ISSUE 27 ■ OCTOBER 1991 ■ £2.95

ST FORMAT

We review and rate all 15 top ST hard drives

BRITAIN'S BEST-SELLING MAGAZINE AND DISK FOR YOUR ST

TOP ST ARTISTS REVEAL TRADE SECRETS!

WE SHOW YOU HOW YOU CAN TURN THIS...

INTO THIS...

IN JUST 6 EASY STEPS!

MAKE IT YOUR BUSINESS!

Everything you need to know about *serious* software

"I'LL HAVE A TEE, PLEASE, BOB..." IT'S A GOLF GAME WITH BALLS!

EXCLUSIVE: Atari boss Sam Tramiel reveals his plans for the ST

ST FORMAT COVER DISK 27

ROLLING RONNY
Non-stop roller-skating madness in this hugely absorbing and fully-playable demo from Virgin Games

ST WRITER ELITE VERSION 4
The best Public Domain word processor there is

SPIRO
Put your pens and plastic wheels away! Try this spiral pattern generator

PLUS
- **GEMVIEW** The all-encompassing ST picture viewer for *all* monitors
- **ST TOOLS** Control your files with this box of directory tricks
- **SHOWMEM VERSION 4** Find out where your memory's gone

AND Set up your clock ● Intercept your ST ● watch its secret instructions

ALL PROGRAMS STE COMPATIBLE

Disk format by Rob Northen

NO COVER DISK?

THEN DEMAND ONE FROM YOUR NEWSAGENT NOW!

DON'T MISS

15 packed pages of top games, graphics and technical tips inside this issue

TIPS

future PUBLISHING
Your guarantee of value
9 770957 485007 10

DARKMAN

Peyton Westlake was left for dead... Darkman now lives. With the ability to take on the appearance of anyone he chooses, he has sworn to avenge his would-be assassins whose evil exploits have left him hideously disfigured. Now you take on the role of **Darkman** - master the technology of his disguising system - enter the gang of mobster Robert G. Durant and conquer them from within.

Live through all the high spots of the movie - the breathtaking helicopter fight sequence - the skyscraper shoot-out - dice with death as you are plunged, swinging into the heaving freeway traffic.

Darkman lives... but not for long?!

TM & © 1990 UNIVERSAL CITY STUDIOS, INC. ALL RIGHTS RESERVED. LICENSED BY MERCHANDISING CORPORATION OF AMERICA, INC.

NOT AVAILABLE ON THE PC

ATARI ST / CBM AMIGA
IBM / AMSTRAD PC
& COMPATIBLES

The strangest things h
the experiences you
Elf. Your magic ring c
tread deeper into th
castle guards, low-life
get-smart campaign.
but these rivet-he
cantankerous, tricky-
creatures and devio
your gnostic powers.
game features allowi
Numerous secret are
help you with your qu
your own ghost may

OCE

OCEAN SOFT
6 CENTRAL STREET • M
TEL: 061 832 6633 •

pen in fairy tales - but nothing so strange as
encounter on your travels as **Cornelius the**
cast many spells, increasing in power as you
ystical lands of gooks and goblins. Even the
ings with the IQ of a cold-steel rivet, are on a
ey may seem a little backward to start with,
ed, bovver-bullies will soon become
kies if you let them. Many weird, villainous
puzzles test your game-play technique and
u can even control some of the background
you to get to where you think you should be.
e deep within the forest where vital clues can
but beware...
terialise to haunt you!

My head is thumpin', and my heart is pumping the adrenalin around every vessel of my hyper-tense body - the 'driving unit', that will be shoe-horned, wedged like a Colt 45 into its holster, as I am placed into the command seat of my vehicle - ready to enter the arena of play... and combat.

"Wild Wheels" they call us. Combatants who play a **"game"** - a game where there are two ways to lose... down on points or down on fuel - the fuel of life! And our **"kit"** for action are the finely honed masterpieces of engineering... machines that will pole-axe the opposition, melt them, crush them, detonate them into a million white-hot, speeding grains of shrapnel. The **'kit of death'** where many of us will experience our last, final, blinding flash. Now, in the arena, the game becomes a struggle to win, a fight for life. The noise from the screaming crowd is drowned by the incessant roar of the mighty heart of this mechanoid beast, its engine pushing out every ounce of power to keep me just ahead, and delivering a heavy, sickening blow into my back as it accelerates at my command. Taking aim, I firm up every muscle ready for the great burst, the deafening scream as I unleash my lethal messenger... and its message - **"GAME OVER!"**

But that's just half the game story. Now **YOU** enter the arena... **ENJOY THE SHOW!**

ARE LIMITED
NCHESTER • M2 5NS
AX: 061 834 0650

ATARI ST / CBM AMIGA
IBM / AMSTRAD PC
& COMPATIBLES

www.stformat.com

ST FORMAT

ABC January – June 1991 70,258

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

Editor Mark Higham
Technical/Disk Editor Neil Jackson
News Editor Andrew Hutchinson
Games Reviewer Ed Ricketts
Production Editor Alex Soboslay
Art Editor Martin Parfitt
Art Assistant Steve Fardy
Photography Ashton James
Contributors
arrie Capel, Mary Cooch, Glenn Corpes, Tom Day, hy Elliot, Terry Freedman, James Leach, Chris Lloyd, Ian Pemble, Ashley Shepherd, Pat Standish

Advertising
2ND FLOOR, RAYNER HOUSE, 23 HIGHER HILLGATE, STOCKPORT SK1 3ER
Advertising Manager
Gail Blincow (☎ 061 474 7333)
Senior Ad Sales Exec.
Shaun Lancaster (☎ 0225 442244)
Ad Production
Nickie Lucas (fax 0225 423929)

Editorial
30 MONMOUTH ST, BATH, AVON BA1 2BW
☎ 0225 442244 • FAX 0225 446019
We regret we're too busy to reply to individual enquiries, either by phone or by letter

Publisher Steve Carey
Group Publishing Director Greg Ingham
Promotions Manager Michele Harris
Colour Repro DP Graphics, Holt
nted & bound by Chase Web Ltd., St Ives plc
Distribution Future Publishing (☎ 0225 442244)
dwide Distribution MMC Ltd (☎ 0483 211678)
ulation Director Sue Hartley (☎ 0225 442244)

Subscriptions/Mail order
THE OLD BARN, SOMERTON, SOMERSET A11 7PY. ☎ 0458 74011 • FAX 0458 74378

l91 Future Publishing. No part of this magazine may be oduced, stored in a retrieval system or smoked without ten permission from the publishers. **ISSN 0957–4859.**

tributions are normally accepted only on the basis of assignment of copyright to Future Publishing. We ogise for the ugly git on page 129. We recommend wear a pair of dark sunglasses and hold the maga- at an angle before you risk staring at this page. We accept no liability if you go blind during the process.

Your guarantee of value

s magazine comes from Future Publishing, a company founded six years ago but now selling more computer magazines than other publisher in Britain. We offer:

tter advice. Our titles are packed with tips, suggestions and lanatory features, written by the best in the business.

ronger reviews. We have a cast-iron policy of editorial ependence and our reviews give clear buying recommendations.

earer design. You need solid information fast. So our signers highlight key elements by using charts, diagrams, mmary boxes, annotated photographs, etc.

eater relevance. At Future, editors operate under two den rules:
nderstand your readers' needs.
atisfy them.

re reader interaction. We draw on readers' contributions, ulting in the liveliest letters pages and the best reader tips. ing one of our magazines is like joining a nationwide user group.

tter value for money. More pages, better quality: gazines you can trust.

future PUBLISHING

Home of Britain's finest computer magazines.

ST FORMAT • Amiga Format
Commodore Format • PC Format
Amiga Power • Amiga Shopper • Amstrad Action
New Computer Express • Your Sinclair
8000 Plus • PC Plus • Sega Power
Public Domain • PC Answers

CONTENTS

PAINT A THOUSAND WORDS

The professional graphic designers show you how to turn your garish graphics into glorious masterpieces – **page 32**

FEATURES

32 GRAPHIC DETAILS
Produce your own top notch graphics with help from the professional graphic artists

40 POPULOUS 2
We preview the follow-up to Populous, one of the biggest games of all time

54 DRIVE A HARD BARGAIN
15 of the best ST hard drives are put through their paces in this ground-breaking round-up

63 TRAMIEL TELLS ALL
Sam Tramiel gives us an exclusive interview on Atari's plans for the ST in 1992

102 EVERYBODY'S BUSINESS
How *you* can use the wealth of "serious" software to make the most of your ST

109 GAMES TO LAST 1,000 YEARS
Millennium take time out from writing *Robin Hood* to reveal their best and worst ST games

113 A JOY TO HOLD
We review what could be the best joystick you can get your hands on

150 THE OCTOBER QUIZ
Win one of three Protar 30MByte hard drives in this month's brain-teasing quiz

REGULARS

7 NEWS
We bring you an exclusive report from our man on the spot at Atari's Dusseldorf show and reveal their plans for yet another new ST

15 GAME NEWS
A brand new adventuring system is about to be launched... we reveal the details, and bring you information on all the upcoming releases

21 ST TOP 30
It's the rollercoaster ride through this month's best-selling ST games

22 COVER DISK
Your complete guide to this month's addictive *Rolling Ronny* demo and all our other goodies

47 PUBLIC SECTOR
For just £3 you can buy yourself a *FORMAT* Gold winner... here's the choice of recent Public Domain releases worth looking at

67 SCREENPLAY
Spoilt for choice? We give you the trustworthy *FORMAT* low-down on 14 new games released this month

95 GAMEBUSTERS
Take a deep breath and step into the gamebusting zone – where nothing will ever be difficult again

118 SPECIAL OFFERS!
Get hold of *FORMAT* Gold winners at huge discounts in *ST FORMAT's* bargain section

122 KANDY KOLOURED...
You've seen what the pros can do. Now see just how our gifted readers construct a visual gem

127 BIGGER, BETTER, MORE
In the sixth part of our exclusive series, the Bullfrogs reveal how you can improve your assembly language games

133 EDUCATION
Now learning can be fun. We examine the most important new edsoft releases of the month

136 SUBSCRIPTIONS
Let us take the strain and deliver to your door – you get a complimentary gift in the bargain

139 DESKTOP
All your ST technical problems solved plus some essential *GFA Basic* advice

145 FEEDBACK
More of your controversial letters make it onto this month's packed Feedback pages

153 TWILIGHT ZONE
Rumours, gossip and all that's coming in next month's *even bigger* issue

www.stformat.com

15 DRIVING CHOICES

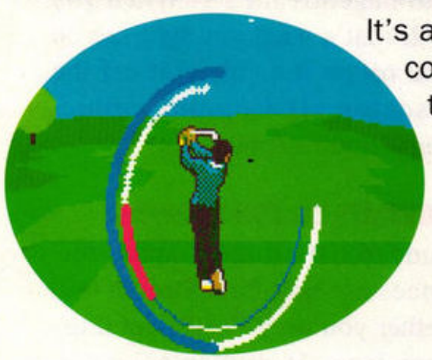
Thinking of getting a hard drive? Then don't miss our comprehensive roundup – **page 54**

HARD DRIVES ON TEST

Whatever you're thinking of buying, read the definitive *ST FORMAT* review first

Atari Megafile 30	55	*Protar 40DC*	56
Gasteiner 44R	58	*Protar 44MByte removable*	58
Gasteiner 85	58	*Reference 40*	55
Hunter 70MByte	58	*ST adaptor kit*	58
ICD FA.ST 50	56	*Supradrive 40*	55
Ladbroke 52	58	*Third Coast 32*	55
Power slimline	55	*Vortex 40MByte*	56
Power 40Mbyte	55		

MICROPROSE GOLF



It's a fairway above the competition... Golf just turned professional – **page 75**

SCREENPLAY

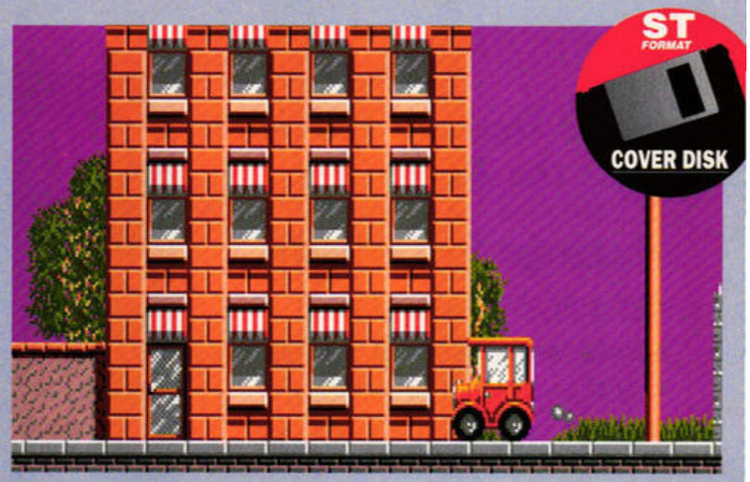
The most authoratitive ST games guide begins p.67

Challenge Golf	85	*Magic Pockets*	82
Cloud Kingdoms	88	*Mega Lo Mania*	76
Flight of the Intruder	68	*Microprose Golf*	78
Footballer year 2	88	*RBI 2*	70
Jimmy White's Whirlwind Snooker	72	*Supercars*	88
Kid Gloves	88	*Virtual Worlds*	89
		Wreckers	81

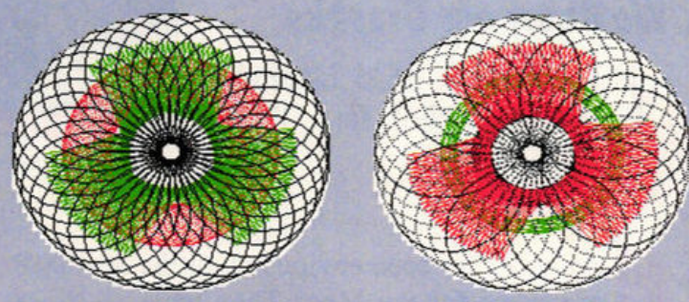
Screenplay extra 88

COVER DISK 27

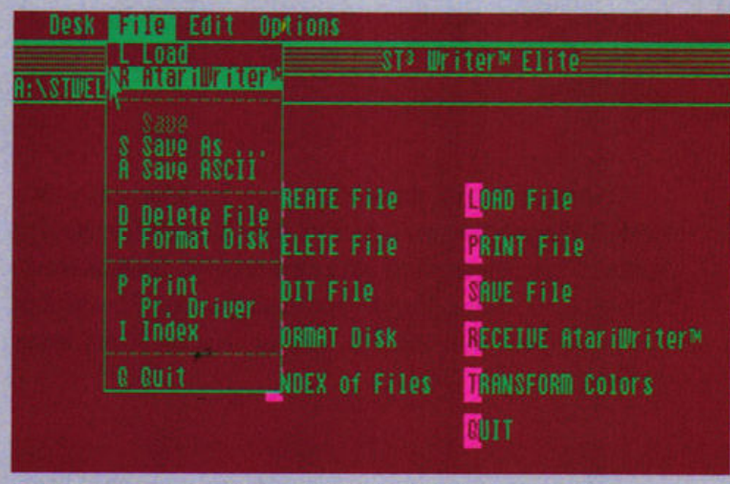
The action starts on page 22



PUZZLE **OVER VIRGIN'S PLAYABLE AND ADDICTIVE *ROLLING RONNY* DEMO...**



GAWP **AT THE MIND-BLOWING GRAPHICS YOU CAN CREATE WITH *SPIRO*...**



MARVEL **AT THE QUALITY LETTERS YOU CAN WRITE WITH *ST WRITER ELITE*...**

YOU CAN DO ALL THIS AND MORE WITH THIS MONTH'S CRAM-PACKED COVER DISK

PLUS View your pictures on any monitor with GEM VIEW ● Discover how your memory is being used ● Play with your files and directories

all this and more begins on page 22

www.stformat.com

WHERE'S THE MAC?

PageStream 2

The Desktop Publisher for the Rest of Us.

PostScript Font Friendly

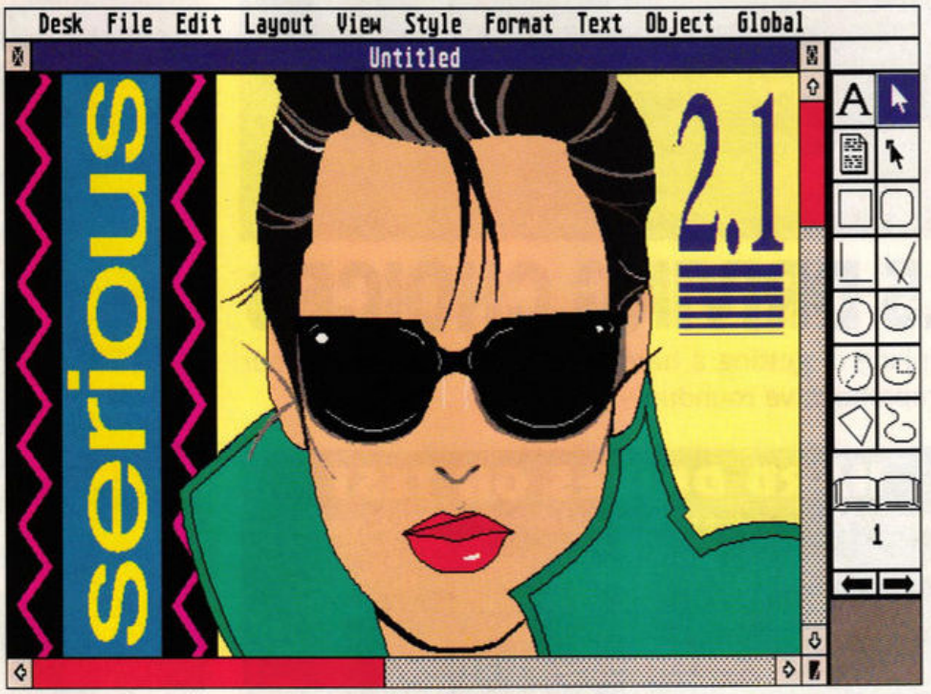
- Use PC PostScript fonts!
- Even with dot matrix printers!
- And no jaggies on-screen!

And Compugraphic Fonts

- Use Compugraphic Intellifonts!
- 10 are included!

We Know our Graphics

- IMG, TIFF, GIF, GEM, MacPaint, EPS, Degas, NEO, TNY, IFF . . .



Actual PageStream 2.1 screen shot. PageStream is ST/STE/TT compatible.

Have you ever been envious of all the neat DTP programs for the Mac? They have all those great PostScript fonts, multitudes of clip art and with Adobe Type Manager they don't have screen-jaggies. "Sure, we didn't have to mortgage the house to buy a computer, but it would be nice to have all those fonts."

SAY NO TO MAC ENVY

At Soft-Logik, we have a cure for Mac envy. We call it PageStream 2.1. Do you want PostScript fonts? PageStream lets you use any PC format PostScript font. Plus, PageStream can print PostScript fonts on your dot matrix, inkjet, HP or Atari laser printer!

SAY YES TO HINTED COMPUGRAPHIC FONTS

There are now two types of Compugraphic fonts for the Atari: unhinted, non-standard format fonts and hinted PC standard Intellifonts. Guess which we chose? PageStream 2 has the latest Compugraphic Intellifont Bullet technology. These typefaces are hinted so that they look great on all printers, even at small sizes. Of course we give you ten fonts from the Times, Triumvirate and Garamond families to get you started..

LOOK MA, NO ATM!

Because Adobe Type Manager is not likely to be released for the Atari any time soon, we've built font scaling technology into PageStream 2.1. When you select Palatino Italic 72, that's what you will see on the screen, even if you rotate it or bleed it off the page. PageStream scales all Compugraphic, PostScript and Soft-Logik outline fonts.

HOW MANY GRAPHIC FORMATS DO YOU KNOW?

Take thirty seconds to list all the graphic formats you know. Chances are that PageStream will know even more! Whether you need PostScript illustrations with bitmap previews, 16 million color pictures or scanned grayscales, PageStream will handle them.

WHY DID WE GO TO ALL THIS TROUBLE?

Soft-Logik exists because of Atari users like yourself. We grew up with the Atari ST and we think Atari users deserve the best. We believe PageStream 2.1 is the best. So the next time you feel Mac envy, take a dose of PageStream 2.1. You won't be left wondering "where's the Mac?"

