut and pasted – a useful feature for choruses or repeated verses**

represent pitch and the vertical lines definable time intervals. A keyboard running down the left-hand side of the window gives you the pitch and can be scrolled up and down. It displays five octaves at a time but allows access to a full ten octaves. The corresponding bar numbers roll under the scrolling screen. Using the cursor you can jump to any point and change track while in edit – a great time saving feature.

#### NOTE ZAPPING

The step editing is a little tedious. The principle is that you click on a note, an info window appears and you adjust the note either in pitch, velocity, timing or length. The problem is that you're still altering notes numerically and can't drag notes around the screen. Even worse is the fact that you can't hear notes – and many people like to hear the note being changed so they can fit it into the composition better. Sorry Gajits, but it's very slow in comparison with other available editing screens.

Delete is achieved by changing to delete mode and zapping any note that offends. It's a once and for all process with no come back should you inadvertently delete a perfectly good note. There is a step time recording feature on the same screen which is easy to use and is very quick for knocking up drum tracks.

The other screen is a bar editor – a cut and

paste screen that gives you an overview of the tracks and allows you to shuffle sections around, copy, delete and so on. You can work on tracks individually or in total, which is very handy for setting up verses and repeated choruses. Any defined block is automatically set up in the locator markers should you want to add extra parts or process it in another way – like transpose the whole section or alter the velocity of the notes.

Sequencer One has several other features that make it very good value for money. It alters incoming MIDI data – changing, say, a pitch bend to a volume controller. It can respond to, and send out, MIDI synchronization and it can strip off superfluous MIDI data. Most of the major functions can be operated from qwerty controls and there's a help screen if you're not sure of anything. Each song has a dialogue screen for noting down additional information and it files away default set-ups for working with your own configurations of instruments.

A song can be stored in either its own format or MIDI file for importing and exporting to other ST sequencers. Sequencer One also stores individual tracks or blocks. It supports GEM-based desk accessories and therefore works with other music accessories like universal librarians and sound editors.

Apart from the note editing, Sequencer One is excellent value for money and very easy to understand and use. If you're in any doubt about pricing £79 from your piggy bank, why not take a fiver out and get a demo version? Bet you buy the full version afterwards!

#### Prodigy

**MACHINE:** ALL STs

**PRICE:** £129.95

**FROM:** THE DIGITAL MUSE

**CONTACT:** 01 586 3445

Last summer a new sequencer called *Virtuoso* was launched. It featured plenty of exciting concepts like an amazingly high resolution, a complete rewrite of the ST operating system which meant it could do disk operations at the same time it was playing or recording and some pretty fancy editing (see ST Format issue 3 for review).

Prodigy is the slimmed down offspring of *Virtuoso* and it's on offer at the knock-down price of £129.95. The first thing to note is that Prodigy has very much the same appearance

as its predecessor and uses the same environment. It does however, run on the 520, which is something that *Virtuoso* wouldn't do – albeit not in medium resolution. The major difference between them is the number of clicks per quarter note. *Virtuoso* has a staggering 480 and *Prodigy* a modest 120. There's also been a reduction in the number of tracks from 99 on *Virtuoso* down to 32 on *Prodigy*.

Prodigy has the same operating system as *Virtuoso*, so recording and playback can continue as work is saved to disk or data printed out, all of which which saves time and prevents disruption of your work. All files and on-screen track names can take up to 12 characters. The mouse actions are duplicated on the qwerty keyboard and there are no drop-down menus. Everything is either on screen or in window-type areas. Numeric increments are committed in the usual manner of holding down left or right buttons – the screen cursor changing to plus or minus. There are instances when a typed in number would have been an advantage. Flipping from screen to screen is incredibly fast and doesn't interfere with the running of the program.

#### VELOCITY BAR

Prodigy is divided into several functions/pages. The main area of activity is the Block page. 32 tracks can be used in each block and these run from the top of the screen scrolling either in fast or slow mode or called up numerically. A block is a section or piece and each track is a separate instrument. You can assign the MIDI channels for specific instruments and these will automatically come up in the track assignment slot. The screen design is easy to follow with the controlling icons set to the right along with the counters and section markers. Tracks can be cleared, copied and removed completely although there is no prompt window to confirm this, and tracks or even blocks can be wiped out if you're not careful.

All active tracks have a velocity bar meter and can be turned on or off or "soloed" which mutes all the other tracks. Select the track, choose to have a count in or not and hit record. Once the track is laid down the options for real-time processing are excellent; being real-time it's not altering the actual track data in this page – for permanent alteration you use the Process or Edit screen.

Apart from quantize and volume control there are lots of options for each individual track available to the right of the track list: program change, pan position, looping, digital delay, transpose, velocity and MIDI filters either in or out. Most of these functions are set from

EVENT TIME	EVENT TYPE	CH	DATA	TIME	DATA
003:02:081	Chen. aftertouch	1	2	003:02:081	Chen. aftertouch
003:02:086	Note off	1	E1 0	003:02:086	Note off
003:04:115	Note on	1	D1 100 Len 000:01:024	003:04:115	Note on
004:02:020	Note off	1	D1 0	004:02:020	Note off
004:02:060	Note on	1	D1 100 Len 000:00:024	004:02:060	Note on
004:02:064	Note off	1	D1 0	004:02:064	Note off
005:01:000	Note on	1	C1 91 Len 000:01:025	005:01:000	Note on
005:02:025	Note off	1	C1 0	005:02:025	Note off
005:02:061	Note on	1	C1 91 Len 000:00:022	005:02:061	Note on
005:02:069	Chen. aftertouch	1	3	005:02:069	Chen. aftertouch
005:02:073	Chen. aftertouch	1	2	005:02:073	Chen. aftertouch
005:02:083	Note off	1	C1 0	005:02:083	Note off
006:01:003	Note on	1	D1 100 Len 000:01:022	006:01:003	Note on

■ **Prodigy's "data stream" style of editing – note the hex option and chord mode**

#### FORMAT RATINGS SEQUENCER ONE

**Features** 85%  
Has the full range of features you would expect from a much more expensive package

**Speed** 95%  
Excellent speed with lots of well thought out short cuts – except the editing

**Ease of Use** 90%  
Very easy to get used to

**Results** 95%  
No complaints except that the quantize is too rigid. No bugs or problems

**Format Value** 91%  
Excellent value for money and a friendly well documented program

#### The Competition

At the £80 mark the major competition is *Track 24* from Comus/Soundbits (021 733 2063)



# BLOW YOUR MIND WITH DIMENSION 1.



Take your Atari into a new dimension of sound with **Dimension 1 Stereo Adapter**. Just simply plug into the rear of your Atari and the output into any stereo amplifier to gain full benefit from all your games software. Just look at the benefits below:

- 1) Easy external plug in connection.
- 2) Long life battery operation.
- 3) Integral on/off switch for longer battery life.
- 4) Compact design (4.5" x 3" x 1" high).
- 5) Latest state of the art technology.
- 6) All leads supplied no extras required.
- 7) Free advice service.

£32.50 inc P&P and VAT. Make cheques payable to:

**SAXON ELECTRONICS**

Access and Visa accepted. Please allow 21 days for delivery.  
Supplied by: **SAXON ELECTRONICS, Dennis House,  
Hawley Road, Hinckley, Leics. LE10 0PR. Tel: 0455 38716.**

Make your games come to life with **Dimension 1** stereo sound for your Atari.

**Suitable for Atari ST or any other mono computer.**

## DATAPEX 10 Petersfield Avenue, Slough, Berkshire SL2 5DN

Tel 0753 35557

Fax 0753 51122

### COMPUTERS

New Atari Portable Portfolio Computer	189.00
520 STE Explorer Pack	248.00
520 STE Expi + SC1224	449.00
520 STE Expi + Philips CM8833	439.00
520 STE Power Pack	325.00
Inc 1MB Drive, games worth over £550.00, Basic and CX40 joystick.	
520STE Expi + SM124	389.00
520STE Super Pack	329.00
Includes 1MB drive + over £450.00 worth of games.	
1040STE + SM124	459.00
1040STE + SC1224	539.00
1040STE	389.00
Includes VIP, Microsoft, Basic disk and manuals.	
1040STE Power Pack	469.00
SM124	110.00
SC1224	229.00

### DRIVES

1MB 3.5" Drive (External)	68.00
1MB 5.25" Drive (External)	99.00
1MB 3.5" Drive (Internal)	63.00

### MONITOR

Hyundai EGA 14" Colour	229.00
Hyundai VGA 14" Colour	249.00
NEC Multisync 3D	480.00
NEC Multisync 11A	349.00
NEC Multisync Plus	612.00
NEC Multisync	289.00
Philips CM8833 14" Colour	199.00
Philips BM7502 12" Green	79.00
Philips BM7522 12" Amber	89.00

### PRINTERS

Amstrad LQ3500 DI	189.00
Amstrad DMP4000	175.00
Amstrad LQ5000 DI	295.00
Brother HIR20 Daisywheel	380.00
DMP350	115.00

### DOT MATRIX RANGE

Citizen 120D	115.00
Citizen 180E	127.00
New 24 pin Swift 24	255.00
Colour upgrade for Swift	42.00
Citizen MSP 15E	188.00
Citizen MSP 40	228.00
Citizen MSP 45	252.00
Citizen MSP 50	292.00
Citizen MSP 55	322.00
Citizen HQP 40 (last few)	295.00

All Citizen printers come with 2 year warranty

Epson LX400	139.00
Epson LX850	209.00
Epson FX850	315.00
Epson FX1050	409.00
Epson LQ400	209.00
Epson LQ550	279.00
Epson LQ850	449.00
Epson LQ1050	579.00
Epson LQ860	524.00
Epson LQ1060	649.00

### HEWLETT PACKARD

Thinkjet	269.00
Quietjet	362.00
Quietjet+	429.00
Deskjet	465.00
Deskjet +	565.00
Paintjet	725.00
Rugged Writer	899.00

All Hewlett Packard printers come with 12 months on site warranty

Star LC10 mono	135.00
Star LC10 colour	168.00
Star LC10-II	165.00
Star LC24-10	225.00
Star LC15 9 pin, 36 column	275.00
Star LC24-15 24 pin	344.00
Star XB2410	409.00
Star XB2415	540.00
NEC P2+	245.00
NEC P6+ 80 character	389.00
NEC P7+ 136 character	523.00
Colour upgrade kit	69.00
Panasonic KXP1081	128.00
Panasonic KXP1124	219.00
Sheetfeeder	85.00
Panasonic KXP1180	144.00
Panasonic KXP1592	299.00
Panasonic KXP1595	344.00
Panasonic KXP1540	428.00

### NEW MANNESMANN TALLY

MT81 (dot matrix)	115.00
Sheetfeeder	49.00
Serial I/F	62.00

All Star, Citizen, Mannesmann Tally Printers come with 1 year on site maintenance.

### LASER PRINTERS

Brother HL 8	1395.00
Brother HL 8 QS P. Script	3569.00
Epson GQ-5000	1125.00
Hewlett Pack Laser II	1243.00
Hewlett Pack Laser IID	1939.00
Olivetti PG208 (same spec as HP Laserjet II)	1308.00
Panasonic KXP 4450	1349.00
Qume Crystal Print WP	995.00
Qume Script Ten Pscript	2969.00
Star LPS	1249.00

All Laser Printers include 1 year on site maintenance.

### SHEET FEEDER

High capacity feeder for modern Laser printers	
HCF 1000	215.00
(1000 sheets capacity)	

All prices exclude VAT & delivery charge E&OE.

All prices subject to change without notice. All

collections made by prior arrangement. Please

add £1 + VAT for consumables £8 + VAT or all other

items.

Next day delivery.

VISA

# LIVE IN THE NORTH? WHY NOT VISIT LEEDS NO.1 ST AND AMIGA DEALER?

We specialise in DTP, MIDI, GRAPHICS and BUSINESS applications and always have in stock a great choice of serious software plus, of course, the full range of Atari and Amiga computers and related hardware. All on demo too so you can TRY BEFORE YOU BUY. And if you want competitive prices we've got them too.....eg.

520 Explorer pack	£275
520 Power pack	£349
1040 STE	£449
Mega 2	£799
Mega 4	£1099
Stacy portables	call
Portfolio	£235
SM 124 when bought with computer	£100
Philips 8833	call

Star LC 10 Mono	£169
Star LC 10 Colour	£215
Star LC 15 Wide carriage	£349
Star LC 24	£259
Citizen Swift 24 (great printer!)	£319
Colour Upgrade for above	£35

Cumana external drive (the best)	£90
Internal drive 1 meg	£69
Cumana 5.25	£125
Megafile 30	£449
Megafile 60	£598

Xtra-Ram	£99.95
Xtra-Ram 2 meg	£299
Digitisers from	£99
Scanners from	£199
Samplers from	£39

## MOST SOFTWARE TITLES AT 20% OFF RRP

Call for advice or for prices on any item not listed above. If it exists we can probably get it. If we can't we'll put you in touch with a company which can!

**Mail Order?** Buy with confidence. We test before despatch so no more DOA's

# MIDITECH

The Colosseum, Cookridge Street,  
Leeds LS2 3AW

Tel. (0532) 446520.



VISA



an on-screen slider or a numerical input. There is a handy auto-cycle mode which either overdubs as the track re-cycles or jumps to the next assigned track (prepared beforehand) and record whole sections without having to stop. By building up a number of tracks, you create a section of music – a Block – which you can then file away to the Library page for assembly at a later stage into a whole song.

### PIANO ROLL

*Prodigy* edits either graphically or in a data stream. The graphic editing is performed in the manner of a piano roll. The notes scroll down against a grid as squares or oblongs and the pitch is indicated on a piano keyboard under which the display passes. The keyboard is movable in all directions and can be shown either in part or in full.

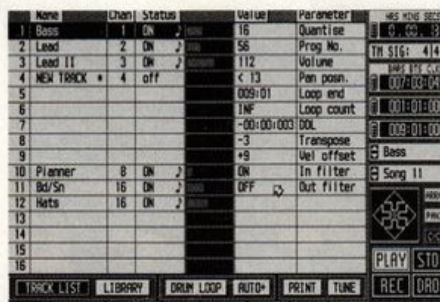
Deleting notes is easy: highlight the delete button and zap the offending note with the cursor. Adding notes is performed from the edge of the keyboard, which is awkward because it's not clear exactly where you're actually adding them. Digital Muse should have designed the same method for both delete and add.

Although you can play the edit page at full tempo and indeed scroll through it at double speed, you can't scroll through sections slowly and hear what is playing. This makes pin-pointing errors difficult. You can enter notes either from qwerty or MIDI keyboard in step time.

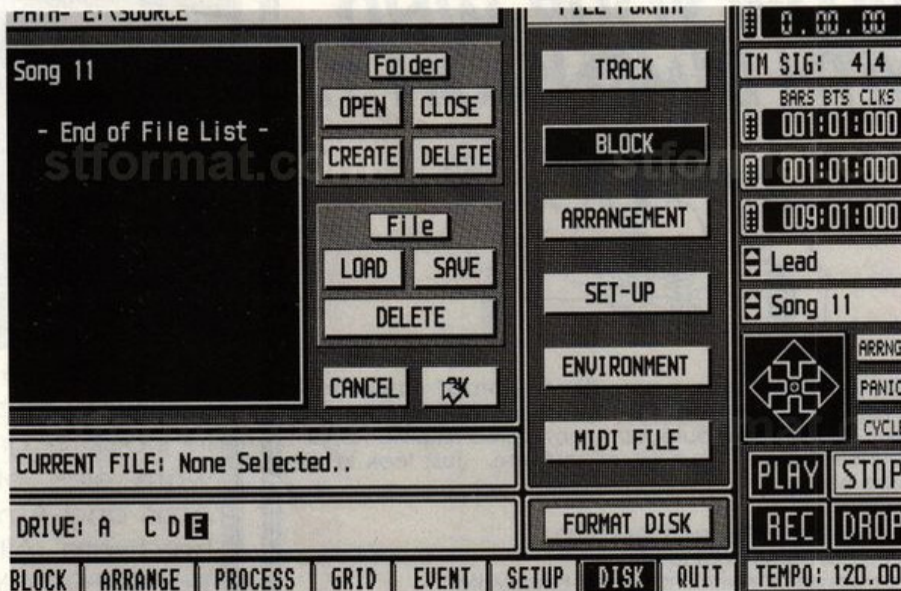
The other method of editing is by data stream which shows all the data relevant to every MIDI event numerically. This tends to be used for fine tuning individual notes and MIDI commands and has a separate page entirely devoted to itself.

### "FEEL" FUNCTION

The Process page is a clever editing tool that works on pre-defined sections all at once instead of the single note editing available from the grid and event pages. Quantize is data altering here with an extremely wide range of options. Notes can be captured around a definite beat to user-definable amounts by using Quantize Strength. There are useful features such as deleting all double notes, lining up chords to start together plus a "feel" function which adds a percentage error to mechanical tracks in any one of eight different ways. Other goodies include transposition, re-scaling the volume over pre-defined periods, mixing and de-mixing tracks, plus the usual cut and paste facilities. All alterations are repairable using Undo, which goes back one step in the process, or Restore, which returns you to where you started.



■ The business end of *Prodigy*: input the music into pages known as blocks and alter the data in real-time



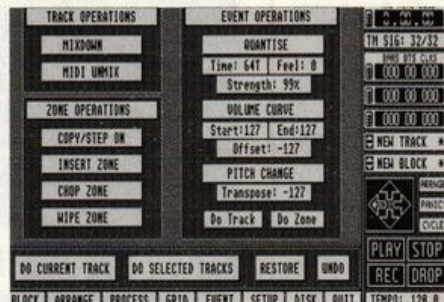
■ Store part or all of your composition while the program continues working

### DOWN THE DRAIN

Blocks from the library are stitched into a full-blown piece in the Arrange page. Tempo shifts can be inserted here, although transposition can't. The blocks are pulled from the library list which appears in an adjacent window. Deletions are dragged to another part of the screen to be posted down the toilet icon! Very easy and simple to use. One interesting feature is the use of a Composer label which is loaded as part of the default setting. Once set up, it stays there when an arrangement is saved. Even if loaded into another *Prodigy*, the composers name is un-editable. Essential for all budding composers paranoid of plagiarists.

*Prodigy* saves in its own format or MIDI file format. Whole songs, blocks and set-ups can be saved or you can save the whole "environment" in one go. It can format disks while the program is running and is, of course, fully compatible with *Virtuoso*. You can upgrade simply by paying the difference between their retail prices.

Digital Muse report there are new developments on the horizon. There will shortly be a series of modules available for both *Prodigy* and *Virtuoso* including a GEM accessory, score editing and a MIDI monitor. It's also envisaged that both programs will be available in modular form themselves. This means that you can choose which parts of the program you use the most, plus the other modules, and tailor the program to your own needs. One clever feature will be that modules can either exist in memory or partly on disk, and since disk operations



■ Fixing the quantize permanently and merging selected tracks or marked areas is a simple process

### FORMAT RATINGS PRODIGY

**Features 95%**  
Has many features that you would not expect at this price – though the 120 clicks per quarter note could be improved

**Speed 99%**  
Incredibly fast

**Ease of Use 87%**  
Once you adapt to the non-wimp environment it's straightforward

**Results 97%**  
Very good – no problems at all

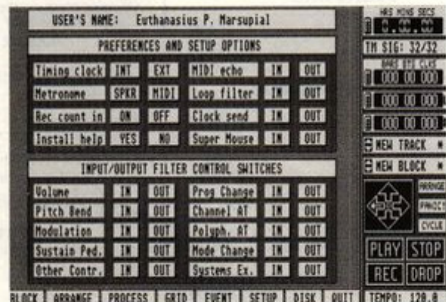
**Format Value 92%**  
Priced at the top end of the middle price range it's a program with a lot to offer. The news that it will soon support a GEM environment makes it a serious contestant in the creative music market

### The Competition

The nearest price match is *Master Tracks Junior* at £99, available from most outlets, info from MCM on 01 724 4104

don't interfere with the working of the program it could put a lot of options into the hands of 520 owners who are currently strapped for memory space.

The GEM module will put all the usual GEM music accessories such as voice editors from other software houses at the disposal of *Prodigy* owners by returning to GEM environment and letting you pull in desk accessories. ■



■ *Prodigy* has prodigious features: the set up and preference page can be heavily customized



# MUSIC TRAINING COURSE £39.95

Previously  
£113.85

The amazing MusiCAL software from Evenlode Education is a powerful new Interactive Computer Aided Learning software package suitable for anyone wanting to improve their understanding of the rudiments of sound and music. The software, which runs on a 520ST, employs the very latest techniques teaching you how to compose music utilising the basic constituents of Sound, Notes and Rhythm.

Within mere hours you could be making Music!!

What the Press say....

Ian Waugh, Music Technology - "The dedication and effort which went into the creation of the package is enormous....."

Paul Burrell, Times Educational Supplement - "This is not the first programme for the Atari aimed at education but it is certainly an important step forward."

**Can be used as stand alone or with any MIDI instrument**  
**Compositions compatible with Steinberg Pro24**  
**Complete with 120 page A4 manual**  
**Based on GCSE Syllabus**

**ORDER TODAY - LIMITED STOCKS!!**

Please send me ☐ MusiCAL @£39.95 + £2.00p&p. I enclose a cheque for

Name:  Address:

Post Code:

Send to: Evenlode Education, The Studio, Church Street,  
Oxford, OX7 2PS. Telephone 099389 228

Make all cheques payable to: Evenlode Education.

14 Day  
MONEY BACK  
GUARANTEE



# PREMIER MAIL ORDER

Titles marked \* are not yet available and will be sent on day of release.

Please send cheque/PO/Access/Visa No. and expiry date to:

Dept STF 2, Trybridge Ltd, 8 Buckwins Sq, Burnt Mills, Basildon, Essex, SS13 1BJ.  
Please state make and model of computer when ordering. P&P inc. UK on orders over £5.00. Less than £5.00 and Europe add £1.00 per item.

Elsewhere please add £2.00 per item for Airmail. These offers are available Mail Order only.

Tel Orders: 0268-590766

NAME	PRICE ST	NAME	PRICE ST	NAME	PRICE ST	NAME	PRICE ST
*F29 Retaliator.....	16.99	Fusion.....	7.99	*Player Manager.....	12.99	Trivia Trove.....	3.99
3 D Pool.....	11.99	Future Wars.....	16.99	Police Quest 1 or 2.....	16.99	Turbo Outrun.....	13.99
Afterburner.....	13.99	Garfield.....	9.99	Police Quest 1 or 2 Hint Books.....	6.99	TV Sports Football.....	16.99
Airborne Ranger.....	14.99	Garfield Winter.....	12.99	*Pool of Radiance.....	19.99	Typhoon.....	4.99
Allen Legion.....	16.99	Gazza's Soccer.....	15.99	Populous.....	16.99	Typhoon Thompson.....	7.99
Altered Beast.....	13.99	Ghostbusters 2.....	16.99	Populous Promised Land.....	7.99	UMS Scenario 1.....	8.99
Austerlitz.....	16.99	Ghouls and Ghosts.....	13.99	Powerdrome.....	16.99	UMS Scenario 2.....	8.99
A.P.B.....	12.99	Gold Rush.....	16.99	Powerdrift.....	16.99	*UMS 2.....	15.99
Axels Magic Hammer.....	13.99	*Golden Shoe.....	13.99	Precious Metal.....	15.99	Uninvited.....	11.99
Bal. of Power 1990.....	16.99	Gunship.....	14.99	Prison.....	9.99	Univ Military Sim.....	14.99
Ballistix.....	11.99	Hard Drivin.....	13.99	Pro Tennis Tour.....	16.99	Untouchables.....	13.99
Barbarian 2 Pal.....	14.99	Hawkeye.....	12.99	Purple Saturn Day.....	14.99	Verminator.....	14.99
Bards Tale 1.....	7.99	Heroes of Lance.....	16.99	R Type.....	9.99	Victory Road.....	11.99
Bards Tale Hint book.....	5.99	Hillsfar.....	16.99	Rainbow Island.....	15.99	Vigilante.....	10.99
Batman Caped Crusader.....	11.99	Hounds Of Shadow.....	16.99	Rainbow Warrior.....	15.99	Vindicators (Domark).....	12.99
Batman The Movie.....	13.99	Hunt for Red October.....	14.99	Rally Cross.....	12.99	Voyager.....	12.99
Beachtech.....	16.99	Indy Jones/Action.....	13.99	Rambo 3.....	11.99	War in Middle Earth.....	14.99
Beach Volley.....	13.99	Indy Jones/Adventure.....	16.99	Red Heat.....	12.99	Waterloo.....	16.99
Black Tiger.....	13.99	Interphase.....	16.99	Red Storm Rising.....	15.99	Weird Dreams.....	14.99
Blasteroids.....	9.99	Iron Lord.....	16.99	Return to Genesis.....	7.99	Xenon 2 Megablast.....	16.99
Blood Money.....	16.99	*Ivanhoe.....	13.99	Rick Dangerous.....	15.99	*Xenomorph.....	16.99
Bloodwych.....	16.99	*J Nicklau's Golf.....	15.99	Robocop.....	12.99	Xenophobe.....	15.99
Bloodwych Data.....	9.99	Kennedy Approach.....	14.99	Rocket Ranger.....	16.99	Xybots.....	12.99
Bomber.....	19.99	Kick Off.....	11.99	Rolling Thunder.....	7.99	Zak McKracken.....	16.99
Boulderdash Con Kit.....	6.99	Kick Off X-tra Time.....	7.99	Run the Gauntlet.....	11.99	Zany Golf.....	16.99
Brian Clough.....	9.99	*King of Chicago.....	16.99	Running Man.....	14.99		
*Cabal.....	13.99	Kings Quest Triple.....	26.99	RVF Honda.....	14.99		
California Games.....	16.99	Kings Quest 4.....	21.99	SDI (Cinemaware).....	9.99		
Carrier Command.....	14.99	Kings Quest 1, 2, 3 or 4 Hint Books.....	6.99	Shadowgate.....	9.99		
Centrefold Squares.....	9.99	Knightforce.....	16.99	Shinobi.....	12.99		
Chaos Strikes Back.....	16.99	Kult.....	14.99	Shoot em up Con Kit.....	19.99		
Chase HQ.....	13.99	Laser Squad.....	12.99	Shufflepuck Cafe.....	13.99		
Chessmaster 2000.....	16.99	L'Board Birdie.....	13.99	Silent Service.....	14.99		
Colossus Chess X.....	15.99	Legend of Djel.....	16.99	Silkworm.....	12.99		
Conflict Europe.....	16.99	Leisure Suit Larry 1 or 2.....	19.99	*Skate or Die.....	17.99		
Continental Circus.....	13.99	Leisure Suit Larry 1 or 2 Hint Books.....	6.99	Sleeping Gods Lie.....	14.99		
Crazy Cars 2.....	11.99	Licence to Kill.....	12.99	Snoopy.....	13.99		
*Cyberball.....	13.99	Life and Death.....	16.99	*Space Ace.....	29.99		
Daley Thompson 88.....	11.99	Light Force.....	16.99	*Space Harrier 2.....	13.99		
Day Of The Viper.....	16.99	*Loom.....	16.99	Space Quest 1 or 2.....	16.99		
Defektor.....	9.99	Lombard RAC Rally.....	14.99	Space Quest 3.....	21.99		
Degas Elite.....	17.99	*Lost Patrol.....	13.99	Space Quest 1, 2 or 3 Hint Books.....	6.99		
Deluxe Strip Poker.....	9.99	Magnum 4.....	16.99	Speedball.....	9.99		
Double Dragon.....	11.99	Maniac Mansion.....	16.99	Spy V Spy.....	6.99		
Double Dragon 2.....	13.99	Manhunter New York.....	21.99	Starglider 2.....	14.99		
Dr Doom.....	15.99	Manhunter New York Hint Book.....	6.99	Star Wars Trilogy.....	16.99		
Dragon Ninja.....	12.99	Manhunter San Francisco.....	21.99	Steve Davis World Snooker.....	11.99		
Dragon Spirit.....	12.99	Maria Whittaker.....	9.99	Stormlord.....	13.99		
Dragons of Flame.....	16.99	Microprose Soccer.....	14.99	Stos.....	19.99		
*Drakken.....	21.99	*Mid Winter.....	15.99	Stos Compiler.....	13.99		
Dungeon Master.....	15.99	Mini Office Comms.....	16.99	*Stos Games Galore.....	16.99		
Dungeon Master Editor.....	7.99	Mini Office Spread.....	16.99	Stos Maestro.....	16.99		
Dynamite Dux.....	13.99	Mini Office Graphics.....	16.99	Stos Sprites 600.....	11.99		
Elite.....	16.99	Mr Heli.....	15.99	Street Fighter.....	7.99		
Empire Strikes Back.....	11.99	New Zealand Story.....	13.99	Strider.....	13.99		
F15 Strike Eagle.....	14.99	Ninja Warriors.....	13.99	Strip Poker 2+.....	9.99		
F16 Combat Pilot.....	16.99	North and South.....	16.99	Stuntcar Racer.....	15.99		
Falcon F16.....	16.99	Northstar.....	9.99	Super Hangon.....	13.99		
Falcon Mission Disc 1.....	13.99	Omega.....	21.99	Super Wonderboy.....	14.99		
Fast Basic Disc.....	31.99	Onslaught.....	16.99	Switchblade.....	13.99		
Fast Basic Rom.....	62.99	Operation Neptune.....	14.99	Talespin.....	9.99		
Ferrari Formula 1.....	16.99	Operation Thunderbolt.....	13.99	Tank Attack.....	14.99		
Fighting Soccer.....	13.99	Operation Wolf.....	11.99	Tech.....	13.99		
*Final Battle.....	16.99	Orbiter.....	9.99	Thunderbirds.....	16.99		
Flight Simulator 2.....	26.99	Outrun.....	7.99	Time.....	19.99		
FLT Disc 7 or 11.....	13.99	*P47.....	15.99	Time and Magik.....	12.99		
FLT Disc European.....	13.99	Pacland.....	9.99	Tintin.....	12.99		
FLT Disc Japan.....	13.99	Pacmania.....	9.99	Titan.....	14.99		
Foot Man 2 EXP Kit.....	8.99	Paperboy.....	12.99	Toobin.....	13.99		
Football Director 2.....	13.99	Peter Beardsley.....	12.99	Tower of Babel.....	16.99		
Football Manager 2.....	11.99	Passing Shot.....	9.99	Tracksuit Manager.....	11.99		
Foundations Waste.....	7.99	Phobia.....	9.99	Triad.....	18.99		
Fun School 2 (6 to 8).....	11.99	Pictionary.....	16.99				
Fun School 2 (over 8).....	11.99	Pirates.....	15.99				
Fun School 2 (under 6).....	11.99						

## SPECIAL OFFERS ALL £7.99 EACH

NAME	PRICE ST
Alien Syndrome.....	7.99
Armageddon Man.....	7.99
Ballyhoo.....	7.99
Bermuda Project.....	7.99
Bionic Commando.....	7.99
Buggy Boy.....	7.99
Captain Blood.....	7.99
Crazy Cars.....	7.99
Dark Castle.....	7.99
Exolon.....	7.99
Fahrenheit 451.....	7.99
Fernandez Must Die.....	7.99
Foundations Waste.....	7.99
Golden Path.....	7.99
Goldrunner.....	7.99
Hacker 2.....	7.99
Hollywood Hijinx.....	7.99
Inc Shrink Sphere.....	7.99
Las Vegas.....	7.99
Mindshadow.....	7.99
Moonmist.....	7.99
Nebulus.....	7.99
Nigel Mansell's GP.....	7.99
Outrun.....	7.99
Pandora.....	7.99
Perry Mason.....	7.99
Return of Jedi.....	7.99
SDI (Activision).....	7.99
Skychase.....	7.99
Soldier of Light.....	7.99
Starry.....	7.99
Street Fighter.....	7.99
Strike Force Harrier.....	7.99
Targhan.....	7.99
Tass Times.....	7.99
Tetris.....	7.99
Trantor.....	7.99
Virus.....	7.99
Whirligig.....	7.99
Wishbringer.....	7.99
Zork 1 or 2.....	7.99

## SALE - ALL £4.99

Adv Rugby Sim.....	4.99
Adv Ski Sim.....	4.99
Atax.....	4.99
BMX Sim.....	4.99
Captain Blood.....	4.99
Catch 23.....	4.99
Championship Wrestling.....	4.99
Eagles Nest.....	4.99
Face Off.....	4.99

## SALE - ALL £4.99

Gladiators.....	4.99
Growth.....	4.99
Hellfire Attack.....	4.99
Joe Blade.....	4.99
Joe Blade 2.....	4.99
Karting Grand Prix.....	4.99
Maniax.....	4.99
Mission Genocide.....	4.99
Nitro Boost.....	4.99

## SALE - ALL £4.99

Prison.....	4.99
Skuldiggery.....	4.99
Sky Fighter.....	4.99
Space Pilot.....	4.99
Space Port.....	4.99
Sundog.....	4.99
Time Bandit.....	4.99
Treasure Island Dizzy.....	4.99
Vixen.....	4.99
Warzone.....	4.99



# DESIGNING STYLING FUNCTIONS

STORY Simon Williams

## TIMEWORKS DTP

For consistency, this series will refer 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. However, the principles involved 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 for only £99.95. It's available from Electric/GST 0954 61258.

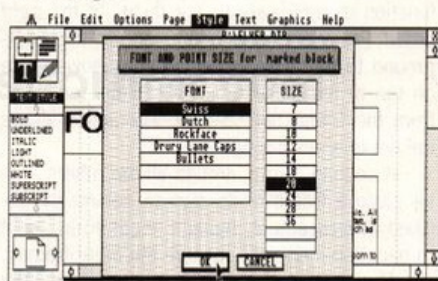
*When you buy a new desktop publishing package, the price doesn't include the skill to use it. In the second part of our DTP series, we load Timeworks DTP and show the way forward*

**D**esktop publishing opens a host of possibilities for the design of pages. A page can be an advertising flyer, part of a report, or a catalogue supplement. What all these pages have in common is their basic composition. They all contain text in more than one size and style, and such simple line graphics as rules, boxes and tints (shades of grey). They may also contain images in the form of diagrams or line drawings, which are often termed clip-art.

It's not easy to put these various elements together, and even harder to do it with any degree of style, but understanding the terminology certainly helps, and some idea of current "good practice" can mean the difference between being noticed and being ignored.

### WANTED POSTERS

The simplest single document you're likely to want to create is an advertising flyer. This can be a notice for a dance or a handbill advertising goods. It's likely to contain a headline in a large font size, a short piece of informative text and possibly some clip-art to reinforce the subject of the page.



■ The font menu offers a selection of fonts and point sizes

The text should be limited to two, or at most three, different fonts, though these can with effect be used in several different sizes. This font restriction is in line with modern design principles rather than being engraved in tablets of stone. Principles change, and a look at "Sale" or "Wanted" posters from the turn of the century shows the fashionable trend then was to cram as many different fonts onto the page as possible. By all means be original for effect, but remember that innovation often takes a long time to become fashion.

Although you have a lot of electronics at your disposal with an ST and a good DTP package, it's best to draw up a rough outline of your design on paper. Get a feel for the relative sizes of the page elements. Draw them as boxes to start with because this reflects the frames on your DTP page. You can't print to the edges of a sheet of paper with most computer printers, and certainly not with a laser, so allow for a border of white space around your design.

### JUSTIFY YOURSELF

Pay attention to the justification of text. Although it may seem a good idea to justify a block so the text aligns with both margins, it can result in unacceptably large gaps between words, giving an amateur feel to the page. Hyphenation helps because by splitting long words you increase the number of words per line and reduce the interword gaps. In most cases it's probably best to leave blocks of text left justified, with main headlines centred.

Justification in *Timeworks DTP* is handled through style sheets, which we'll cover in detail next month. For the moment, think of them as a way of applying typographical and layout controls to a body of text by a single command.

Most DTPs have the flexibility to handle single sheet page make-up in this "point and shoot" way, as well as offering facilities to produce more complex documents through style sheets and page masters.

If your main requirement is for single sheet DTP such as flyers, though, check you're not hampered by your program's over-sophisticated working method.

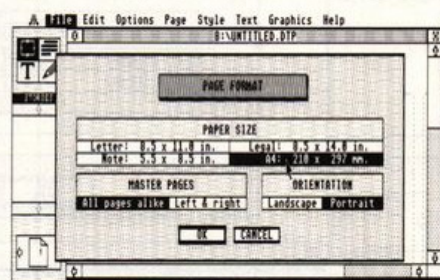
### GUTTER PRESS

The first thing is to specify the page size. Some DTPs won't let you change the size once you've started adding elements to it, and several of the US products default to US letter size rather than A4 dimensions. The orientation of the page also needs to be set, as does the provision of a gutter for facing pages. Pages can be printed in portrait (long sides vertical) or landscape (long sides horizontal) orientation.

Once the page has been sized, frames can be created according to your design. They don't have to be exact at this stage, because they can be freely resized at any time.

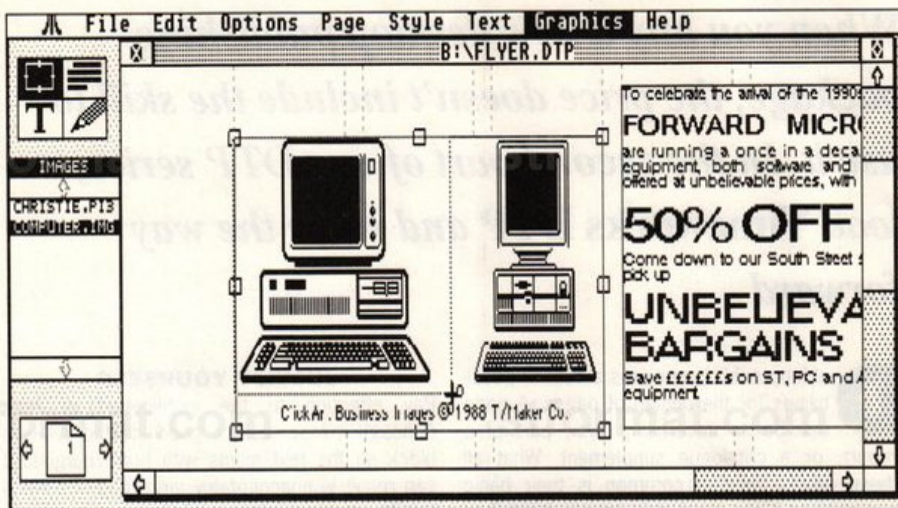
There are three things to consider when choosing a font: typeface, size and style. These attributes can either be set before starting to type or by highlighting a section of existing text and applying them.

A typeface is the design of the characters themselves – Times, Helvetica, Courier and Zapf Chancery are examples. Most DTPs come



■ Page format determines the shape and size of the page





■ Cropping is an integral part of arranging an eye-catching visually pleasing design

with at least two typefaces (Times and Helvetica) to choose from.

The size is partly governed by the amount of text you need to get into a given space and partly by the emphasis you want to give it. The larger the size, which is measured in points and therefore often called the point size, the more eye-catching it will be.

Text styles should be used sparingly and mainly for special effects. Styles include bold, italics, outline and underline and add emphasis to text printed in them.

Graphics and text can be added in any order, but it's usually easier to complete the text before adding images. *Timeworks DTP* can import a range of graphics formats, including GEM IMG, *Neochrome* and *Degas*. Clip-art is available from a number of different PD sources and is well worth the investment.

### THE CUTTING EDGE

When you import a graphic into *Timeworks*, it only appears on the page if there's a frame open and selected at the time. If not, its name is added to the browser below the toolbox on the left-hand side of the screen. It can then be added to the page by selecting a frame and clicking on the graphics filename.

It's quite likely that the graphic you import will not be the right shape or size for its target frame and it's necessary to scale or crop it to fit. The cropping tool allows you to drag a secondary frame over the image from the top left-

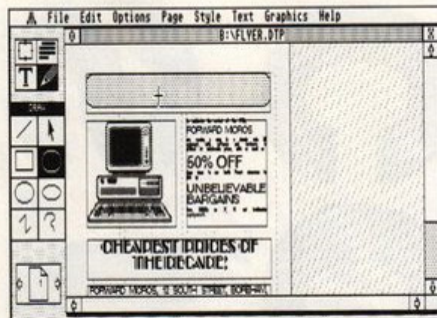
hand corner. When you release the mouse button the enclosed area of the image is resized to fill the whole graphics frame. You can then drag the frame handles to resize the cropped image to fit the specific area of the page.

By now the page is looking lively, but it would be good to add further emphasis to the headline, in this case the name of the fictitious computer dealer. This is particularly true in the case of *Timeworks*, which only offers fonts up to 36 point high. One way of adding emphasis is to surround the text with a rectangular box. This can be done using the graphics box tool, but remember that a frame has to be open before the graphics box is opened within it.

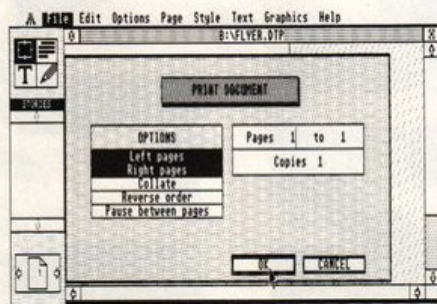
*Timeworks* places each new frame on top of all others. The tinted box needs to sit behind the headline, so deft use of the "Send to back" function is necessary to put things in the right order. Problems aren't over yet, as the background to the headline text frame shows white on top of the tinted box. Switch this to "clear" from the frame tint selector box and it allows the tint to show through.

A second frame, around all the others, can be given a frame of its own to set off the finished advertisement. Again it needs to be "sent to back" so it doesn't obscure the other frames.

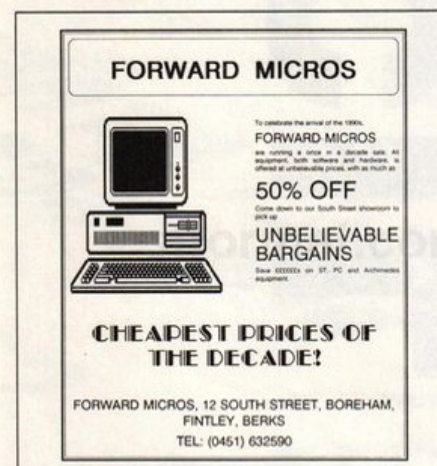
The final stage is to print the page. The print selection box lets you specify the page numbers to be printed and the number of copies required. The finished product is a well-designed flyer, guaranteed to increase sales! ■



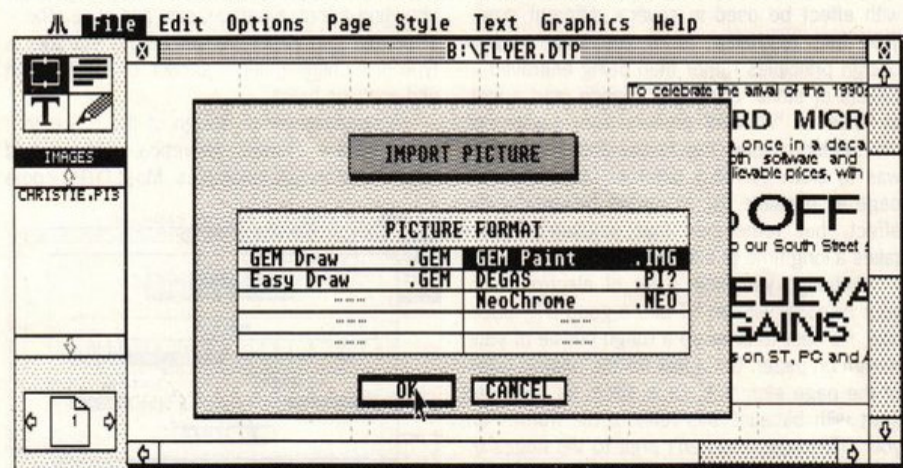
■ Boxes can be tinted to give them extra emphasis or to separate them from the main body text - see how the *ST Format* art team uses box tints in their page design



■ Use the print menu to designate which pages are to be printed



■ The finished flyer. No masterwork, but a presentable advert which could be expected to drum up extra business



■ *Timeworks DTP* imports a range of graphic formats. Clip art is available in the public domain and well worth the investment

## JARGON KILLERS

We clear up the mystery behind some of those forbidding DTP terms:

**CROP:** trimming a picture or other graphic to fit a particular space on the page

**FONT:** a typeface in a particular point size and style

**FRAME:** a normally non-printing rectangular box used to hold text or graphics. Can be easily moved around and resized by the use of a series of small square handles

**JUSTIFY:** short for "fully justified," it means text aligned at both ends of each line

**POINT:** a unit of measurement in typesetting, equivalent to 1/72nd of an inch. Primarily used to measure the height of text characters

**TYPEFACE:** a particular design of text characters, eg. Swiss, Times, Helvetica.



# PUBLIC APOLOGY

M.D. Office Supplies would like to take this opportunity to apologise to all its competitors. As always we will supply the highest standard Discs, Storage Boxes, etc, at the, LOWEST POSSIBLE PRICES.  
**IN FACT WE GUARANTEE IT**

## JUST LOOK AT THESE PHENOMINAL OFFERS

**3 1/2**

### 3.5" DISCS & BOXES

**3 1/2**

25 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£21.95
35 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£29.95
45 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£34.95
55 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£39.95
65 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£44.95
75 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£49.95
150 3.5" DS-DD 135 TPI with 2, 100 Capacity Lockable Storage Boxes.....	£89.95
200 3.5" DS-DD 135 TPI with 2, 100 Capacity Lockable Storage Boxes.....	£99.95

OUR 3.5" DISCS ARE **VERY CAREFULLY SELECTED** TO GIVE YOU 100% ERROR FREE PERFORMANCE. EACH DISC IS OFFERED WITH OUR 100% MONEY BACK GUARANTEE AND IS SUPPLIED WITH LABELS

**5 1/4**

### 5.25" DISCS & BOXES

**5 1/4**

25 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£12.50
50 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£16.50
75 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£22.50
100 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£28.50
200 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Boxes.....	£52.99

OUR 5.25" DISCS ARE **VERY CAREFULLY SELECTED** TO GIVE YOU 100% ERROR FREE PERFORMANCE. EACH DISC IS OFFERED WITH OUR 100% MONEY BACK GUARANTEE AND IS SUPPLIED WITH LABELS

#### HIGH DENSITY 3.5" DISCS

10 DS HD 3.5" Discs .....	£18.99
30 DS HD 3.5" Discs with 50 Capacity Box.....	£49.99
50 DS HD 3.5" Discs with 100 Capacity Box.....	£69.99
100 DS HD 3.5" Discs with 100 Capacity Box.....	£119.99
150 DS HD 3.5" Discs with 100 Capacity Box.....	£164.99

#### HIGH DENSITY 5.25" DISCS

25 5.25" DS HD 1.6Mb plus 50 Box.....	£19.99
50 5.25" DS HD 1.6Mb plus 100 Box.....	£37.99
75 5.25" DS HD 1.6Mb plus 100 Box.....	£51.99
100 5.25" DS HD 1.6Mb plus 100 Box.....	£64.99
150 5.25" DS HD 1.6Mb plus 2,100 Box.....	£89.95
200 5.25" DS HD 1.6Mb plus 2,100 Box.....	£109.95

#### BULK BUYERS

#### BULK BUYERS

#### BULK BUYERS

For all you large users we have some excellent bulk rates on our superb diskettes -

250 DS DD 135tpi.....	£120.00	600 DS DD 135tpi .....	£258.00
350 DS DD 135tpi.....	£160.00	750 DS DD 135tpi .....	£315.00
500 DS DD 135tpi.....	£220.00	1000 DS DD 135tpi .....	£395.00

As always Lifetime Guaranteed and 100% reliability

#### NEW EXCITING PRODUCTS

3.5 Stackable 150 Capacity Lock Box .....	£19.95
5.25 Stackable 180 Capacity Lock Box .....	£19.95
3.5 Atari External Drive.....	£79.95
Ultra quiet, reliable, excellent value	
Universal Printer Stands, 80 column .....	£12.95
2-Way Manual Data Switch available as RS232 or	
Centronics (please state).....	£12.95
Atari Printer leads .....	£5.95

#### PRICE & QUALITY GUARANTEE

We pride ourselves on offering you the very Highest Quality products at the best possible prices. If you should ever see a comparable product offered cheaper in this magazine DO NOT HESITATE give us a call because we won't match it:

#### WE WILL BEAT IT - GUARANTEED

## M.D. OFFICE SUPPLIES

18 CRESCENT WAY, FARNBOROUGH, KENT BR6 9LS

TELESALES HOTLINES: 0689-61400



Trade Accounts Welcome

All prices include VAT and Delivery UK only E/OE

Education Orders Welcome

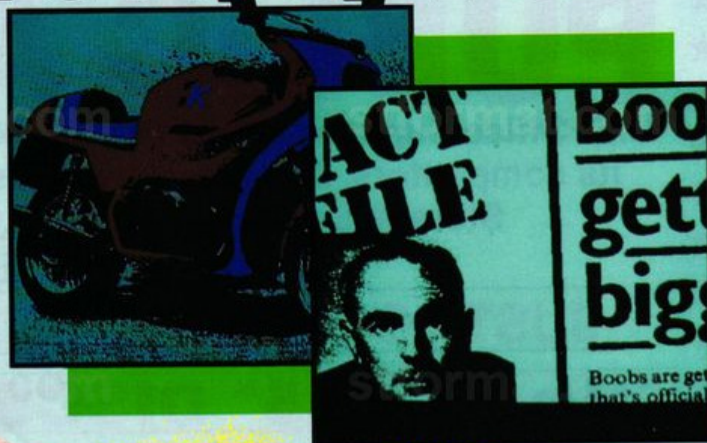


# DATTEL ELECTRONICS

## GENISCAN GS4500 ST



**OCR  
COMPATIBLE**



## HAND HELD 400 DPI PAGE SCANNING SYSTEM

- ▼ An easy to handle Handy Scanner featuring 105 mm scanning width & 400 dpi resolution enables you to reproduce graphics & text on your computer screen.
- ▼ A powerful partner for Desk Top Publishing.
- ▼ Package includes GS4500 scanner, interface & Scan Edit software.
- ▼ With Geniscan you have the ability to easily scan images, text & graphics into the ST.
- ▼ Save images in suitable format for leading packages including DEGAS, NEOCHROME, FLEETSTREET, etc.
- ▼ Unmatched range of edit/capture facilities not offered by other scanners at this unbeatable price.
- ▼ Adjustable switches for brightness & contrast.
- ▼ Powerful software allows for cut & paste editing of images etc.