Soft-Logik Publishing Limited *We give you the tools to dream.*

PageStream is a registered trademark and "We give you the tools to dream" is a trademark of Soft-Logik Publishing Corporation. Adobe Type Manager is a trademark of Adobe Systems Inc. PostScript is a trademark of Adobe Systems. Bullet and Intellifont are trademarks of AGFA Compugraphic. Atari is a trademark of Atari Corporation. Mac is a type of fruit consumed by people in gardens.

www.stformat.com

THIS TIME LAST YEAR

WHAT WAS IN THE NEWS A YEAR AGO

● *Calamus*, that ever-popular German DTP package, took a hefty £200 price drop. Signa revealed that they had made the move to make way for the colour version *Calamus SL*, which they reckoned would be available by October of that year. One year on, *Calamus SL* still hasn't appeared, although Signa's boss Mike Dale tells us that they are currently translating the manual and changing the dialogue boxes to English.

● The former demo coder and itinerant Swedish chap, Anders Nilsson, announced his *TCB Tracker* program to an unsuspecting public. One year on, his sample sequencing package has gone through about ten versions and is now the preferred tool of the professional music creator. In fact the funky music to *Powermonger* was created using this easily-learned music program. The latest version (available from MPH ☎ 0603 503382) is a full stereo program with MIDI support.

● *DeluxePaint ST* was given the full *ST FORMAT* review treatment (if you missed it, turn to page 136 and order your back issue). We promptly gave it a stonking great 96%. Word on the street (not Coronation Street either) is that an update is currently being worked on, so keep your eyes peeled for *D-Paint 2*.

● Wondering about the ST's DTP power? The entire page shown here was produced on *Calamus* – including the photo and the posters the model is pinning to the wall. The program's recently been updated to full colour and is easily a match for DTP packages costing five times as much.

BETWEEN THE LINES: *STF* COMMENT

Have Atari left it all too late? Their release of the ST Book by the end of the year is part of their attempt to "re-position" the ST as a general computer, rather than just a games machine or just a serious word processing vehicle.

At the recent Atari show in Dusseldorf, Sam Tramiel said that Atari "can't be all things to everyone." The quote came when a German journalist was moaning about the lack of a keyboard on STylus, the new ST that can recognise your handwriting (sort of missing the point about the machine there, perhaps).

What Tramiel did say was that Atari would produce machines which were cheap enough to seriously undercut the competition while still offering innovation. Book and STylus (see page 63) are the results of this philosophy and – certainly in the case of the latter – they offer innovation in abundance.

Tramiel is very happy with the development process of his new breed of STs. He is pleased to be in the headlines again and sincerely hopes that a new kind of user will enjoy machines such as STylus – machines which attempt to placate the anti-technology diehards who have no desire to type things into a computer. (He cited his wife as a perfect example.)

Book and STylus are well designed machines crammed full of ports and sockets. They look professional in a way that the dear old STFM never will. More to the point, the public are beginning to take notice of a company best known for bringing the games console to the world. All the signs are that Atari haven't left it too late; they've just been waiting for their moment.

Exclusive reports from the Dusseldorf Atari show ● 33MHz accelerator board makes ST ten times faster ● ST gets the best DTP package ever

Atari reveal big plans for the ST

by Andrew Hutchinson

Atari's Managing Director Sam Tramiel has announced some revolutionary updates to the ST range of machines.

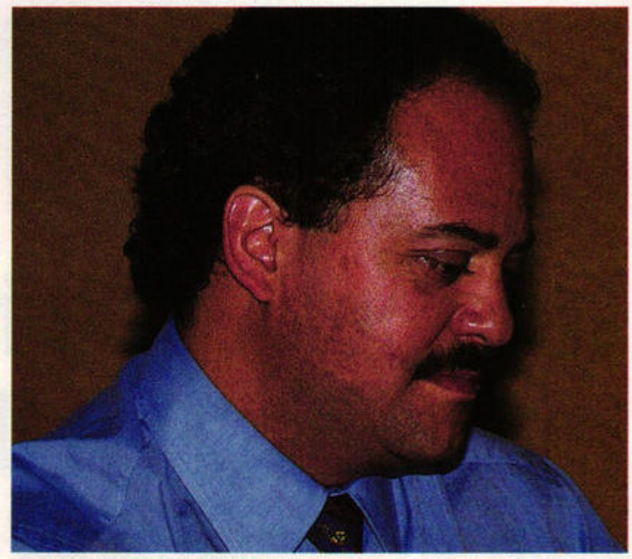
The STE, Mega STE and TT are all to incorporate revolutionary hardware and software packages designed to make the ST the most popular computer of the '90s.

Speaking in an exclusive interview with *ST FORMAT*, Tramiel announced that multi tasking TOS will be released for the TT by March 1992. This long awaited upgrade will enable the 32-bit TT to run different programs in memory at the same time, with the user switching between applications by means of a "hot key" keystroke.

This upgrade will only be used in the TT and any other "high-end" machines with hardware memory protection, to keep the data safe.

New TTs are to be released with the multi-tasking TOS already installed, although anyone who already owns a TT will be able to purchase a new chip set to enable multi-tasking on existing TTs. The installation of a multi-tasking environment for the TT means that the machine is now a powerful and direct competitor for business computers such as Apple's IIsi or IBM's 386 family.

● Atari's Dusseldorf show, traditionally their strongest launch event, featured the entire ST range, new machines and some incredible software advances.



● Atari's head honcho Sam Tramiel, recently in the UK, has some amazing plans for the ST range, which will stretch beyond interactive compact disc technology and into the realms of multimedia.

● The STT transputer board – the high-speed add-on *STF* revealed exclusively in issue 17 – is working its way through the development process. Bob Gleadow (Atari UK's Managing Director) has told *FORMAT* that all the preliminary work has been completed. He has also revealed that the STT project may not be restricted to transputer technology, but he wouldn't say what else it might include. We're putting our money on some sort of vastly improved graphics display on a card.

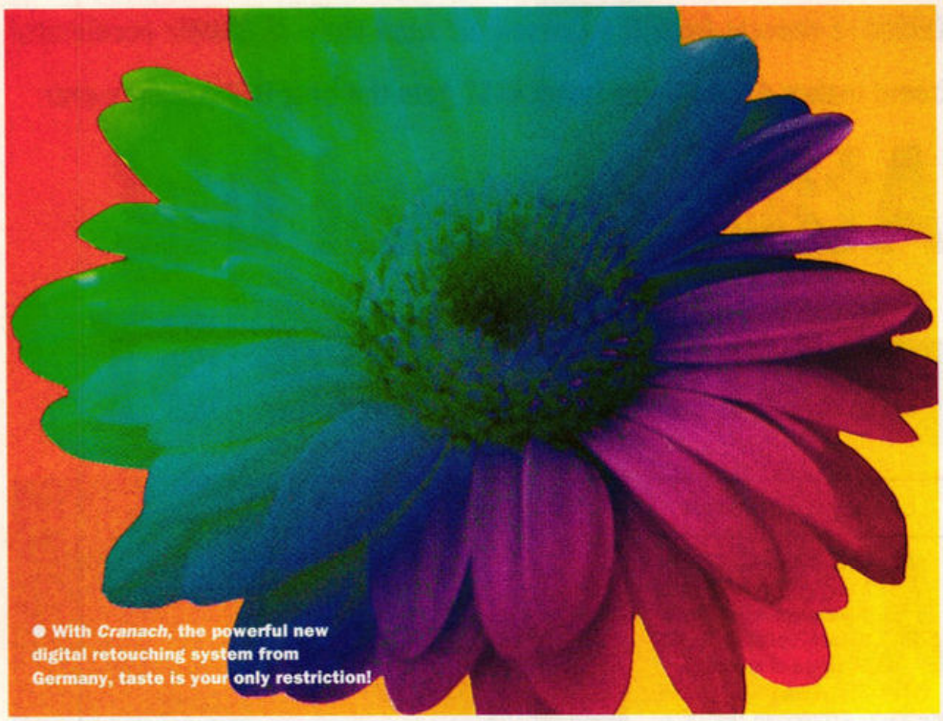
> ***"A multi-tasking TOS for the TT will definitely be available by March"***
>
> SAM TRAMIEL

● Owners of Mega STEs and TTs will soon be able to upgrade their floppy drives to a full 1.44MByte version. All new TTs released after October will feature the high density drive. Sam Tramiel told *ST FORMAT* that inexpensive upgrades would be made available to existing Mega STE and TT owners, but unfortunately not to 520 and 1040 STE/STFM owners.

● Atari have finally revealed that they are producing an analog joystick for the STE, Mega STE and TT. Atari invented the present form of joystick about ten years ago and they are hoping to have a formative effect on game-playing again with their new model. The company will be releasing their analog joystick as an add-on.

● **Interview with Sam Tramiel: page 63**

TOP ST SOFTWARE AT RIDICULOUSLY LOW PRICES – PAGE 118



● With *Cranach*, the powerful new digital retouching system from Germany, taste is your only restriction!

True colour digital retouching on the ST

by Andrew Hutchinson

Imagine this: you scan a photograph and a perfect reproduction appears on your ST's monitor in exactly the same colours as the original. Then you decide that some of the colours aren't quite right, so you change the tint on one of the colours by a fraction, finally saving the finished image in TIFF format for import into a DTP package. All this is now a reality, thanks to *Cranach*, a brand new package from Germany.

Cranach is a digital retouching package which enables scanned images to be altered in a variety of ways, in colour.

Cranach can alter a picture subtly or drastically. The tint in a girl's dress can be tweaked or the hem-line raised, or she can be transplanted to a desert complete with cactii. In effect you can create composite pictures digitally, on-screen.

When the package is used in conjunction with a true colour graphics board, scanned images can be modified in any colour imaginable, in real colour. This kind of technology is likely to be of immense use to television stations, publishing companies or anyone else who likes to have complete control over the look of a picture.

TMS, the producers of *Cranach*, offer a variety of options which can be tailor-fitted to any job. At the time of the Dusseldorf show, a UK price had not been set. You can contact TMS at Dr Gessler Strasse 16, 8400 Regensburg, Germany ☎ 010 49 941 95163.

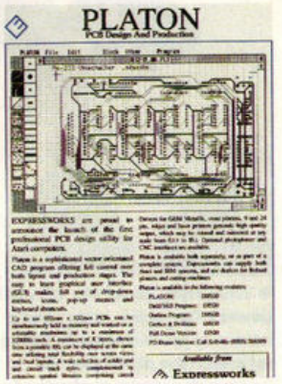
Circuitous designs

Expressworks, the company who have the dubious honour of producing one of the most expensive packages for the ST (step forward, *DynaCADD*), have just announced a PCB (printed circuit board) design and production program which goes by the (no doubt deeply significant) name of *Platon*.

Platon is a vector-orientated program for designing PCBs of up to 932x832mm in size. Six of these can be held in memory at one time, each consisting of up to eight layers.

All the usual electronic symbols are included – circuit elements, conventional ICs, surface mounted diodes, plug connectors and different solder pad and circuit track styles. Drivers for plotters, 9-pin, 24-pin, inkjet and laser printers are provided.

The *Platon* program itself costs £195, a drill/mill program is £95, an outline program costs £195 and *Gerber* and *Drilldata* costs £69. Expressworks, 75 Heath Lane, Upper Hale, Farnham, Surrey, GU9 0PX ☎ 0252 726255, Fax 0252 727125.



● ***Platon* is a fully-featured PCB design program which can output to almost any printer.**

Making beautiful music together

● DMC, producers of the top-end DTP package *Calamus*, have dipped their toe into the multimedia market and come up with this swish system, shown at the Dusseldorf show, combining graphics, text and music. Click on an icon and you get not just a graphic display but also a corresponding sound output.

● All right, so not all of us are likely to find a use for a sticky label etching program – but it does demonstrate how versatile the ST is. It really can turn its CPU to any purpose.

Stick with your ST

Launched at the Dusseldorf show this year were two novel uses for an ST, both linked with the massive interest in DTP in Germany. Practically every stand was showing some form of publishing package – they even had a huge demonstration area in the middle of the hall with lots of keen chaps and chapettes demonstrating the software.

On one stand TMC, the makers of *Calamus*, were demonstrating a program which etches designs on rolls of sticky paper. A special semi-plotting machine was cutting designs such as the Atari logo in the paper. The software could take any IMG type file, trace it and then transfer the contents to the etching machine.

Profi-partner were demonstrating a package called *Printline*. This program enables designs to be printed on special contact paper and the results can then be ironed onto fabric, like a T-shirt. What made this program different was that it used a laser printer. The results are far superior to those dot matrix printed efforts and look suprisingly effective. The only problem at the moment is that you can have any colour you like, so long as it's black.

DMC live at Postfach 89, D-6229 Walluf, Germany. Profi Partner are at Regina Lutt, Monkhofer Weg 126, 2400 Lubeck, Germany ☎ 010 49 451 505367.

www.stformat.com

50,000 Members

No obligation to buy

Special Reserve
Games Club

CHAOS 9.99	DUNGEON MASTER 10.99	E-MOTION 6.49	ELITE 8.99	EYE OF HORUS 3.99	F16 FALCON 10.99	HILLSFAR 6.99	IVAN'S OFF ROAD 7.99
KICK OFF 3.99	KICK OFF 2 8.99	X OUT 7.99	LEMMINGS 13.99	MEGATRAVELLER 1 11.99	MIDWINTER 11.99	MURDER! 6.99	PAINTWORKS 6.99
PLAYER MGR 7.99	POWERDRIFT 2.99	PRINCE OF PERSIA 9.99	ROCKET RANGER 2.99	SCRABBLE 7.99	TURRICAN 2 8.49	WHEELS OF FIRE 6.99	CORRUPTION 3.99

NRG colour mag with Cybertoon — NRG — Bi-monthly to members. Don't miss it.

Biggest and Best.

Huge catalogue. Huge discounts.
Huge stocks. Huge staff.
Huge membership.

Biggest Value, Best Service

No obligation to buy

Free Colour Catalogue

Just phone our sales team on

0279 600204

Open to 8pm Weekdays and to 5pm Weekends

ANNUAL MEMBERSHIP
UK £6.00 EEC £8.00 WORLD £10.00
We only supply members but you can order as you join.

Gameboy, Tetris, stereo headphones, batteries, two player lead plus
FREE Gamelight and
FREE Special Reserve membership ...**69.99**

or

Gameboy, Tetris, stereo headphones, batteries, two player lead plus
FREE Holsters and Belt and
FREE Special Reserve membership ...**69.99**

or

Gameboy, Tetris, stereo headphones, batteries, two player lead, plus **Formula 1 Race game with four player adaptor** plus
FREE Gamelight and
FREE Holsters and Belt and
FREE Special Reserve membership ...**99.99**

Game Gear 99.99

FREE *Mains adaptor*
FREE *Special Reserve membership*

COLUMNS	16.99	PSYCHIC WORLD	16.99
DRAGON CRYSTAL	19.99	SHINOBI	19.99
G-LOC	19.99	SUPER MONACO GP	16.99
GOLDEN AXE	19.99	WONDER BOY	16.99
MICKEY MOUSE	19.99	MAINS ADAPTOR	14.99

COMPETITION PRO EXTRA COMBAT **7.99**
COMPETITION PRO 5000 WHITE **6.99**

QUICKSHOT 130F PYTHON **9.99**
QUICKSHOT 111A TURBO 2 **8.99**

DELUXE DISK BOX (HOLDS 80) **10.99**

ROCTEC EXTERNAL DRIVE FOR ST **54.99**

Atari ST Software

3D CONSTRUCTION KIT	25.99
3D POOL	7.99
3D TENNIS	7.99
4D SPORTS BOXING	16.99
4D SPORTS DRIVING	16.99
AFTERBURNER	6.99
ALCATRAZ	15.49
AMERICAN ICE HOCKEY	5.99
ARKANOID 2	6.99
ARMOUR-GEDDON	16.99
ATOMINO	16.99
AWESOME	16.99
BAAL	3.99
BALANCE OF POWER	7.99
BALLISTIX	3.99
BARDS TALE 1	6.99
BATTLE OF BRITAIN D/S	19.99
BEAST BUSTERS	16.99
BETRAYAL	19.49
BILLY THE KID	16.99
BLACK CAULDRON	5.99
BLOOD MONEY	6.99
BLUE MAX	19.99
CADAVER	16.49
CADAVER LEVELS THE PAY OFF	11.99
CAPTAIN PLANET	16.99
CAPTIVE	16.99
CARRIER COMMAND	7.99
CASHBOOK COMBO (CASHBOOK CONTROLLER & FINAL ACCOUNTS)	49.99
CHAMPIONS OF KRYNN	19.99
CHAOS STRIKES BACK	9.99
CHARGE OF THE LIGHT BRIGADE	17.99
CHASE H.Q 2 (SCI) D/S	16.99
CHUCK ROCK	15.49
COHORT FIGHTING FOR ROME	17.99
CONFLICT EUROPE	7.99
CORPORATION	8.99
CORPORATION MISSION	10.99
CORRUPTION (M/SCROLLS)	9.99
CRACK DOWN	6.99
CRUISE FOR A CORPSE	19.99
CRYSTALS OF ARBOREA	16.99
CURSE OF THE AZURE BOND (1 MEG)	19.99
DAMOCLES PLUS MISSION DISKS 1 & 2	15.49
DAMOCLES MISSION DISK 1	7.99
DEFENDER OF THE CROWN	7.99
DEJA VU	3.99
DEJA VU 2	7.99
DELUXE PAINT	42.99
DEMONIAK	19.49
DEUTEROS	16.99
DEVPAC V.2 (ASSEMBLER)	54.99
DGBASE (REL DATABASE)	34.99
DGCALC (SPREADSHEET)	29.99
DRILLER	6.99
DUNGEON MASTER	10.99
DYNASTY WARS	6.49
E-MOTION	6.49
ELF	16.49
ELITE	8.99
ELVIRA MISTRESS OF THE DARK	19.99
EPIC	16.99
ESWAT D/S	16.99
EXILE	16.99
EYE OF HORUS	3.99
F15 STRIKE EAGLE	7.99
F15 STRIKE EAGLE 2	21.99
F16 FALCON	10.99
F16 FALCON MISSION 2	9.99
F19 STEALTH FIGHTER	19.49
F29 RETALIATOR	16.99
FERRARI FORMULA 1	8.99
FISH! (M/SCROLLS)	3.99
FISTS OF FURY	19.49
FLAMES OF FREEDOM	21.99
FLIGHT OF THE INTRUDER	21.99
FRENETIC	12.99
FUN SCHOOL 2 (2-6, 6-8 or 8+)	13.99
FUN SCHOOL 3 (2-5, 5-7 or 7+)	15.49
GAUNTLET 2	6.99
GAUNTLET 3	16.99
GERM CRAZY	15.49
GODS	16.99
GOLDEN AXE	16.99
GOLF WORLD CLASS LEADERBOARD	6.99
GRAHAM GOOCH WORLD CLASS CRICKET	19.99
GRAVITY	8.99
GUILD OF THIEVES	7.99
HERO'S QUEST (GREMLIN)	16.99
HILL STREET BLUES	15.49
HILLSFAR	6.99
HITCH HIKERS GUIDE	7.99
HOLLYWOOD COLLECTION D/S	19.99
HOME ACCOUNTS (DIGITA)	19.99
HOUND OF SHADOW	8.99
HUNTER	19.49
IK+	6.99
IMMORTAL (1 MEG) D/S	16.99
INTERNATIONAL CHAMPIONSHIP ATHLETICS	15.49
INTERNATIONAL SOCCER	16.99
IVAN STEWARTS OFF-ROAD RACER	7.99
J. NICKLAUS GOLF	16.99
JIMMY WHITES SNOOKER	16.49
JINXTER (M/SCROLLS)	3.99
JUDGE DREDD	9.99
KICK OFF	3.99
KICK OFF 2 D/S	8.99
K/OFF 2 FINAL WHISTLE D/S	7.99
K/OFF 2 GIANTS OF EUROPE D/S	7.99
K/OFF 2 RETURN TO EUROPE D/S	7.99
K/OFF 2 WINNING TACTICS D/S	6.99
KILLING GAME SHOW	16.99
KINGS QUEST 4 D/S	12.99
KNIGHTS OF LEGEND	19.99
LAST NINJA 2	6.99
LEATHER GODDESSES	7.99
LEGEND OF THE SWORD	4.99
LEMMINGS	13.99
LEMMINGS DATA DISK	10.99
LIFE AND DEATH	16.99
LOGICAL	12.99
LOMBARD RAC RALLY	6.99
LOTUS ESPRIT TURBO	16.49
LURKING HORROR	4.99
MAGNETIC SCROLLS COLLECTION VOL.1 (GUILD OF THIEVES, FISH AND CORRUPTION) (1 MEG)	19.49
MANCHESTER UNITED EUR	15.49
MAUPITI ISLAND	16.99
MEGATRAVELLER 1	11.99
MEGLOMANIA	19.99
MERCHANT COLONY	18.49
MERCS	16.99
METAL MUTANT	16.99
MIDWINTER	11.99
MIG 29 FULCRUM	22.99
MONSTER PACK 1 (SHADOW OF THE BEAST, INFESTATION, NITRO) D/S	16.99
MONTY PYTHON	8.99
MOONSHINE RACERS	16.99
MURDER D/S	6.99
N.A.R.C D/S	16.99
NAM 1965-75	19.49
NAVY S.E.A.L.S	16.99
NEBULUS 2	16.99
OPERATION STEALTH D/S	16.99
OPERATION WOLF	6.99
PAINTWORKS (ART)	6.99
PAWN (M/SCROLLS)	3.99
PLANETFALL (BUDGET)	7.99
PLAYER MANAGER	7.99
POOL OF RADIANCE (1 MEG)	19.99
POPULOUS & SIM CITY	16.99
POWER UP (CHASE H.Q, TURRICAN, X-OUT, ALTERED BEAST, RAINBOW ISLANDS)	19.99
POWERDRIFT	2.99
POWERMONGER D/S	19.49
POWERMONGER DATA 1	11.99
PREHISTORIK	16.99
PRESIDENT ELECT (SSI)	5.99
PRINCE OF PERSIA	9.99
PRO TENNIS TOUR 2	16.99
PROTEXT W/PROCESSOR V5	94.99
R-TYPE	4.99
R-TYPE 2	16.99
RAILROAD TYCOON (1 MEG)	21.99
RAINBOW COLLECTION (BUBBLE BOBBLE, RAINBOW ISLANDS & N.Z. STORY)	13.99
RBI BASEBALL 2	19.49
ROADWAR EUROPA (SSI)	6.49
ROBIN HOOD	16.99
ROBOCOP 2 D/S	16.99
ROCKET RANGER	2.99
ROLLING RONNIE	16.49
RUGBY WORLD CUP	16.49
S.T.U.N RUNNER	9.99
SARAKON	13.99
SCRABBLE DE LUXE	7.99
SEASTALKER (INFOCOM)	3.99
SECRET OF MONKEY ISLAND (1 MEG)	16.99
SHADOW DANCER	16.99
SHADOW OF THE BEAST D/S	9.99
SHADOW SORCERER	16.99
SHADOW WARRIORS	13.99
SHADOWGATE	3.99
SHINOBI	9.99
SILENT SERVICE (SUB SIM)	8.99
SILICON DREAMS (LEVEL 9)	3.99
SILKWORM	5.99
SIM CITY & POPULOUS	16.99
SKYCHASE	7.99
SPACE QUEST 3 D/S	25.49
SPEEDBALL	7.99
SPEEDBALL 2	16.49
SPELLBOUND	3.99
SPY WHO LOVED ME	16.49
STARFLIGHT	8.99
STARGLIDER 2	3.99
STORM ACROSS EUROPE	19.99
SUPER CARS (GBH)	6.99
SUPER CARS 2	16.49
SUPER HANG ON	6.99
SUPER MONACO G/PRIX	16.99
SUPERBASE PERSONAL 2	79.99
SUPREMACY	19.49
SWAP	16.99
SWITCHBLADE 2	16.99
TEAM YANKEE	19.49
TEENAGE QUEEN	8.99
TETRIS	12.99
THE SIMPSONS	16.99
THUNDERHAWK	17.99
THUNDERJAWS	16.49
TOKI	16.99
TOYOTA CELICA GT RALLY	16.49
TURBO CUP (WITH CAR)	5.49
TURRICAN	7.49
TURRICAN 2 D/S	8.49
TV SPORTS (U.S) FOOTBALL	7.99
ULTIMA 5	19.99
UNINVITED	3.99
UMS 2 (1 MEG)	19.49
VENUS THE FLY TRAP	8.99
VIRTUAL REALITY VOL1 (MIDWINTER, STUNT CAR RACER, INT SOCCER CHALLENGE, CARRIER COMMAND, STARGLIDER 2)	19.99
VIRTUAL WORLDS (TOTAL ECLIPSE, DRILLER, CASTLE MASTER, THE CRYPT)	19.49
VIZ	13.99
VOYAGER	2.99
WAR ZONE	12.99
WARHEAD	6.99
WHEELS OF FIRE (HARD DRIVIN, POWERDRIFT, CHASE H.Q, TURBO OUTRUN)	6.99
WOLFPACK	19.49
WONDERLAND (1 MEG)	19.49
WORLD CHAMP SOCCER	13.99
WRATH OF THE DEMON D/S	19.49
WRECKERS	16.49
X-OUT	7.99
XENOMORPH	8.49
XENON 2, MEGABLAST	7.99