## READPIC OCR SOFTWARE



- ▼ At last - a top quality OCR program at a fraction of the price you would expect to pay.
- ▼ Intelligent routines to analyse text images and convert them into text files suitable for your Word Processing program.
- ▼ No more tedious typing - simply scan in a page of text and READPIC will do the rest!!
- ▼ Complete with full instructions.

**ONLY £49.99**

## SPECIAL OFFER

**COMPLETE WITH OCP ART STUDIO**

**FOR ONLY £169.99**

**INCLUDING HARDWARE/SOFTWARE**

**UNBEATABLE  
VALUE**



**THE ANSWER TO  
YOUR DISK  
DUPLICATION  
PROBLEMS**

**ON BOARD CUSTOM LSI CHIP  
MAKES THIS UNIT EX-  
TREMELY SMALL & EFFI-  
CIENT.**



**CUSTOM  
LSI  
CHIP**

## SYNCR EXPRESS

**▼ SYNCR EXPRESS IS A HIGH SPEED  
DISK DUPLICATION SYSTEM THAT WILL  
PRODUCE COPIES OF YOUR DISK IN  
AROUND 30 SECONDS!!**

- ▼ Syncro Express requires a second drive & works by controlling it as a slave device & ignoring the ST disk drive controller chip, high speeds & great data accuracy are achieved.
- ▼ Menu driven selection for Start Track/End Track - up to 85 tracks. 1 side, 2 sides or Auto Select.
- ▼ Very simple to use, requires no user knowledge.
- ▼ Also duplicates other formats such as IBM, MAC etc.
- ▼ Ideal for clubs, user groups or just for your own disks.
- ▼ No more waiting around for your disks to copy.
- ▼ Probably the only duplication system you will ever need!

**ONLY £34.99**

**COMPLETE HARDWARE/SOFTWARE**

**If you don't have a second drive we can  
supply SYNCR EXPRESS  
together with a drive for  
ONLY £119.99.**

**WARNING** 1988 COPYRIGHT ACT **WARNING**  
Datel Electronics neither condones or authorises the use  
of its products for the reproduction of copyright  
material.

The back-up facilities of this product are designed to  
reproduce only software such as public domain material,  
the users own programs or software where permission to  
make a back-up has been clearly given.  
It is illegal to make copies, even for your own use, of  
copyright material, without the permission of the  
copyright owner, or their licensee.



# DATTEL ELECTRONICS

## EXTERNAL 3.5" DISK DRIVE

- ▼ Slimline extra low profile unit - very quiet!
- ▼ Top quality drive mechanism.
- ▼ A superbly styled case finished in computer colours.
- ▼ 1 meg unformatted capacity.
- ▼ Fully compatible. Complete with PSU.
- ▼ Complete - no more to buy.
- ▼ Good length cable for positioning on your desk etc.

**ONLY £89.99**

**ADD £5 FOR COURIER DELIVERY IF REQUIRED**

**PLUS FREE DCP ART STUDIO WITH EACH DRIVE**  
(R.R.P. £24.95)

- Top quality illustrator package by Activision.
- Too many features to list.
- Absolutely FREE !!

**AVAILABLE SEPARATELY FOR £19.99 IF REQUIRED**

**NEW SLIMLINE DRIVE**



## REPLACEMENT MOUSE



- ▼ High quality direct replacement for the mouse on the ST.
- ▼ Teflon glides for smoother movement.
- ▼ Rubber coated ball for minimum slip.
- ▼ Optical system counting - 500/mm.

**Special Offer - FREE Mouse Mat + Mouse House (worth £7.99).**

**ONLY £29.99**

## SPLITTER LEAD

- ▼ Allows joystick & mouse to be connected to same port.

**ONLY £4.99**

## TOP QUALITY UNIT



## 1MEG INTERNAL DRIVE UPGRADE

- ▼ Replace internal 500K drive with a full 1 meg unit.
- ▼ Top quality drive unit.
- ▼ Full fitting instructions.
- ▼ Easily fitted, no special skills required.
- ▼ Direct plug in replacement.
- ▼ When considering a drive replacement remember that quality is most important.

**ONLY £69.99**

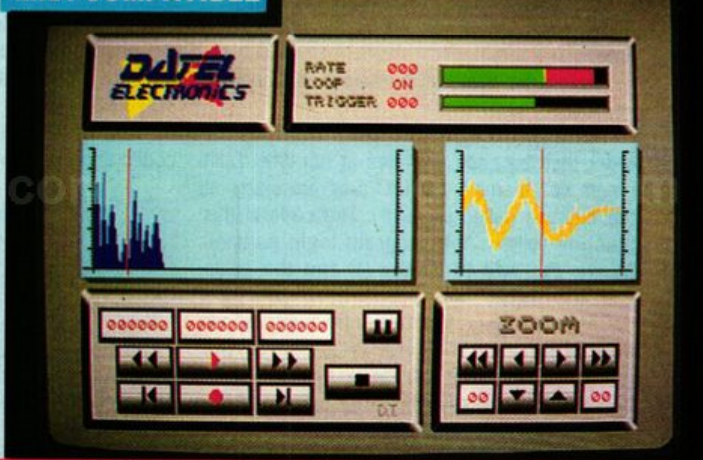


## 1 MEG RAM UPGRADE KIT

- ▼ 512K of FASTRAM to bring your 520 STFM up to a full 1040K!!
- ▼ Fitting is a straightforward soldering job - achieved by anyone who has a little experience.

**ONLY £79.99**

## MIDI COMPATIBLE



## ST PRO SAMPLER STUDIO

- ▼ A top quality sound sampling system at a realistic price.
- ▼ 100% machine code software for realtime functions.
- ▼ HiRes sample editing.
- ▼ Realtime frequency display & level meters.
- ▼ Microphone & line input.
- ▼ Adjustable manual/automatic record trig level.
- ▼ Variable sample rate & playback speed.
- ▼ Separate scroll line waveform windows & zoom function with Edit windows for fine accurate editing.
- ▼ 3D shot of sound waveform. Wave editor to design your own waveforms or adjust existing ones.
- ▼ Playback samples via external MIDI keyboard.
- ▼ Software files can be used within other music utilities.

**ONLY £59.99**

**ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS**

## HOW TO ORDER ...

### BY PHONE



**0782 744707**  
24hr Credit Card Line

### BY POST



Send cheques/POs made payable to "Datel Electronics"

### FAX

**0782 744292**

**UK ORDERS POST FREE**  
EUROPE ADD £1  
OVERSEAS ADD £3

**PRICES AND SPECIFICATIONS CORRECT AT TIME OF PRESS AND SUBJECT TO CHANGE WITHOUT NOTICE**

**CALLERS WELCOME - Please reserve goods by telephone prior to visit.**

# DATTEL ELECTRONICS

**DATTEL ELECTRONICS LTD., FENTON INDUSTRIAL ESTATE  
GOVAN ROAD, FENTON, STOKE-ON-TRENT, ENGLAND.**

**SALES ONLY**  
**0782 744707**

**TECHNICAL ONLY**  
**0782 744324**



- ▼ The correct time/date every time you switch on your ST.
- ▼ Works with most GEM type applications.
- ▼ Battery backed Clock/Calendar cartridge.
- ▼ On board Lithium battery for extra long life.
- ▼ Displays in 12 or 24 Hr. format.
- ▼ Comes complete with set-up disk & alarm clock utility.

**ONLY £29.99**



**T**his month we're looking at a fun program involving a simple electronic organ to teach you something about programming the ST in C. For this program we need to:

- access the keyboard via the operating system at the BIOS, GEMDOS and system variable level;
- access the timer via standard C functions;
- calculate the frequencies of the notes using floating point arithmetic;
- access the sound chip via the operating system at the XBIOS level;
- use more features of the C language;

You'll find the source code for the program on the Cover Disk as "music.c" and printed below. The code is heavily commented to make it easy to understand. The executable program is on the Cover Disk as "music.prg."

The program has four basic steps:

1. Display the operating instructions;
2. Initialise the sound chip and the keyboard;
3. For each key press, sound the appropriate note;
4. Restore the state of the sound chip and the keyboard.

Let's go through the C code roughly in the order that the code executes at run time. Last month you learned that a C program starts at the function called `main()`. The code in this function follows the program logic outlined above. The call to `intro()` and the code therein is simple stuff.

The `setup()` function introduces some new features. `Giaccess` is a call to the operating system at the XBIOS level. In C the operating system's functions are called just like any other function. Use `Giaccess` to access the sound chip registers, in this case to initialise it.

The operating system's keyclick procedure interferes with what we're trying to do with the sound chip. Avoid this by turning off the keyclick at the start and restoring the status at the end. The keyclick status is found in the

# PROGRAM IN C - #2

STORY  
Warwick Grigg

*Insert the Cover Disk and dive into part two of our definitive hands-on beginner's series. This month we explore the C language with the help of an electric organ*

documented system variable at address 0x484. The system variables can only be accessed in the privileged "Supervisor" mode. This is why the operating system's GEMDOS function is called `Super()`.

The largest part of `main()` gets the key codes and works out the number of the note to

be played. `Play_note()` contains the algorithm for the frequency of each note in the chromatic scale (you can find the theory in physics text books). The floating point library functions are described in the file "specs" on disk two of the Sozobon C disk. For the benefit of the sound chip, the frequency is translated into the high bits and low bits of the period.

While writing this program I wanted the note to play for as long as the key is held down but couldn't find any appropriate documented system call. So the code waits until another key is pressed or until the end of the time allowed. The note is turned off by setting the volume register to zero. You can find a description of the timer functions, and the other standard library functions for Sozobon C, in the file "dlibs.doc" on disk two of the Sozobon C disk.

The program uses pointers in several places. A pointer is a variable containing an address of an area of memory. A declaration; `fred_t *p` declares `p` as a variable which may contain the

## SOZOBON C

The package consists of two double-sided disks containing PD Sozobon C compiler (conforming to the Kernighan and Ritchie specification); GEM bindings; Library functions; Gulam shell; and RAM disk. In addition we've printed out all the documentation - always a great source of irritation if you have to do it yourself.

The first disk is ready to use straightaway. The second contains the documentation and compiler source code (excellent educational material, by the way, for A level and degree course Computer Science).

## C TUTORIAL PROGRAM #2 "MUSIC.C"

```
#include <osbind.h>
#include <stdio.h>
#include <math.h>
#include <time.h>

/*
 * Layout for organ keys.
 *
 * A# C#D# F#G#A# C#D#
 * A B C D E F G A B C D
 *
 */
(1)

char *kcp; /* Pointer to keyclick system variable*/
long supsp; /* Supervisor stack pointer */
char clicksav; /* Place to save status of keyclick */
int volume = 12; /* Sound chip volume setting */
int r7save; /* Place to save contents of sound
            reg7 */

static void intro()
{
    printf("\n");
    printf("ST Format C programming tutorial,
    Example 2 \n");
}
```

```
printf("Simple sound chip organ\n");
printf("\n");
printf("    KEY MAPPING\n");
printf(" a  d f  h j k  ; \n");
printf(" A#  C#D#  F#G#A#  C#D#\n");
printf("A B C D E F G A B C D\n");
printf("\\ \\ z x c v b n m , . / \n");
printf("\n");
printf("Press 'q' to quit\n");
}

static void setup()
{
    /*
     * Setup sound chip
     */

    r7save = Giaccess(0, 0x07); /* Save contents for later */
    Giaccess((r7save&0xc0) | 0x3e, 0x87); /* Enable
                                         channel A only */

    /*
     * Setup key click status
     */
}
```

■ The program continues over the page and is repeated on the ST Format Cover Disk



address of an area of memory of type;

`fred_t.`

If later on we say;

`*p = *p + 1`

this means add one to the data at the memory location pointed to by `p`.

Pointer arithmetic is allowed. In C pointer arithmetic, one unit corresponds to one item of the type to which the pointer refers. So, `p++` would increment `p` by one byte if `*p` is of type `char`, but would increment `p` by one word (ie two bytes) if `*p` is of type `int`. C's pointer arithmetic is powerful, combining the power of assembler with the expression of a high level language: you're allowed to manipulate pointers, but you don't have to remember the sizes of the data items. We'll be using pointers extensively over the next few months.

Three new data types have been introduced: `char`, `long`, and `float`. A `char` is the smallest unit of memory able to store the machine's character set. On the Atari ST this is a byte. A `long` is an integer, but able to store a wider range of values. For *Sozobon C* on the Atari ST this is equivalent to a `long` in 68000 assembler (ie 32 bits).

Although integer types are signed by default, attaching the prefix `unsigned` will declare a variable that can only take positive values. Thus if an `int` can take a value between

32767 and -32768 an `unsigned int` can take a value between 0 and 65535.

A `float` is a floating point number. This is stored internally as an exponent and a mantissa (like the scientific notation on a calculator), so that numbers of very small magnitude and very large magnitude can be manipulated with the same degree of precision.

## ARRAY DECLARATIONS

In the program, `kbd` is an array of elements, each element of type `char`. This can be generalised;

```
fred_t    a[10];
```

declares an array of 10 elements, each element of type `fred_t`. Elements are identified as `a[0]`, `a[1]` ... `a[9]`.

There's a connection between arrays and

## TECHNOBABBLE

**What are BIOS, XBIOS, and GEMDOS? The BIOS is a module containing the operating system's lowest level code, which drives the Atari ST hardware. The XBIOS contains miscellaneous extensions to the BIOS. In theory, GEMDOS provides interfaces to the operating system and hardware that are independent of hardware. In reality the boundaries are slightly blurred.**

pointer arithmetic which will help you understand some of the thinking behind C's elegant design: in C, the item `a[i]` is the same as `*(a+i)`. An example of a two dimensional array declaration is;

```
int a[10][3]
```

## FUNCTION ARGUMENTS

The function `play_note` has one argument of type `int`. Multiple arguments can be defined, for example;

```
fred(a, b)
```

```
int *a;
```

```
float b;
```

Completely opposite to FORTRAN, all arguments are passed by value (ie. if the function alters these, this will not alter those of the caller).

If you want a variable passed "by name," you declare an argument which is a pointer to the variable. Initially, PASCAL programmers hate this, but after a while you can get to like it!

As floating point arithmetic is used in the music program, the library containing the maths routines (`libm.a`) needs to be included in the compile statement:

```
cc -O libm.a music.c -o music.prg
```

■ Stay tuned! Next month we begin a pinball simulation project in C.

## C-TUTORIAL: (continued)

```
supsp = Super(0L); /* Enter privileged supervisor
mode */
kcp = (char *)0x484; /* Pointer to keyclick system
variable */
clicksave = *kcp; /* Preserve keyclick status*/
*kcp = *kcp & 0xfe; /* Turn off keyclick */
Super(supsp); /* Return to user mode */
}

static void play_note(note)
int note;
{
    static float Afreq = 440.0; /* Frequency of A note
                                = 440 Hz */
    float freq; /* Frequency of key
                pressed */
    int period; /* Period for sound
                chip @ 125kHz */
    clock_t note_time; /* System clock time
                        when note started*/

    /*
     * Play note, then wait till key press
     */

    freq = Afreq * pow(2.0, note/12.0);
    period = floor((125000.0/freq)+0.5);
    Giaccess(period&255, 0x80);
    Giaccess(period>>8, 0x81);
    Giaccess(volume, 0x88);
    note_time = clock(); /* Remember time */
    while (!Bconstat(2)) { /* Until key press*/
        if (clock()-note_time >= CLK_TCK/10) { /* Time
                                                out? */
            break; /* 0.1 seconds gone */
        }
    }
    Giaccess(0, 0x88); /* Turn off sound */
}
```

```
static void tidy_up()
{
    supsp = Super(0L); /* Enter privileged supervisor
mode */
    *kcp = clicksave; /* Restore keyclick status */
    Super(supsp); /* Return to user mode */

    Giaccess(r7save, 0x87); /* Restore enable register*/
}

static char kbd[] = "\\axzdcfxbhnmjkl,;/'";
/* ST keys in order of pitch*/

main()
{
    char *p; /* Search pointer */
    int c; /* Buffer for reading key press */
    int ix; /* Index into keyboard array */

    intro(); /* Inform user */
    setup(); /* Setup sound and key click */

    while ((c=(Bconin(2)&0xFF)) != 'q') { /* Until quit
                                        requested */

        /*
         * Find keypress
         */

        p = &kbd[0]; /* Start of note sequence */
        while (*p!='\0') { /* Do until end of string */
            if (*p == c) { /* If this is the key code */
                ix = p-&kbd[0]; /* Pointer arithmetic */
                play_note(ix); /* Stop searching for key code*/
                break;
            }
            p++; /* Next note in sequence */
        }
    }
    tidy_up();
}
```

NOTES: (1) `kcp` is a pointer to a `char`  
 (2) Now `kcp` points to the keyclick system variable  
 (3) Notice the use of the pointer `p` in this function  
 (4) Notice the use of pointer arithmetic



# Evesham Micros

**CAMBRIDGE  
SHOP NOW  
OPEN!**  
5 Giltspur Road, Cambridge  
Tel: (0223) 323896

**All prices include  
VAT and Delivery**

## PRINTERS

*All prices include VAT delivery & cable*

**star**

We use and recommend Star printers - they offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - with a Star printer at our special, all in, prices.

**LC10**



- Four NLQ fonts (96 print combinations)
- Paper Parking (use single sheets without removing tractor paper)
- IBM/parallel interface
- 4K buffer
- Comprehensive 'front panel'
- 144/36cps print speed
- 7 colour version also available

**Only £169.00**

Colour version also available,

**Only £215.00**

*Prices include 2 extra black ribbons free of charge.*

12 months On-Site Maintenance included with all Star XB and FR models. Also available for other Star models for only £5.75 extra

Star FR-10 Professional 9pin 300/76cps, 31K buffer, 16 NLQ fonts	
EE-PROM configuration memory	£399.00
Star FR-15 9pin printer as FR-10, wide carriage version	£499.00
Star XB24-10 Professional 24pin: 27K buffer, 4 SLQ & 25 LQ fonts, EE-PROM configuration memory	£499.00
Star XB24-15 wide carriage version of XB24-10, with 41K buffer	£649.00
Star Colour Unit, 7-colour upgrade kit for XB or FR models	£39.00
Star SS10DM cut sheet feeder for XB24-10 or FR-10	£100.00
Star SS15DM cut sheet feeder for XB24-15 or FR-15	£170.00
Star LC24-10 24pin multifont printer, amazing low price	£239.00
Star NB24-10 24pin 216/72 cps inc. c/s/feeder & 2 extra ribbons	£499.00
Star LC10 Mk.II faster version of above LC10, 180/45 cps	£199.00
Star LC15 wide carriage version of LC10 model 180/45 cps	£329.00
Star LC24-15 wide carriage version of LC24-10, 200/67 cps	£409.00
Star NR-10 professional 9 pin 240/60cps inc. cut sheet feeder	£449.00
Star Laserprinter 8: 8ppm/300dpi inc. 12 months on-site warranty	£1599.00
Star SF-10DK cut sheet feeder for LC-10	£64.95
Star SF-10DK cut sheet feeder for LC24-10	£64.95

**New - Olivetti DM100S** incredible value 9pin printer 200cps draft, 30cps NLQ. Low price includes 12 months on-site maintenance ..... **£129.95**  
Olivetti automatic cut sheet feeder for DM100S printer ..... **£79.95**

Canon LBP8-III laserprinter, inc. 12 months on-site warranty	£1665.00
NEC P2+ multifont 24 pin 192/64cps	£299.00
Epson LX400 (was LX800) popular budget 10" 180/25cps	£159.00
Epson LQ550 good 24pin printer 150/50cps	£299.00
Epson LQ400 24 pin 180/60cps with 8k buffer, superb value	£229.00
Epson EPX-200 cut sheet feeder for LX800 / LX400	£74.95
Panasonic KXP1081 reliable 120/24cps printer	£159.00
Panasonic KXP1180 super 9pin with 3400 type combinations	£179.00
Panasonic KXP1124 good 11 1/2" carr. 192/63 cps 24 pin	£269.00
Panasonic P37 cut sheet feeder for KXP1180	£95.00
Panasonic P36 cut sheet feeder for KXP1124	£109.00
Panasonic KXP4450 fast 11ppm/300dpi good value laser	£1795.00
Amstrad DMP3160/3250DI 9pin, 10" carriage	£169.00
Amstrad DMP4000 9 pin, wide carriage	£249.00
Amstrad LQ3500DI 24 pin inc. serial/parallel ports	£279.00
Amstrad LQ5000DI 24pin wide carr., inc. serial/parallel ports	£379.00
Citizen 120D budget 10" carriage 120cps	£139.00
Mannesmann Tally MT-81 130/24 cps	£149.00

**DOUBLE TAKE!**  
**PYE 15" FST  
TV/MONITOR**  
(MODEL 2325)

Superb quality, stylish medium resolution colour TV/monitor to suit the ST or Amiga. Features teletext, full infra-red remote control, Euroconnector, Video/Audio input and headphone output connectors, 40 tuner presets, external aerial connector and loop aerial. Supplied with cable (please state computer type when ordering).

**GREAT  
VALUE!**  
**£269.00**  
includes VAT  
and computer  
connection lead

## ATARI Hardware Offers

### 520 ST POWER PACK

Amazing value, special ST package from Atari! Includes the latest 520ST with 1MEG drive, joystick, mouse, user guide, 5 disks of public domain software, plus an incredible selection of chart-topping software (£500 RRP)! Software included is:

R-Type	Pacmania	Out Run	Nebulus
Afterburner	Starblaster	Bombuzal	Starquake
Double Dragon	Super Huey	Xenon	First Music
Super Hangon	Eliminator	Gauntlet II	First Basic
Space Harrier	Predator	Black Lamp	Organiser
Overlander	Bombjack	Starry	

**All  
for £339.00**  
only Inc VAT & delivery

### 1040 STFM SUPER PACK

**Clearance bargain!!!** Package comprises of a 1040STFM with 1Mb internal drive, games joystick and mouse, user guide, 5 disks of public domain software, plus 21 software titles (£450 RRP)! Software includes:

Marble Madness	Test Drive	Chopper X
Beyond Ice Palace	Buggy Boy	Ranarama
Thundercats	Quadrangle	Starquake
Summer Olympiad	Xenon	Genesis
Arkanoïd II	Wizball	Black Lamp
Eddie Edwards Ski	Seconds Out	Thrust
Ikarï Warriors	Zynaps	Organiser Business Sware

**only £379.00**  
Inc VAT & delivery

#### 1040 STE

Latest model includes 1Mb drive, 1 Mb RAM, PCM stereo sound, enhanced graphics plus built-in TV modulator

**£399.00**

With mono monitor

**£509.00**

#### 1040 STE

**HYPER PACK**  
Package includes 'Hyper Paint', 'Hyper Draw', 'First BASIC' plus 'Organiser' for

**£429.00**

With mono monitor

**£539.00**

**520ST EXPLORER PACK** Package includes the latest 520ST with 512K RAM, 1Mb Drive and built in TV modulator ..... **£259.00**

**NOTE:** At time of going to Press all stocks of 520 ST are the STE version, including PCM stereo sound and enhanced graphics!

520STFM 1Mb internal drive upgrade kit with full instructions	£74.95
520 STFM 1Mb memory upgrade kit, requires soldering	£109.00
520 STFM 1Mb memory upgrade fitted by us	£109.00
Mega ST1 with mono monitor	£599.00
Mega ST2 with mono monitor	£849.00
Mega ST4 with mono monitor	£1099.00
SM124 high resolution monochrome monitor	£119.00
SC1224 colour monitor	£279.00
SLM804 laser printer (needs 2Mb RAM or more):	
including 90 days on-site maintenance	£1099.00
including 15 months on-site maintenance	£1229.00
Megafile 30Mb hard disk	£439.00
Megafile 60Mb hard disk	£589.00
Atari DTP Pack: inc. Mega ST4, SM124, SLM804, Megafile 30, 'Fleet St Publisher 1.1' and 15 months on-site maintenance	£2785.00
Vortex HDplus 40Mb hard disk	£499.00
5.25" External floppy drive 40/80 track switchable (360/720K) including PSU. PC compatible	£99.00

#### IMAGE SCANNERS & VIDEO DIGITISERS

Kempston DARTscan high quality 105mm wide handy scanner 200dpi, two-tone or with 2/4/8/16 greyscales ..... **£229.00**  
Vidi-ST 16-tone video frame grabber inc. digitising software ..... **£95.00**

#### MONITORS & ACCESSORIES

Philips CM8833, as above with stereo sound, +a/v inputs ..... **£249.00**  
Pye 2325 15" FST TV/Monitor with Teletext, r/ctrl & ST cable .... **£249.00**  
Philips TV Tuner AV7300, for monitors with composite input ..... **£74.95**

#### OTHER ACCESSORIES

Pace Linnet Modem Pack (inc. cable & software) ..... **£179.00**  
Supercharger Hardware PC Emulator: unit includes NEC V30 processor & 512K RAM. MDA & CGA video. Simple to install .. **£289.00**  
Contriver hi-res Mouse, good quality, with mouse pocket & mat .... **£22.95**  
STF/STFM Joystick & Mouse accessibility extension adapter ..... **£ 4.95**

All our ST hardware prices include mouse, user guide etc., PLUS 5 disks of public domain software including 'Neochrome' graphics utility, 'First Word' wordprocessor, games, demos & utilities.

## EVESHAM MICROS MEGA-PACK

### HIGH QUALITY LASERPRINTER PACKAGE INCLUDES:

- Atari Mega ST2 with 2Mb RAM
- SM124 hi-res monochrome monitor
- Atari SLM804 300dpi laserprinter
- External Second 3.5" floppy drive
- 'Fleet St. Publisher 1.1' DTP package
- 'Hyper Paint' Atari's paint package
- 'Hyper Draw' Atari's draw package

**15 MONTHS  
ON-SITE  
MAINTENANCE  
INCLUDED**

**ONLY £1975.00**

Price includes VAT, delivery & 15 months on-site warranty



# ST Software

## Timeworks

Data Manager Professional .....	£29.95
Desktop Publisher .....	£74.95
Desktop Publisher Clip-art pack .....	£19.95
Word Writer .....	£37.50

## Antic

CAD 3D 1.0 .....	£18.95
Cyber Control (animator) .....	£29.95
Cyber Paint 2.0 .....	£37.50
Cyber Sculpt .....	£59.95
Cyber Studio (CAD 2.0) .....	£67.95
Cyber Texture .....	£37.95
Genesis Molecular Modeller .....	£29.95
GIST (sound editor) .....	£14.95
Migraph Draw Art Professional .....	£29.95
Migraph Scan Art .....	£37.95
Video Titrer .....	£14.95

## Sage

Book Keeper .....	£84.95
Accountant .....	£129.95
Accountant Plus .....	£209.50
Financial Controller .....	£334.00

## GFA

GFA Basic Version 2 (includes compiler) .....	£34.95
GFA Basic Compiler .....	£20.95
GFA Basic Version 3 .....	£37.95
GFA Draft Plus .....	£74.95
GFA Vector .....	£24.95

## GST

First Word Plus .....	£59.95
GST C Compiler .....	£15.95
Macro Assembler .....	£15.95
1st Mail (for 1st Word only) .....	£15.95

## Lets make...

Signs and Banners .....	£8.95
Greetings Cards .....	£8.95
Calendars & Stationery .....	£8.95
Art Library 1 (clip art) .....	£8.95
Art Library 2 (clip art) .....	£8.95

## Music

C-Lab Creator .....	£259.00
C-Lab Notator .....	£425.00
C-Lab Unitor .....	£299.00
X-Alyzer .....	£170.00
Mastertracks Junior .....	£99.00
Mastertracks Pro .....	£269.00
RealTime .....	£224.00
Replay IV .....	£63.95
Steinberg Pro 24 .....	£250.00
Super Conductor .....	£37.50
Track 24 .....	£60.00
Virtuoso .....	£249.00

## Programming

Fast Basic Disk .....	£37.95
FTL Modula-2 .....	£55.95
Hisoft Devpac .....	£44.95
Hisoft Power Basic .....	£29.95
Mark Williams C .....	£99.95
Prospero C .....	£103.95
Prospero Fortran .....	£103.95
Prospero Pascal .....	£79.95

## Games and Simulations

Carrier Command .....	£18.95
Elite .....	£18.95
F-16 Fighting Falcon .....	£18.95
Flight Simulator II .....	£37.45
Gunship .....	£16.95
Silent Service .....	£16.95
STAC Adventure Creator .....	£29.95
STOS Game creator .....	£22.50
STOS Sprites .....	£11.95
STOS Compiler .....	£14.95
STOS Maestro .....	£18.95
STOS Maestro + (inc. Sampler Module) .....	£52.95
U.M.S. .....	£18.95

## Miscellaneous

Autoroute .....	£127.00
Campus CAD .....	£254.00
Degas Elite .....	£19.95
Easy Draw 2 .....	£37.50
Easy Draw + Supercharger .....	£59.95
Easy Tools (requires 1Mb RAM) .....	£29.95
Epson Emulator for Atari SLM804 printer .....	£29.95
FiST BASIC .....	£14.95
Flair Paint .....	£26.95
Fontz! .....	£21.95
Home Accounts (Digita) .....	£18.95
Hyper Draw .....	£14.95
Hyper Paint .....	£14.95
LDW Spreadsheet .....	£119.00
Logistix .....	£79.95
Mini Office Comms .....	£18.50
Mini Office Presentation Graphics .....	£18.50
Mini Office Spreadsheet .....	£18.50
Personal Finance Manager .....	£22.95
Protext .....	£79.95
Spectrum 512 .....	£22.50
Superbase Personal version 2 .....	£69.00
Superbase Professional .....	£179.95
Word Perfect V4.1 .....	£183.00
Word Up .....	£49.95

## 3.5" Disks

10 Bulk packed DS/DD 3.5" disks with labels, fully guaranteed .....	£ 9.95
25 bulk disks as above .....	£22.95
10 disks as above with plastic case .....	£11.95
25 disks as above, with 40 capacity lockable storage unit .....	£29.95
Kodak DS/DD 3.5" disks, top quality storage media. Box of 10 .....	£17.95

# Full Featured, Top Quality External 2nd Floppy Drive

"... a very smart looking drive indeed ... a very slim and quiet device ... it is very keenly priced too."

- ST WORLD, September 1989



An external 2nd drive for the Atari ST at an ultra low price - complete with its own plug-in external power supply! Based around a Teac/Citizen drive mechanism, this drive gives the full 720K formatted capacity. Quiet in operation, neat slimline design, colour matched to the ST, with a long connection cable for location left or right of the computer.

**SUPER LOW PRICE!**

**£74.95**

including VAT and delivery - Why pay more?

## Atari 520 STFM Internal 3.5" drive upgrade kit Only £74.95

An ideal, simple way to upgrade your 520 STFM using a high quality double sided drive. Internally replaces the original single sided unit. One megabyte unformatted capacity and fully compatible. Detailed fitting instructions given. Requires very slight case modification. Fitted to your ST - add £10.00 extra.

## KEMPSTON DATAscan

Superb quality 200 dpi handy scanner 105mm wide. Includes scanning and image processing software, operating in any resolution. Stores images in IMG, Degas, NEO, TIFF and MSP formats. Scanner digitises black & white or in up to 16 grey levels, at a speed of 2cm/sec. Incorporates scanning window and scanning control button for great ease of use. Includes Atari's HYPER PAINT package for even higher power over image processing.

**ONLY £229.00**

including s/ware, manual, interface, VAT and delivery

## VORTEX 40MB HARD DISKS

Excellent quality, external 40Mb hard disk sub-systems for all models of Atari ST. Vortex HDplus units offer high performance, with an average access speed of 45ms. Housed in strong and rigid casing (ideal as a monitor base), each unit includes a DMA throughput, allowing chaining of up to 8 hard disk units. Supplied with full support software (includes 'Backdisk' backup facility), connection cables and full documentation.

VORTEX HDplus 40Mb hard disk ..... £499.00

## Atari ST Books

Atari ST GEM Programmer's Reference .....	£14.95
Atari ST Machine Language .....	£14.95
Atari ST Tricks and Tips .....	£14.95
Atari ST BASIC Training Guide .....	£12.95
Atari ST Introduction to MIDI Programming .....	£14.95
Atari ST Disk Drives - Inside and Out .....	£16.95
Atari ST Internals .....	£14.95
Using ST BASIC on the Atari ST .....	£ 5.95
GFA BASIC Advanced Programming Guide .....	£11.95
GFA BASIC V3 Software Development .....	£14.95
First Steps in 68000 Assembly Language .....	£ 9.95
Concise ST 68000 Reference Guide (Version 2) ....	£17.50

# VIDI-ST-

## GREAT VALUE REAL-TIME VIDEO DIGITISER FROM ROMBO PRODUCTIONS

- Grabs from moving video in 1/50th second in full 16 shades!
- Animates frames at up to 25Hz
- 'Carousel' frames (24 on 1Mb ST)
- LOAD and SAVE in DEGAS, NEOCHROME or IMG formats
- Cut and Paste pixel-accurate blocks between frames
- Manual control of contrast and brightness, with an additional 8 levels of s/ware brightness control
- Full palette control of frames
- 'Grab window' feature allows partial frame capture, for overlay with existing frames
- Full documentation of software interface, for user applications
- Extremely easy to use
- Runs on any ST in low-res mode, with video recorder or camera.

**ONLY £95.00**

Includes VAT, delivery, interface, software, video connection cable and manual.

## How to order from

## Evesham Micros

MAIL ORDER SALES:  
0386-765500

Technical Support (Mon-Fri):  
0386-40303

All prices include VAT and delivery. Express Courier delivery £5.00 extra.

Send cheque, Postal Order or ACCESS/VISA card details

Govt., educ. & PLC orders welcome  
Same day despatch whenever possible  
All products covered by 1 year guarantee  
All goods subject to availability, E.&O.E.

Retail outlets at: 1762 Pershore Road, Cotteridge, Birmingham B30 3BH Tel: 021 458 4564  
63 Bridge Street, Evesham, Worcs WR11 4SF Tel: 0386 765180  
5 Gisson Road, Cambridge CB1 2HA Tel: 0223 323898

**Evesham Micros Ltd**  
UNIT 9 ST RICHARDS RD  
EVESHAM  
WORCS WR11 6XJ  
0386-765500  
fax 0386-765354



# EALING

## COMPUTER CENTRE

**No.1**

**Place for ATARI ST Computers in West London. All prices inc. V.A.T**

### This Months Special Promotions

**NEW 520 STE Power Pack £359**  
(includes mouse, joystick, games + business software)

**NEW 520 STE Explorer Pack + 4 games + joystick £289**

#### Hardware

FREE Hyperpack with all 520 STE's. Includes Hyperdraw, Hyperpaint, Borodino and a £50 voucher for games.  
Atari 520 STE Power Pack £359 (£450 of software inc. Music, Organiser + Joystick)  
Atari 1040 STE (mod. TV) £449  
Mega ST1 MB £489  
520 STE Explorer pack (games + joystick) £289  
Atari SM124 Monitor £119  
Star LC24-10 Printer £239  
Mannesmann Tally 81 £129  
Hard Disk 30 MB Megafile £439  
Ram Upgrade ST - no Soldering £99  
Philips 8833 colour monitor inc. cable £229  
Star LC10 £159  
Star LC10 Colour £209  
Panasonic KXB11 24 (24 pin printer) £279  
Cumana 1MB external drive 3.5" inc. PSU £89  
DDL 1 Meg External Drive 3.5" inc. PSU £78

#### Software and Disks

**TIMEWORKS (30% off RRP)**  
Data Manager Prof. £49 £29  
Desktop Publisher £69  
Publishing Tutor £25  
Word Writer £35  
Partner ST £35  
**ANTIC (up to 30% off RRP)**  
Spectrum 512 £42 £29  
Cyber Studio £86 £39  
Cyber Control £42 £29  
Cyber Paint £48 £39  
Cyber Sculpt £56  
Cartoon Designs £25  
Video Titling Designs £25 £19  
3D Developers disk £25  
**GST**  
1st Word Plus vers.3 (new) £59  
**All above software in stock**  
**DISKS**  
3.5" DS DD 10pcs KODAK £13  
3.5" DS DD BULK 25pcs £20

**19 Queens Parade, Ealing London W5 3HU. Tel 01-991 0928**

Prices include Delivery for Software and small items. Next Day Delivery of Hardware £6.99. UK Mainland only \* Above prices for Mail Order. Shop Prices may vary \* All offers subject to availability. E. & O. E. \* We are at the corner of Hanger Lane (North Circular) & Queens Drive \* Easy Parking \* Most models in stock \* VISA and ACCESS

**10 DISKS 3.5" DS DD £5.99** ONLY with any purchase of £100 or more. Lowest price in UK?

## WIZARD P.D.

FOR YOUR ATARI ST!

178, Waverley Rd, Reading, Berks, RG3 2PZ

\* HIGH QUALITY  
\* FAST SERVICE  
\* VIRUS FREE

\* LOW PRICES  
\* FULL RANGE  
\* HELPLINE

**MEGA PACKS** You choose the disks not us!!  
**FULL DISKS** Our s/sided disks average 325K  
**ALL DISKS** Are verify copied & immunised!!  
TOS 1.89 No problem all compatible!

**NEW CATALOGUE OUT NOW!**

**SPECIAL OFFERS:** 3 Disk Starter Pack £5.00  
Budge Disk - Special offer - £2.50. 23 to choose from.  
Mega Packs - 5 single or DS/Disk of your choice only £9.

FOR FREE CATALOGUE SEND SAE OR RING 0734 574685



## COMPUTERWISE

BRIGHTON 674626

## ATARI ST SPECIALISTS

We have 100s of software titles many are now discounted, books and peripherals in stock at all times. Up to £1,000 instant credit with Lombard Tricity. Finance subject to acceptance. Full written details upon request.



Open 10 am to 6 pm Monday to Saturday  
44 George Street, Kemptown, Brighton  
Opposite the American Express Building



# BEST PRICES!

### ST MIDI SOFTWARE

C-Lab Creator SL  
C-Lab Notator SL  
C-Lab Unitor/Notator SL  
Steinberg Cubase Ver 1.5  
Steinberg Pro 24 Ver. II  
Hybrid Arts EZ Trak Plus  
Dr.T KCS 1.7 MPE  
Digital Music Virtuoso  
all other top packages available.



Phone for Prices!!

If we print

'em, you

won't believe

'em!!



### MANNESMANN MT81

\* 9 Pin Dot Matrix  
\* Parallel Interface  
\* 100 cps draft  
\* 24 cps LQ  
\* Epson/IBM compatible  
\* Tractor feed  
\* Single sheet feed  
\* Paper parking  
\* Includes cable  
\* 1 Year On Site Warranty - FREE!

**£129.95**

inc vat + delivery

### BLANK DISKS

Our disks are unbranded double sided double density (1 meg) 3.5" disks with labels.

Quantity x 10	£6.85
Quantity x 20	£12.99
Quantity x 30	£18.99
Quantity x 50	£29.99
Quantity x 100	£56.99
Quantity x 200	£108.99
Quantity x 500	£264.99
Quantity x 1000	£529.99

### star LC10 MONO

Includes printer cable and 1 year on site warranty FREE!  
**£169.00**  
inc vat

### star LC10 COLOUR

Includes printer cable and 1 year on site warranty FREE!  
**£229.95**  
inc vat

### star RIBBONS

2 x Black	£2.00
5 x Black	£16.95
10 x Black	£32.95
1 x Colour	£10.40
5 x Colour	£54.95
10 x Colour	£107.95

520STE HYPER PACK	279.00
520STE POWER PACK	369.00
1040STE HYPER PACK	459.00
SM124 MONO MONITOR	99.99
MEGAFILE 30 H/DISK	429.95
MEGAFILE 60 H/DISK	595.00
STACY 2MB/20MB H/D	1369.99
STACY 4MB/40MB H/D	1889.99

### ST GAMES SOFTWARE

Moonwalker - US Gold	12.99
Power Drift - Activision	16.99
Strider - US Gold	13.99
Ghostbusters II - Activision	15.99
Kenny Dalglisch - Active	13.99
Chambers of Shaolin - Q/slam	12.99
Altered Beast - Activision	13.99
Untouchables - Ocean	13.99
Gazza Super Soccer - Ent Int	15.99
Ghouls & Ghosts - US Gold	13.99
Turbo Outrun - US Gold	13.99

### FIRST WORD PLUS

**£56.99**

### DATA MANAGER PRO

**£49.99**

### TIMEWORKS DTP

**£54.99**

### ST Monitor Switch Box

(mono/colour)  
**£14.95**

Pair of 2.5 metre coiled Midi leads  
**£6.95**

Parallel Cable ST, Amiga, PC  
**£3.99**

## Panasonic KX-P1124

\* 24 Pin Dot Matrix  
\* Parallel Interface  
\* 102 cps draft  
\* 63 cps LQ  
\* Paper parking  
\* Epson/LQ compatible  
\* IBM Pro compatible  
\* Tractor feed  
\* Single sheet feed  
\* Includes cable  
\* 1 YEAR ON SITE WARRANTY FREE \*

**£289.95**

inc vat + delivery

## PORTFOLIO

THE ULTIMATE POCKET PC  
NEW LOW PRICES!!

Atari Portfolio	£229.95
Smart Parallel Interface	£38.95
Smart Parallel Interface - with IBM Parallel cable	£41.95
32K Memory Card	£46.95
64K Memory Card	£94.95
128K Memory Card	£118.95

**ATARI ROBOKIT IN STOCK ONLY £99.99**

## BEST PRICES

(Dept STF), Unit A, Grafton Place, Worthing, West Sussex. BN11 1QX  
Tel: (0903) 700714



24 hour answering  
All prices include VAT & delivery  
Goods usually despatched same day.

Prices are subject to change without notice and goods are subject to availability. Mail order only - no callers please.





# GAMEBUSTERS

*More skulduggery and downright jiggery pokery from the immoral masters of deception!*

## TRIBAL SECRETS

Fingers still tingling after all those hours stick wagging over issue 7's stunning Cover Disk game *Skate Tribe*? Waggle no more, because **Neil McChrystal** has stomped on all-comers to battle through to the end. And just for you dear cheat, he's kindly agreed to share the *Skate Tribe* secrets. Let 'em have it, Neil... Here are tips for all nine levels of the game.

**Level 1:** This is probably the hardest of the early levels. Don't worry too much about the money, concentrate on keeping your lives intact.

**Level 2:** The Trojan bridge. A programming fault allows you to go into the middle of the road and just sit back until you reach the end of the level.

**Level 3:** The broken bridge. This level takes a bit of practise but soon becomes easy. Always travel a bit before jumping. This is the easiest way to time the jumps right. Don't try to jump straight across any holes – if it can be done it's very difficult.

**Level 4:** The railroad slide. Don't keep looking at the board. Just move right and left every half second or so and keep an eye on the bottom of the screen for breaks.

**Level 5:** The manic metropolis. Instant reaction to this level is panic! Don't. Keep across to one side and jump over each car as it comes towards you. If there's any chance of a car hitting you, jumping straight up sometimes proves a successful evasive tactic.

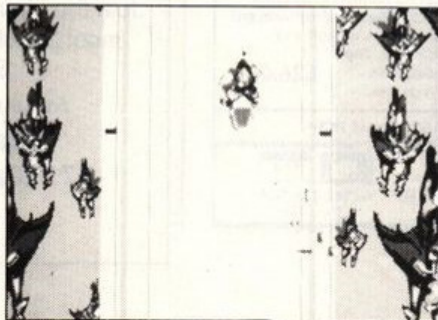
**Level 6:** The air-o-pede. A difficult level. Fortunately the collision detection is a bit dodgy. You don't have to kill all of the monster to progress, but your cash bonus depends on how many bits you kill.

**Level 7:** The strato snake. Trial and error is the

only way to tackle this level. Eventually, you can learn the movements of the snake. One tip is to initially get over to the right-hand side.

**Level 8:** The desert scene. Just zig-zag across the screen until you reach the edges and you should easily avoid the bikes.

**Level 9:** The street party. Don't worry too much about the money. It's much harder to get this time because it bounces off the edges. If anything comes near you, jump – and keep jumping!



### SHARE YOUR SECRETS!

You've spent hours burning the midnight oil nosing out all the little wrinkles in that arcade corker, and now you'd like a reward for all that hard cheating, right?

Let Gamebusters in on the secrets and a fabby prize could be winging its way to you. Address your cheats to Gamebusters! *ST Format*, Beauford Court, 30 Monmouth Street, Bath BA1 2AP.

If you're the month's best sneak, trumpets sound, drums roll, you'll have everlasting fame and the aforementioned fabby prize. Don't say you weren't warned...

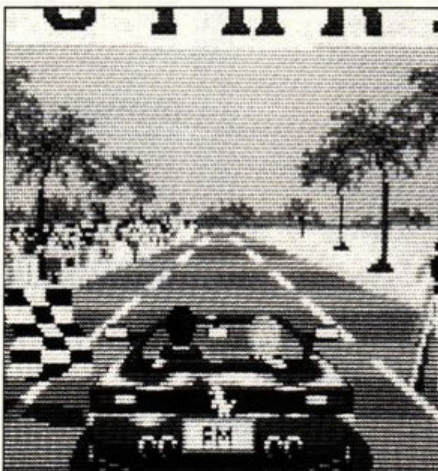
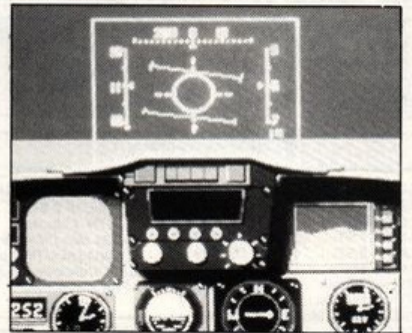
## BOMBER

And now, for keyboard pilots everywhere, **John Bevan** of Basildon in Essex presents his playing tips for Activision's *Bomber*. Take to the skies...

■ When choosing your plane, take the F-15 or the Phantom F-3a because they carry more bombs and mavericks. Always arm your plane with side winders in case of any enemy planes. Choose the F-15 Tomcat as your enemy. This plane is easy to kill. If you should get any enemy aircraft around you, fly slowly and don't move around much. Fire lots of flares and when the enemy is behind you, fly right around.

■ Always use the sidewinders, but use the gun to conserve missiles. When you get to the mission Bridge End, use afterburners. When you get to top speed, switch off your engine. Slow down to 250km and put your after burners on. Keep doing this until you near the target. When the Sam Site fires, use your afterburners, fire four mavericks and keep using the flares until it's destroyed. You must fly very low to hit the bridge.

Ask not for whom the fanfare fans, it fans for you John Bevan. A dull thud on the doormat will signal the arrival of the computerish trinket currently winging its way to you.



## AFTERBURNER AFTERMATH

**Alistair Sheffield** of Malvern, Worcestershire has the audacity to state that he can improve on an *AfterBurner* tip which appeared in issue 7! What do you think, readers? Should we believe him? OK AI, strut your stuff...

After typing AGES skipping levels becomes possible, right? But type G and you can get extra missiles! And if you type N, you will be granted infinite levels. Wow AI, you certainly proved your super sneak status with that one.

But what's this? There's more?

In *Outrun*, type Starion as you're driving along. Press Q and you'll be given information about the game. Press T and you get a ten second time bonus and if you press E, you get extended time.

And more... Press all the function keys together while playing *StarGoose* and infinite lives will be yours. If only it was so easy in real life... ■



Software for serious sports enthusiasts

# POOLSWINNER II

THE ULTIMATE POOLS PREDICTION PROGRAM

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available - 22000 matches over 10 years.
- **PREDICTS** Not just SCOREDRAWS, but NO-SCORES, AWAYS and HOMES too. Predictions are based on many factors ... recent form, the massive database, current league standing, goal scoring rates, and draw averages (each factor is independently switchable by the user).
- **SUCCESSFUL** Select guarantee that Poolswinner performs significantly better than chance.
- **LEAGUE AND NON-LEAGUE** matches are covered.
- **FULL LEAGUE TABLES** are automatically generated as results are entered.
- **AUTOMATIC FIXTURE GENERATION** : Fixtures for English and Scottish League matches are generated automatically by Poolswinner's sister program FIXGEN...



**FIXGEN 89/90**

● **FIXGEN** : No need to struggle for hours to get the fixture list into the computer - just type in the date, Fixgen contains the complete fixture list for the whole year's league soccer. (Published under licence from the Football League, and the Scottish Football League).

**£28.50**

Poolswinner with Fixgen.

# POOLS PERM PLUS

SOPHISTICATED FOOTBALL POOLS PERM ANALYSER

- Whether you use a scientific bet, or family birthdays, PPP will check the performance of any bet over the years, revealing which weeks it won prizes. Test your theories, or compare perms' performance. Complete with 5 years coupon results.
- Also you can use Pools Perm Plus to check your perm for winning lines each week: the program comes complete with 20 top perms.

**£26.00**

# COURSEWINNER v3

THE PUNTERS COMPUTER PROGRAM

- The ORIGINAL, and still the BEST computer punter's aid.
- Coursewinner V3 uses all the most important form pointers (past form, speed ratings, prize money, course statistics, jockey form, trainer form etc) to give a detailed assessment of every runner's chances, not just a tip.
- Vital statistics of all British courses (Draw advantage, Top Trainers and Jockeys etc) are included in the database.
- Includes both FLAT and NATIONAL HUNT versions.