Sony DS/DD with labels
59p each or 21.99 for 50

XS NRG

costs £9.99 extra but saves you up to £120

Annual subscription to XS NRG is just ***£9.99*** to Special Reserve members only. The price includes:
6 demo disks of pre-release or latest titles.
6 sets of £20 money-off coupons, redeemable against top items bought from Special Reserve.
6 issues of XS NRG colour review magazine for Amiga, ST and PC users. Each issue is packed with reviews of new games (and some of the best older ones) and utilities.

18 reasons to buy ***XS NRG***
Enter **XS NRG** on the coupon below and pay **£9.99.**
UK only. Special Reserve membership is not included.

Win a CDTV and 2 Game Gears

Members only. See catalogue for details.

INEVITABLY, SOME GAMES SHOWN MAY NOT YET BE RELEASED.
Inter-Mediates Ltd. Registered Office:
2 South Block, The Maltings, Sawbridgeworth, Herts CM21 9PG.

WE ONLY SUPPLY MEMBERS BUT YOU CAN ORDER AS YOU JOIN. THERE IS A SURCHARGE OF 50p PER GAME ON TELEPHONED ORDERS. (PLEASE PRINT IN BLOCK CAPITALS) **STFORM**

Name _____
Address _____
_____
_____ Postcode _____
Telephone _____ Machine type _____
Enter membership number (if applicable) or Membership fee £6 UK, £8 EEC, £10 World
Item _____
Item _____
Item _____
Item _____

ALL PRICES INCLUDE UK POSTAGE & VAT £

Cheque/P.O./Access/Mastercard/Switch/Visa
Credit card expiry date _____ Switch Issue Number _____
Cheques payable to: **SPECIAL RESERVE**
P.O. BOX 847, HARLOW, CM21 9PH

Overseas Orders: EEC software orders - no extra charge
World software orders please add £1.00 per item.
Non-software items please add 10% EEC or 25% World.
Overseas orders must be paid by credit card.

MAGIC POCKETS

THE BITMAP BROTHERS

They've nicked his bike.
They've whipped his helmet.
This time they've gone too damn far…

NO ONE MESSES WITH THE BITMAP KID

features:

stacks of levels • heaps of weapons • swarms of intelligent nasties
bonus games • secret rooms • loads and loads of power-ups

C1, Metropolitan Wharf, Wapping Wall, London E1 9SS
© 1991 The Bitmap Brothers. Published by Renegade

www.stformat.com

WHISPERS

ST NEWS FROM ALL OVER THE GLOBE

● Anyone familiar with the Public Domain scene on the ST will be familiar with *Easy Text*. The cheap DTP package has recently handed in its amateur status and gone professional in a new release called (wait for it) *Easy Text Professional*. New additions to the program include: user defined fills; text alignment; typography settings (such as letter spacing); import and resize of GEM, IMG, TNY, PI3, PC3 files; a full screen text editor; column guides; link frames and tagging. *Easy Text Professional* is available now from ZZ-Soft, 25 Honeyhole, Blackburn, Lancs, BB2 3BQ ☎ 0254 672965.

● Sound Technology are now shipping *Polyframe*, a generic synthesizer editor from German company C-Lab. Up to three editing modules can be held in memory at one time. These modules can either be tailor-written synth drivers or an all purpose program which will be included in the package. Modules for the Korg M and T series are ready now, as is a Yamaha SY77/TG77 version. Planned drivers include the Roland U20/220, Oberheim Matrix and Ensoniq VFX, with further modules planned later on. *Polyframe* costs £310, and further modules cost £59. Sound Technology ☎ 0462 480000.

● Frontier Software's new RAM upgrade – available in capacities ranging from 1MByte to 4MByte – uses SIMM boards for quick and simple expansion.

● Frontier Software have announced an innovative RAM upgrade. Their new boards use SIMM (Single In-line Memory Module) technology, no matter which version of the ST you own. The advantage of SIMM RAM cards is that they can be slotted in and out when more memory is required. What's more, if and when a decision comes to upgrade to an STE, you can simply unplug the boards and bung them into your STE (that is if Atari stop soldering the flipping things in). 1MByte, 2MByte, 2.5MByte and 4MByte versions of the board are available now. The basic Xtra-RAM Deluxe board costs only £39.99, so if you've got some SIMMs lying around here's your chance to use them. Frontier Software, PO Box 113, Harrogate, North Yorkshire, HG2 0BE ☎ 0423 567140/530577.

● Evenlode Soundworks, distributors of the Steinberg range of MIDI equipment, have announced a new bundle called *StudioPac*. This comprises Steinberg's popular *Cubase* sequencing program and Midex Plus for £645. Midex Plus is a hardware unit which upgrades an ST to all format SMPTE sync, four MIDI outs, two MIDI ins and four expansion slots. Evenlode Soundworks, The Studio, Church Street, Stonesfield, Oxford, OX7 2PS ☎ 0993 898484.

Accelerator board could make your ST run ten times faster

Gadgets by Small, the company that produced the acclaimed Spectre GCR Macintosh emulator for the ST, have announced an accelerator board with a base configuration of 33MHz which enables an ST to run at speeds up to 50MHz, compared with an unexpanded speed of 8MHz.

The 68030 SST board is shipping from America now. It comes with 4MBytes of RAM built in SIMM format and you can expand this to an incredible 12MBytes by simply slotting in greater capacity boards.

The vast majority of applications work perfectly well with the accelerator board – but should a program crash it, it can be turned off from a pull-down menu. The board should be of interest chiefly to people who use their STs for extremely memory intensive applications such as DTP or music.

In terms of speed, the board can outstrip the TT by about 25%. It can speed up a standard ST by a factor of about ten. Use the board in conjunction with a Spectre GCR and you can easily outrun any Macintosh. In fact Dave Small, the board's creator, told *ST FORMAT* that "The only computer Apple have got which can outrun an ST with SST fitted is their Cray X/MP."

As Dave points out, "Lots of people can do accelerators if price is no object – let's say, hook an ST to a Cray X/MP. Doing something the ST market can afford is a seperate issue." For this reason Gadgets have managed to keep the price right down. The 33MHz board with a 68882 coprocessor and four MBytes of SIMM RAM costs $800 (about £450). Speed freaks can contact Gadgets by Small direct at 40 W Littleton Blvd, #210-211, Littleton, CO, 80120, USA, ☎ 0101 303 791 6098, Fax 0101 303 791 0253.

● Dave Small of Gadgets by Small is the chap who's responsible for the amazing Spectre GCR Mac emulator. Ever intent on pushing the ST to its limits, he's now designed a 33MHz accelerator board.

Future goes Public

Future Publishing, the most successful publisher of specialist computer magazines in the UK and the company that bring you *ST FORMAT* every month, are to launch a new magazine aimed at buyers of Public Domain software.

Cunningly titled *Public Domain*, the magazine will be a multi-format affair concentrating on the three major 16-bit machines: the ST and those other two. The £2.95 title will feature a specially developed tri-format 3.5 inch disk. This covermount will be crammed with PD and Shareware programs for these 16-bit machines.

The content of the magazine will be heavily review based, with around half the editorial covering Public Domain, Shareware and all the other associated forms of "near-free" software. Adam Waring, the magazine-to-be's editor, comments: "People's perception of Public Domain and Shareware software is that it's of low quality and cannot rival commercially available software. In many cases, they're absolutely right – but there are plenty of truly excellent programs out there, available for little more than the price of a disk. It's only through comprehensive reviews – and we'll have plenty – that people can be made aware of the worth of a package, whether it's PD or whatever."

It's not all reviews, though. There will be plenty of features too, covering all aspects of the Public Domain scene. The more complicated PD programs will be explained in detail, with walk-throughs giving step-by-step instructions on how to get the best out of your software.

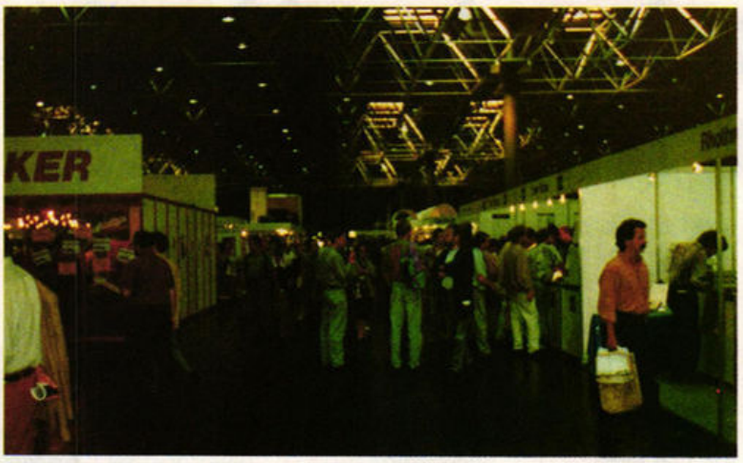
In order to raise the public's perception of PD and Shareware software, *Public Domain* is to be a high-prominence title. It will be full-colour throughout and will run to well over 100 pages. The magazine is to be bi-monthly and the first issue goes on sale on Thursday 3 October at a newsagent near you!

● Always turn to *STF's* Public Sector pages for news of cheap software? Then watch out for a new magazine full of it!

Gratuitous cheesecake of the month

● Seikosha, the printer company, certainly win our prize for most gratuitous publicity shot at the Dusseldorf show. Quite what leather clad ladies with long flowing tresses have to do with modems, we don't know.

www.stformat.com



● They take the ST very seriously in Germany – as any PD enthusiast can tell you, the Germans produce more "serious" ST applications than anybody – and the Atari show at Dusseldorf is one of the big events of the calendar. Atari's own stand was a sprawling affair that owed much to the Motor Show school of acre coverage.

Multi-tasking on the ST is a reality

ST owners needn't be envious of TT owners' getting a multi-tasking TOS (see main story, page 7), because a new program has been released which enables any ST owner to switch quite happily between different tasks running in memory.

MultiGEM is a German package being distributed in this country by Scotsoft. It can run on any ST, colour or mono. The only problem inherent with the system is that obviously you need lots of memory to run lots of different applications. The better DTP packages take up about 0.5MByte of memory, so you get far more use out of the program with a 2MByte or 4MByte upgrade.

MultiGEM runs as a background task, keeping tabs on each program and enabling the user to "hot key" (switch) into each of the different applications. Thus, if you've got a notebook Desk Accessory you can cut and paste text or graphics from program to program without saving them and quitting the previous application. *MultiGEM* costs £99 from Scotsoft International, 47 Auchingane, The Tryst, Edinburgh.

UK 2, Rest of the World 0

(Strangled Alastair Burnett voice:) and finally, here we go, here we, ermm, go

If you thought the Dusseldorf Atari show was all about computers and wonderful new wibbly things to insert into your ST's disk drive, then read on. During the course of the show, Atari played their very own European Cup football tournament, appropriately titled the "Sam Tramiel European Cup," with each of Atari's five European subsidiaries fielding 11 of its own Gazzas / Maradonnas / Tramiels.

The plucky UK side's first match was against the Benelux team, which had earlier beaten Scandinavia 5-0. After the UK team had been trailing one goal down for most of the game, Team Manager Darryl "Darryl" Still brought himself on as a substitute, scored the equaliser and the game ended in a draw. This meant that the UK needed to beat Scandinavia by five goals to qualify for the final. They promptly thrashed the Scandinavians 8-0, so that a final between the French and UK sides was in the offing as our Chunnel chums beat the Germans 6-0.

The final was a gripping affair, with the English side giving the French a right royal 2-0 bashing, thanks mainly to skill of Herpal Nijjer in midfield and Iain Fraser. After the match the UK side continued their celebrations in downtown Dusseldorf and continued to drink the continental chaps right under the Tafel.

ST Mouse Stick:
The Ratings say it all!

THE ULTIMATE CONTROLLER

For sophisticated simulation enthusiasts and those who want to get the most out of their ST, **Advanced Gravis** brings you the **PERFECT controller.** It feels like you are in the cockpit with programs like Proflight, F19, Mig29, Falcon, Indy 500 etc.
A professional quality, easily programmable optical joystick complete with 16k processing unit and LCD screen offering 1200 line count resolution on any screen, working perfectly on all simulations and applications with sensible mouse or joystick routines. No other controller comes even close to the **Mouse Stick** for performance, reliability, pleasure and ease of use.

SO TEST-FLY THE MOUSE STICK TODAY

Get a grip on the new **Mouse Stick** and discover just why it's lightyears ahead of the mouse, trackball or traditional joystick. Unlike a mouse, the **Mouse Stick** doesn't clutter your desk and doesn't require constant cleaning. And unlike a trackball, you don't need the dexterity of a cardshark to drag an item.
The **Gravis Mouse Stick** is one of the most technologically advanced and durable input devices available.
But don't worry. You can handle it.

ST Format Ratings 90%
Features 95%
More modes than a kitchen blender
Speed 96%
More responsive than a joystick and more precise than a mouse
Results 98%
Flawless! No compatibility problems, no quirks, just total control.
The competition
There's nothing comparable.....

ST FORMAT GOLD

Full technical support and 1 year guarantee. S.A..E or telephone for full details
Telephone (0272) 550900
FAX: (0272) 411052

RC Simulations
Unit 1b Bee Hive Trading Estate
Crews Hole Road,
St. George, Bristol BS5 8AY

DOUBLE DARE YOU.

Blue Max

ACES OF THE GREAT WAR

WWI Air Combat Simulation

Take control of one of eight classic WWI fighters and find out how good you really are. Fly with the best—Richthofen, Fonck, Mannock, Rickenbacher—and learn their tricks and techniques.

- Action dogfight, solo, and team missions for one or two players using a single computer with any combination of keyboard, joystick, or mouse.
- Strategy Dogfight: For the skilled purist, Blue Max acts like a highly-intelligent strategic board game, allowing you and your opponent to work out detailed battle sequences and play back the moves in "realtime" 3D.
- 8 airplanes to choose from, each with its own highly-detailed flying characteristics.
- Perform missions with, as, or against the Aces of the Great War.
- Dozens of historical missions around 4 different locations within France.

How strong are your nerves at 2,000 feet, with an armed Fokker DR.I on your tail? Forget glory, friend. Think survival.

VGA color air combat sequence

Strategy mode full screen with 3D Hexboard

• VGA 256 3D COLOR GRAPHICS, • ORIGINAL MUSIC, SOUND EFFECTS FOR GAME BLASTER, ADLIB SYNTHESIZER CARDS

DAS BOOT

GERMAN U-BOAT SIMULATION

Winter, 1941. The icy waters of the North Atlantic. The deeper you dive, the greater the pressure. Depth charges explode around you, banging on the hull of your U-boat like iron fists. Nerve and cunning make you the terror of the Allied convoys.

- 3D submarine warfare: For the first time, a sub warfare game lets you deal with threats below *and* above the surface in a true three dimensional environment.
- Real communications: Use the German Enigma coding machine to send and receive information.
- Many missions to choose from—into the North Atlantic and Arctic, inland along the coast of Norway, into the Bay of Biscay, and through the Straits of Gibralter.
- 3 different levels of difficulty, from beginner to realistic.
- 3D graphics in 256 VGA colors, with multiple internal *and* external camera views in a complete 3D world.

Do you think well under pressure? How about 300 pounds per square inch of pressure? Take a deep breath, captain....

VGA periscope view of enemy aircraft

VGA 256 color mine field under North Atlantic

NOW AVAILABLE ON THE ST

MINDSCAPE INTERNATIONAL

M I N D S C A P E

For your local dealer, contact: Mindscape International Limited, The Coach House, Hooklands Estate, Scaynes Hill, WestSussex RH17 7NG. Tel. 044 486 761
For further information on Mindscape products and new releases please call: 0898 234214

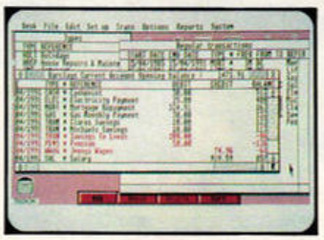
www.stformat.com

Home Accounts 2

the best gets better...