**£26.00**

All available for **IBM (5.25", 3.5") AMIGA, ATARI ST, Amst PCW**

Send cheque / PO for return of post service to ...

**Selec Software** (Est. 1984)

62 Altrincham Rd, Gatley, Cheshire SK8 4DP Tel 061-428-7425  
(send for full list of our software) phone 24 hrs

# ST PUBLIC DOMAIN

A Premier Service for all those new to the Atari ST and IBM Compatibles:

- \* Desktop Publishers
- \* Animation
- \* Databases
- \* Wordprocessors
- \* Printer Drivers
- \* Languages
- \* Copiers
- \* Graphics
- \* Art & CAD

Over 30 Superb 16 BIT BUDGIE GAMES for the ST

For a Disk catalogue send 3 x 20p Stamps. Disk includes useful accessories and Budgie information for single & double drives.

**ALPHA COMPUTING**

32, Meadow Drive, Halifax, West Yorkshire HX3 5JZ  
Tel: 0422 366785 (9 am - 6 pm)

# Matrix Hire Makes the Software World Your Oyster !

Join the Matrix and enjoy access to our huge library of the most popular titles. For Atari ST, Amiga, Commodore, Spectrum and Amstrad machines.

For full details send large SAE stating your machine to:-

**Matrix Leisure Club, Dept ST/F,**  
271 Stanstead Road, Bishops Stortford,  
Herts CM23 2BT.

Free Membership for quick replies.

# SOFTMACHINE

## ATARI HARDWARE

520ST-E Explorer Pack .....£274.99  
520ST-E Power Pack .....£349.99  
1040ST-E .....£436.99  
MEGA 1 ST .....£514.99  
MEGA 2 ST .....£811.99  
MEGA 4 ST .....£1109.99  
Stacy Portable .....Ring  
TT Workstation .....Ring  
SM124 Mono Monitor .....£99.99  
SC1224 Colour Monitor .....£264.99  
SF354 Disk Drive .....£109.99  
SF314 Disk Drive .....£134.99  
MEGAFILE 30 Hard Drive £436.99  
MEGAFILE 44 Hard Drive £798.99  
MEGAFILE 60 Hard Drive £599.99  
SLM804 Laser Printer .....£1195.99  
STM-1 Mouse .....£23.99  
\* Special Offer - Limited Stocks \*

## MEGA ST LASER PACK 1

### MEGA 2 ST

STM-1 Mouse  
SM124 Mono Monitor  
SLM804 Laser Printer  
SLM804 Controller Interface  
Prof 24e Software  
**£1599.99**

## MEGA ST LASER PACK 2

### MEGA 2 ST

STM-1 Mouse  
SM124 Mono Monitor  
MEGAFILE 30 Hard Drive  
SLM 804 Laser Printer  
SLM804 Controller Interface  
Prof 24e Software  
DTP Pack Software  
**£2169.99**

## SOFTMACHINE STARTER PACK

Mouse Mat  
Mouse Bracket  
10 TDK MF2DD Disks  
40 Capacity Disk Storage Box  
3.5" Head Cleaner  
520/1040 Dust Cover  
Twin Mouse/Joystick Extension  
**ONLY £25 \***

\* When purchased with any ST computer... Offer limited to 1 starter pack per ST purchased!

ALL PRICES INCLUDE V.A.T. AND DELIVERY (U.K. ONLY)  
COURIER/OVERSEAS RATES ON REQUEST

SEE OUR ADVERTISEMENT IN NEXT OR LAST MONTH'S ST FORMAT FOR PERIPHERALS/ ACCESSORIES/BOOKS

## DTP PACK SOFTWARE:

Timeworks Publisher  
+ Draw Art  
+ Scan Art  
+ Borders

## Xtra-RAM

Unpopulated  
0.5Mb Populated  
2Mb Populated  
Ring for Prices

## WORD PROCESSING

1st Word Plus .....£57.90  
K-Word 2 .....£28.80  
Protext .....£69.95  
Protext Filer .....£18.75  
Protext Office .....£24.95  
Word Perfect .....£177.40  
Hisoft C .....£36.35  
Word Up .....£47.75  
Hisoft Forth .....£29.50  
Hisoft Power Basic .....£36.35  
K-Seka Assembler .....£35.50  
K-Occam .....£43.20  
Lattice CV5.0 .....£70.95  
Mark Williams C .....£91.60  
Mark Williams csc .....£43.25  
Nevada Cobol .....£36.35  
Personal Pascal 2 .....£57.35  
Prospero C .....£92.25  
Prospero Fortran .....£92.25  
Prospero Pascal .....£71.65

## DATABASES

Data Manager Professional .....£30.50  
K-Data .....£35.50  
Superbase Personal .....£43.20  
Superbase Personal 2 .....£69.95  
Superbase Professional .....£170.55

## SPREADSHEETS

K-Spread .....£18.75  
K-Spread 2 .....£43.20  
K-Spread 3 .....£63.30  
Logistix .....£77.45  
Mini Office Spreadsheet .....£18.75

## LANGUAGES/COMPILERS ETC

APL 68000 .....£99.95  
Assempro .....£38.35  
Aztec C Developer .....£137.15  
Aztec C Professional .....£99.65  
Aztec C scd .....£61.25  
Devpac 2 .....£43.60  
Fast ASM Assembler .....£17.50  
Fast Basic (Disk) .....£37.65  
Fast Basic (ROM) .....£73.15

## SOFTWARE

FTL Modula 2 .....£50.50  
FTL Modula 2 Developer .....£70.95  
FTL Editor Toolkit .....£36.35  
FTL Tools .....£29.50  
GFA Basic V3 .....£48.80  
GFA Basic Companion .....£21.85  
GST C .....£15.75  
GST Macro Assembler .....£15.75  
Hisoft Basic .....£57.35  
Hisoft C .....£36.35  
Hisoft Forth .....£29.50  
Hisoft Power Basic .....£36.35  
K-Seka Assembler .....£35.50  
K-Occam .....£43.20  
Lattice CV5.0 .....£70.95  
Mark Williams C .....£91.60  
Mark Williams csc .....£43.25  
Nevada Cobol .....£36.35  
Personal Pascal 2 .....£57.35  
Prospero C .....£92.25  
Prospero Fortran .....£92.25  
Prospero Pascal .....£71.65

## DESKTOP PUBLISHING

Fleet St. Publisher .....£86.80  
Pagestream .....RING  
Timeworks DTP .....£71.00

## CAD/GRAPHICS/ANIMATION

3D Developers Disk .....£15.75  
3D Fonts II .....£22.60  
Aegis Animator .....£45.85  
Architectural Design .....£15.75  
Art Director .....£35.50  
CAD 3D V1.0 .....£19.15  
Cartoon Design .....£22.60  
Cyber Control .....£30.50  
Cyber Paint .....£37.35  
Cyber Sculpt .....£37.35  
Cyber Studio .....£57.90  
Cyber Texture .....£36.35  
Degas Elite .....£20.75  
Draw Art .....£36.35  
Easy Draw 2 .....£37.35  
Easy Draw 2 Supercharged .....£57.95  
Easy Tools .....£29.50  
Film Director .....£43.20  
Flair Paint .....£24.95  
Future Design .....£15.75  
Human Design .....£15.75  
K-Rikki .....£15.40  
Microbot Design .....£22.60  
Quantum Paint .....£21.70  
Quantum Paint Prof .....£29.55  
Scan Art .....£29.50  
Spectrum 512 .....£23.60

## UTILITIES

Back Pack .....£40.65  
C Breeze Editor .....£18.75  
Craft 2 .....£36.35  
Fontz .....£21.00  
K-Graph 3 .....£35.50  
Knife ST .....£22.60  
K-Resource 2 .....£28.80  
K-Roget .....£35.50  
Mailshot Plus .....£35.50  
PC Ditto .....£64.95  
Saved 2 .....£22.60  
ST Doctor .....£16.25  
Tempus 2 .....£29.50  
Timeworks Partner .....£37.25  
Turbo Kit .....£25.95  
Turbo ST .....£25.95

Video Titling Design .....£15.75

## MUSIC

Big Band .....£169.95  
C-Lab Creator .....RING  
C-Lab Notator .....RING  
K-Ministrel 2 .....£21.95  
Master Score .....£307.60  
Midi Recording Studio .....£45.70  
Pro 24 .....£270.10  
Studio 24 .....£155.00  
Track 24 .....£75.00  
Cubase .....£427.85

## COMMUNICATIONS

220-ST .....£21.95  
BBS .....£35.50  
Flash .....£19.15  
Kermit & Remote .....£15.75  
K-Comm 2 .....£35.50  
Mini Office Comms .....£18.75

## ACCOUNTS

Accountant .....£128.30  
Accountant Plus .....£212.40  
Bookkeeper .....£86.25  
Financial Controller .....£338.55  
Home Accounts .....£18.75  
Michtron Payroll .....£69.95  
Personal Finance Manager .....£21.95  
Small Business Accounts .....RING

## EDUCATIONAL

AB Zoo .....£14.95  
Fun School 2 Under 6 .....£19.95  
Fun School 2 6-8 .....£19.95  
Fun School 2 8+ .....£19.95  
Invasion .....£14.95  
Pre School Kids .....£14.95  
Spellbook 4-6 .....£19.95  
Spellbook 7+ .....£19.95  
Spellbook Alphabet Creator .....£9.95  
Spellbook Spellpack 4-6 .....£14.95  
Spellbook Spellpack 7+ .....£19.95  
Things to do with Numbers .....£19.95  
Things to do with Words .....£19.95

Please ring for prices/availability on any hardware/software/peripherals not listed. (Full price list on request)

Please make cheques/postal orders payable to SOFTMACHINE. All prices are inclusive of V.A.T. All prices subject to change without notice. All items subject to availability. E. & O. E.

# SOFTMACHINE

Dept STF3, 35 Guernsey Road, Sunderland SR4 9RR. Telephone: 091-385 7426



# SPECTRUM OF OPINION

**A**dventure specialists Magnetic Scrolls recently joined forces with Virgin/Mas-tertronic and are aiming to take the adventure market by storm with a revolutionary new title in Spring. We talked to Magnetic Scrolls' Anita Sinclair about the competition the new team are facing and the current state of the adventure scene.

**In ST Format's January issue, Level 9's Pete Austin was attracted by the sales of Sierra games ("They sell in very large numbers. We thought, right, we can do this stuff to our own designs and produce a technically much better product."). What do you think about Level 9 emulating Sierra's successfully selling games?**

All that Level 9 have ever done is repeat themselves. What they do, they do very well, and they're clever, talented people, but they haven't come up with an original way of doing anything. They've obviously looked at the sales of Sierra and thought, "they sell well so that's the way to go." What Level 9 haven't taken into consideration is the fact that Sierra sells so well because they have a very special relationship with Tandy in America. It's a unique arrangement that means when a new Sierra product comes out the Tandy chain takes 50,000 units. That's why Sierra are selling so well.

I believe Pete Austin's wrong. If all you ever do is look at best-selling products and copy them, you're never going to come up with anything original and produce a truly successful game. The really successful games appear because people sit back and allow their brains to go into free mode. If you look at recent successes, like *Populous* and *Sim City*, they're not based on anything that's been done before. They are not looking at what's around and saying "Wow let's copy that."

**You used to be an Infocom fan, do you see them as serious competitors?**

Infocom got stuck in a rut and never got out. They were too in love with their own system and wouldn't break away from it. They had a very powerful system but it was written ten years ago. I think they did everything they could with it. You get past the age of 30 and something seems to happen to people. You lose the edge somehow. You get comfortable, your wages are being paid, you've got a family and a roof over

STORY Mike Gerrard



■ Anita Sinclair speaks her mind about the complete lack of adventuring spirit in commercial software houses

*Anita Sinclair isn't holding back her comments about other adventure companies. She sends shock waves through the adventure scene with her caustic remarks about narrow-minded self-satisfied software houses*

your head – they were bought by Activision, didn't have to worry any more, and that was that.

**And Sierra On-Line?**

I think they're very good, very well put together. The graphics leave a little to be desired. Well, the graphics are downright awful, but otherwise they're extremely good games.

They're a clever company, they did something new and it worked. They've been doing it a long time now and they're a well-known name in the industry, but I think their approach is severely limited.

**How do you think games houses widen their approach?**

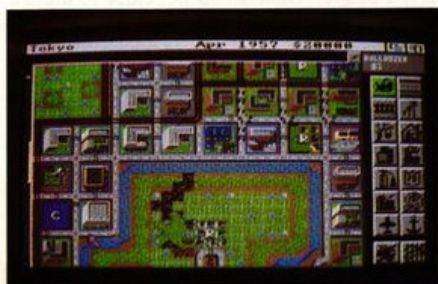
As a games player and a games designer, if you take the approach that all you can do is based on the graphics then you'll have a very limited selection of puzzles, because they have

to be represented on the screen. With the text approach you've got an infinite number of things you can do, an infinite variety of games designs.

What people are bored with is the format. They've got an exciting new machine and they don't want to play games on it that they played two years ago. They want games they couldn't possibly imagine playing two years ago, so you have to deliver something really dynamic, something which exploits the full potential of their machine. We did that very successfully with *The Pawn*, and we're going to do it very successfully with our next game.

**So what does the future hold for the dedicated adventure player?**

I think the future for adventure games is positive, but it can only be positive if people stop copying each other. If all people ever see is Level 9 repeating themselves, then nobody is going to buy new games. Look at the film industry: if they were still producing black and white silent movies, no-one would be going to the cinema anymore.



■ Sim City: a unique and successful idea

## 800 HOURS!

When Anita Sinclair does find a game that excites her she doesn't play it half-heartedly. "*Populous* was the last game I got hooked on. When it first came out I asked Electronic Arts to send me a copy but that immediately got requisitioned by someone in the office who took it into a corner and refused to be parted from it. I had to ring up and ask them to send another. It's the most phenomenal game. I spent so much time playing it that in the end I just had to erase the disks. Would you believe I spent 800 hours playing the game? I don't play *Populous* any more."



■ Populous: an 800 hour attention-span



No doubt some *ST Format* readers were unfortunate enough to belong to the Adventurers Club Ltd, whose organiser Henry Mueller disappeared without trace about a year ago. Letters went unanswered, as did the telephone, and software orders were left unfulfilled.

Mr Mueller recently re-emerged with a letter and a leaflet which must deserve some sort of award for optimism. While apologetic about his temporary absence, Mr Mueller has the gall to ask long-suffering members who haven't had a club for umpteen months to hand over even more money to him!

The annual membership rate has gone up to £24 per annum in the UK, and on top of that new

## MISDEED OR MISADVENTURE?

members are required to pay £7.95 for their Reference Book of Adventure-Deluxe Binder, that is supposedly "... manufactured to high and durable standard, in an elegant deep green colour, with the club's logo and name embossed in luxurious gold lettering..." So that's why it costs so much.

But there's more: it's another £2 for the Starter Pack, which is "indispensable to enable you to manage the Reference Book of Adventure efficiently."

Anyone prepared to hand over £33.95 to join a club that's likely to disappear for months at a time must have more money than brain cells.

Naturally this isn't how Henry Mueller sees it. He admits there was a "six month" interruption of services to subscribers, but claims that only "about 20 persons" were unhappy with what happened. Of the people who replied to his offer, he says, some 1,200 or 75% have decided to take the upgrade and 20% have not. "People vote with

their cheque books," he told us.

Mueller's version of events is that the Adventurers Club Ltd was simply not financially viable, only producing a profit of £10 a year. There were two options: either to wind up the company, call in the receiver and distribute the remaining capital among the creditors, or salvage what he could and be optimistic. "I am guilty," he admits, "of botching the PR aspect of things. I ought to have informed key people of what was happening, but I didn't."

Still, he says, no-one will lose anything: subscriptions are being honoured, and there's no obligation to part with any more money. In the end you must decide for yourself. If you think the club is a sound bet, go for it. Personally, I have my doubts.

## HARLEQUIN AND WHO?

Rob Steel used to write about adventures for something called *The Games Machine*. With his writing buddy Nik Wild he's set up an adventure club called Inter-Action.

There's a telephone helpline available Monday-Friday, 17.00-19.00, and a magazine called *Harlequin and Steel*. It's better than the average fanzine, nicely DTP'd and laser printed, though the design needs a certain something... like a designer? The content is varied, with a news section, reviews of ten new

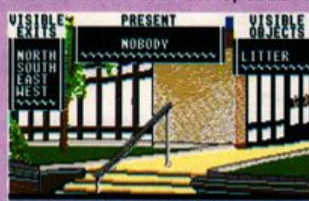
games, adventure hints, a map of *The Lurking Horror* and so on.

Good solid stuff, if no surprises, though I'm not sure players of the "thinking games" it aims to cover will really be thrilled to know that Lesley Mansford, the PR person at Electronic Arts, has a shower every morning and likes "Blind Date."

It deals with all machines, but has a strong 16-bit bias and a strong ST bias within that. For more details, interact with Inter-Action, The Cottage, Ashford Carbonell, Shropshire SY8 4DB.

## ZENOBI TRILOGY

Zenobi Software are an independent adventure label who have established themselves in the Spectrum market. If you think "home-grown" software means small-time software, I should point out that Zenobi's games outsell Level 9's on the Spectrum!



■ *Whiplash and Wagonwheel*

The company have made their move into the ST adventure market by releasing three games. One's a text-only trilogy snappily titled *Domes of Sha/ Mutant/ Hammer of Grimmold Trilogy*. Also available is *The Jade Stone*, a STAC adventure by authoress Linda Wright, and one of the few games to feature a female as its main character. Finally there's the exotically named *Whiplash and Wagonwheel*. All the games cost £7.49, from Zenobi Software, 26 Spotland Tops, Cutgate, Rochdale, Lancs OL12 7NX.

What kind readers! With very little prompting, and not a thought for monetary reward, you've been sending in hints just for the unadulterated pleasure of helping other people.

### LES MEETS THE BLOODWYCH

Les Rigden of Faversham in Kent says, "the following is a list of tips for *Bloodwych* gained through many hair-pulling hours and late nights." What a pretty sight he must look now, all bald and bleary-eyed.

1. Choose the four characters you wish to use but don't recruit them. Recruit all the other characters, strip them of their inventory and kill them! Then recruit your own characters. This gives you a good stock of money, food and weapons to begin your adventure.
2. All excess items can be sold to the creatures you meet on your travels. A good stock of money is essential to purchase the spells you'll need.
3. There are a number of spells you must buy to complete the game: Magelock (to open certain doors), Levitate (to cross pits), and Trueview (to see magic walls) – unless one of your characters already has a diamond.
4. Mapping isn't essential but the corridors can

## HINTS AND TIPS



■ *Bloodwych* causing hair-tearing angst

become very confusing.

5. Run around adversaries and attack their sides and rear, and save the game regularly.
6. Use the Vitalise spell to act as a food substitute when your characters are hungry.

### HAWAY THE BATS

Adventure players are thoughtful folk, sensitive intelligent creatures, not like those awful rowdy

arcade types. There's always the odd exception, though, and here's a letter from someone signing himself "The Bat" to prove it. In very neat handwriting, considering a bat's disadvantages, he offers some tips for *Jinxter*.

To reach the chandelier, let the water run into the rooms so that you can float up to it. To get into the clockmaker's shop you must throw the can at the oil lamp, then when you get inside you Oojimy the stool.

### KINGS QUEST IV

A mysterious letter with no signature and a Wolverhampton postmark offers an amazing selection of tips for *Kings Quest IV*. This is just the tip of the iceberg:

On the far side of Genesta's island you can find a peacock feather. To get close to the unicorn shoot it with Cupid's bow. Examine the painting in the study of the old house.

To get the minstrel's lute, give him the book on Shakespeare. Then play a tune for Pan. The fisherman wants the pouch of gems. To get the worm you need to be very quick – it's near the weir on the far right-hand side of the screen. To catch the fish you need to be patient: just keep fishing. Finally, remember to save the game after each discovery. ■



## when was the last time your mail order put a smile on your face?

Why is it our many customers praise our excellent service and continue to shop with us? Probably because our great prices help. We offer the best in mail order with a service that is beyond comprehension.

3.5 High grade Verbatim/Sony bulk disks: £15.80 - 20, £23.80 - 30, £36.80 - 50, £70.00 - 100. 3.5 Std 720k (Kao) bulk disks: £6.90 - 10, £13.50 - 20, £20.10 - 30, £31.40 - 50, £55.99 - 100. 10 Sony/Verbatim Tdk (with a free disk)/Dysan DS/DD Branded boxed: £11.50 Inc. 3.5 80 capacity diskbank: £6.50. (please add £2.50 to cover P&P if not ordering disks). 30 3.5 high grade disks with 80 cap. box: £30.99. 50 3.5 disks with 80 cap. box: £39.99. 5.25 disks: £3.70 - 10, £7.20 - 20, £15.00 - 50, £28.00 - 100. Soft mouse mats: £3.60. Mouse houses: £2.90. Twin joystick extenders: £4.80. Dust covers (Atari ST): £3.90. Midi (10ft) cables: £3.60. Epson (2454fn) ribbons: £2.70. Cumana/Triangle 3.5 1Mb external drives from £86.95. Hybrid Arts FM Melody Maker £68.95. C-Lab Creator: £260.00. Mastertracks Pro: £270.00. Phone for further music products. Atari 520 STEFM Power Pack: £348.00. Atari 520 explorer: £269.00. PHONE FOR "STE". Atari megaflo 30 Mb Hard Disk: £449.00. Vortex 40 Mb: £499.00. Star LC10: £168.00. Seikosha SP 180: £139.00. Epson LX400: £179.00. Cameron B&W scanner type 2: £195.00. PUBLIC DOMAIN DISKS FROM £1.60. SEND £1.00 FOR DISK CATALOGUE OR AN S.A.E. DISK.

It is our policy to offer the best pricing and service to our current and new customers, so where possible we will offer you the best price if that is what you want. If it isn't listed above, that does not mean we cannot get it, if we don't advertise in the latest edition of this magazine, then it doesn't mean we are not here. Just pick up your phone. All prices include VAT and P&P, with 3 day delivery (nextday add £6.00) and come complete with our no nonsense warranties. Trade/government welcome. Send Large SAE for prices. Overseas please add 20% to total cost to cover shipping. Phone Paul now or send in your order with Cheque/PO/Citibank or Access/Visa/Connect (usual details) for immediate despatch to:

joy of life arts, (STF3), 45 elswick, skelmersdale,  
lancashire, wn8 6bx.  
telephone: 0695 32382 (24 hrs)



## ATARI ST OWNERS

Why not complement the greatest home computer on the market by obtaining membership with the MIDLAND GAMES LIBRARY

The greatest, biggest and best Atari Club on the market.

### APPROX 2050 ST TITLES FOR HIRE

Games, Business, Education and utilities.

MIDLAND GAMES LIBRARY:

The company who over 5 years ago first conceived the idea of a software library.

Often purchasing popular programs in multiples of five or six to give all our members a fair chance. Always adding approximately 40 new programs monthly. Many very satisfied members, many as far away as Iceland, Sweden, West Germany, Holland, Denmark and Eire.

A fast efficient and friendly service operating a computerised custom built system to keep track of all your records, requests are attended to immediately, virtually assuring you 24 hour return service, regular newsletters and program updates, plus other inter-club activities.

SEND LARGE SAE TO

MIDLAND GAMES LIBRARY

Dept STF/11, 48 Redway, Bishops Cleeve, Cheltenham,

Glos. Tel: 0242 67 4960 - 9.30am-4.30pm

All our programs are originals with full documentation

## FIRST CHOICE COMPUTERS

Unit 8, Armley Park Court,  
Stanningley Road, Leeds LS12 2AE.  
Tel: LEEDS 0532 637988

### COMPUTERS

Atari 520 STE Explorer .....279.00  
Atari 520 STE Powerpack.....359.00  
Atari 1040 STE.....429.00  
Atari 1040 STE Powerpack.....P.O.A.