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

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



Which you did.

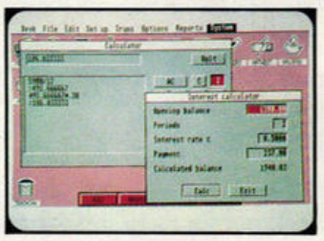
Some of you didn't like the restriction on the number of income accounts, expenditure types, and transactions. So we removed them.

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

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

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

Then, our technical people added a little . . .

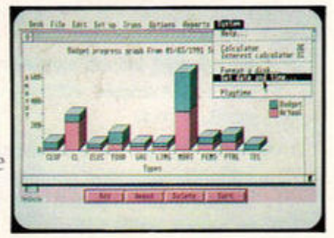


Investment accounts, net worth statement, password, cheque numbering, custom reports, flexible year period. And (to save you disturbing them on our free support hotline), an on-line help system, should you need it.

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

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

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



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

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

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

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

DIGITA® INTERNATIONAL

software thats right®

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

– A member of the Digita group –

Digita, the Digita logo, Home Accounts2 and the Home Accounts2 logo are registered trademarks, and *HIP, Human Interface Protocol* and *software thats right* are trademarks of Digita Holdings Ltd.
All other trademarks and their owners are acknowledged. Sold subject to standard conditions of sale E & OE

www.stformat.com

Previews

A wiser man than us once said: "Tutti fruity alrooti, tutti fruity, tutti fruity alrooti."

But then he'd probably never seen *FORMAT's* previews of up-and-coming games

ADVENTURE WITH A VENGEANCE

● **Listen up, Ratpouch, I'd like you to nip into that chemist's behind us and buy me a packet of herbal teabags. When the shop assistant asks you if you'd like anything for the weekend, smile and say "Only if they come in packets of three."**

It seems that quality does count for something. These days, it's the depth of gameplay in the latest software which lures the punters, not the depth of the box. This is proved by the success of titles like *Powermonger*, *F-19* or *Sim City*.

Revolution Software are a new company who have decided that quality in their games is what will make them sell. So for their first title, *Vengeance*, they have produced a graphic adventure which they believe will impress fans of Lucasfilm and Delphine games.

Vengeance is set in what Tony Warriner, one of the programmers, calls "Dungeons and Dragons land" – which you can take as meaning the Dark Ages. Sounds like wizards, princesses, goblins, jesters, monks and forboding castles aplenty!

The game has been developed using Revolution's own "Virtual Theatre" system, which offers some pretty groovy features, though all of these functions may or may not be fully implemented in the first game.

● The gameworld carries on, whether the main character is in action or not. For example, if you stand still in the town square, characters stroll on and off the screen en route to specific places to perform specific actions.

● Complex commands can be entered by means of pop-up menus. These replace the traditional adventure parser. In addition, other characters can be told to perform certain functions while the main player's character is off doing something else.

● All characters have their own individual characteristics. Thus, for example, if you insult people and then return to them later, they may or may not decide to speak to you. What's more, the ST-controlled characters talk to each other – offend someone and he might tell his friends!

● Besides being able to talk with other characters, you can eavesdrop on conversations. So if two people are chatting in the town square you can sidle up and pick up some interesting snippets of information.

Charles Cecil, Revolution's Managing Director, has ten years' experience of designing computer games and it was he who thought up the Virtual Theatre system. He told *ST FORMAT* that the game only runs on 1MByte machines, mainly because the guys didn't want to compromise their programming by dropping certain features.

What you can expect to see is over 50 detailed rooms, each offering different puzzles and character interactions, fighting scenes, heaps of samples (like *Powermonger*), loads of save game positions and a fair old pinch of humour.

Vengeance is due to be released around Christmas on the Mirrorsoft label, giving you plenty of time to whack in that RAM upgrade to be able to use it. Oh yes, and one final thing. When you do eventually buy the game, try not to annoy Ratpouch, who you find in jail – he's a useful chappie.

● **Is old Silas mad? Who is the mystery monk in the doorway? Where did he get his wonderful habit from? Why has Ratpouch got such groovy footwear? These questions, and many others, completely ignored in the next thrilling installment of So–... er, Previews.**

● **Oh right, so this poor geezer, hanging from a slimy dungeon wall by his wrists (and they only turned him the right way round last week) is really likely to tell you how to get out of the jail!**

VROOM WITH A VIEW

Isn't it embarrassing when software houses come up with ridiculous names for games? We thought we'd heard the worst with last issue's *Armour Geddon* and *Snott*. But no. Just imagine walking into Boots and asking, "Er, have you got *Vroom*?" You'd expect the assistant to say, "Vroom for what?"

Unfortunately *Vroom* is actually the name of Lankhor's upcoming driving game, distributed in this country by UBI Soft. Surprisingly, it was first advertised as long ago as the first issue of this august journal's late lamented predecessor, *ST Amiga Format*, back in July 1988 (as, incidentally, was *Maupiti Island*, reviewed last ish) – a case of a reincarnated proggie, or just a huge development time?

● ***Vroom*, Lankhor's new driving game, was originally going to be called "Vroom Vroom! Brrrrrr Rrrrrrrrr Eeeeeeeee! Screeeeee Nyawwwwwww Brrrrrrrr" but for obvious reasons it had to be changed – it wasn't nearly silly enough.**

From the demo, *Vroom* (wince) looks like being something special, if just because of the graphics. The track shifts at a phenomenal rate without losing too much detail, and there's no apparent loss of resolution as the trees and so on hurtle towards you. The other cars are well-detailed and the sound, so often a letdown in race games, is reassuringly realistic. All the usual options are offered – practice laps, qualifying rounds and the like – but of course the crucial thing is whether the game can keep you interested after you've circumnavigated the track several hundred times.

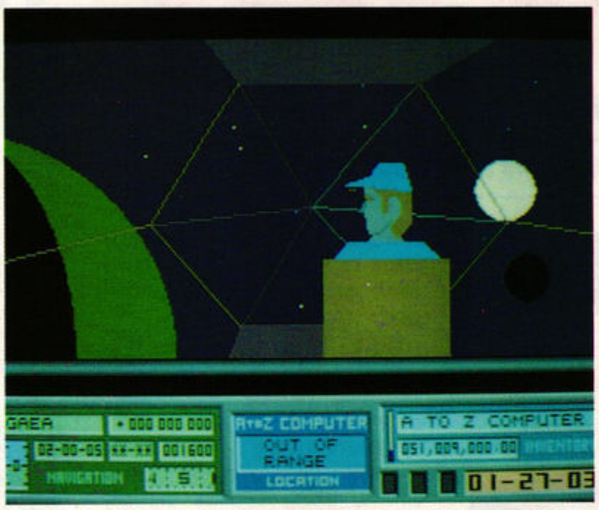
On first impressions the game looks to be a corker, but with the flood of driving games about to be released – Microprose's *Grand Prix Simulator* looking to be something special, too – it may have a hard time competing. *Vroom* is due at the end of the month, so look for our review next ish.

www.stformat.com

NO TIME TO CHAT, WE'RE IN IT FOR THE MONEY

As reported in *FORMAT* 24, *Damocles 2/Mercenary 3* is about to show its face. Since it was the original's 3D engine, not the puzzles, that took time to develop and write, the sequel has taken nowhere near so long to get together but promises to be every bit as good.

The main difference is the host of extra characters you can interact with – they're virtually sprouting from the walls: taxi drivers, casino owners and a geezer called PC Bil (yes, one L), from the original *Mercenary*. The other difference is that you're now incredibly rich, having saved Eris in *Damocles*, so you can afford to do all those things you simply couldn't previously, like whiling away your hours in a casino at a million credits a throw. Watch out for next month's in-depth preview!



● **In the time-honoured fashion of intergalactic taxi drivers, the esteemed ambassador of the Eris Black Cab fleet politely enquires as to the object of your journey, while simultaneously putting the meter forward a couple of hours. (Note: the Editor would like to point out that this is an Erissian taxi driver and bears absolutely no resemblance at all to those on Earth, honest.)**

GREMLINS TAKE ON A TURKEY

It's nice to see Gremlin taking the film licence race less than seriously. They've signed what is generally regarded as the worst film ever made, *Plan 9 from Outer Space*, which stars Bela Lugosi just before and after he died.

You don't have to sit through the film itself to know the storyline (such as it is) – the game comes with a video containing edited highlights and a guide. You see, this alien race, who have tried and failed to conquer Planet Earth eight previous times, come up with the devious Plan 9. This involves resurrecting recently deceased persons to make them stumble around with their arms outstretched. Brilliant!

But seriously, folks, the game is expected to be a huge arcade adventure with many digitised sequences from the film – but let's hope without the film's terrible ennui, else legions of people will be dropping off in front of their ST screens. Programmed by Pixel Productions (ex-Cinemaware), *Plan 9 from Outer Space* – the game – is due in April 1992, so don't cease your respiratory functions waiting for it.

● **Having failed eight times, the aliens decide to try *Plan 9 from Outer Space*. But can you spot the odd person out in this picture? That's right – that bloke in the middle has some very odd hair and is wearing lipstick. Next month – How to Kill Lice with Biting Wit Alone**

IN PRODUCTION

● Rainbird have finally announced the imminent release of a planet editor for *Universal Military Simulator 2*, promised – as you may (or may not) remember – over six months ago. The editor enables *UMS2* players to build entire globes chock full of landscapes, sea, cities and climates. Nations can be armed with all grades of weapons, from primitive to nuclear age, and alliances can be set up, so that when you get down to what you came here for – fighting – things can get really interesting. The utility is completely menu driven and uses the block system of the original game for ease of construction. Two extra scenarios are provided with the editor – South East Asia 1946-1964 and the Pacific during World War Two – but unfortunately it only works on 1MByte STs.

● *Populous 2* is almost here. It's currently being playtested – see our preview on page 40 for an exclusive low-down. *Populous* was the most successful title ever for the ST – Electronic Arts claim it sold 800,000 units across all formats, including consoles – and it's about to be released on EA's Star Performer range for just £10.99, along with *Magic Fly* and *The Immortal*, both *FORMAT* Gold titles. You've just got time for some practice before *Pop 2*.

● Gremlin's budget label GBH has signed a deal with Millennium to release ten of their titles. Already available are *Cloud Kingdoms* and *Kid Gloves*, to be followed later by *James Pond*, *Thunderstrike* and even (we hope) the *FORMAT* Gold *Resolution 101*. If these sell well (and they should) the agreement will extend to every Millennium title released, so you'll eventually be seeing the as-yet-unreleased *Robocod*, *Cybornetics* and *Robin Hood*.

A WILD OCEANIC ELVISH SORT OF DO

Among Ocean's stream of arcade conversions and film tie-ins comes one of their all-too-occasional original titles, *Wild Wheels*. The game is basically a simplified version of football played with cars and a bloomin' great orb thing. Starting off with the lowliest, most pathetic racer you can get, you pootle around the playing field trying to attract this orb (it's electromagnetic, you see). Score enough goals, by thwanging the orb over the appropriate area, and eventually you win a game. With the bonuses and credits you earn you can afford a better, faster and altogether sexier model of car to smash the opposition with. And that's all there is to it.

From the demo we've seen, the game appears to be good fun, combining the excitement of screaming round in a souped-up racer with the tactical element of trying to score goals. It may start a new trend of combining popular sports styles – how about cricket mixed with clay pigeon shooting?

There are plenty of other titles on the go, but you're unlikely to see many of them until much nearer Christmas. The biggie is, of course, *The Simpsons*, which is sure to sell like particularly warm confections even if it's more pathetic than *Plaza Patrol*. Other largish titles are *Hudson Hawk* and *Elf*. *Hawk*, being programmed by Special FX, looks more than a little similar to *Rick Dangerous* at first glance, featuring lots of small, well-animated and humorous graphics in a platform game with many separate elements. It looks like the finished game will be massive: there are around four stages to each level and nine levels (set in various scenes from the film) to complete. Ocean must be disappointed that the film did so badly; they undoubtedly hoped it would emulate the phenomenal success of *Batman* and thus help push the game.

● **The *Wild Wheels* players, to their amazement, discover the huge grey walnut that has invaded the playing pitch. But it's not in fact this that they're most worried about – what's making them sweat is the equally-big nutcracker that's not far behind...**

Elf is an airy-fairy arcade adventure full of twee creatures and ethereal backgrounds. The difference with this one is that the nasties are supposed to have the ability to become more intelligent as you progress, much like those in *Gods*, and you have some degree of control over the obstacles in your way. That doesn't necessarily help you, though – it just means you can get lost more easily. Can't wait.

LET US PREY

Those of you with greying hair and arthritic legs might well remember when *Birds of Prey* was first announced. It's a stonkingly huge, incredibly brilliant and wonderful flight simulator. At least, it had better be: it's been in development for over four years – or ten man-years, which certainly sounds a long time. The programmers, Argonaut Software, were the bods behind *Starglider 2* and – um, that's about all, really. The thing is, they take so darn long to write the things that it's strictly a one-game-every-five-years policy. However, *Birds* is now being debugged, so expect it – oh, sometime around 1994. In the meantime, watch for our extensive preview very soon. **stf**

● **That zany Argonaut crew in weak-link-to-game-title photo opportunity. From left to right: Rick Clucas, Ian Crowther, Adam Polanski, Chris Humphries, Giles Goddard, Danny Emmett, Pete Warnes and Jez San. And don't forget Harold "The Hawk" Hawk!**

www.stformat.com

BARGAIN HUNTER

YOUR MISSION

- This game's a doddle. Even for the inexperienced player.
- Simply track down the thousands of computer games equipment bargains at the Christmas Computer Shopper Show at Wembley.
- Select transport option: train (BR Wembley Central) tube (Wembley Park: Jubilee and Metropolitan lines) bus or car (ample parking).
- Arrive at the newly extended Wembley Exhibition Centre between 10.00 hours and 18.00 hours during the period: Thursday 5th December to Sunday 8th December.
- Once inside you'll find yourself in a maze of over 200 stands brimming with bargains.
- Now the real task begins: net more than you could ever dream of for your money.
- Bonus points: buy your tickets today and save money (up to £5.00) on the admission price and get a time bonus (beat the queues).
- You can't lose, but good luck anyway.

THE CHRISTMAS COMPUTER SHOPPER SHOW 1991

5-8 DECEMBER · WEMBLEY EXHIBITION CENTRE

Please send me: ___ Adult tickets at £4.50 (save £1.50). ___ Under 16's tickets at £3.00 (save £1.00). ___ Family tickets at £13.00 (save £5.00), admits up to 2 adults and 2 children.

I would like to pay by (please tick): ☐ Cheque made payable to BLENHEIM PEL, ☐ Visa ☐ Access ☐ Amex ☐ Diners

Card no. _____ Expiry date _____ Signature _____

Name _____ Address _____

_____ Postcode _____

Please return your completed order and full payment to: The Christmas Computer Shopper Show, BLENHEIM PEL, PO Box 2, Ellesmere Port, South Wirral, L65 3EA. Closing date for ticket application 29th November 1991.

BOOK NOW 051 357 1736

SF/1

SPONSORED BY COMPUTER SHOPPER MAGAZINE

www.stformat.com

The ST is just

***The Atari ST** is the perfect introduction to the world of computing. The power of the ST allows you to run "serious" applications as well as playing games, and the ST system is flexible enough to allow you to expand as you develop your interests and expertise in different applications.*

With so much diversity and power it is easy to see why the Atari ST family is one of the most successful ranges of computers in the world. But best of all is the built-in growth potential. The 520ST user of today is the TT user of tomorrow; beginning with games or a simple word processor, anyone can learn about computers and gradually acquire the skills of the professional computer user. And unlike many other systems, an Atari upgrade is not wasteful. Much of the software available for the 520ST will run on both the Mega STe and the TT systems. With an Atari an upgrade means that you can add new capabilities and expand your computing horizons without losing everything you have acquired along the way.

*If you thought that computers were all about playing games you've been missing out on the real potential that you and your computer have. To find out more about either the **Atari ST** or peripherals for any applications simply fill in the coupon and send it to Atari at the address below.*

*Whether you are looking for a leisure computer, an educational computer, a computer for all the family or a powerful business system, look no further than the **Atari ST Range.***

Please send me more details about the Atari ST and other products

NAME _____

ADDRESS _____

_____

POSTCODE _____

_____

Atari Corp UK Ltd, Atari House, Railway Terrace, Slough SL2 5BZ

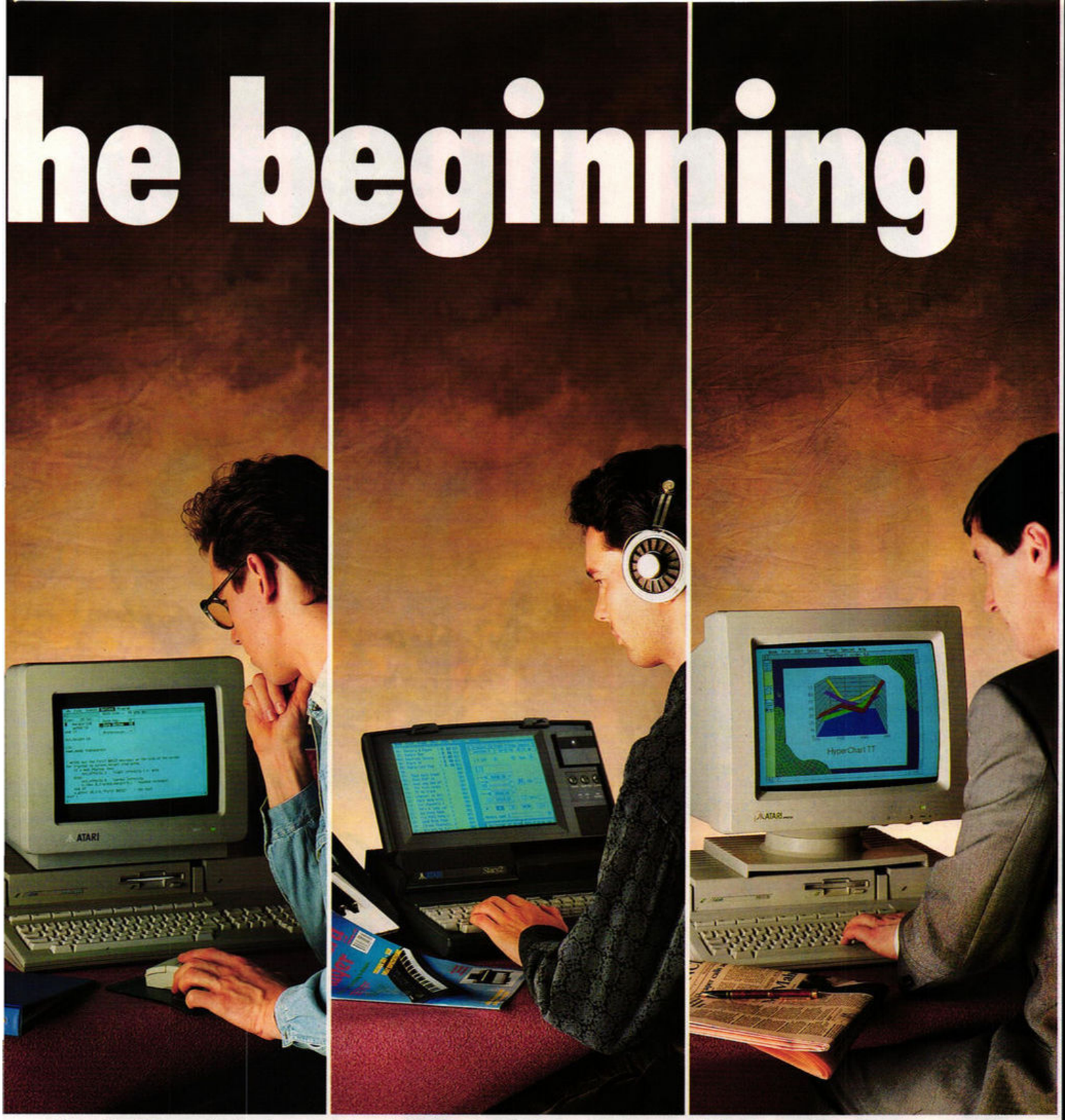
The Atari 520ST is an easy way for you and your family to learn about computers while having a great deal of fun. This best-selling computer has an impressive range of features that fit many requirements at home or in the office. A generous 512K RAM memory is included as standard - enough to run large spreadsheets and databases as well as the latest generation of computer games. There are plenty of expansion ports available for printers, modems, monitors and hard disk, and other peripherals allowing you to increase the power and flexibility of your system as needed.
MIDI expansion ports are fitted as standard. MIDI (Musical Instrument Digital Interface) is the music industry standard interface that allows you to control both recording and playback of synthesisers and other digital instruments with your computer.