### MONITORS includes leads

Philips CM8833 Col. 14".....249.00  
Commodore 1084 P Col. 14".....219.00  
Commodore 1084 D Col. 14".....229.00  
Atari SM124 High Res. 12" M.....119.00

### PRINTERS includes leads

Star LC10 Mono 9 pin .....159.00  
Star LC10 Colour 9 pin .....209.00  
NEC Pin Writer P2+ .....299.00  
Citizen Swift 24 pin .....219.00  
(with colour option £29.99 extra)

### EXTERNAL DISK DRIVES

Cumana 3.5 1 MEG Atari ST.....89.00  
Power drive 3.5 1 Meg Atari ST.....84.99

### JOY STICKS

Powerplay Cruiser .....9.50  
Micro Blaster .....11.95  
RAM Delta 2000.....9.50

### OTHER ACCESSORIES

Mouse Mats .....4.50  
Dust Covers FROM.....4.50  
Printer Cables .....5.90  
ST to SCART .....9.95  
Universal Printer Stand.....6.99

### DISKS

Sony Unbranded 3.5 DS/DD  
ONLY £0.79 for 1  
£6.90 for 10  
£31.90 for 50  
£59.90 for 100

Sony 3.5 DS/DD Branded  
ONLY £11.95 for 10  
THREE M 5.25 DS/DD  
ONLY £6.95 for 10  
THREE M 5.25 DD/HD  
ONLY £11.95 for 10

### DISK STORAGE

Datafile 3.5 80 Disk Capacity, with  
lock ONLY.....£6.90  
Datafile 40 Capacity .....£5.49  
5.25" Disk Box 40 Capacity ONLY.....£6.90

### SOFTWARE

Most ST & Amiga Games. Less 20%  
Discount.Business & Utilities all at  
discount prices

All Prices include  
VAT & Delivery

Call into our showroom or order by telephone for fast delivery

Open 9am-5pm Mon-Sat.  
Open Thursdays late till 8pm  
Open Sunday 10am-3pm

Tel: LEEDS 0532 637988

Fax: 0532 637689



# FOOTBALL CRAZY

The Most AUTHENTIC MULTI-MANAGER Football Game Has Finally Arrived. After 2 Years Research & Development The Ultimate Game Is Ready And Waiting To Test Your Skills. FEATURES INCLUDE:-

Multi-Manager Game for 1 to 4 Players.

STE Compatible

Full UK and European Cup itinerary including FA, League, Zenith Data, Leyland Daf, European, Cup Winners and UEFA Cups. All Cup matches are played to the precise rules. eg. 2 Leg Ties, Extra Time, Away Goal Rule, Seeded Draws, Penalties, etc.

Complete league line up with 20 1st division teams and 24 in the 2nd, 3rd and 4th. End of Season Playoffs with Expulsions.

All team surnames are the real ones for all 92 clubs (CURRENT 89/90 SEASON).

Historic Records are maintained for 6 seasons with the ability to call up all previous results against your next opponent.

A Lively Transfer Market to Buy and Sell Players with a end of season deadline. Player Loans, Free Transfers with Approach & Offers on players or trainees.

Managers can be sacked or offered jobs at better teams.

All screens are displayed in a pleasant format, which is easy to use and comfortable to read. PRINTER facilities also exist.

Complete Instructions, for the beginner, are provided in a 16 page booklet.

...and would you believe it doesn't stop there! We have included many other fine details which are just impossible to list in this space. They include all the regular features you would expect like loading & saving your game, player injuries plus much, much more. The most genuine implementation of a Football Managers hectic season awaits you for only £19.95.

Take Your Team To The Top And  
Win The Double.

Or Are You Good Enough To Win The  
Quadruple Crown. Never Yet Achieved  
By A League Team Manager.



© ESP SOFTWARE 1990

### MAIL ORDERS

Send £19.95, Cheque / Postal Order / Credit Card Details to:

ESP  
SOFTWARE

32a Southchurch Road,  
Southend-on-sea,  
Essex SS1 2ND.

AVAILABLE  
FOR IMMEDIATE  
DISPATCH

Orders outside the UK please add £1.00 extra.

### TELEPHONE ORDERS



(0702) 600557 FAX (0702) 613747  
Out of hours Answer Phone





# QUESTION TIME

*We didn't get where we are today without listening to our readers. But we want to make ST Format even better – and with your help we will: spend just a few minutes answering our questionnaire*

(Where you are asked to choose from a list, please do so by circling a category or ticking a box)

Name: [REDACTED]

Address: [REDACTED]

## 1 Are you:

Under 16 ☒ 17-24 25-34  
35-44 45-59 Over 60

## 2. Are you:

Female Male ☒

## 3 How much do you earn a year?

Less than £3,000 ☒ £3,000-£5,999  
£6,000-£9,999 £10,000-£14,999  
£15,000-£19,999 £20,000 or more

## 4 Which do you own?

520ST with single-sided drive ☐  
520ST with double-sided drive ☒  
1040ST ☐  
520STE ☒  
1040STE ☐  
Mega 1 or above ☐  
Stacy ☐

## 5 What hardware do you (a) own or (b) intend to buy during 1990?

	(a)	(b)
Hard disk	<input type="checkbox"/>	<input type="checkbox"/>
Joystick	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Memory upgrade	<input type="checkbox"/>	<input type="checkbox"/>
Modem	<input type="checkbox"/>	<input type="checkbox"/>
Monitor	<input type="checkbox"/>	<input type="checkbox"/>
Printer	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Scanner	<input type="checkbox"/>	<input type="checkbox"/>
Second disk drive	<input type="checkbox"/>	<input type="checkbox"/>
Sound sampler	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)		

## 6 What software do you (a) own or (b) intend to buy during 1990?

	(a)	(b)
Accounts	<input type="checkbox"/>	<input type="checkbox"/>
Art	<input type="checkbox"/>	<input type="checkbox"/>
Comms	<input type="checkbox"/>	<input type="checkbox"/>
Database	<input type="checkbox"/>	<input type="checkbox"/>
DTP	<input type="checkbox"/>	<input type="checkbox"/>
Games	<input type="checkbox"/>	<input type="checkbox"/>
Music	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Programming lang.	<input type="checkbox"/>	<input type="checkbox"/>
Spreadsheet	<input type="checkbox"/>	<input type="checkbox"/>

Word processor ☐ ☐  
Other (please specify) \_\_\_\_\_

## 7 What do you use your ST for? Estimate as a percentage of the time you spend on your ST:

Games ☐ % 95  
Serious (wp/business/education) ☐ % 5  
Creative (art/graphics/music) ☐ % 5

## 8 Estimate how much you spent on hardware and software last month:

Less than £20 ☒ £20-£39 £40-£59  
£60-£79 £80-£99 £100 or more

## 10 Estimate how much you expect to spend on software and hardware combined in the next 12 months:

Less than £20 ☒ £20-£39 £40-£59  
£60-£79 £80-£99 £100 or more

## 11 Name the best ST game you have played:

STUNT CAR RACE

## 12 Name the best piece of serious (ie non-game) ST software you have used:

NA

## 13 Rate out of ten the computer magazines you read

ST Format ☒ 10/10  
\_\_\_\_\_/10  
\_\_\_\_\_/10  
\_\_\_\_\_/10

## 14 Which other, non-computer, magazines do you read?

RAND RACE CAR  
MODEL CAR

## 15 Which newspaper do you read most often?

Express Guardian ☒ Independent ☒  
Mail Mirror Sport  
Star Sun Times  
Today None of these

## 16 Rate out of ten these regular sections in ST Format

Cover Disk ☒ 10/10  
Desktop ☒ 10/10  
Gamebusters ☒ 10/10  
Games reviews ☒ 10/10  
Graphics ☒ 10/10  
Hardware reviews ☒ 7/10

Music ☒ 10/10  
News ☒ 10/10  
PD ☒ 10/10  
Readers' letters ☒ 10/10  
Software reviews ☒ 10/10  
Adverts ☒ 10/10

17 To help us get the balance right on the Cover Disk, allocate points to make a total of ten. (For example, if you love playable game demos but aren't keen on reader contributions, you might score demos six points, two each to serious and PD programs, and give none to reader contributions – making ten in all.)

Playable game demos ☒ 6 points  
Serious software ☐ 2 points  
Public Domain programs ☐ 2 points  
Reader contributions ☐ 0 points  
(Total ☒ 10 points)

## 17 What single review or feature do you remember as being the best thing you've seen in ST Format?

STE About the

## 18 – and your least favourite?

## 19 What do you remember as being the best ST Format cover?

## 20 – and your least favourite?

## 21 Do you:

(a) have a regular order for ST Format with your newsagent ☐  
(b) subscribe ☐  
(c) intend to subscribe ☐  
(d) none of these ☐

Final section. Now, tell us anything you think we should know about ST Format: how to improve it; what you love or hate; ideas for series or features; or just better ways of doing things. (We'll print a selection of comments in a future issue.)

## AND FINALLY...

Send this questionnaire or a photocopy to:  
ST Format Questionnaire 1990, Future Publishing, Beauford Court, 30 Monmouth St, Bath BA1 2AP. We shall be collating the replies at the end of March. Thank you for your help.



# SOFTWARE CITY

**CALL US ON:**  
0785 41899  
0922 24821  
0902 25304



We welcome customers at:

**SOFTWARE CITY**  
1 GOODALL STREET,  
WALSALL,  
TEL: 0922 24821

**SOFTWARE CITY**  
59 FOREGATE STREET,  
STAFFORD,  
TEL: 0785 41899

**SOFTWARE CITY**  
3 LITCHFIELD PASSAGE,  
WOLVERHAMPTON,  
TEL: 0902 25304

## ATARI SELLERS

3D Pool.....£13.99  
Airborne Ranger.....£16.99  
A.P.B.....£13.99  
Balance of Power 1990.....£16.99  
Barbarian (Palace).....£6.99  
Barbarian 2 (Palace).....£16.99  
Bards Tale.....£6.99  
Batman the Movie.....£13.99  
Battle Chess.....£16.99  
Battle Hawks.....£16.99  
Battle of Austerlitz.....£16.99  
Beach Volley.....£13.99  
Bionic Commando.....£6.99  
Bismark.....£16.99  
Blade Warrior.....£16.99  
Bloodwych.....£16.99  
Bloodwych Data Disc.....£9.99  
Bomber.....£19.99  
Brian Clough.....£12.99  
Cabal.....£13.99  
Captain Blood.....£4.99  
Carrier Command.....£16.99  
Chaos Strikes Back.....£16.99  
Chase H.Q.....£13.99  
Chuckie Egg.....£13.99  
Commando.....£13.99  
Conflicts Europe.....£16.99  
Continental Circus.....£13.99  
Cosmic Pirate.....£6.99  
Crazy Cars 2.....£13.99  
Cyberball.....£13.99  
Daily Double Horse Racing.....£13.99  
Damocles.....£16.99  
Days of the Pharaoh.....£16.99  
Degas Elite.....£16.99  
Deluxe Scrabble.....£16.99  
Demons Winter.....£16.99  
Desolator.....£4.99  
Double Dragon 2.....£13.99  
Dragon Ninja.....£9.99  
Dragons Breath.....£19.99  
Drakkhen.....£19.99  
Dungeon Master.....£16.99  
Dungeon Master Editor.....£6.99  
Dynamite Dux.....£16.99  
Elite.....£16.99  
F16 Combat Pilot.....£16.99

F16 Falcon.....£16.99  
F-29 Retaliator.....£16.99  
Falcon Mission Disc.....£13.99  
Fast Break.....£13.99  
Federation of Free Traders.....£19.99  
Ferrari Formula.....£16.99  
Fiendish Freddy's  
Big Top of Fun.....£16.99  
Fighting Soccer.....£16.99  
Foundation Waste.....£6.99  
Football Director 2.....£13.99  
Footballer of the Year 2.....£13.99  
Football Manager.....£3.99  
Football Manager 2  
+ Expansion Kit.....£13.99  
Future Wars.....£16.99  
Ghouls and Ghosts.....£16.99  
Ghostbusters 2.....£16.99  
Grid Iron.....£16.99  
Gunship.....£16.99  
Hard Drivin'.....£16.99  
Heroes of the Lance.....£16.99  
Hillsfar.....£16.99  
Hollywood Poker Pro.....£6.99  
Honda RVF 750.....£16.99  
Hound of the Shadow.....£16.99  
Indiana Jones Last Crusade.....£13.99  
Indiana Jones the Adventure.....£16.99  
Infestation.....£16.99  
Ivanhoe.....£13.99  
Joan of Arc.....£6.99  
Kenny Dalglish Soccer Match.....£13.99  
Kick Off.....£13.99  
Kick Off Extra Time (Add On).....£6.99  
Knightforce.....£16.99  
Lazer Squad.....£13.99  
Leaderboard Collection.....£13.99  
Leisuresuit Larry.....£16.99  
Leisuresuit Larry  
Look for Love.....£19.99  
Licence to Kill.....£13.99  
Lombard R.A.C. Rally.....£16.99  
Marble Madness.....£6.99  
Microprose Soccer.....£16.99  
Midwinter.....£16.99  
Millenium 2.2.....£16.99  
Moonwalker.....£16.99  
Never Mind.....£13.99  
New Zealand Story.....£13.99  
North and South.....£16.99

Oil Imperium.....£16.99  
Omega.....£19.99  
Operation Thunderbolt.....£13.99  
Operation Wolf.....£13.99  
Outrun.....£6.99  
Paperboy.....£13.99  
Paul Gascoigne Super  
Soccer.....£16.99  
Populous.....£16.99  
Populous New Worlds.....£6.99  
Powerdrift.....£16.99  
Quartz.....£13.99  
Realm of the Trolls.....£6.99  
Red Storm Rising.....£16.99  
Rick Dangerous.....£16.99  
Roadwars.....£6.99  
Robocop.....£13.99  
Rocket Ranger.....£16.99  
Running Man.....£16.99  
Scapeghost.....£13.99  
Shinobi.....£13.99  
Shoot 'em up  
Construction Kit.....£19.99  
Silent Service.....£16.99  
Speedball.....£9.99  
Starglider 2.....£9.99  
Starquake.....£2.99  
Starwars Trilogy.....£16.99  
Street Fighter.....£6.99  
Strider.....£13.99  
Stryx.....£13.99  
Stunt Car.....£16.99  
Super League Soccer.....£16.99  
Super Wonder Boy.....£16.99  
T.V. Sports Football.....£16.99  
Times of Lore.....£16.99  
Toobin.....£16.99  
Tracksuit Manager.....£13.99  
Turbo Outrun.....£13.99  
Ultimate Golf.....£16.99  
U.M.S.....£16.99  
Untouchables.....£13.99  
Vigilante.....£9.99  
Vulcan.....£13.99  
War in Middle Earth.....£13.99  
Waterloo.....£16.99  
Weird Dreams.....£16.99  
World Class Leaderboard.....£6.99  
Xenon 2 Megablast.....£16.99

## COMPILATIONS

### MAGNUM FOUR

Afterburner, Double Dragon  
Operation Wolf, & Batman the  
Caped Crusader  
**£19.99**

### LIGHT FORCE

R-Type, I.K.+ , Voyager & Batman  
the Caped Crusader  
**£16.99**

### THRILLTIME PLATIGNUM VOL 2

Ikari Warriors, Buggy Boy,  
Bombjack, Space Harrier, Live  
and let Die, Thundercats &  
Beyond the Ice Palace  
**£16.99**

### WINNERS

Thunderblade, L.E.D. Storm,  
Blasteroids & Imp Mission 2  
**£19.99**

### THE STORY SO FAR VOL 1

Ikari Warriors, Buggy Boy, Beyond  
the Ice Palace & Battleships  
**£13.99**

### THE STORY SO FAR VOL 3

Space Harrier, Live and Let Die,  
Bombjack & Thundercats  
**£13.99**

### PREMIERE COLLECTION

Zynaps, Exolon, Nebulus &  
Netherworld  
**£19.99**

### PRECIOUS METAL

Captain Blood, Xenon, Arkanoid  
2, SuperHang On  
**£13.99**

### GIANTS

Gauntlet 2, Rolling Thunder,  
1943 & Outrun  
**£19.99**

3.5" DS/DD.....1.....£0.79  
with labels.....10.....£6.99  
.....25.....£16.99  
Mouse Mats.....£2.99  
Mouse Cover.....£4.99  
ST & AG Extension leads.....£5.99



## Education for your Atari ST

**B.Spell £14.95**

"First Class" - New Atari User

**Playspell £14.95**

"I cannot recommend Play Spell enough" - Barrie Capel, CFA User Volume 1 Issue 4

**Data Discs £9.95**

Extra data discs give you a new game every time. Birds and Animals available, £9.95 each or both for £14.95

**Maths £14.95**

For Ages 5-8, 7 Mathematical games in one. With mouse controlled abacus, animated teacher and sampled sound.

"Excellent" "Unbeatable value for money" - New Atari User Issue 38

## Home Business and Games

**B.Base 2 £14.95**

Ideal entry level data base designed to consign your card index to the dustbin - 32000 records, 32767 characters per record card.

"Very Rapid", "Very User Friendly - Help is everywhere", "Well Written"

"Very reliable in use and extremely good value for money" - Monitor Magazine Issue 20.

**Supercard £24.95**

New for 1990 - Supercharged B.Base 2 for the user who wants even more power and speed. Even easier to use than B.Base! 32767 Record Cards, 16000 Lines Per Record, 32600 Characters Per Record. 4 Search/Save/Print/Statistic filters, Advanced GEM form control. Every card can be completely different with no field imposed restrictions.

**Billy Bounce / Jump Jack £5.00 Each**

Two excellent Platform games at a bargain price

**Penguin £19.95 Each**

New and unique game puts you in charge of the environment while up to four Penguins try to survive - A real brain teaser and totally addictive

Demo Disc includes B.Spell, Playspell, B.Base 2 and Supercard for only £3.00

Full refund on return of demo disc with first purchase of B.Ware Software.

Access, American Express and Visa - telephone (0455) 613377 9-6, Mon-Sat.

**Kidsoft / B.Ware**

Please make cheques payable to

**B.Bytes  
Computer Systems.**

And send to B.Ware Software, 19  
Southfield Road, Hinckley, Leics,  
LE10 1UA. Tel (0455) 613377.

**Trade and Dealer  
enquiries welcome.**

## MAKE YOUR ST EARN

Yes making money with your ST becomes incidental when you know how. Your micro is, if only you knew it, a gold mine. The size and make is irrelevant. Make the initial effort **NOW** by starting your own

### HOME BASED BUSINESS

*This may be the most important move you will ever make!*

**REMEMBER:** You'll never get rich by digging someone else's "ditch". Anyone in the country, including YOU, can become very rich in a relatively short period of time just by doing a few basic things! It's more rewarding than playing games. The benefits are many and varied. Full or part time.

For **FREE** details send S.A.E. to:



## HOME BASED BUSINESS

31, PILTON PLACE (ST8)  
KING AND QUEEN STREET,  
WALWORTH, LONDON SE17 1DR

## TITAN GAMES

45 Windmill Lane, Worksop, Notts. S80 2SQ

### ATARI ST ADVENTURE GAMES

Shards of Time .....£7.99 Blackscar Mountain.....£7.99

### SCENARIO DISKS FOR USE WITH THE UNIVERSAL MILITARY SIMULATOR

Roman Wars 1 .....£7.99 Battles Through The Ages .....£7.99  
Roman Wars 2 .....£7.99 Warriors of Atlantis .....£7.99  
Scottish Wars .....£7.99 Mongol Wars .....£7.99

Buy 3 or more of our own UMS Scenario disks for just £5.99 each

### LICENSED WARE

Ball Zone (Arcade).....£2.95 Ace Invader (Arcade).....£2.95  
Space Blob (Platform).....£2.95 Death Camp (Adventure).....£2.95  
Money Spinner (Slot Machine).....£2.95 Psychotic (Arcade).....£2.95  
Football '88 (Manager Simulator).....£2.95 Galaxia (Arcade).....£2.95  
Made A Break (Quiz).....£2.95 Parabellum (Platform).....£2.95

### PUBLIC DOMAIN GAMES

Tennis .....£2.50 Wizard's Tower (Adventure).....£2.50  
Strip Breakout.....£2.50 Invasion (Adventure).....£2.50  
5 Card Games .....£2.50 Colossal Cave (Adventure).....£2.50

All Goods sent by return of post,

★Telephone 0909 483017 for further details.★

# Fantastic Bargain - All P.D. Disks, Double or Single Sided only 99p each

3 1/2" disks 100% error free DS/DD - Highest quality, no quibble guarantee.

10 Boxed with labels and branded MF2DD £8.50 or only £7.99 when purchased with any P.D.

Box of 50 with labels. £32.99 or £29.99 when purchased with any P.D.

For orders under £5.00 please add £1.00 Post & Packing.

Please note that Computer Connections is now a trading name of Duncrest Limited. For any enquiries concerning previous communications with Computer Connections please mark your envelope CC1.

SB825....Educational Disk 3 - Spelling Made Easy.

SB826....Gem driven Database.

SB827....ST Sheet, a very good spreadsheet.

SB828....S.T.O.S. program runner, does not need STOS present.

SB829....The Label Printer - wide range of different label printing programs.

SB830....Home Accounts.

SB831....Easy Text - P.D. D.T.P.

SB832....ST Tour - Great demo for beginners.

SB833....Beginners disk with a 250k text file which provides excellent information about your ST.

SB834....Double Click formatter v3.03, 9/10 sectors, 80/82 tracks plus large selection of disk copiers & utilities.

SB835....First Word wordprocessor - fully GEM managed WPR.

SB301....Desk Accessory 1 - large selection. ACCs inc. Dir printer, ram disks, tinytool disk edit, ptr spooler, ACC loader and more.

SB302....DA2 - Includes a clock, high quality calculator, free ram checker, Breakout game and a watch.

SB303....Utilities 1 - 68k Basic lang., reverse text colour, fastcopy prog, copy prog with format cap up to 830k D/S, 410k S/S, file compressor and decompressor + more.

SB309....Adventure Writing System - This prog comes with full doc. on the disk for writing text adventures + sample adventure Starship Columbus included.

Cheques/Access/Mastercard/Eurocard to:- COMPUTER CONNECTIONS, Ashlaw House, Euximoor Drove, Christchurch, Wisbech, Cambridgeshire. PE14 9LS.

ACCESS telephone orders on  
03548 590

Fully inclusive of P&P and VAT. International orders please add 10%.  
For enquiries and free full price list please write in with full details.  
New Super Fast turnaround on all PD orders.

24 HOURS A DAY  
7 DAYS A WEEK



## Maths Mania

**MACHINE:** ALL STs

**PRICE:** £22.95

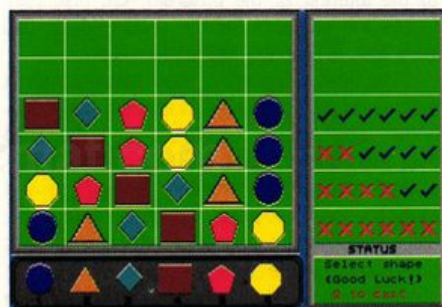
**FROM:** SCHOOL SOFTWARE LTD

**CONTACT:** 010353 6145399

A disk containing five programs might look like value for money but when two of the five have nothing to do with mathematics and the other three all cover the same ground of multiplication and division, the value factor tends to plummet. Addition and subtraction are not dealt with at all, so the comment on the cover that the "main emphasis is on multiplication and division" is putting it mildly.

Poor marks for presentation too. There are no machine specific instructions on the accompanying leaflet, which was obviously printed before ST versions were available. It may be helpful reading about the 20 or so other School Software programs that are available, but it would be even more helpful if you knew which were available for your machine and at what cost.

Loading instructions are on an adhesive label stuck on top of the disk label, so when the time comes to eject the disk from the drive you'll need a pair of tweezers to haul it out. Each program contains optional instructions, though these oddly refer to the ST's function keys as "the keypad." Typing mistakes add to the overall sloppy presentation; "a grid will be drawn [sic] on the screen" and "the time settings maybe [sic] changed."



■ **Mind Power from Maths Mania** – not the most stimulating aid to mathematics

All programs are aimed at the broad 8-12 age range. The instructions for the first program, *Mind Power*, are clear as mud and I was surprised to find the game itself is merely a variation on *Mastermind* – the board game not the TV version.

A number of shapes are placed across a board and concealed from the player. The player guesses the correct order and is told which guesses are right and which wrong. By a process of deduction you work out the correct order of the shapes. Each shape is used only once and with five shapes on the beginner's level and six for the expert, whether you're a moron or a Mensa member you should be able to guess the order in three or four attempts, rendering the whole exercise virtually redundant. The maths content? Probably limited to working out the odds on whether the next program's going to be as mindblowingly tedious.

*Blast Off* also tests memory rather than maths skills. This time five shapes are placed at random on a 5x6 grid and you're given a cer-

# DON'T COUNT ON MATHS

STORY Mike Gerrard

*Asking a micro to teach maths is like asking Viv Richards if he can play beach cricket; everything a computer does is based on simple binary mathematics – but do the programs available make the grade?*

tain amount of time to remember where they are. You set the time limit for between one and nine seconds, although how anyone not blessed with a photographic memory can remember five shapes in one second I don't know.

On the easy level you only need to remember which squares in the grid contain shapes, but the "expert" is also expected to place the right shapes in the right squares. Get it right every time and a rocket blasts off into space, but get it wrong once and the whole thing grinds to a halt. If the shapes were replaced by numbers it might make it easier and justify its inclusion as a maths program.

The three genuine maths programs all have different names but are otherwise indistinguishable – a bit like Bananarama, really. About as exciting too. All three have different skill levels (easy, medium, hard) and options to test either multiplication or division.

*Driver* displays a train with a sum written on the carriages. Get it right and the train chuffs off, picking up speed as your score mounts. The simple graphics will appeal to anyone under eight years old but are unlikely to have the average 12 year old gasping with astonishment.

Where all three programs fail badly is in their attempt to grade sums as easy, medium

or hard. In the *Driver* program 6x8 was considered an easy multiplication whereas 18/3 was a hard division sum.

In *Brain Boxes* the sums are on a pair of scales rather than the side of a train – and you can imagine how that really tests the graphic abilities of the ST. If the train is plain, consider how immensely engaging a pair of kitchen scales is going to be.