There is no other computer range in the UK that can offer its users such a wide variety of software support, ranging from educational learning programs to 16-bit computer games to professional quality desktop publishing packages.

The ATARI ST

www.stformat.com

he beginning



e power of the new **Mega STe** range makes it a serious ntender for those who are after power computing. It is an al machine for the student or computer enthusiast who nts to run memory intensive applications such as mputer Aided Design (CAD) or graphics applications. e Mega STe features separate keyboard and central cessor with a 1MB floppy disk drive and a 50MB Hard ve for data storage. The Mega STe features a fast 16MHz erating speed, which can be switched to 8MHz to run any grams developed for the 520ST, making it even easier for u to upgrade.

those of you who want to run a 'home office' with arate files for word processing, spreadsheets and counts packages the Mega STe - with its vast amount of lt-in hard disk storage - is an excellent choice. For those ning graphics intensive programs the faster operating ed will make the Mega STe a much more productive chine. The Mega STe also features an extensive range of ansion ports that allow you to add even more power and ibility to your system.

The portable **Atari Stacy** is completely compatible with all monochrome ST programs, but allows for complete portability.
It features a supertwist backlit LCD mono screen, split horizontally and has all the standard ST ports. It is available in various configerations, with Hard disk as standard.
It weighs approximately 15.2 pounds and has its own carrying handle making it easy to transfer from place to place.
Because the ST, with its MIDI interface has become the accepted standard in the music industry, the Stacy is a boon machine for musicians with a busy schedule. Songs and sequences written at home can be stored on the built-in hard disk, then the whole computer can be easily transported to the studio or gig, with minimum stress, they can even be worked upon and improved on the road.
Although it is the most specialist member of the ST family, the Stacy is still versatile enough to be used for all serious ST applications.

The incredibly powerful **Atari TT**, at the very top of the Atari range, is the first in a new generation of high specification professional personal workstations based on the successful Atari ST standard. Similar in style and design to the Mega STe, the Atari TT features a separate keyboard, 1MB floppy disk, 50 MB Hard Drive and the same range of excellent expansion ports. The basic model comes configured with 2MB RAM which can be expanded up to a massive 26MB. With a Motorola 68030 central processor, the TT runs at up to 32MHz. But speed and power are not all the TT system offers the professional user. Six standard built-in screen resolution modes mean that there is always one suitable for the purpose that you have in mind. For animation or computer graphics, choose from a pallette of over 4,000 colours with the ability to display 256 on screen at any one time, and the exceptional 1280 x 960 pixel high resolution mode is one of the best screen modes available at any price.

– More than just great games

www.stformat.com

I'M COMIN' TO GET YOU!

ocean®

OCEAN SOFTWARE LIMITED · 6 CENTRAL STREET · MANCHESTER · M2 5NS
TELEPHONE: 061 832 6633 · FAX: 061 834 0650

ST Charts

"We can't all be heroes, because somebody has to sit on the kerb and clap as they go by." – Will Rogers.

● *FORMAT* Gold winner *Flames of Freedom* (AKA *Midwinter 2*) shoots into top spot in its second week in the charts.

● *Hero Quest's* Arthur the Barbarian says: "It's nice being at number 4, but I can't help feeling I'm being watched."

ST CHART CHAT

Let's do the time warp again! The charts we got from Gallup this month showed *Manchester United Europe* at number two and *Railroad Tycoon* at number five – odd, since these games haven't actually been released on the ST yet. Gallup offered the excuse that their computer got its barcodes mixed up and mistakenly registered the PC versions of these games as ST sales! Makes you a bit more suspicious of those barcode checkouts in supermarkets, doesn't it?

As usual, budget titles are actually outselling the full-price games – this month, the top six in the budget chart beat all comers. Definite pattern in the chart at the moment, though: the vast majority of the games are a cut above average. Something to while away the long summer evenings, perhaps? Anyway, nice to see *Flames of Freedom* in the top spot. Quality does count.

CHARTBUSTERS – WIN ANY GAME FROM THE TOP 30!

This has got to be a first. Someone actually predicted all the top three correctly. Step forward, **Barry Harmon** of **Kent,** you've blagged yourself a copy of *Flames of Freedom* (nice choice). Now, if you think you can predict next month's top three, bung your choices on a card, along with the month you're predicting for, the game from the charts which you'd like to win and (in case of a tie-break) your favourite ice cream flavour of all time. Then send the card to: Chartbusters, *ST FORMAT*, 29 Monmouth Street, Bath, Avon BA1 2DL. Nearest entry wins, employees of Future and their relatives may not enter, and multiple entries will be placed in a vat of tea bags until they turn into moths. Newcomers to consider: *Magic Pockets* and *Microprose Golf*.

	ST BUDGET TOP TEN	
1 ↔	Lombard RAC Rally Hit Squad	
2 ↑	Fantasy World Dizzy Code Masters	
3 NE	TV Sports Football Mirror Image	
4 ↓	Ninja Rabbits Micro Value	
5 ↑	Little Puff Code Masters	
6 NE	Pro Boxing Code Masters	
7 ↓	Xenon 2 Mirror Image	
8 ↓	North and South Digital Integration	
9 NE	Supercars GBH	
10 RE	Treasure Island Dizzy Code Masters	

	Last Year's Top Ten	
1 ↔	F19 Stealth Fighter Microprose	£29.99
2 ↑	Shadow Warriors Ocean	£24.99
3 ↓	Kick Off 2 Anco –	£24.99
4 ↑	Battle of Britain US Gold	£29.99
5 NE	Operation Stealth US Gold	£24.99
6 NE	Battle Master PSS	£24.99
7 NE	Back to the future 2 Mirrorsoft	£24.99
8 NE	BSS Jane Seymour Gremlin Graphics	£24.99
9 NE	Oriental Games Microstyle	£24.99
10 NE	Shadow of the Beast Psygnosis	£34.95

1 ↑	FLAMES OF FREEDOM	Rainbird	£29.99	*STF* 26: 92%
2 ↔	LEMMINGS	Psygnosis	£25.95	*STF* 24: 94%
3 ↑	GODS	Renegade/Mindscape	£25.55	*STF* 22: 92%
4 ↓	HERO QUEST	Gremlin Graphics	£25.99	*STF* 24: 78%
5 NE	RAINBOW COLLECTION	Ocean	£19.99	*STF* 82%
6 NE	ROBIN SMITH'S CRICKET	Challenge	£25.99	*STF* 44%
7 ↑	TEENAGE MUTANT HERO TURTLES	Mirrorsoft	£24.99	*STF* 19: 38%
8 ↓	ARMOUR GEDDON	Psygnosis	£25.99	*STF* 26: 91%
9 NE	F15 STRIKE EAGLE 2	Microprose	£24.95	*STF* 26: 90%
10 ↑	SUPER MONACO GRAND PRIX	US Gold	£25.53	*STF* 21: 71%
11 ↑	MONKEY ISLAND	US Gold	£29.99	*STF* 23: 94%
12 ↓	LIFE AND DEATH	Mindscape	£25.53	*STF* 26: 72%
13 ↓	PRO TENNIS TOUR 2	Ubisoft	£24.99	*STF* 24: 73%
14 ↑	SUPERCARS 2	Gremlin Graphics	£19.99	*STF* 24: 74%
15 NE	VIRTUAL REALITY 1	Elite	£29.99	*STF* 70%
16 ↓	SPEEDBALL 2	Mirrorsoft	£24.99	*STF* 18: 88%
17 ↑	SIM CITY/POPULOUS	Infogrames	£29.99	*STF* 12:92% *STF* 10: 92%
18 ↓	KICK OFF 2	Anco	£24.99	*STF* 14: 92%
19 RE	WONDERLAND	Virgin	£30.64	*STF* 24 85%
20 ↑	VIZ	Virgin	£19.99	*STF* 21 74%
21 NE	FLIGHT OF THE INTRUDER	Mirrorsoft		
22 ↓	FINAL WHISTLE	Anco		
23 ↓	CHUCK ROCK	Core Design		
24 ↓	POWERMONGER	Electronic Arts		
25 ↓	TOKI	Ocean		
26 ↔	ATOMIC ROBOKID	Activision		
27 RE	CYBERCON 3	US Gold		
28 RE	BRAT	Mirrorsoft		
29 ↓	F19 STEALTH FIGHTER	Microprose		
30 RE	SUPREMACY	Virgin		

Main charts: ↑ = up, ↓ = down, NE = new entry, RE = re-entry. *STF* = issue and score of review in *ST FORMAT*. charts are compiled and supplied by Gallup. © 1991 European Leisure Software Publishers Association Ltd

www.stformat.com

LOAD IT!

LORDY IT'S A BIG 'UN, INNIT?

This month there are no less than nine programs for you to experiment with, play or generally go ga-ga over. Crammed into the little spaces on your Cover Disk you'll find enough data to keep you busy until the next action-packed Cover Disk hits the streets in a month's time. Where else can you get so much?

OFFSIDE, REF! OFFSIDE!

Everybody's heard the horror stories, but no-one had the solution. Until now. *ST FORMAT* is the only magazine which caters for both single and double-sided drive owners. With our Cover Disk, you know you can always read at least the first side, no matter what type of ST you have, what age it is or where you got it! Now is that egalitarian, or what?

A DISK TOO FAR...

It seemed an impossible problem. How can two types of drive read entirely different data from the same disk? Rob Northen was the disk duplicating supremo who finally conquered the hardships, sold himself to medical and disk science and came up with the stunningly named *ST FORMAT* format. With this, everyone had total access to the world's greatest Cover Disk.

DOES IT WORK?

If you own a double-sided ST then you won't even notice the disk magic being performed. That's intentional! You'll find everything which is stored on the flipside of the Disk stashed away in the folder called Side_2. If you can open this then you haven't got a care in the world. Just get in and get playing.

I CAN'T GET IN!

If you try to open the Side_2 folder and get a rude message telling you about damaged data, don't worry. Your ST is just telling you in its own subtle way that it's only got one side on its drive, and have you thought about upgrading? Just click on "OK" and you can still access the folders on Side 1 as normal.

TAKE TIME TO BE SAFE

Whatever your ST setup, you can't afford to take risks. FORMAT's Cover Disk is guaranteed virus-free – our duplication master disks are tested personally by the Tech Ed himself. But this doesn't make it fireproof. If the write-protect tab on the disk is left enabled (closed), then viruses can gain access to the disk. Protect your Cover Disk as soon as you buy it, by opening the tab and backing it up. It's the only way to be absolutely sure you're safe!

What's on this month's all-action Cover Disk? Neil Jackson is your guide.

Cover Disk 27

ST FORMAT COVER DISK

ON THE DISK THIS MONTH

SIDE 1

ROLLING RONNIE – Roller skating madness in a fully-playable demo from Virgin Games

ST WRITER ELITE VERSION 4 – The best Public Domain word processor there is

SHOWMEM Version 4 – Find out where your memory's gone

N_SYSCOM – Watch your ST's secret instructions as they run

SIDE 2

ST TOOLS – Control your files with this box of directory tricks

SPIRO – Put your pens and plastic wheels away! Use this Spiral Pattern Generator instead

GEMVIEW – The ST's all-encompassing picture viewer for mono monitors

SYSMON – Intercept your ST while it works. Find out what's really happening

CLOCKSET – Lost track of time? Get your clockwatching in time with reality

Rolling Ronny

BY: VIRGIN GAMES
SIDE: 1
MACHINE: ALL COLOUR STs
RESOLUTION: LOW ONLY
FOLDER: ROLLING.RON
FILES: RR.PRG, A.DAT, B.DAT, C.DAT
GET STARTED WITH: RR.PRG

Welcome to *Rolling Ronny*, the Virgin game with wheel appeal, created by Virgin's German developers, Starbyte. Now's your chance to make a great skate or fumble and flounder. Join Ronny on his trail across town, on his mission of derring-do and doing good. Can today's errand boy be

tomorrow's superhero? Load it and find out...

Ronny is like most other dudes: normal. Except for his feet. Ronny is never seen in public without his wheels on. He spends his days wandering around town, aiding passers-by and collecting the trinkets he finds littered around the pavements, trying to gather enough cash to catch the next bus.

Today, Rolling Ronny has a problem. There's been a theft at Fieldington's Exhibition Hall. A jewel thief has made light on his toes and scarpered with a collection of top-price sparklies. Can Ronny make it to Scotland Yard to notify his old mate Inspector Cuff *and* pick up the scattered gems along the way? 'S down t'you, really!

The rules of the game are simple. Don't get hit by anything, 'cos that costs you energy. Energy is displayed as a row of hearts which lose their colour when they're expended. Above the energy bar is the fruit-flinging fire-o-meter which gives an idea of the number of shots you've got left. "Shots?" you say. Yes, but they're just bits of puréed fruit – all good, clean, biodegradable stuff. Ronny uses them to stop some baddies and turn stars into coins for use on the bus.

With a joystick plugged into Port 1, push right when Ronny appears at the edge of the town. You can make him reverse by pushing in the opposite direction, or you can make him jump or duck by pushing up or down. The "Fire" button controls your use of fruit-fire.

As you pass the buildings, you notice there are small square boxes hanging by the windows or dangling from the gutters. These are the jewel boxes – just leap onto these to gather them up for a special pat on the head from Inspector Cuff. You can use the window ledges, gutters and canopies to clamber over. If you're lucky you may even find a ladder which you can climb by pushing up.

As you go, keep an eye on your timer. Spend too long dawdling and you miss the bus to the next level, letting the crook get away. If you've got free time (fat chance!), then look for extra ways of earning cash. Sometimes money just falls from the sky when you trigger a hidden bonus, but most of the time you have to earn it. That means shooting stars or other objects destined to hit you and turning them into coins.

If you're still brassic when you near the end, look for lost property to deliver (the exclamation sign), or a job to apply for. There's even a shop where you can

I JUST KEEP ROLLING ALONG

www.stformat.com

CLOSE-UP ON RONNY'S COLLECTABLES

All kinds of weird and wonderful items can be found lurking around in *Rolling Ronny*. Here's the most important

Surprise! – Random goodie

Health bonus

Time bonus

Energy bonus

Jewel Cases

End of level – catch that bus!

Lost Property – return a lost item

Coin (one penny)

Job vacancy – run an errand

Shop – buy some goodies

Power Sneeze

Stenchaliser

Superjump

MegaHonk

Magnetoflux

buy more time if you can afford it. If you find them, there are a number of extra-special items which you can use to speed up your task. You can recognise these objects by the way they appear in your main panel when you pick them up. They can be triggered by using the corresponding function key. Megahonks give you invulnerability, superjumps make you leap, stenchaliser shooes baddies and the magnetoflux attracts metal things towards you. Other special items to collect include bonuses to health and time. Check the panel to find out what they look like. Then, get your skates on...! (It had to be said, dinnit?)

But finally, a word of warning. Look where you're going. Ronny can only skate on flat, dry surfaces, like pavements, roads and windowsills. He can't fly (though he can jump pretty well), nor can he skate on grass. You need to keep watching for pitfalls under your feet. Lose your balance and precious time and energy are lost forever as you're whisked up by the magic balloon. Press "Fire" to drop yourself down when you've repositioned yourself.

● ***Rolling Ronny's*** **in-built help mode shows you what the meters are all for. Keep an eye on your time and your route and you might just have time to work it all out.**

Clocksetter

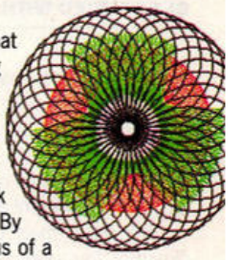
BY: CODEHEAD SOFTWARE
SIDE: 2
MACHINE: ALL STs
RESOLUTION: ALL RESOLUTIONS
FOLDER: CLKSET
FILES: CLOCKSET.PRG, CLOCKSET.TXT
GET STARTED WITH: CLOCKSET.PRG

Clocksetter, not surprisingly, sets the internal clock inside your ST. If you have a battery backed-up clock, then *Clocksetter* reads and displays the current time when you run it. But if you don't have a clock, your ST defaults to the same date and time, every time you switch off. With *Clocksetter*, you can enter the correct time at boot-up, so that files and documents are saved with the correct time and date stamp.

Just copy *Clocksetter* into a folder named AUTO on your boot disk. Use this disk every time you start up your ST and *Clocksetter* runs automatically. All you need to do is enter a time and that's that! For more information, read the file CLOCKSET.TXT – just double-click on it and select SHOW (or PRINT to print it).

Silly Spiro Generator

BY: DAREK MIHOCKA
SIDE: 2
MACHINE: ALL STs
RESOLUTION: ALL RESOLUTIONS
FOLDER: SPIRO
FILES: SSG.PRG
GET STARTED WITH: SSG.PRG



Remember that strange drawing toy called Spirograph? You do? Well, *Silly Spiral Generator* is an up to date rethink of the same idea. By adjusting the radius of a circle or two and choosing a pen colour, you can make fascinating patterns on screen.

● **These are examples of the kind of patterns you can create using the *Silly Spiro Generator* on this month's Cover Disk**

When you first load SSG.PRG, you see a dialogue box with several alterable fields. The two radii correspond to the size of the imaginary Spirograph wheels, while the Increment determines how straight the connecting lines become. You can change the colour of the ink on screen as well as join up the dots to make smooth, continuous patterns. When you've entered some stats for starters, hit Draw and watch as the pattern unfolds in front of your very eyes. You can pause the drawing using the Spacebar, or return to the dialogue screen by pressing <Esc>. When you return, you can select a whole new range of statistics, and carry on drawing. The display only clears when you press the Clear button, so you can overlay all kinds of different patterns in various colours.

● ***Silly Spiro Generator's*** **main display is where you adjust the two circles which combine to make the final pattern. The pattern draws continuously until you hit <Esc> (to exit) or Space (to pause)**

So say goodbye to your plastic wheels and smudged ink. The new age of technology is at hand. Let your ST do all the work while you take all the credit!

● **Here's a taster of the start to *Rolling Ronny*. Watch out for the traffic by making sure you jump well clear of any oncoming cars. Standing on a windowsill may save you, but only if you're high enough up.**

www.stformat.com

ST Tools

BY: STEPHEN CORNIO
SIDE: 2
MACHINE: ALL STs
RESOLUTION: MEDIUM & HIGH
FOLDER: TOOLS1
FILES: ST_TOOLS.PRG, ST_TOOLS.RSC, ST_TOOLS.DOC
GET STARTED WITH: ST_TOOLS.PRG

ST Tools is a shareware program, which means that if you use it and find it regularly helpful, you are honour-bound to make a donation to the programmer. Check out the panel opposite for details on how to contact him.

ST Tools' main display includes a directory tree and a listing of files by directory. As the name implies, the program is a set of tools for use on the Atari ST. It can list File Allocation Tables, Hex dump files, sectors or memory, as well as search files, sectors or memory. The program is entirely GEM based, with the standard drop-down menus, scrollable windows and dialogue boxes.

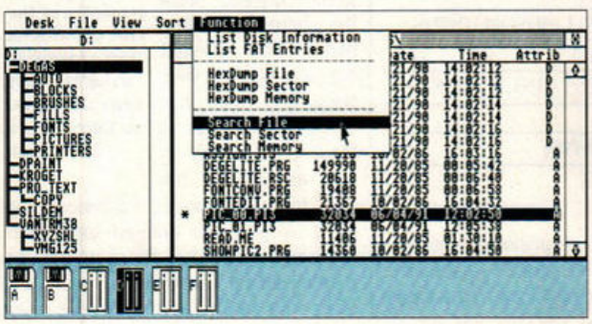
Disk icons representing each floppy disk and hard-drive partition as well as any RAMdisk are displayed across the bottom of the screen. The current disk is indicated by a highlighted icon. To make a different disk become the current disk, simply click on the desired icon.

The main display consists of two windows. The left window is a directory tree of the current floppy or hard-drive partition with the current directory indicated by a highlighted line. The right window is a list of files, including directories, found in the current directory, with the current file indicated by a highlighted line. When the program starts, the left window is active. To make the file window active, simply click in the right window or press the right arrow key. To return to the directory window, either click in the left window or press the left arrow key. To change the current directory when in the left or directory window, you can click on the desired directory or use the slider or use the up and down arrow keys. The same methods work to change the current file when the right or file window is active. Note that clicking on a file causes that file to be selected. This is indicated by an asterisk (*) in front of the file name. To deselect a file, simply click on the file a second time. Selected files are important whenever a file function is performed. If no files are selected, then the function starts at the current file and all files in the directory are accessible. If any files are selected, then only those files are accessible by the function, in the order that they were selected.

Normally the file window shows the filename, size, date, time of last modification and file attributes. Click on the full window button and the file window is expanded to cover the directory window and the first cluster and sector of the file is also displayed. Click again on the full window button to return to the normal size file window.

Across the top of the screen is a standard menu bar. All of the program's features and functions are accessed by using the drop-down menus contained on this menu bar.

Stashed away in the documentation file ST TOOLS.DOC in the TOOLS1 folder you can find all the in-depth instructions required to get the most out of *ST TOOLS*. Have a good read before attempting anything which may wipe data from disks. We cannot be responsible for disasters you cause!



● ***ST Tools* is the very best in disk navigation. Don't get lost and find yourself stranded up the directory tree. Get *ST Tools* to guide you through**

Gemview

BY: DIETER FIEBELKORN
SIDE: 2
MACHINE: ALL STs
RESOLUTION: ALL RESOLUTIONS (not low & med on TOS 1.2 machines)
FOLDER: GV
FILES: GEMVIEW.PRG, READ.ME
GET STARTED WITH: GEMVIEW.PRG

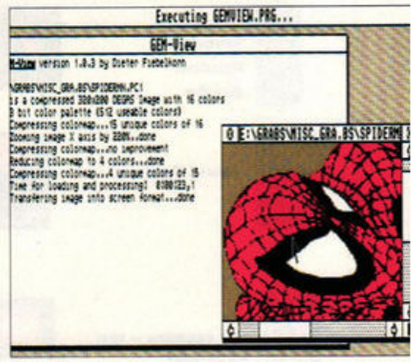
Gemview is an all-encompassing picture viewer program. It can load and display loads of different picture file formats regardless of resolution. For example, you can view *Degas* low res pictures on a monochrome high resolution screen, or check out Spectrum 512 colour images in medium resolution. Unfortunately there is a bug which prevents TOS 1.2 STs from running *Gemview* correctly in medium or low resolution, but it's okay in high resolution. STEs and TOS 1.4 machines work fine in any resolution.

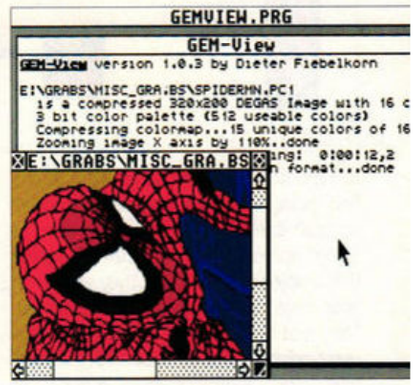
When you first load *Gemview* a dialogue box appears, followed by a fileselector window. Set the fileselector so that it can find your picture files and then choose one from your list. The fileselector disappears and the dialogue box shows that *Gemview* is working on the file. If the chosen picture is meant for a different resolution, *Gemview* attempts a compression of the colour palette, so that it can be displayed on-screen.

After a short time, a GEM window appears, containing your picture. You can move the window around, just like any other GEM window, or resize it using the drag icon in the corner.

Other operations are fairly intuitive. Pressing and holding the right mouse button inside the window causes the picture to be scrolled around directly under mouse control. Press and drag a rubberband box with the left button in the picture window to bring up a new dialogue box where you can change various elements of the picture or zoom into part of it. You can even re-save the picture in the new resolution.

A few more details can be found in the file READ.ME which contains help from the programmer.





● ***Gemview* can display virtually any picture, in any resolution. These three pictures show the same Spiderman shot in low, medium and high resolution.**

SHAREWARE CONTRIBUTIONS

***ST Tools* is a shareware program, which means the programmer receives no money directly from software houses and pays for development himself. For this reason, if you use *ST Tools* regularly, you are honour-bound to make a small donation to the programmer. If you send around ten US dollars, you become a registered user and receive advance notification of further updates and improvements which get made to the program. Here's the address:**

Stephen Cornio
PO Box 1734
Woodbridge,
VA 22193,
United States

Don't just turn the page! Shareware is a risky business for programmers. Without your help, they won't keep writing good programs for next to nothing, will they?

A GALLERY OF FORMATS

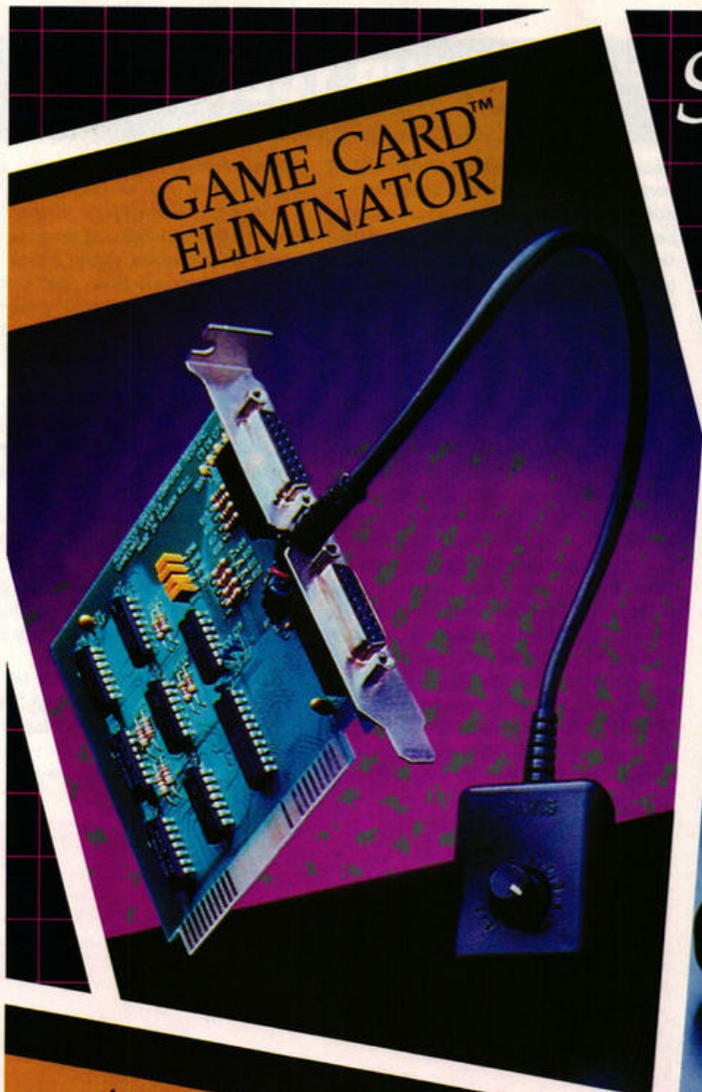
***GEMVIEW* can display all these picture file formats:**

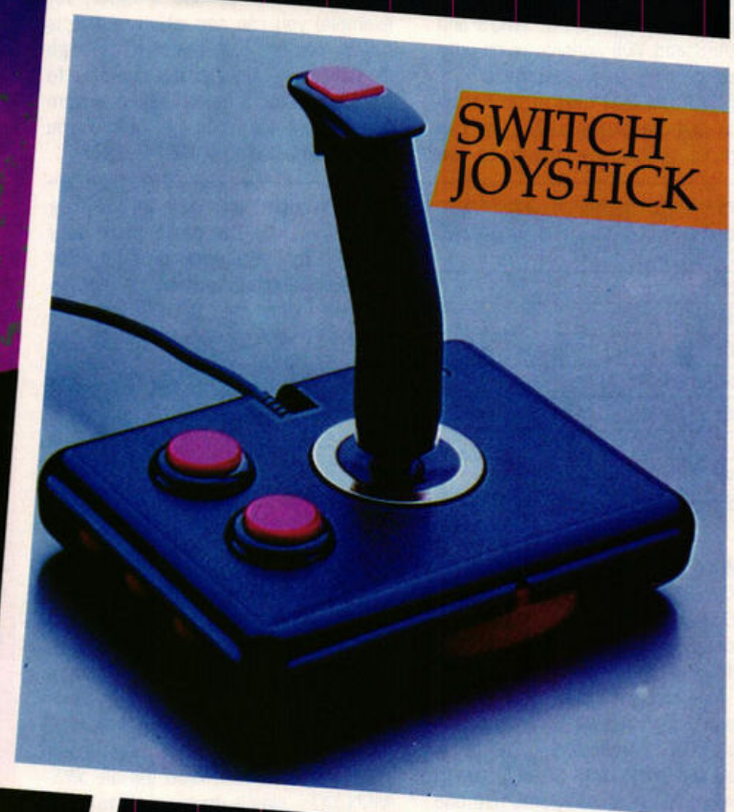
FILETYPE	FILE EXTENSION
DF Rasterfiles (Programmer's own format)	*.PDF
GIF Images	*.GIF
Sun Rasterfiles	*.SUN
STAD Images	*.PAC
IFF Imagefiles	*.IFF
GEM-(X)Image Files	*.IMG
GEM-Metafiles (Vector)	*.GEM
Neochrome Rasterfiles	*.NEO
Art-Director Rasterfiles	*.ART
Degas Images (also with a 4-bit colour palette)	*.PI1, *.PI2, *.PI3
(compressed)	*.PC1, *.PC2, *.PC3
Tiny-Compressed Images (with a 4-bit colour palette)	*.TN1, *.TN2, *.TN3, *.TNY
Doodle Monochrome Rasters	*.DOO [640x...]
Spectrum 512 Images (also with a 4-bit colour palette)	*.SPU,*.SPC
X Bitmap-File (a bitmap C-Source description)	*.XBM

www.stformat.com

Simply the Best ...

Advanced GRAVIS





The highly acclaimed Canadian joystick range, Gravis, which is now available in Britain, is the epitome of class.

The features are all very impressive but the real quality comes in the way the Gravis looks and how it responds to touch, in much the same way that the doors of an expensive car sort of click shut and the engine purrs into life, leaving the impression of controlled but vast power.

GRAVIS JOYSTICK

* 8-Position Tension Control
* Microswitch Fire-Buttons
* Independent Function Fire-Buttons
* Foam-Padded Grip
* Six-Foot Connector Cable
* Black or Clear versions available
* Models available:
  Analog versions for IBM PC and Compatibles; Apple 2
  Switch versions for Amiga/C64 and Atari ST; Sega; Nintendo

ELIMINATOR GAME CARD

* External Potentiometer Adjuster (operate up to 33 MHz)
* Includes 'Gravtest' Joystick Calibration Disk
* Dual Joystick Ports
* Available for IBM PC and Compatibles
* PS2 (MCA) version also available

SPECTRAVIDEO, UNIT 27 NORTHFIELD INDUSTRIAL ESTATE,
BERESFORD AVENUE, WEMBLEY, HA0 1NU, ENGLAND
TELEPHONE: 081 900 0024 FACSIMILE: 081 903 6625
SALES HOTLINE: 081 902 2211

SPECTRA VIDEO

www.stformat.com

N_SYS_COM

BY: NOUD VAN KRUYSBERGEN
SIDE: 1
MACHINE: ALL MONO STs
RESOLUTION: HIGH ONLY
FOLDER: NSYSCM
FILES: NSYSCOM.ACC, NSYSCOM.TXT
GET STARTED WITH: NSYSCOM.ACC (in your main directory)

With *N_SYS_COM* you can get a closer look at what your ST is doing. You can see all the GEMDOS, BIOS, XBIOS and GEM (AES and VDI) actions which your ST is processing, listed on screen.

N_SYSCOM.ACC runs as an Accessory in high resolution only. You can change its settings by clicking on the "System Command" menu. You can choose between showing or not showing the system commands, so that *N_SYSCOM* can be constantly loaded but only enabled when you want it. You also decide the position on screen where you want the display to appear: "Top" means at the top of the screen, "Menu" means just under the menu bar and "Bottom" means at the bottom of the screen.

When you select a display line, your ST returns to normal, except for the fact that every time a GEMDOS or other system-level routine is called (when you open a window or use a menu, for example) you can see which routine is called. You can follow your ST through its day-to-day running and use this to learn more about the operating system itself. Read the .TXT file before you begin, and remember: high res only.

SYSMON

BY: GRIBNIF SOFTWARE
SIDE: 2
MACHINE: ALL STs
RESOLUTION: MEDIUM & HIGH
FOLDER: SYSMON
FILES: SYSMNCFG.PRG, SYSMNCFG.RSC, SYSMON.PRG, SYSMON.TXT
GET STARTED WITH: SYSMON.PRG

SYSMON is a program similar to *N_SYSCOM*, but for colour ST owners too. Unlike *N_SYSCOM*, the display is a little untidy, but the functions are virtually identical. *SYSMON* can intercept all calls done through the CPU's trap vectors and display meaningful information about what parameters are being passed and what values are returned to the caller. Since all programs use one of the system's trap calls at one time or another, this can prove to be very valuable for debugging programs for which no source is available. It can also help to point out possible conflicts between existing programs and the one being tested.

SYSMON consists of two programs. SYSMON.PRG is the main program to run first. It installs itself in memory and then quits. SYSMNCFG is the configuration program. It can be run as either a program (with the .PRG filename extension) or as a Desk Accessory (with the .ACC extension). This is the program which sets up *SYSMON* and tells it which operating system functions to display and intercept. SYSMNCFG requires that its resource file (SYSMNCFG.RSC) is in the same location as wherever it is run from.

For detailed info on configuring and modifying *SYSMON*, read the file SYSMON.TXT – simply double-click on it.

THE DISK NEEDS YOU!

We need *your* software – games, utilities, demos – anything good, original and short. If you've written anything worthy of the *ST FORMAT* Cover Disk, send it with this form and full documentation to: Neil Jackson, *ST FORMAT* Cover Disk Editor, 30 Monmouth St, Bath, Avon BA1 2BW.

Name _____
Address _____
_____
Daytime phone _____
Program title _____
Size of files in K _____
So why's it so flipping smart? _____
_____
_____

Don't forget to: ■ Include on-disk and paper documentation ■ Write your name and address on the disk ■ Use a virus-free disk ■ Keep a copy of your program, because contributions are non-returnable ■ Enclose wads of cash

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 _____

BACK UP YOUR DISK!

Because the *ST FORMAT* Cover Disk is non-standard, 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 mangle your Cover Disk. And then where would you be?

1. Format a couple of blank disks (you may not get all the data onto one) – single-sided if you've got a single-sided drive, double-sided if you have a double-sided drive.

2. Write-protect (notch open) the original Cover Disk and insert it into the drive (if you have two drives, you lucky devil, insert the Cover Disk into drive B). Double-click on the drive B icon to open a window showing the Cover Disk contents. If you haven't got a second drive, a message appears requesting you to put disk B in drive A. Simply click on OK and carry on with this procedure.

3. Insert one of the blank formatted disks into drive A (removing the Cover Disk if you have only one drive). Double-click on the drive A icon and open up another window. You may be asked to insert disk A in drive A – you already have, so just click on OK again.

4. Highlight each folder in the drive B Cover Disk window and drag them into the drive A window, one at a time.

5. If you have one drive, you're 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 incomplete folder and any subsequent folders onto the second freshly formatted disk, using steps 3 and 4 above.

7. Double-sided owners, double-click on SIDE_2 once you've finished copying all the folders from side 1 of the Cover Disk. Copy the folders inside as you did in steps 3 and 4. When it's finished, use only the backup. Put your Cover Disk away safely.

8. Don't forget, you must not try to use the standard Atari disk copy function (dragging Floppy A onto Floppy B) to back up your Cover Disk – because of our special format, it won't work.

Skating on thin ice? Going in circles? You need...

COVER DISK HOTLINE 0225 442244

WEDNESDAYS (2pm to 6pm)

Having trouble with your Cover Disk? This is what you do. First, before you try anything else, please make sure you have thoroughly read all the relevant parts of these Cover Disk pages and all documentation files. If that doesn't solve your problem, try consulting your Atari ST Owner's Manual, which may help you find what you're doing wrong.

If all else fails, give us a buzz in the *ST FORMAT* offices during the hours specified and we'll do our best to help. However, we don't write the Cover Disk programs ourselves, so we may not know everything the programmers do. Try to have your ST nearby (up and running), and let us know which model ST you have, plus the issue number of the Cover Disk that's giving you hassle. Do this before you call, and it might save you a large phone bill when we go tell you to go back and find out! And please: Cover Disk problems *only*.

WHAT'S UP, DOC?

Included in some of the folders on the Cover Disk there's a documentation file containing notes from the programmer, or an upgrade/contributions address, or operational hints and tips. These are always worth reading, or printing out if you have a printer, because *FORMAT's* Cover Disk pages often skimp on the highly-detailed aspects of a complex program, especially if there are DOCs present on the Disk.

Documentation files are usually named something like README.DOC or PROGNAME.TXT. To read them just double-click on the file icon and you see a dialogue window appear. This says something like "You can only show or print this document." Click on SHOW and your ST displays the file on-screen. (This is usually more readable in medium or high resolution, even if the program runs in another resolution.)

Click on PRINT and your ST sends the file to a printer – if there's a printer connected and set up correctly. Be careful that you don't click on this if you don't have a printer, or you may cause your ST to "hang up."

www.stformat.com

'STATE OF THE ART' 16 BIT TECHNOLOGY

The mystery/role-playing adventure, combining History and classic science fiction, based on the world famous role-playing game by Game Designers' Workshop.

Space 1889: Discover a recreated solar system as envisioned by the scientific theories of the 19th Century and in the imaginations of such classic writers as Jules Verne, A. Conan Doyle and H.G. Wells. Written by the same team as the critically acclaimed 'MEGATRAVELLER 1'

INTERPLANETARY EXPLORATION

● Visit the canals of Mars and deal with warring Martians; explore treacherous swamps on Venus; travel through the mysterious underground caverns of the Moon . . . Even Earth is ripe for exploration and rife with intrigue . . .

● Planets and stars are accurately represented in Space. Actually navigate by the constellations themselves!

DIPLOMACY

● Overcome corrupt German conspirators, a radical Martian religious cult and the awesome intelligence of an advanced alien society that has escaped notice for thousands of years.

WEAPONRY

● Historic 19th Century weapons include 30 guns, 4 throwing weapons and 9 close combat weapons. Ranging from bolt-action rifles and single-barrel revolvers to swords and daggers.

PROFICIENCY

● Create five characters, male or female, from among six attributes and 24 skills, including Fisticuffs, Crime, Theatrics and Engineering. Control character development through a wide variety of careers.

HISTORICAL ADVENTURE

● Over 100 locations to explore on Earth alone - all depicted with historical accuracy and fascinating details. Including London, New York, San Francisco, the Far East and the Valley of the Kings.

TACTICS

● Realistic combat sequences let you control each character individually, while still giving general orders to the others.

VERSATILITY

● Meet and interact with over 500 unique characters, each with distinct personalities.

SCREEN SHOTS TAKEN FROM IBM PC VERSION

MEGATRAVELLER 1

Based on MegaTraveller by Game Designer's Workshop, the most popular science fiction gaming system and now the critic's choice as the Number One Computer Game!

AMIGA COMPUTING
Brilliantly balanced between complexity and playability - MegaTraveller 1's gameplay is a miracle..."The best RPG/Adventure game of the year."

CU AMIGA
A fantastic RPG with loads of puzzles.

AMIGA FORMAT
I can't think of any role-playing game which has the depth and richness of what's going on.

GAMESMAN
This game is truly, uncategorically "Mega!"

ACE
A quantum leap for sci-fi RPG's.

AMIGA COMPUTING
"A triumph of intelligent game design."

THE ONE
No other computerised RPG comes as close to being an accurate conversion as MegaTraveller 1.

GEN 4
MegaTraveller 1 is THE Game of Today...

AMIGA POWER
"Terrifying depth, friendly and helpful controls, great atmosphere, excellent balance of strategy and action. A wonderful piece of role playing software that everyone should play."