Again 6x8 is categorised as an easy multiplication, along with the likes of 4x1 and 2x1. Switch to the hard grade and you get questions like 15x3 and 4x1 again. A medium question? 6x8 came up twice in 10 turns so that's obviously a popular sum, popping up in each program at each level. If you have a manic obsession that your child will never get anywhere in life without knowing what 6x8 makes, this is obviously the program to get.

## Tables Test

**MACHINE:** ALL STs

**PRICE:** £9.95

**FROM:** CHILDRENS LEARNING S/WARE

**CONTACT:** 01 878 8761

All credit to a program that tells you its limitations straightaway. This is a tables testing program and not a tables learning program, although obviously testing reinforces learning. *Tables Test* does make some use of a robotic voice to say "Hello" and makes the occasional encouraging comment, but don't expect it to chant along with you: "... five threes are fifteen, six threes are eighteen..." and so on.

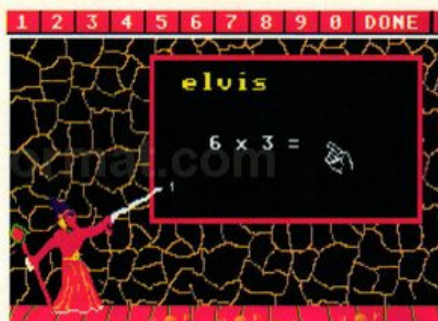
After entering your name using the mouse, you choose whether to test yourself on multiplication or division. The division has been included to test whether the child can logically work backwards and realise that if six multiplied by three is eighteen, then eighteen divided by three therefore equals six.

You then choose which table you want to check, from two-times to twelve-times, or a mix-



■ **Driver from Maths Mania** – multiplying the carriages on the local train





■ **Tables Test:** hardly on the cutting edge of the ST's graphic capabilities

ture of them all. The sums are displayed on a magician's blackboard – a colour-blind magician judging by his taste in decor. Click on the appropriate number and learn whether it's right or wrong, and at the end of the session you see a list of the questions asked with the answers given. Good for monitoring progress, but no reward to encourage the child to do well. Simple, effective and expensive.

## Add and Subtract

**MACHINE:** ALL STs

**PRICE:** £9.95

**BY:** CHILDRENS LEARNING S/WARE

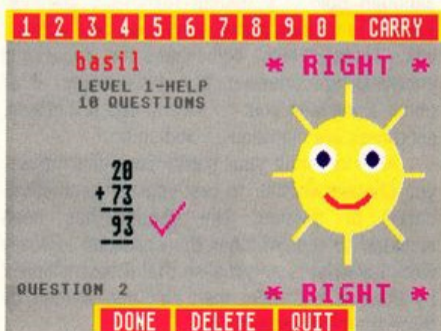
**CONTACT:** 01 878 8761

A companion program to *Tables Test*, but with a few more bells and whistles. Again the child clicks on the letters of the alphabet to enter its name at the start... and again the name doesn't begin with an upper-case letter.

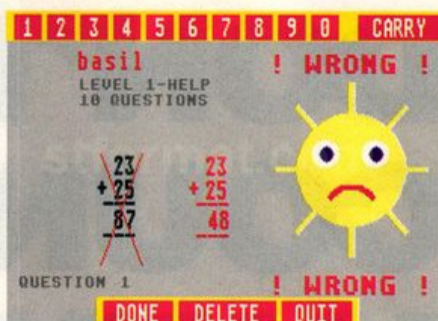
Three levels of ability are catered for in addition and subtraction so this should suit most children in the 7-11 range it's aimed at. Addition begins with the old-fashioned tens and units, adding just two figures together. It then moves on to include hundreds, and the third and final level is the addition of three figures, all in the hundreds.

Within each of these there's a hard or easy option, and unlike *Maths Mania* these are genuine options reflecting the amounts chosen. The easiest option of all is a "with help" option, so the child who's finding it difficult should also find some encouragement. Encouragement is a central ingredient in both these programs, with remarks like "well done," "keep it up" and "bad luck" to reward or console the child.

You can choose to answer from 10 to 50 questions but can quit at any time. With each correct answer a smiling face appears, and if you can't get it right by the second attempt a frowning face fills in the right answer for you.



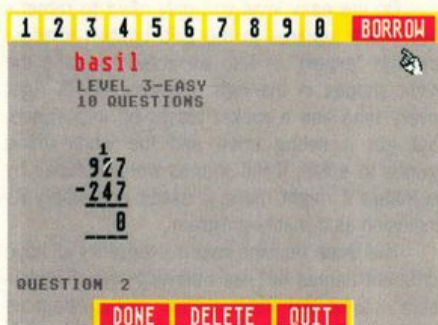
■ **The right answer gets a big sunny smile as reward**



■ **Ooops! The wrong answer gets a disappointed stare – better luck next time**

Graphically (and psychologically) not very sophisticated, a smiling face might appeal to the very youngest children, but how about a touch more humour and wackiness in educational programs by way of reward? The equivalent of Hangman or knocking someone into a barrel of water would at least engage children's interest a little more?

The subtraction sums are complicated and I'm still trying to figure out how the "borrow" function works. The "delete" option certainly doesn't work properly; make a mistake on the unit figure and you can't delete it until you've entered the ten as well, when you can clear the full amount – unfortunately if it's your second attempt then the ten figure is taken as your answer the moment it's entered so if you make a genuine mistake then it's just too bad. Highly unfair.



■ **The editor works out the tax rate on his weekly wage packet**

Apart from minor faults, the programs do their job well and will certainly help all children in their target range improve their maths skills. However the £10 price tag is rather expensive – twenty quid if you also want *Tables Test* – and though each program fills a single-sided disk, a two-in-one package deal might be nearer the mark.

## School Time Maths

**MACHINE:** ALL STs

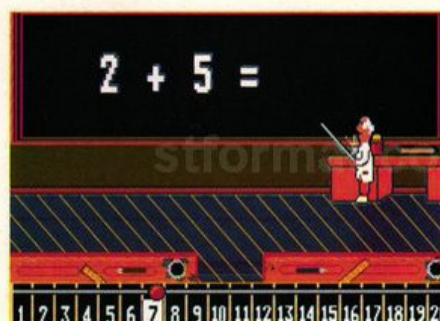
**PRICE:** £14.95

**BY:** B.WARE EDUCATIONAL SOFTWARE

**CONTACT:** 0455 613377

This is easily the best of the bunch, a lively program that's well put together using GFA Basic, *Degas Elite* and the *ST Replay 4* sound program. The result is a colourful and tuneful program that teaches basic maths skills to the under-eights.

The opening menu shows a lot of thought has gone into the presentation, essential if you're to encourage the child to switch on the



■ **The abacus from School Time Maths – a great aid for budding young accountants**

computer and use the program. There are seven options, each printed on the spine of a book and instead of a boring old arrow the pointer has been changed into a red ball which even bounces slightly as you move it round the screen.

Though there are seven options, all take place in the same classroom location where the teacher, for reasons best known to himself, wears a white lab coat (I always new maths was a dirty subject). The questions are presented on a large blackboard and the red ball "pointer" slides over an abacus at the foot of the screen containing the numbers 1-20. The child clicks on the appropriate number which slides onto the blackboard to complete the sum. If the answer is correct then you hear several bars from a nursery rhyme – taken from a substantial bank of them.

A speech program has been incorporated and this reads out the sums as the numbers are printed on the blackboard, which not only adds to the interest of the program, but also reinforces the numbers for the child who, at this early age, is probably still learning them.

The first program is very simple, with a number of objects being drawn on the blackboard (dogs, balls, umbrellas) and the child asked to count them. Then there are three programs covering the addition, subtraction and multiplication of objects, and three more doing the same things to numbers. No division, but that should come later because it's a more abstract concept for a primary school child to understand.

The program is good in all departments and well worth buying, but what's particularly appealing is the abacus featured at the bottom of the screen. The very young child can use this to count out the answer, starting on the first number, then moving to right or left to add or take away the second number, and clicking on the result. Multiplication can be learnt the same way, by repeated addition. After all, that's the way computers do it.

## ADVANCED MATHS

Educational software specialists LCL have released a comprehensive range of GCSE software designed to guide you from the basics to a full understanding of the subject.

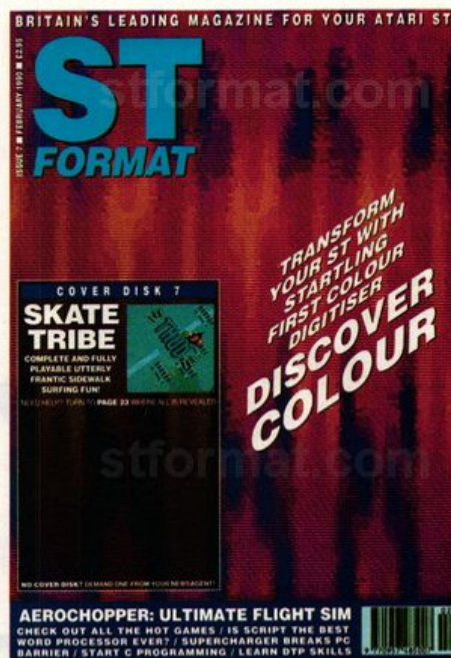
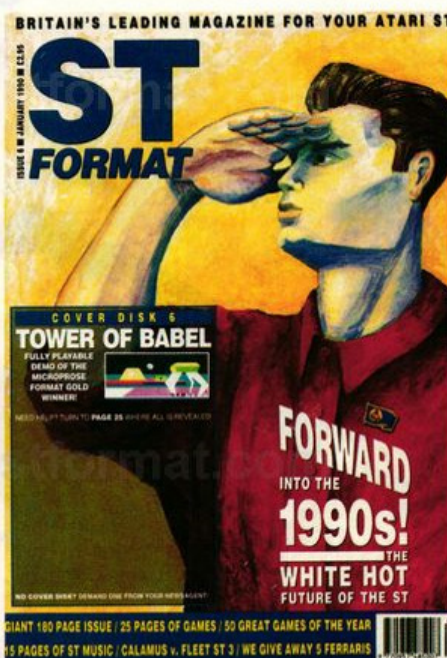
The series begins with *Micro Maths*, a 24 program, two book package which starts at school entrance level and goes right up to GCSE. A step by step A level course, *Mega Maths*, is expected soon.

*Micro Maths* costs £24 and can be obtained from LCL on 0491 579345.



# SUBSCRIBE TO ST FORMAT

ONLY **£29.95** FOR 12 ACTION-PACKED ISSUES



## YOUR MAGAZINE DEDICATED TO YOUR MACHINE

- Britain's leading magazine package for ST owners.
- Remember our unique guarantee: we will refund the cost of all unmailed issues, if you are not completely satisfied with our subscription service.
- Use the coupon or ring our hotline number having your credit card handy.
- Hotline Number 0458 74011.
- Be sure you get your copy before the newsagent sells out.

Overseas Prices:  
Air Mail Europe £55.95  
Surface Europe and World £40.95

I wish to subscribe to ST Format at £ ..... \*

Name: .....

Address: .....

Postcode: .....

Tel: .....

I wish to pay by Access / Visa / Cheque / P.O.

No ..... / ..... / .....

Exp. date : ..... / .....

Please make cheques payable to "Future Publishing Ltd"

Send to ST Format, The Old Barn, Freepost, Brunel Precinct, Somerton, Somerset TA11 7BR.



# ST FORMAT

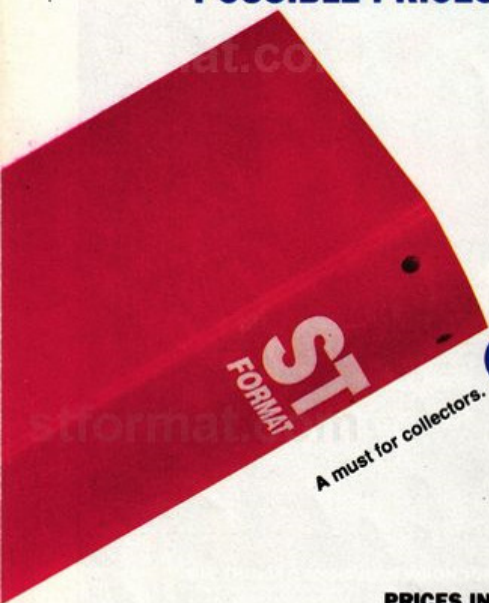
## MAIL ORDER

THE LATEST AND GREATEST  
PRODUCTS AT THE BEST  
POSSIBLE PRICES!

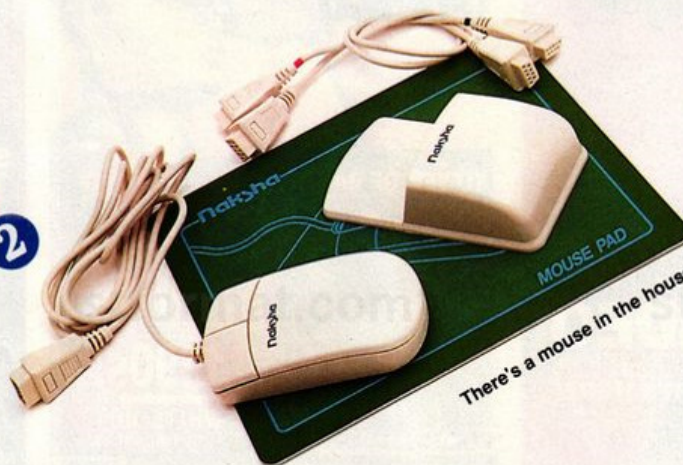
HOW TO ORDER... JUST  
MAKE A NOTE OF THE  
PRODUCT NAME AND ORDER  
NUMBER AND FILL IN THE  
ORDER FORM OPPOSITE OR  
RING OUR HOTLINE NUMBER  
ON 0458 74011

### HOTLINE

## 0458 74011



A must for collectors.



There's a mouse in the house!



A truly brilliant T-shirt.

PRICES INCLUDE  
POSTAGE, PACKING  
AND VAT

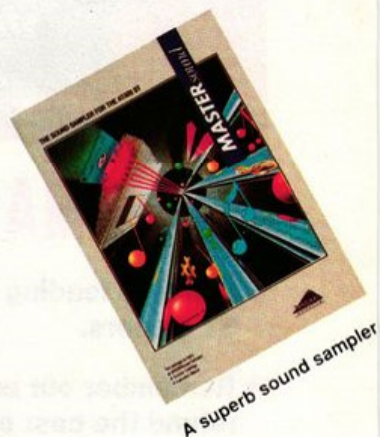
NO HIDDEN EXTRAS

TO ORDER PLEASE SEE  
SUBSCRIPTION OFFER ON  
PAGE 159

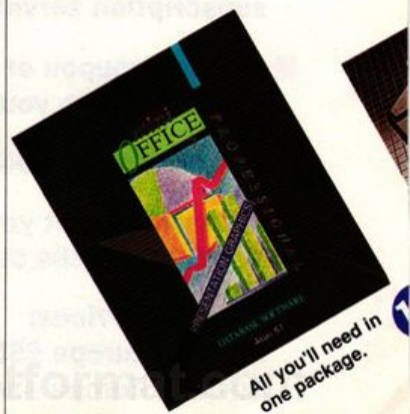
### SUBSCRIPTIONS



FOR ONLY £29.95 YOU CAN  
RECEIVE 12 ISSUES OF ST  
FORMAT, DELIVERED TO YOUR  
DOOR. DO NOT RUN THE RISK OF  
THE NEWSAGENT SELLING OUT!  
SEE PAGE 159 FOR FURTHER  
DETAILS OR CALL THE HOTLINE  
NUMBER ON 0458 74011  
ORDER CODE ST100



A superb sound sampler



All you'll need in  
one package.



Feel the power!

Stop the press!



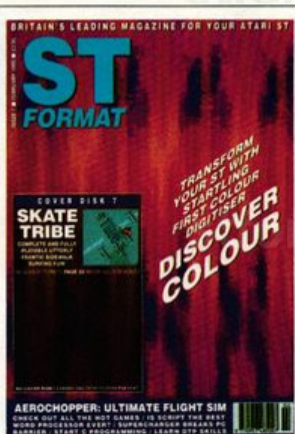


Free! ST88 Superdisk  
Take Four.

Creator  
Write a masterpiece.

C what we've got!

If you've got the joystick, then buy the Trackball.



## BACK ISSUES

Want to complete your collection of the ultimate ST magazine? Why not buy the following issues, complete with their Cover Disks for the same price as newsstand, we pay the postage!

ISSUE	PRICE	ORDER NO
ISSUE 1	SORRY, SOLD OUT!	
ISSUE 2	£2.95	STF02
ISSUE 3	£2.95	STF03
ISSUE 4	£2.95	STF04
ISSUE 5	£2.95	STF05
ISSUE 6	£2.95	STF06
ISSUE 7	£2.95	STF07

OR WHY NOT BUY SOME OF THE VERY RARE ORIGINAL ST/AMIGA MAGAZINES...



### ST/AMIGA FORMAT

ISSUE	PRICE	ORDER NO
ISSUE 1-9	SORRY, SOLD OUT!	
ISSUE 10	£2.95	ST210
ISSUE 11	SORRY, SOLD OUT!	
ISSUE 12	£2.95	ST212
ISSUE 13	£2.95	ST213

- BASEBALL SHIRT**  
 Designed in the USA, this red and white shirt is a must for every ST owner (Logo on left breast and centre back).  

Description	Price	Order No
Medium	£6.50	ST113
Extra Large	£6.50	ST114
- ST BINDER**  
 Keep your issues together in this high quality binder with the ST Format logo printed on the spine.  

Description	Price	Order No
One binder	£4.99	ST112
Two binders	£9.00	ST1122
- DEVPAC 2 HiSoft**  
 For sheer programming speed there's only one choice: program directly in 68000 assembler language using Devpac.  
**SAVE £15**  

Description	Price	Order No
Devpac 2	£44.95	ST315
- FLEET ST PUBLISHER**  
 Mirrorsoft Version 1.1  
 Get into the world of desktop publishing with this excellent package. **LIMITED OFFER, UNTIL 30TH MARCH 1990.**  
**SAVE £25**  

Description	Price	Order No
FLEET ST 1.1	£99.95	ST316
- NAKSHA MOUSE Naksha**  
 A brilliant mouse complete with mouse house, mouse mat and leads to adapt either ST, Amiga or PC.  
**SAVE £16**  

Description	Price	Order No
Naksha Mouse	£29.95	ST317
- GAMES GALORE Database**  
 Four great games compiled using the award winning STOS. See one; Skate Tribe on Issue 7 Cover Disk.  
**SAVE £7**  

Description	Price	Order No
Games Galore	£12.95	ST318
- STOS THE GAMES CREATOR Database**  
 Create your own games using this brilliant package. "Price, power and performance guarantee its success, 5.5" ST/Amiga Format.  
**SAVE £10**  

Description	Price	Order No
Stos T.G.C.	£19.95	ST319
- GFA RAYTRACE GFA**  
 See cover disk (issue 8) and review (issue 3). Compose 520 colour 3D images with lightsource shading and 10 frame animation facility.  
**SAVE £7 NEW LOW PRICE!**  

Description	Price	Order No
GFA Raytrace	£32.95	ST303B
- SOBOZON C**  
 Tying in with ST Format's new programming series, this two disk PD compilation will include full documentation and everything you need to learn in this powerful programming language.  
**EXCELLENT VALUE**  

Description	Price	Order No
Sobozon C	£9.99	ST321
- MASTERSOUND Kempston**  
 See the cover disk (issue 8). This amazing sound sampler includes hardware and software, plug into your ST and make some sounds!  
**SAVE £10**  

Description	Price	Order No
Mastersound	£29.95	ST307B
- ST TRACKBALL Hard Edge**  
 A brilliant replacement to the mouse. A modified version of the classic Atari Trackball as supplied with Atari 800. Compatible with all ST's.  
**SAVE £5**  

Description	Price	Order No
Trackball	£23.99	ST323
- MINI OFFICE ST Database**  
**Presentation Graphics.**  
 The flexible package for creating graphs, charts and presentations, plus text editor, handy memo pad and pocket-style calculator.  
**SAVE £9**  

Description	Price	Order No
Mini Office/PS ST	£15.95	ST324

## ST FORMAT MAIL ORDER

Name	Description	Price	Order No
Address			
Postcode			
Phone number			

Method of payment (please circle) Access • Visa • Cheque • PO

Credit Card No

Expiry date

TOTAL ORDER

For overseas orders call Trevor Witt for prices on 0458 74011

SEND THIS FORM TO: Trevor Witt, ST Format, The Old Barn, Freepost, Somerton, Somerset, TA11 7PY

Please make all cheques payable to Future Publishing Limited

No stamp required if posted in the UK, Channel Islands or the Isle of Man



# DATTEL ELECTRONICS

UNBEATABLE  
VALUE



## THE ANSWER TO YOUR DISK DUPLICATION PROBLEMS

**WARNING** 1988 COPYRIGHT ACT **WARNING**  
Dattel Electronics neither condones or authorises the use  
of it's products for the reproduction of copyright  
material.  
The back-up facilities of this product are designed to  
reproduce only software such as public domain material,  
the users own programs or software where permission to  
make a back-up has been clearly given.  
It is illegal to make copies, even for your own use, of  
copyright material, without the permission of the  
copyright owner, or their licensee.

On board custom LSI  
chip makes this unit  
extremely small &  
efficient.



CUSTOM  
LSI  
CHIP

## SYNCR EXPRESS

SYNCR EXPRESS IS A HIGH SPEED  
DISK DUPLICATION SYSTEM THAT WILL  
PRODUCE COPIES OF YOUR DISK IN  
AROUND 30 SECONDS!!

- ▼ Syncro Express requires a second drive & works by controlling it as a slave device & ignoring the ST disk drive controller chip, high speeds & great data accuracy are achieved.
- ▼ Menu driven selection for Start Track/End Track - up to 85 tracks. 1 side, 2 sides or Auto Select.
- ▼ Very simple to use, requires no user knowledge.
- ▼ Also duplicates other formats such as IBM, MAC etc.
- ▼ Ideal for clubs, user groups or just for your own disks.
- ▼ No more waiting around for your disks to copy.
- ▼ Probably the only duplication system you will ever need!

**ONLY £34.99**  
COMPLETE HARDWARE/SOFTWARE

If you don't have a second drive we can  
supply SYNCRO EXPRESS  
together with a drive for  
**ONLY £119.99.**

## A TRUE 200 DPI FLATBED SCANNER/ PRINTER



UNBEATABLE VALUE - A TRUE 200  
DPI FLATBED SCANNER PLUS  
PRINTER!! FOR LESS THAN £450!!

- ▼ Comes complete with superb software to scan/edit pictures.
- ▼ Very comprehensive software allows for Capture, Writing, Cut/Paste, Printing, Load & Save of images.
- ▼ Save to your favourite graphics/DTP package - very easy to use.
- ▼ Easy to install - connects to the Printer Port - ready to scan in minutes.



UNBEATABLE  
VALUE

**SP 11 SCANNER/  
PRINTER ONLY**  
**£449.99** INC. VAT + PP

- ▼ Up to 16 grey scales or black & white modes - giving you superb scanned images.
- ▼ Complete - no more to buy.

## BUT THAT'S NOT ALL...

Not only does the SP11 scan at 200 Dpi - it is also a superb image printer  
giving high definition output prints of scanned images, screen dumps etc.

PLUS - It's a Photocopier!! Yes, just press start and it will deliver a superb  
photocopy of your original in seconds!

**TOO GOOD TO BE TRUE? WHY NOT BUY ONE AND SEE - YOU WON'T BE DISAPPOINTED!**



# The Editor dips into the bulging postbag, throws out all the nasty letters, and responds to the complimentary ones with diplomacy and aplomb

## UPGRADE MANIA

I've owned an Atari ST for a year now and I'm seriously considering upgrading it to a 1 meg machine. However, I do have a few queries.

a) What do "populated" and "unpopulated" refer to?

b) Is it necessary to have 16 RAM chips to upgrade to 1 MByte?

c) Once upgraded would I be able to upgrade even further (that is, right up to 4 MBytes)?

Scott Wills

West Midlands

*Yours is one of several dozen letters received in the past month about upgrading, improving, speeding up and generally turbocharging your ST. It seems our whacking great A-Z on the subject (beginning on page 56) is going to come in handy for a lot of people. Your enquiry about upgrading from 520K to 1040K (OK, 512K to 1024K) is covered in R for RAM.*

*A question of our own: why are you considering upgrading your memory? You don't say why, and while there are circumstances in which it opens up a whole new area of computing, it's not something you should do for the sake of it.*

## SWOTTY PANTS

I have had my 520STFM for a couple of months now and have been trying, without luck, to find educational software leading up to GCSE. Please could you tell me if you know of any already available or planned, or who I could contact to find out more information.