EMPIRE STRATEGY

AVAILABLE ON:

CBM AMIGA, IBM PC & COMPATIBLES AND ATARI ST

EMPIRE SOFTWARE, 4 THE STANNETTS, LAINDON NORTH TRADE CENTRE, BASILDON, ESSEX SS15 6DJ. TEL:0268 541212

ST Writer Elite v4.1

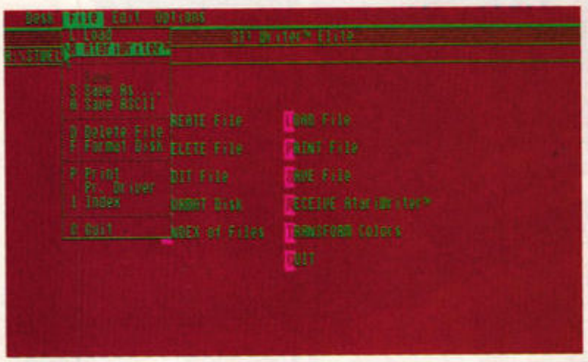
BY: BRUCE NOONAN, MD
SIDE: 1
MACHINE: ALL STs
RESOLUTION: ALL RESOLUTIONS
FOLDER: STWEL4
FILES: STWRITER.PRG, README.DOC
GET STARTED WITH: STWRITER.PRG

Here it is! The word processor that set the PD world alight – *ST Writer Elite*. This is version 4.1, the most up-to-date version available. With this, you can create and edit your own document files, just like the ones you see accompanying programs on the Cover Disk. If you have a printer, you can connect it up to your ST and use *ST Writer Elite* to create hard copies of your letters, manuals and important text files.

ST Writer Elite comes complete with an on-line help mode (accessed by the HELP key) giving instructions on all the features and guiding you through the creating and saving of documents.

Accompanying *ST Writer Elite* is a document file which you can load into it. This contains details of the major modifications and updates which have been added to the program since earlier versions. If you're having any problems, it's a good idea to have a read of this and see if it answers your questions.

Load up the main program (by simply double-clicking on STWRITER.PRG) and then use the keyboard shortcuts (listed on screen) to begin working on your documents.



● ***ST Writer Elite* is the standard in the field of Public Domain word processing. Now the latest version is all yours. All you need to do is write!**

ShowMem

BY: JOHN EIDSVOOG
SIDE: 1
MACHINE: ALL STs
RESOLUTION: ALL RESOLUTIONS
FOLDER: SHOWMEM
FILES: SHOWMEM4.PRG, SHOWMEM4.TXT
GET STARTED WITH: SHOWMEM4.PRG

ShowMem4 enables you to examine the GEMDOS memory descriptor lists. The location of these in memory is not documented by Atari. You may list the information to the screen or to a printer by selecting the appropriate button in the initial alert box. The listing includes all allocated memory blocks, followed by all memory free blocks.

Hold down the <Alternate> key when you select the output device and you also get the memory descriptor waiting list. When GEMDOS splits a block into two smaller blocks, it uses this list to get a new descriptor location. When two contiguous blocks are merged, the unused block is put back in this list. For this reason, the entries in this list may or may not contain any useful information.

ShowMem4 is specially written so that it can be run as either an accessory or a program. All you have to do is change the name (using Show Info) so that the extension (last three letters) is .ACC for an accessory, or .PRG for a program.

The leftmost column shows the decimal size of each block as well as a total for each type of memory blocks. From this, you can work out exactly how much memory GEMDOS is using in your ST. While the listing is scrolling on the screen, you may pause or continue by using the mouse button.

For more detailed information on *Showmem4*, double-click on the file SHOWMEM.TXT, which contains notes from the programmer.

FAULTY DISK?

Oh no, it hasn't gone wrong, has it? We duplicate so many and so few fall over, but it's still annoying when they do. If you're unlucky, sorry. You're guaranteed a replacement if you send your faulty Cover Disk, with an SAE, to: *ST FORMAT* October Disk Returns, Discopy Labs plc, Unit A, West March, London Road, Daventry NN4 4SA. Sorry – only Discopy can help. We have no duplicate disks ourselves.

SOFTMACHINE

ATARI HARDWARE
520ST-E Discovery Xtra £294.99
1040ST-E Family £359.99
Mega 1/2/4 ST-E Call
MEGA 2 ST + Pro 24 III £614.99
MEGA 4 ST + Pro 24 III £784.99
Stacy 2Mb Ram 20Mb HD £1344.99
TT 2Mb Ram 40Mb HD £1629.99
TT 4Mb Ram 40Mb HD £1934.99
TT 8Mb Ram 40Mb HD £2139.99
SM124 Mono Monitor £134.99
SC1224 Colour Monitor £269.99
PTC1426 Multisync £409.99
MEGAFILE 30 HD £344.99
MEGAFILE 60 HD £459.99
Portfolio £181.99

HARDWARE/ PERIPHERALS
Philips 8833 MkII £239.99
Citizen 120D+ £134.99
Citizen 124D £184.99
Citizen Swift 9 £189.99
Citizen Swift 24 £284.99
Swift 9/24 Colour Kit £34.99
Star LC-20 £154.99
Star LC24-10 £199.99
Star LC-200 £214.99
Star LC24-200 £239.99
Star LC24-200 Colour £299.99
Supra 40Mb Hard Drive £394.99
Supra 105Mb Hard Drive £564.99
Cumana 1Mb 3.5" Drive £79.99
Roctec 1Mb 3.5" Drive £64.99
0.5Mb Xtra-RAM ST-FM £52.99
0.5Mb Xtra-RAM STE ST-FM £62.99
0.5MB Xtra-RAM ST-E £35.99
Forget-Me-Clock II £22.99
Printer-Q Buffers from £52.99
AT Once Plus £174.99
AT Speed C16 (DR DOS v5) £219.99
PC Speed £89.99
Hitachi Camera & Lens £224.99
Vidi ST + Vidi Chrome £104.99
Vidi RGB Splitter £69.99
Vidi Colour Solution £159.99
Golden Image Scanner £179.99
Daatascan Professional £171.99
Linnet Modem £161.99
Supra 2400 Modem £129.99
Mastersound 2 £29.99
Playback £22.99

Replay v8 £59.99
Replay Professional £94.99
Golden Image Mouse £19.99
Naksha Mouse £24.99
Contriver Trackball £29.99
Tilt & Swivel Monitor Base £9.99
Universal Printer Stand £6.99
Centronics Printer Cable £4.99
ST-FM to Scart Cable £11.99
ST-E to Scart Cable £11.99
3.5" 80 Cap Disk Box £6.99
10 x Sony Bulk 3.5" £5.99
50 x Sony Bulk 3.5" £24.99
100 x Sony Bulk 3.5" £44.99

BOOKS
Atari ST 3D Graphics Prog £18.95
Atari ST Basic to C £18.45
Atari ST Explored 2nd Ed £9.95
Atari ST Logo Users Gde £18.45
Atari ST Mach Lang 68000 £18.45
Atari ST Programmers Gde £22.95
Atari ST Tricks & Tips £18.45
Elementary Atari ST £14.95
Elementary ST Basic £14.95
Game Makers Manual * £19.95
Introducing * Machine Code
MIDI & Sound Book * £17.25
Musical Applications * £5.95
Presenting the Atari ST £15.95
Program Design Techniques £14.95
Prog by Example: ST Basic £14.95
Real-Time Graphics * £17.95
*Appl Gde to Prog in C £19.95
ST Disk Drives In & Out £18.95
Tech Ref Gde * Vol 1 VDI £19.95
Tech Ref Gde * Vol 2 AES £19.95
Tech Ref Gde * Vol 3 TOS £22.95
Timeworks Publisher £9.95
Your First Basic £14.95
* Indicates Atari ST in title
68000 Assem Lang Prog £21.95
Programming the 68000 £23.95
Teach Yourself 68000 £8.95
40 Great Flight Sims £13.95

40 More Great Flights £14.95
F-19 Stealth Air Combat £11.95
F-19 Stealth Fighter £13.95
Falcon Air Combat £14.95
Flight Sim Adventures £12.95
Flight Sim Odyssey £14.95
Flying on Instruments £13.95
Gunship Academy £14.95
Learn to Fly Flight Sim £14.95
Sub Commander £12.95
Take Off Flight Sim £15.45
Turn & Burn Gde to Falcon £11.95
Up & Run Flight Sim £8.95

WORD PROCESSORS/ TEXTEDITORS
1st Word Plus £59.95
Calligrapher Junior £69.00
K-Word 2 £29.95
Protext v5 £102.95
Tempus 2 £28.95
That's Write £89.95
Wordflair £59.95
Word Perfect £178.95
Word Writer £36.95
Write On £44.95

DESKTOP PUBLISHING
Fleet St Publisher v3 £169.95
Pagestream v2 £164.95
Pagestream Font Sets ....each £44.95
Timeworks DTP £72.95

DATABASES
Adinens Plus £96.95
DG Base £34.95
Data Manager Prof £29.95
K-Data £37.95
Prodata £55.95
Superbase Personal £39.95
Superbase Personal 2 £64.95
Superbase Professional £164.95

SPREADSHEETS
3D Calc £22.95
DG Calc £27.95
K-Spread £21.95
K-Spread 2 £44.95
K-Spread 3 £67.95
K-Spread 4 £91.95
K-Spread 4T £112.95
Mini Office Spreadsheet £18.95

ACCOUNTS
Cashbook Combo £54.95
Cashbook Controller £41.95
Final Accounts £27.95
Home Accounts £21.95
Personal Fin Man Plus £29.95
System 3 £41.95

ASSEMBLERS/COMPILERS /LANGUAGES
Devpac 3 CALL
FTL Modula 2 £48.95
FTL Modula 2 Developer £69.95
GFA Basic v3.5 Compiler £23.95
GFA Basic v3.5 Interpreter £39.95
Hisoft Basic 2 CALL
Hisoft C Interpreter £41.95
Hisoft Forth £28.95
HighSpeed Pascal £74.95
Lattice C v5 £111.95
Nevada Cobol £34.95
Prospero C £72.95
Prospero Fortran £72.95
Prospero Pascal £72.95
STOS £29.95

UTILITIES
Hard Drive Turbo Kit £25.95
Harlekin 2 £41.95
Knife ST £24.95
K-Graph 3 £37.95
K-Resource 2 £29.95

Mailshot Plus £34.95
Neodesk 3 £29.95
Twist £17.95
Turbo ST £24.95
WERCS £24.95

COMMUNICATIONS
FaSTcomm 2 £39.95
Flash £18.95
K-Comm 2 £37.95
Mini Office Comms £18.95

AUDIO/MUSIC
Band in a Box £62.95
C-Lab Creator £289.95
C-Lab Creator + Unitor £609.95
C-Lab Notator £479.95
C-Lab Notator + Unitor £799.95
Cubase £494.95
Cubeat £269.95
Dr T's Copyist App £76.95
Dr T's Copyist DTP £201.95
Dr T's KCS £169.95
Dr T's KCS Level II £249.95
Dr T's MRS £51.95
Dr T's Tiger Cub £84.95
K-Minstrel 2 £24.95
Quartet £35.95

3D/ANIMATION/ CAD/GRAPHICS
Canvas £10.95
Cyber Control £29.95
Cyber Paint £36.95
Cyber Sculpt £57.95
Cyber Studio £36.95
Cyber Texture £36.95
Deluxe Paint £36.95
Degas Elite £19.95
Easy Draw 2 £36.95

Easy Draw 2 Supercharged £59.95
Hyperpaint 2 £29.95
Master CAM £22.95
Megapaint 2 £89.95
Spectrum 512 £22.95

SIMULATIONS/ STRATEGY
Borodino £21.50
F-15 Strike Eagle II £24.99
F-16 Combat Pilot £17.50
F-19 Stealth Fighter £21.50
Flight Simulator II £24.99
Gunship £17.50
Proflight £28.99
UMS II £21.50

EDUCATIONAL
Better Maths 12-16 yrs £19.95
Better Spelling Over 8 £19.95
Fun School 2 Under 6 £14.95
Fun School 2 6-8 £14.95
Fun School 2 Over 8 £14.95
Fun School 3 Under 5 £17.95
Fun School 3 5-7 £17.95
Fun School 3 Over 7 £17.95
Magic Maths 4-8 yrs £19.95
Maths Mania 8-12 yrs £19.95
M Beacon Teaches Typing £22.95
Micro French GCSE £20.95
Micro Maths GCSE £20.95
Primary Maths 3-12 yrs £20.95
Prof Looks At Words £19.95
Prof Makes Sentences £19.95
Prof Plays a New Game £19.95
Spell Book 4-6 £14.95
Spell Book 4-6 Data £11.95
Spell Book Over 7 £14.95
Spell Book Over 7 Data £11.95
Spell Book Data Creator £7.95
The Three Bears £19.95
Things to do with Numbers £14.95
Things to do with Words £14.95

Please make cheques/postal orders payable to SOFTMACHINE. All items subject to availability.
All prices include V.A.T. & UK Delivery. All prices subject to change without notice. E.&O.E.
VISA Access
SOFTMACHINE
Dept. STF 10, 20 Bridge House, Bridge Street, Sunderland SR1 1TE. Tel: 091 510 2666/2777 Fax: 091 564 1960

www.stformat.com

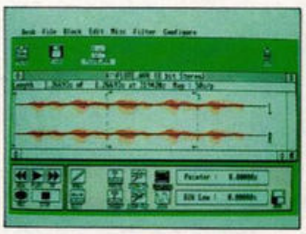
● LOOP JOIN ● LOOP CROSS FADE ● REVERSE ● FADE ● VOLUME ● LOOP ● DELETE ● CLEAR ● FILL ●

● CHANNEL SWAP ● CHANNEL COPY ● CHANNEL CROSS FADE ● SAMPLE PAN ● SAMPLE ● PRE-SAMPLE ●

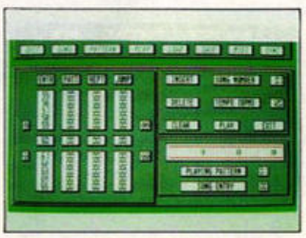
NEW from MICRODEAL

STEREO REPLAY

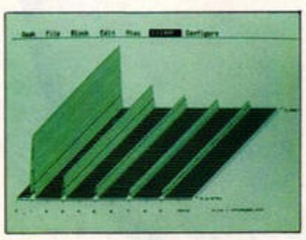
STEREO SOUND SAMPLING & OUTPUT CARTRIDGE



REPLAY STEREO EDITOR



STEREO BEAT DRUM MACHINE



FAST FOURIER TRANSFORM DISPLAY

microdeal

© MICRODEAL 1991
ALL RIGHTS RESERVED

Now from Microdeal, the first ever **STEREO** sound sampler for the **ATARI ST** range of computers. With the superb high quality reputation of **ST-REPLAY**, this completely new hardware cartridge contains **DUAL** Analogue to Digital and **DUAL** Digital to Analogue convertors to ensure the **ULTIMATE** in **8 BIT** sample quality. The system can record in high quality **STEREO** from its twin **PHONO** input sockets, taking sounds from any suitable **STEREO** equipment such as Portable Cassette or C.D. players or from any other 'Auxiliary' or 'Line level' source. The twin **PHONO** outputs provide the user of a standard **ST, STF, STFM** or **MEGA** computer, with high quality **STEREO** output. Users of the **STE, MEGA STE** and **TT** machines are not left out either ! The software will allow samples to be played out from the connectors at the rear.

As you have come to expect from **MICRODEAL** and Audio Visual Research, the **SOFTWARE** provided with the system is also packed with new features. **STEREO REPLAY** does not just set the standards by which other samplers are measured, it has **COMPLETELY** re-defined them!

The **STEREO EDITOR** program provides the user with the ultimate in power and sophistication, packed with features which appear for the first time on **ANY** home computer. This fully **DESKTOP** and **WINDOW** styled program allows individual samples to be loaded into the computer and edited separately. However, this is just the beginning. The program will allow the user to load in samples of **8, 12** or even **16 BIT** resolutions in **MONO** or **STEREO** formats and freely convert between them. It is possible to take a cutting from a **16 BIT MONO** format sample and edit it into a **STEREO 8 BIT** sample without even realising that the two sample files were different, the program manages all of the sample translations quite automatically !

The ULTIMATE STEREO SOUND SAMPLER

The **STEREO EDITOR** supports many useful editing functions including Mark, Hide, Cut, Paste, Insert, Delete, Clear, Fill, Overlay, Repeat, Gap, Reverse, Fade, Volume, Loop, Loop Join, Loop Cross Fade, Channel Swap, Channel Copy, Channel Cross Fade, Sample Pan, Sample, Pre-Sample, Play, Monitor, Scope Left or Right, Load and Save and more !

As if the list above was not impressive enough, the **STEREO EDITOR** can also perform more advanced forms of editing such as frequency 'Re-Sampling', Sample **FOURIER** analysis, Digital filtering, Digital Hall, Room, Echo, Reverb and Flanging effects, Play up to 10 different samples from an external **MIDI** keyboard or sequencer and **MUCH, MUCH** more.

The **'STEREO BEAT'** program can load **KITS** of up to 15 different samples into memory at once and then play 3 channel (**LEFT, CENTRE** and **RIGHT**) sounds out from the **STEREO PORTS** of the cartridge at the same time. Memory permitting, **KIT** samples can be up to 1 MByte in length **EACH**, permitting the user to record sections of their favourite music and completely **RE-MIX** them using **STEREO BEAT**. Patterns of **BEATS** are arranged on a grid format **PATTERN EDITOR** and can be varied from **4** to **32 BEATS** in length with timing set to 1/8, 1/16 or 1/32 with or without Triplets. **SONGS** are constructed from simple lists of **PATTERNS** with **LOOPS** and **SONG POSITION JUMPS. A SONG** can contain up to 99 separate song entry steps whose tempo can be varied from 40 to 239 B.P.M. STEREO BEAT can act as **EITHER** a **MIDI SLAVE** or **MIDI MASTER** and can both generate or respond to **MIDI START, STOP** and **SYNC** commands.

The **STEREO REPLAY** system is also supplied with routines and examples of code which enable the user to play **8 BIT MONO** or **STEREO** samples recorded and edited with the system from Machine Language or from High level languages such as **HISOFT, GFA** and **STOS BASIC.**

What more can you possibly need ?

STEREO REPLAY ORDER FORM

STEREO REPLAY IS £89.95 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 UP TO 28 DAYS FOR DELIVERY

SEND TO: MICRODEAL, PO BOX 68, ST AUSTELL, CORNWALL. PL25 4YB

www.stformat.com

www.stformat.com

Imagine a compact disc that not only gives great quality sound. It also plays books, photographs, graphics and the written word. ► CDTV is like nothing you've experienced before. And it's everything you could want for entertainment, education and excitement. ❚❚ Picture, for instance, a child asking the question, "Who was Martin Luther King?" ▼ Easy. You just turn on the TV, put in a political history CD and not only can you read everything about King's life, you'll also see his face, hear the crowds and feel the emotion in his voice as he tells you his dream. But that's only one way of looking at it. ■ With CDTV in your sitting room, suddenly your TV isn't just for watching. It's a mine of information. A book that talks back. The world's best teacher. A CD quality home karaoke. Or a most talented games player. ►❚❚ And if you're happy changing channels on your TV remote, you could work CDTV in seconds. Just select your choice of title from the 150 available and you're away. ► Take music. Of course, you can play your audio CDs. But by pressing the buttons on your remote, you could also play drums with Hendrix. No experience required. Or remix any of your CDs to create your own versions. If your tastes are more classical, listen to Beethoven's music while you see a picture of the composer and read about his life's works. That's multimedia in its truest sense. ►► "Switch off the TV while you're doing your homework!" That phrase could soon all but disappear. Because what better way to swot up on Shakespeare than acting in a play and speaking the part of say, Romeo with CDTV as your prompt. ▲ For sheer entertainment, there's nothing to touch CDTV. With Trivial Pursuits, you're not just answering questions on a card. You can ask, for example, "Who is the person singing this song?" ►❚❚ Whatever your interest, whatever your age, CDTV is a totally new way of looking at every subject under the sun. ■ For only £599.99 including VAT, the price of a good CD player, you're combining fantastic CD sound with the familiarity of television. The word's going round no home should be without CDTV.

It's a whole new ball game

Commodore CDTV™ INTERACTIVE MULTIMEDIA

See CDTV at selected high street retailers, call 0628 779678 or post this coupon to CDTV Information Desk, FREEPOST 1359, Maidenhead, Berkshire SL6 7YA. Pack includes CDTV machine, infra red remote control, welcome disc and two free CDTV titles.