Paul Rose

Surrey

*There is a good selection of educational software for the ST, and indeed LCL do a complete GCSE maths course called Micro Maths, which costs £24; phone 0491 579345.*

*We have a regular education column (see page 113), and a number of advertisers appear in the magazine. Most send out free catalogues on request.*

*Incidentally, in two months time we shall be featuring an educational round up, briefly outlining what is available and from whom.*

## THE ONLY WAY IS UP

Comms is a funny subject. There are two attitudes about it, and never the twain shall meet. If you're

on one side of the fence (the brain-the-size-of-a-planet mob) it's a piece of cake. Simple. On the other side (me, Mr average-computer-user) it's a closed door. Ask anyone qualified to give a knowledgeable answer about it and they'll say something like: "Connect two computers together, via an RS232 interface and a null-modem lead, add some software and voila!" Simple. A piece of cake.

Anyway, there's a reason why I'm rambling on about this. I need to know how to transfer my numerous and valuable ASCII files from my Amstrad CPC 6128 to my 520ST. I'm writing to you because the help I've been able to get so far has been superficial to say the least. I have the Amstrad RS232C interface, the Kermit for the ST, and a null-modem lead which I've tried rewiring in every conceivable combination.

So far I've had no luck at all. The files just won't go across. I have matched baud rate, parity and so on. Any advice, especially on exactly how the lead should be wired, would be appreciated.

Incidentally, I feel this is a subject which ST Format would do well to cover in future. The vast majority of ST users must, like myself, have upgraded to the ST from the older 8-bit machines, and many would have accumulated material which they would want to transfer.

R. W. Fickling  
Lincolnshire

*I sympathise, having myself moved on up from a CPC - one of the good things about doing so is being able to carry on using Protext. I'd be inclined not to use Kermit, which is perhaps a bit too fiddly if the user is someone, like you, relatively new to all this comms stuff. A simpler solution might be, for instance, Uniterm at the ST end (Softville PD, disk number COMS 1/SS: phone 0705 266509), using X-MODEM (see under 'X' in this month's A-Z). Contact the very helpful CPM User Group (72 Mills Lane, Hawley, Dartford DA2 7RZ) for the CPC end of things.*

*You're quite right, of course: many, if not most, of us have come to the ST via other, usually 8-bit, machines. We intend to let Mark Higham and His Performing Protocols loose on the wonderful*

*subject of comms again as soon as we can. Meanwhile enjoy spending this month's £25 letters prize.*

## PHASED OUT?

Many boys at school - and it always seems to be the Amiga owners - say that the 520ST is being phased out by the STE. Is this just an attempt to make me nervous or is it true? Are Atari going to turn millions of people's STs into doorstoppers?

If so, will all the STE software be non-520 compatible, or will they be compatible with both? This has been worrying me because I've tried to convince my friends not to buy an Amiga and when I say that, they tell me the 520ST is being phased out. I say it isn't, so please tell me what's happening so I can reassure them.

Antony Villa  
Lancashire

*Tell your schoolmates they don't have the faintest idea what they're talking about. At the moment there are hundreds of thousands of STs in use, and comparatively few STEs. Software houses are certainly not going to abandon ST owners for the sake of a tiny proportion of STE users - why on earth should they?*

*Indeed, Atari's biggest problem - even assuming they can sort out this horrendous incompatibility nightmare (see page 11) - is to convince software houses to write for the STE. If they don't succeed it's the STE, not the ST, that has the dodgy future.*

*Far from being a good time to sell your ST, it would actually be quite smart for newcomers to buy one. Because many people always want to upgrade at the earliest opportunity, there's a growing market for second-hand STs. Anyone with sense will be picking them up on the cheap.*

## £25 UP FOR GRABS!

Address your observations to:

The Editor, ST Format,  
Beauford Court, 30 Monmouth  
St, Bath BA1 2AP, marking the  
envelope "For publication." We  
much prefer short, sharp letters  
that make a point.

And there's always £25 up  
for grabs for the best letter.

# ST FORMAT LETTERS



# THIRD COAST ATARI HARD DRIVES & TAPE BACK-UP DEVICES

TAPE BACK-UP  
NOW  
AVAILABLE FOR  
ALL ST's

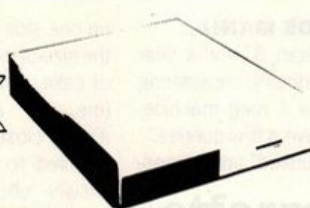
TURBO-  
CHARGE YOUR  
ATARI ST

PROCESSOR ACCELERATOR



Hypercache ST, 16MHz CPU, UP TO 100% Performance increase guaranteed to at least double the speed of any application. Includes full utilities, Manual, Hardware 8-16 MHz switch and Cache disable option to emulate an 8MHz processor. 100% compatible with all applications. Compatible with all Atari ST's 520, 1040 and Mega. **£189 Fitted £209**

NOW  
AVAILABLE  
WITH HIGH  
SPEED  
CASHING  
SOFTWARE



FASTER BY A  
FACTOR OF 2-3  
OVER THE  
MEGAFILE  
30 & 60

- ★ Will Support Second Drive
- ★ Supports Full Auto booting
- ★ 65 Watt PSU
- ★ Battery Backed Clock
- ★ Full 12 Months Warranty
- ★ Up to 14 Partitions
- ★ Supports Tape Drive

- ★ 38 Inch DMA Lead
- ★ Robust Design Slides under Monitor
- ★ Six Months free phone support
- ★ Over 60 Management Hard Drive utilities ICD

## THIRD COAST RAM UPGRADES FOR ATARI ST RANGE

520STFM Board + Chips Expands to 4 Megs (no soldering)	£129.99
520STFM Board Unpopulated	£49.99
520STFM Upgrade to 1040 Full Kit	£69.99
520STFM Upgrade to 1040 Fitted by TCT	£94.99
520STFM Solderless Board + Ram	£129.99
2 Meg Board Upgrades 1040 to 2 Megs	£249.99
(Expandable to 4 Megs)	
2 Meg Board Unpopulated (takes 32 (256K D-Rams)	£99.99
4 Meg Board 2.5 Installed for 1040/520	£299.00
4 Meg Board 4 Megs Installed for 520/1040	£499.99
4 Meg Board Unpopulated	£79.99
Mega 2-4 Upgrade professionally Fitted	£249.00
Mega 1-2 Upgrade Professionally Fitted	£149.00
Mega 1-4 Upgrade Professionally Fitted	£399.00

All Ram is 100 Nanosecond or faster. All Upgrade kits come with Ram Checker, Ram Disk, and Print Spooler. All kits and Boards carry a full 12 Months Warranty.

## STAR LC10



- ★ Four NLQ Fonts
- ★ Paper Parking
- ★ IBM/Parallel Interface
- ★ 4K Buffer
- ★ 96 NLQ Print Combinations
- ★ 144/36cps Speed
- ★ Colour Version available

**MONO £169** Inc VAT and Delivery  
**COLOUR £215** Inc VAT and Delivery

## MONOCHROME + DIGITAL FULL COLOUR ST DIGITISER

Kempston Data Scan 105mm wide scanner	£225.00
Replacement ST Mouse	£24.99
Trackball ST	£28.99
Video Digitiser for Atari ST (inc Colour Soft)	£99.99
Professional Video Digitiser (Monochrome will digitise in low, medium and high res)	£149.99
RGB Colour Splitter for Colour Cameras (allows full colour digitising with Vidi ST 4096 colour digitiser)	£99.99
Videotext/Teletext Adapter Built in Tuner	£139.00
Vidi ST 4096 colour digitiser (full colour digitiser requires above colour splitter)	£249.00
Turbodiser full colour digit professional digitiser, includes built in full colour RGB splitter	£149.00
(optional retouche software allows the best digitising in full colour)	£299.00
Multiface Copier/Backup Device	£44.95
Happy ST Copier (will duplicate any Atari, Mac, Amiga software)	£149.99

## INTERNAL MEGA ST HARD DRIVES

22 Meg Formatted Hard Drive Full SCSI	£369.00	22 meg 25 milliseconds	
22 Meg 25 Milliseconds SCSI Head Park/Head Lock	£419.00	(auto park)	£399 (fitted)
32 Meg Formatted SCSI Head Park	£439.00	32 meg 25 milliseconds	
32 Meg 25 milliseconds Head Park/Head Lock	£479.99	(auto park)	£449 (fitted)
45 Meg 25 milliseconds Head Park/Head Lock	£499.99	45 meg 25 milliseconds	
50 Meg 25 milliseconds Head Park/Head Lock	£549.00	(auto park)	£499 (fitted)
65 Meg 38 milliseconds Head Park/Head Lock	£589.00	65 meg 25 milliseconds	
65 Meg 25 milliseconds Head Park/Head Lock	£599.00	(auto park)	£499 (fitted)
85 Meg 25 milliseconds Head Park/Head Lock	£699.00	85 meg 25 milliseconds	
106 Meg 15 milliseconds Auto/Park	£899.00	(auto park)	£499 (fitted)
150 Meg 16 milliseconds Head Park/Head Lock	£1249.00	65 meg 25 milliseconds	
200 Meg 16 milliseconds Head Park/Head Lock	£1699.00	(auto park)	£549 (fitted)
210 meg 15 Milliseconds Auto Park	£1699.00	85 meg 25 milliseconds	
251 Meg 15 milliseconds Auto Park	£1999.00	(auto park)	£659 (fitted)
Syquest 44 megabyte Removable Cartridge Drive	£849.00	109 meg 25 milliseconds	
45 Meg with 155 Megabyte tape drive	£999.00	(auto park)	£869 (fitted)
65 Meg with 155 megabyte tape drive	£1350.00	251 meg 25 milliseconds	
Megafile 44 Based on Syquest Mechanism	£799.00	(auto park)	£1969 (fitted)

## 155 M/BYTE TAPE BACK-UP FOR ATARI ST COMPLETE HARD DRIVE RANGE

Compatible with Atari SH204/205, Megafile 20/30/60, Third Coast Drive, Supra Drive, Cumana Drive Backs up 155mb in 20 minutes, 20mb in 2 minutes

- ★ External enclosure off DMA IN/OUT
- ★ Battery backed clock
- ★ 50 way SCSI OUT
- ★ SCSI ID selector
- ★ Comes complete with own case & power supply and Host Adapboard
- ★ Will support internal SCSI Hard Drive
- ★ Installation simply involves connecting tape drive into Atari then connecting Hard Drive into output of tape drive.
- ★ Offers long awaited DMA output for Atari SH204 users wishing to connect to laser printer

**FOR IMMEDIATE DELIVERY £699 INC. VAT**

## THIRD COAST DIY KITS (Everything to build your own Drive)

DMA/SCSI Host Boards - allows connection of up to 8 SCSI Hard Drives or ST506 IBM Compatible drives, comes complete with clock DMA in and out over 50 copyright commercial hard drive utilities .....£98.95

Complete kit including all above with controller MFM or RLL OMTI including cable and mounting brackets for controller .....£199.99  
Above kit cased in our drive cabinet offering support of up to four hard drives this basically is one of our drives without the Hard Drive .....£299.00  
RLL Adaptec 4070 or Omti 3527 controllers (giving 50% more out of any drive + twice the speed) .....£100.00  
Complete kit to interface embedded SCSI drive to Atari ST .....£249.99  
Astec 65 watt PSU's .....£39.00  
Enclosures (as above - including fan, Astec - everything bar drive) .....£299.00

## THIRD COAST DRIVE UPGRADES

Upgrade your Atari SH204/5, Megafile 20/30, Supra, Cumana. 45 M/Byte Mechanical Head Auto-park. Fast installation, all data copied to new drive. You will get your old drive cabinet back with the new drive fully warranted and ready to go. Upgrade yields over 100% more performance from your old drive.  
Upgrade to 45 Megabytes .....£299.00  
Upgrade to 65 Megabyte .....£349.00

## FLOPPY DRIVES FOR THE ATARI ST

1 Meg Internal Floppy	£69.99
External 1 Meg Floppy (extended 84 track count)	£79.99
External 1 Meg Floppy	£74.99



# ATARI Hardware Offers

## 520 STFM POWER PACK

Amazing value, all-new special ST package from Atari, includes 520STFM with 1 Meg drive, joystick, mouse, user guide plus an incredible selection of chart-topping software worth over £500. Software included is:

R-Type	Overlander	Bombjack	Starray
Afterburner	Pacmania	Out Run	Nebulus
Double	Starliner	Bombuzal	Star Goose
Dragon	Super Huey	Xenon	First Music
Super Hangon	Eliminator	Gauntlet II	First Basic
Space Harrier	Predator	Black Lamp	Organiser



All for only **£345.00** inc VAT

### MONITORS

Atari SC1224.....	£289.00	1040STFM + SM124 Monitor.....	£499.00
Philips 8833 .....	£225.00	1040STFM + Explorer Pack + Monitor.....	£499.00
Philips 8852 .....	£255.00	1040STFM + Explorer Pack + SC1224.....	£696.00
Atari SM124 Hi Res .....	£99.99	1040STFM Professional Pack .....	£449.00
520STFM Explorer Pack.....	£269.00	Mega 1 + mono SM124 .....	£599.00
520STFM Power Pack .....	£345.00	Mega 2 + mono SM124 .....	£899.00
1040STFM (without monitor) .....	£399.00	Mega 4+ mono SM124 .....	£1139.00
1040STFM + SC1224 Monitor .....	£670.00		

Includes VIP Professional, Microsoft Write, Superbase Personal, ST Basic or Optional Steinberg PRO 24 Music Pack

## NEW PRODUCTS

3 GENLOCKS NOW AVAILABLE



### GENLOCK FEATURES:

Encoded resolution capability 625 lines video signal, PAL on scart, output signal, PAL + RGB on connector. Key enable switches computers image. Key invert

Full fader control + VHS super compatible all the above plus many more features **£849.00**

Broadcast quality Genlock works with all formats, Beta, Philips, VHS, VHS Super. Too many features to list. Call for details **£1795.00**

### NEW PRODUCTS

Megafile 44 cartridge drive (includes one cartridge) .....	£799.00
Megafile 30 .....	£425.00
Megafile 60 .....	£539.00
PC-Speed (fitted) .....	£249.00
520-1040 Ram upgrade .....	£69.99
520-1040 solderless Ram Upgrade Board expands to 4MB special price .....	£99.99
520-1040 Ram Upgrade fitted .....	£94.99
New full colour TurboDialer Digital ST (Digitiser) .....	£199.00
Optional Retouche software .....	£129.00
Professional monochrome digitiser, low, medium and high res digitising .....	£149.99
Digisound Professional Sampler .....	£79.99
Beat Box ST (drum machine and sequencer, a new concept indigital sound) .....	£29.99

4096 colour board, expands ST's, colour palette from 512 to 4096 .....	£49.99
(requires additional shifter, includes sample software)	
Professional Video Digitiser including colour software .....	£149.00
2.5 M/B upgrade 520 (Will go up to 4 M/B) .....	£299.00

### NEW PRODUCTS

\* NETWORK NOW AVAILABLE FOR ALL ATARI'S VERY LOW COST. CALL FOR DETAILS

Processor accelerator 16 MHZ (Not hypercache), will support MC68881 co-processor, blitter, fast TOS 1.4 roms. Average speed increase 50% .....

Maths co-processor MC 68881 (with language for Mega ST only) .....

Simply clips over blitter .....

SGS Network Starter Kit .....

SGS Network Add-On Kit .....



**THIRD COAST TECHNOLOGIES**  
Unit 8, Bradley Hall Trading Estate, Standish, Wigan WN6 0XQ  
Tel: 0257 472444. 8 lines. Fax: 0257 426577.

VISA

# ROMANTIC ROBOT present

The **MULTIFACE ST** - the true **MULTI**purpose inter**FACE** comprising of 3 major parts:  
**BACK-UP Facilities**      **MULTI - TOOLKIT**      **DISK ORGANIZER (Optional)**

- 1) **FREEZE** action by **MAGIC** button
- 2) **SAVE** to drives **A/B** or to **RAM**
- 3) Save **PROGRAM** or **SCREEN**
- 4) Saving is **FULLY AUTOMATIC**
- 5) **MULTIPLE SAVING** possible
- 6) **FORMAT** disks up to **410/820K**
- 7) Powerful, fast **COMPRESSING**

- 1) **INSPECT/ALTER** memory (**POKE** infinite lives, etc.)
- 2) **INSPECT/ALTER** registers
- 3) **HEX/DEC/ASCII** display
- 4) **FIND/REPLACE** a string
- 5) **FILL/SAVE/LOAD/PRINT** a block of memory

- 1) Non-GEM, fast, easy, user-friendly **file/folder copying/deleting/renaming** - all using **RAM**
- 2) Far **LESS** (if any) **DISK SWAPPING** on single drives during copying - all copied via **RAM**
- 3) **TAGGING** of files/folders (incl. **wild cards**) for mass copying or mass deleting
- 4) **COMPACTING** of disks for faster loading

All this and much more! at a **KRAZY** mail order PRICE: ~~£59.95~~ **£39.95** or £49.95 £34.95 without the Disk Organizer

**MULTIFACE** has ALL its tricks in a 64K ROM - no need to load any other software: **MULTIFACE** is always there and ready. **MULTIFACE** is menu-driven with one-touch commands and on-screen instructions, fully **AUTOMATIC** - so **EASY** to USE! Pressing the **MAGIC** **BUTTON** will **FREEZE** a program enabling you to **SAVE** or to use the **MULTI-TOOLKIT** to study/modify it. The frozen (or saved & re-loaded) program continues from where stopped - save as you please to avoid playing from the start. **MULTIFACE** a) compresses b) formats more effectively c) can save onto several disks to back-up programs of **ANY** length! **MULTI-TOOLKIT** lets you inspect and change (in hex/dec/ASCII) simply everything - **POKE** infinite lives, customize programs, etc. All in all, the **MULTIFACE ST** can be used - and is **SO USEFUL** - in so many ways, that it is the **ESSENTIAL ST COMPANION**. \*\*\*\*\*  
MULTIFACE must not be used to copy, reproduce or infringe in any way any copyright material without the clear permission of the copyright owner. ROMANTIC ROBOT neither condones nor authorises the use of the **MULTIFACE ST** for the reproduction of copyright material - to do so is **ILLEGAL**. However, to prevent any piracy, the **MULTIFACE ST** **MUST** be attached to the cartridge port to run the programs it saved.

**£15 OFF** the standard **MULTIFACE** or **£20 OFF** the **FULL** version!

I order a **MULTIFACE** at £49.95 £34.95 or ~~£59.95~~ **£39.95** (incl. **DISK ORGANIZER**) + p&p: UK **£1**, Europe **£2**, Overseas **£3**.

I enclose a cheque/PO/cash for £..... or debit my Access/Visa No.                 Card Exp.....

Name/address.....

The above reduced prices apply strictly only to MAIL ORDERS received by 31.3.1990.

**ROMANTIC ROBOT UK LTD** 54 Deanscroft Ave, London NW9 8EN ☎ 24 hrs 01-200 8870



**Always Reasonable Reliable And No Fuss**

**ATARI ST, AMIGA & IBM PC/  
COMPATIBLE SHAREWARE  
WRITE OR PHONE MARTIN  
FOR A CATALOGUE**

**3.5" FORMAT - £2.95 PER DISC  
OVER 5 DISCS - £2.50 PER DISC  
5.25" FORMAT - £1.75 PER DISC  
OVER 5 DISCS - £1.50 PER DISC**



ARRAN COMPUTERS  
WELCOMES VISITORS  
TO THE SHOP



PRICES INCLUDE VAT

ARRAN

ARRAN

ARRAN

ARRAN

**STATE  
MAKE AND  
MODEL OF  
COMPUTER**

*Mail Order Send Cheques/PO to*  
**ARRAN COMPUTERS  
17A LOWER HILLGATE  
STOCKPORT SK1 1JQ  
TEL: 061 480 3975**

## ADVERTISERS INDEX

Alpha Computing.....	106	Merlin Express .....	23
Anco .....	32	Merlin Computers .....	87
Arran .....	122	Microtext.....	60
Astrocalc .....	74	Microdeal.....	10
B Bytes .....	112	Miditech.....	91
Best Prices .....	104	Midland Games .....	109
B Soft .....	70	Mindscape.....	IBC
Cambridge Business S/W .....	87	Mirrorsoft .....	17
Care Electronics.....	70	MJC Supplies .....	63
Castle Software.....	72	MT Software.....	60
Computer Connections.....	112	Music Matrix .....	74
Computer Express .....	29	Ocean.....	IFC-3, 25, 47
Computerhouse UK.....	26	Official Secrets .....	18
Computer Store .....	58	Palace .....	6
Computer Technology .....	74	Pandaal Marketing .....	69
Computerwise Brighton.....	104	Power Computing .....	13-15
Dataplex .....	91	Premier Mail Order.....	94
Datel .....	98-99, 118	Psygnosis.....	31
Digicom .....	67	Radio Service .....	60
Ealing Computers.....	104	Rainbow Arts .....	OBC
Elite .....	39	Ramara House Software.....	69
ESP Software.....	109	Riverdene PDL.....	79
Evenlode .....	93	Romantic Robot .....	121
Evesham Micros .....	102-103	Saxon .....	91
First Choice .....	109	School Software .....	88
Gasteiner.....	88	Selec .....	106
Goodman PDL .....	9	Seven Disk .....	87
Grandslam.....	41, 53	Soft Machine .....	106
HAT Software .....	9	Softsellers .....	80-81
Hi Soft .....	21	Softville PD .....	74
Hobbyte .....	70	Software Business .....	36
Home Based Business .....	112	Software City .....	111
ICS Electronics.....	79	Special Reserve .....	18
Impressions .....	51	ST Club .....	69
Incredibly Useful People .....	79	ST UK.....	77
John Wiley & Sons .....	79	Tanglewood .....	58
Joy of Life Arts .....	109	Titan Games .....	112
Ladbroke Computing .....	84	Third Coast Technologies .....	120-121
Mail Centa .....	71	Turbosoft .....	64
Manor Court Supplies .....	64	Ubi-Soft .....	44
Matrix .....	106	Wizard .....	104
MD Office Supplies .....	97	Worldwide .....	30

# Q

What comes out of the same offices as ST Format, only four times as often?

# A

Britain's leading news-stand computer weekly magazine.

## Look what it offers!

- **Weekly** packed news pages covering all the latest developments in computing.
- **Weekly** product reviews, features, technical tips, letters, analysis.
- **Weekly** ST section packed with product news, tips and comment.
- **Weekly** shopping bargains including a special voucher scheme guaranteed to save you money.

**Only  
58p!**

*Out every Thursday  
in all good newsagents.*

# THE COMPUTER EXPRESS

*First news, best buys – every week*



# Win the battle for Kiev

## FIRE-BRIGADE

The Battle for Kiev • 1943

Dave O'Connor  
Tony Oliver  
Ben Freasier

NOW  
AVAILABLE  
ON ST



© P. Gillette 1987



Made in Australia

Perhaps the most decisive and mobile battle of World War 2 is now yours to win.

It's early November 1943 and the war in Russia is at its height. With the capture of the strategic city of Kiev imminent, will you join the 48th Panzer Korps – the Fire Brigade – and win yourself an Iron Cross or enlist in the Soviet 3rd Guards Tank Army and split the German Front? The choice is yours.



Specially designed for the latest range of personal computers, Fire Brigade offer these advanced features:

- ★ Easy to learn and play
- ★ High resolution graphics
- ★ Variable skill levels
- ★ Wide range of scenarios
- ★ Realistic staff support
- ★ Comprehensive reports
- ★ German or Soviet command
- ★ Computer or human opponent

ACE rating 900+.

Available for Amiga, IBM & Macintosh.

# M I N D S C A P E

For further information on Mindscape Products and your local dealer contact  
Mindscape International Limited, PO Box 1019, Lewes, East Sussex BN8 4DW. Tel. (0444 486) 545/547



IF WAR IS HELL... DRIVE THE DEVIL'S MACHINE

# CONQUEROR™

Copyright by Johnathan Griffiths.

Action and simulation for strategy without repetition. Conqueror is the ultimate challenge of "leadership under fire" to wargamers of all interests. Engage in authentic World War II tactical wargaming, experience the bloody attrition exacted by the might of the armoured divisions, create your own scenarios and set your own challenges in bringing the elite war machines of the German, Russian and American forces into head-to-head confrontation and combat. Fight your way through massed ranks of enemy tanks. Live on your wits and the strength of your will as you endeavour to outlast the awesome firepower of your unforgiving enemy. Plan the campaign of action that will outmanoeuvre your opposing platoon commanders and lead to their ultimate downfall.



Screen shots from various formats

"3D GRAPHIC SYSTEMS CREATED BY DAVID BRABEN - CO-AUTHOR OF ELITE."

All the essential elements for hours of relentless action, excitement and stimulation.

- Action, Attrition and Strategy.
- Unique 45° viewpoint external to command tank.
- 180° degree horizon and 3D scrolling landscape creates authentic forward movement.
- Select squadrons from the accurately produced tanks.

American: Chaffee, M36GMC, Sherman Firefly, Pershing.  
German: Panzer III, Panther, Tiger I, King, Tiger.  
Russian: T34/76, KV1S, KV85, Josef Stalin II

Rainbow Arts, Sketty Close,  
Brackmills Business Park, Northampton NN4 0PL.

**Rainbow Arts**