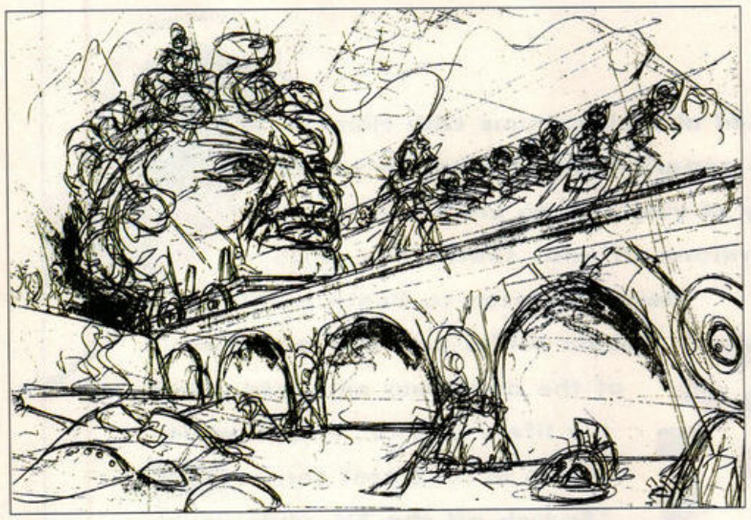
Title: Mr ☐ Mrs ☐ Miss ☐ Ms ☐ Other _____ Surname _____ Initials _____

Address _____

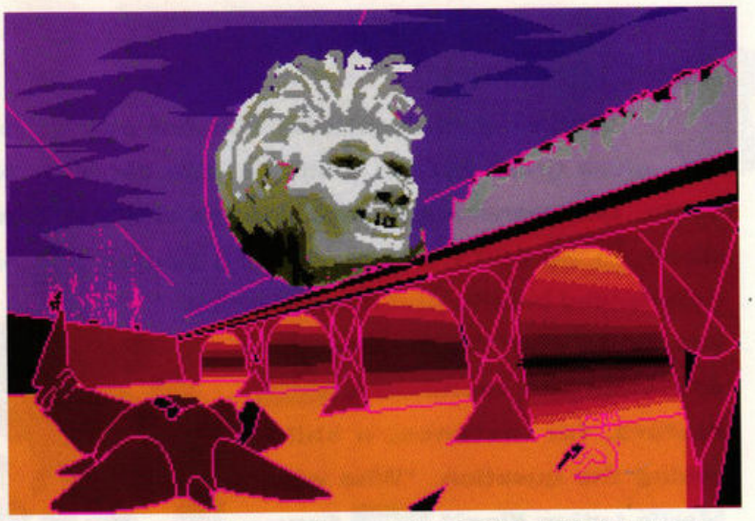
_____ Postcode _____ ST 1

CDTV is Art. Leisure. Games. Music. Education. Politics. Sport. Languages. Atlases. Talking Books. Colouring Books. Health. Encyclopaedias. Gardening. Cookery. Fairy Tales. Simulations. Role Playing. Science. Karaoke. Entertainment.

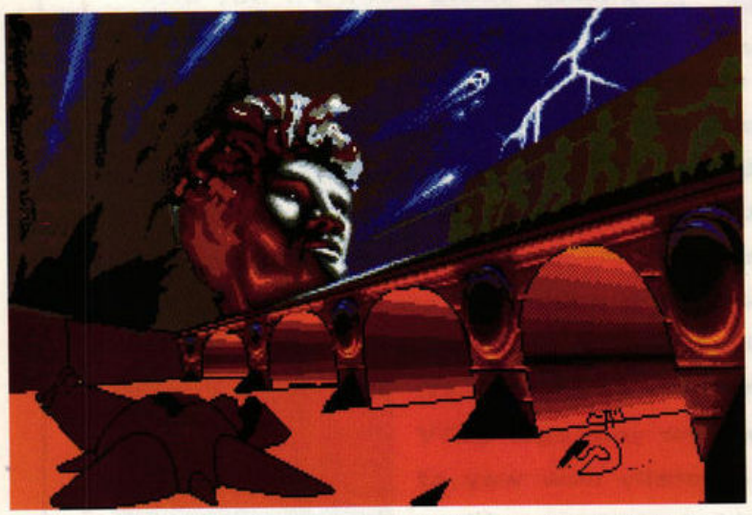
www.stformat.com



❶ This sketch drawn by Bullfrog graphic artist Paul McLaughlin shows the first development of a scene from *Populous 2* – the basic outlines of a head, the people and a bridge are shown, with some vague suggestion of a swamp in the foreground.



❷ Paul's initial ST sketch bears a close resemblance to the original design. The head, the most striking part of the picture, has been worked on first – the bridge, people and so on are still fairly vague outline images, just to check positioning.



❸ The bridge, previously only a vague shape, now becomes more defined, with detail on the supporting arches. The line of people also becomes a little more recognisable. The squiggle from an earlier creative hiccup still remains, for now.

❹ The last major undetailed area, the foreground, now gets the works: the arches under the bridge are filled in and the – er, object in the foreground is shaded in. The squiggle gets covered over by the base colour of the watery sludgy stuff.

Graphic details

Ever since the days of the Atari 800, graphics have been one of the main selling points for most games. But just who creates all those wonderful displays – and what's stopping you from doing just as well, or even better? Ed Ricketts picks the pixels to pieces and reveals how it's done.

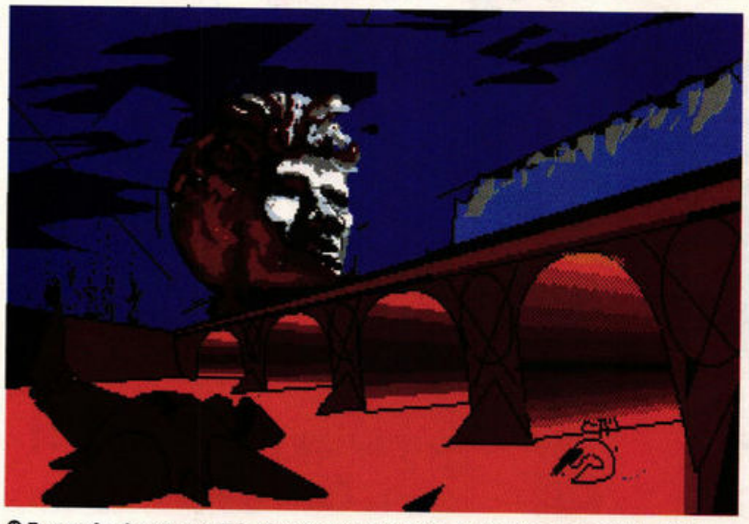
With an ST and even the most basic doodling program, anyone with some time and a decent telly can produce something to be proud of – the number of submissions *ST FORMAT* receives for the Gallery pages proves that.

Everything you draw can be erased and redrawn time and again, so you're not committed at every stroke. But no matter how long you take perfecting your masterpiece, you doubtless still stare in fascination at the finished graphic displays in most current games and wonder why they seem so – well, *polished*. (And if you don't – get in touch with a major software house now!)

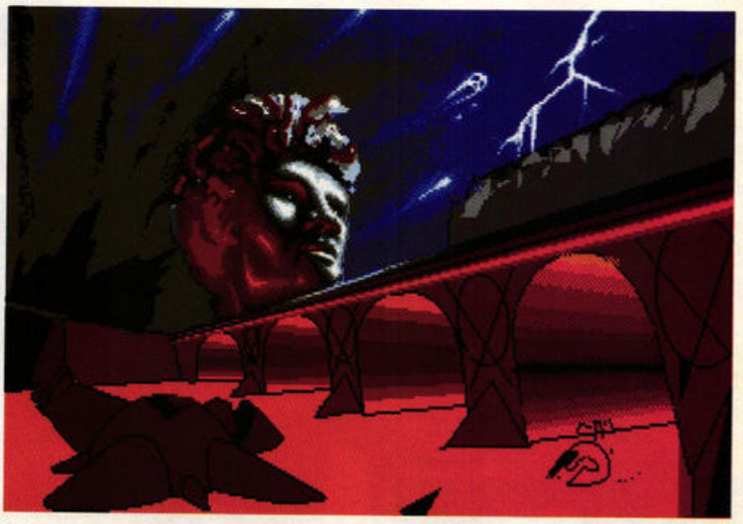
The fact is that the professional graphic artists may not have been born any more talented than you are, but they know the tricks and techniques that make good graphics shine and bad graphics stand out like a sore sprite. What is encouraging is the number of graphic artists who have no real formal training. A glance at some of the interviews around these pages reveals that many of today's artists got their jobs simply by applying to the software house concerned, with no more experience than an Arts Foundation Course at college or similar. This proves that the software producers are accepting people on their talents rather than on their experience.

So take the professionals' tips on these pages, dust off your favourite ST art package and let your creativity loose! And remember: *ST FORMAT* prints a selection of your ST art masterpieces every issue – see page 122 for details of what we need from you – and there's no better way to get noticed by the ST community. If you've always thought graphics are where your future lies, or even if you've just wondered how they do it, read on!

www.stformat.com



❻ Two main changes on this pic: the head has been moved back along the bridge somewhat, making it smaller in the process, and the colours have been altered to a much darker palette to give the scene a more menacing and moodier aspect.



❼ Now the head is even more detailed, as is the sky – there are now some recognisable objects (tortured souls, no doubt) in it. A few more colours have been altered, but this is the last major palette change. At least, Paul hopes it is.

❽ To make the head look more fearsome, some fangs have been added. Thanks to another artistic mood-swing, the object in the foreground has been changed into something completely different. The water is now given the merest hint of waves.

❾ And finally, folks! With a horizontal picture-flip and the addition of a skeleton by the arches, a new atmosphere is created. The people on the bridge are much better defined, which makes them a stronger foreground element.

WHERE DO YOU BEGIN?

With the possible exception of 3D games, every game's graphic display consists of two vital elements: background and foreground. The background is generally simply decoration and scene-setting for the action happening with the main characters in the foreground, though occasionally it may become the centre of attention itself – as in *Lemmings*, where the background is the focal point of the game, and *The Secret of Monkey Island*, where it's possible to clamber all over the scenery and indeed it's sometimes necessary to walk "into" it.

But no matter how attractive the backgrounds may be, the thing you're staring at most of the time is the character sprites in the foreground. 20 minutes with the *STOS* sprite designer is bound to convince you that drawing and animating effective sprites is the most difficult task a graphic artist can face. When you're working in areas of only 16x16 pixels – and sometimes just 8x8 – there's not much room for expression. You may find you're comfortable with it, though. Jon Hare of Sensible Software, programmers of *International 3D Tennis*, says: "I actually find it's easier to work at small sizes. I'd much rather design the sprites for *Mega Lo Mania*, which are 16x8 pixels in size (including the shadow), than a full screen picture. I find those very daunting."

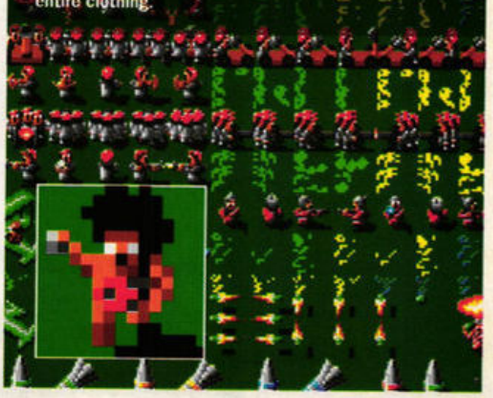
The professionals may not be any more talented than you, but they know the tricks that make graphics shine

One of the main points to keep in mind is that what looks odd at the large magnification necessary for designing may look great at normal size. The effect is easy to see: simply take a sprite from any game, blow it up using the Magnify function in your art package and see what a mess it looks. The trick is knowing which combinations of pixels combine to produce the desired effect – it's usually nothing like what you would envisage.

Jon Hare again: "For *Mega Lo Mania*, getting the basic model of the characters right was the most important thing. Once the design for the little man, without clothes or weapons, is correct, you can dress him up and give him various weapons to create all the other men, simply by adding the necessary embellishments. *International 3D Tennis* is another good example of this. The basic wireframe man was perfected first (someone described it as looking like a →

NOT A STITCH TO WEAR

These graphics from *Mega Lo Mania* demonstrate the range of sprites that have to be defined for the characters. Blow up the prehistoric man and you can see what a mess he looks at high magnification. The trick when working at these levels is knowing that less is more: three carefully-placed pixels which look like nothing at ten times magnification can represent his entire clothing.



DATEL Electronics

A Top Quality 400 DPI Handy Scanner for your ST at a truly Unbeatable Price!!

NOW ONLY £129.99 COMPLETE

COMES WITH OCP ADVANCED ART STUDIO

GeniScan™ GS 4500

SCANNING COULDN'T BE SIMPLER...

- Unmatched range of edit/capture facilities and keyboard control simply not offered by other scanners at this unbeatable price.
- An easy to handle Handy Scanner featuring 105 mm scanning width and 400 dpi resolution enables you to scan graphics and text into your ST.
- Adjustable switches for brightness/contrast levels.
- Powerful partner for DTP that allows for cut and paste editing of images etc.
- Geniscan gives you the ability to easily scan images, text and graphics.
- Save images in suitable format for most leading packages including DEGAS, NEOCHROME, FLEETSTREET, etc.
- Package includes GS4500 scanner, Interface, Power Pack and Scan Edit software.
- Comes complete with OCP Art Studio Software.
- Huge range of features.
- Top selling graphics package.

COMES WITH FREE OCP ADVANCED ART STUDIO

GOLDEN IMAGE OPTICAL REPLACEMENT MOUSE

... NOW A TRUE OPTICAL MOUSE! FOR THE ST

- **YES A FULL FEATURE OPTICAL MOUSE FOR YOUR ST - THAT MEANS NO MOVING PARTS!**
- Incorporating full optical tracking and counting - no ball so no problems with clogging, slipping, etc.
- High count output for very fine movement.
- Two button microswitch action.
- Direct replacement for all STs.
- Comes complete with special "Optical Pad".
- Superbly styled - supersmooth shape moulded to fit the hand.
- Comes complete with moulded 9 pin connector.

No more to buy!!

COMPLETE ONLY £39.99

HOW TO GET YOUR ORDER FAST!

TELEPHONE [24Hrs] 0782 744707 CREDIT CARD ORDERS

ORDERS NORMALLY DISPATCHED WITHIN 48 Hrs. ALL CHEQUES/POSTAL ORDERS MADE PAYABLE TO....

DATEL ELECTRONICS LTD.

GOVAN ROAD, FENTON INDUSTRIAL ESTATE,
FENTON, STOKE-ON-TRENT, ST4 2RS, ENGLAND.

FAX 0782 744292 TECHNICAL/CUSTOMER SERVICE 0782 744324

DATEL Electronics Limited

SCAN 3

www.stformat.com

Czechoslovakian cartoon) and then made to do all the things he can in the game, like running and serving – it's almost like having a marionette in front of you."

Professional graphic artists always have to bear in mind that the designs they create are likely to be ported over to other 16-bit machines. This means that, unless they're changed in some way during the conversion process, the graphics have to be designed to the lowest common denominator. The PC, for example, can display only four colours on-screen at once in CGA mode, so any sprite intended for that machine must conform to this restriction, even though the ST can display 16 colours in low resolution. The *Mega Lo Mania* sprites, though not ST originals, were designed to be as compatible as possible with every other 16-bit micro, thus avoiding the need to downgrade them when the time for conversion comes. This means less work for the artist in the long run because only one set of sprites need be created, but it has the disadvantage of not properly exploiting the target machines' graphical abilities to the full. Everyone's played those American games that make your ST look like a PC (*Chuck Yeager's AFT* is a good example) because the programmers have simply ported the code straight across without retouching the graphics or improving the user interface to take advantage of the ST's superior display.

One trick is knowing which combinations of pixels give the desired effect – it's often nothing like you envisage

Most graphic design is a two-way process, the artists and programmers both contributing ideas and designs. Ideas may be thrown in, used for a while and then universally rejected. For instance, early on in the creation of *Populous 2* there was a small animated icon on the control panel that represented what effect was happening on the main screen at that point. That has now been removed because it would detract too much from the main display. Turn to page 40 for an exclusive look at how the game is shaping up.

Finally, there are plenty of ways you can get into graphics. It's not unknown for software houses to spot budding talent in these very pages. Give it a go – you have nothing to lose, but plenty to gain! ***stf***

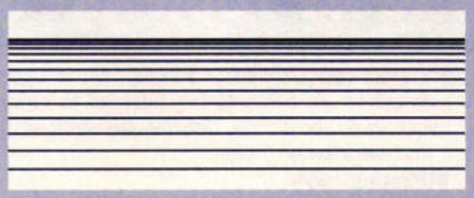
● Software you need: p 36 ● Jargon-busters, PD alternatives: p 38

GET IT IN PERSPECTIVE

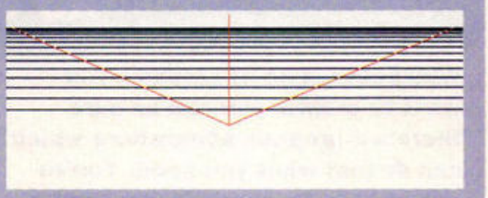
Perspective is a tricky business. First you have to design the background so that the characters or sprites look as if they can move freely "in" or "out" of the screen, which generally means some sort of 3D effect. Then you must either devise a memory-intensive scaling routine or design a whole new set of sprites, one for the character gradually decreasing in size as it disappears into the distance and one for its counterpart sprite as it grows larger. These sprites must be redesigned for each area of the screen that the character can move into, since something walking off in the middle obviously appears different to walking off at the side.

All this sprite definition naturally causes much more work for the graphic artist and adds to development time, which is why very few games employ these techniques. When it's done well, though, the effects can be stunning. Lucasfilm's *The Secret of Monkey Island* can testify to the realism these techniques add.

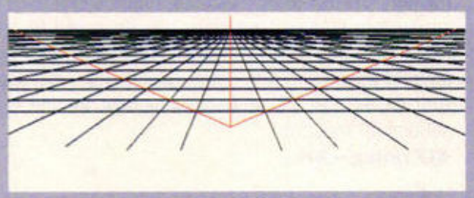
● Some nifty design means Guybrush, star of *The Secret of Monkey Island*, is able to wander in and out of the screen at will, giving you a better, more interactive and therefore more enjoyable game, but giving the programmers even more of a headache.



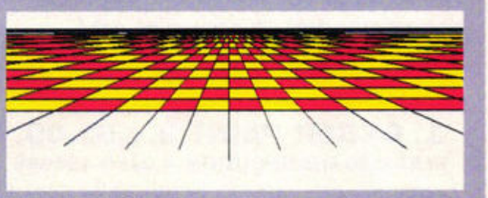
● The easiest way to suggest perspective is with a simple checkerboard effect – always impressive yet dead easy to create. First draw some lines across the screen, the gap between them increasing by one pixel each time. So there are spaces of 0, 1, 2, 3 pixels, until you have a fair number of lines.



● Having laid down the basic horizontal proportions in this way, now you need to draw a vertical line down the centre of the screen. From this line draw two more oblique lines that end near the edge of the screen. Make sure that the angle between them is greater than 90 degrees.



● The point on the horizon mid-screen is the vanishing point. From here you now need to draw radiating lines that pass through the intersections of the red diagonal lines and the horizontal ones. This ensures that the spacing between the squares is correct. If you're using *Degas*, the Rays function can be handy here since it ensures the lines all originate at the same point.



● The basic checkerboard is now finished. If you like, the squares can be filled with alternating colours to build up a classic raytracing "ground" – as used in countless games, both great and awful. Alternatively, and more usefully, the board can be used as a template for other drawings – the lines being treated as the foundation to line up buildings, for example, with the correct perspective.

ROB WHITTAKER

Currently graphic artist for Storm – working on *Big Run* and *Double Dragon 3*

Previous Projects: "The only game I've worked on from start to finish on the ST is *Judge Dredd* – I usually do bits here and there on various things."

Background: "I started at school on the Commodore 64 computer. My friends and I used to write demos for it, and occasionally the odd game. Everyone regarded us as 'computer whizzkids' – we sold a few budget-style games, and people used to come up to us for money! It was really exciting back then. Eventually we progressed onto 16-bit machines and did some demos for that." Rob got his first professional job in a most unspectacular way – he simply applied for it for in the normal way and got it!

Favourite Picture: "The Commodore 64 version of *Exile* has a loading screen by Paul Docherty, AKA Dokk, which is absolutely brilliant."

Do you use any art packages a great deal? "I hate *Art Studio*. It's fine if you only want to design sprites with it – I did some Spectrum sprites on the ST with it – but for straight pictures it's deplorable. *NeoChrome* is the program to use for that. *Deluxe Paint* is also worthwhile, though using it for sprite animation is awkward because you have to align them on screen in the correct place every time."

GIVING YOU THE TIME OF DAY

You tend to notice the time of day more in newer games. A few years ago time didn't really exist in many games, but titles like *Flames of Freedom* and *Hunter* have shown how effective night scenes can be. Strictly speaking, the transition from light to dark in these games is incorrect, with the colours changing in sudden leaps. For a truer representation, any shadows should lengthen gradually and colours fade to a uniformly dark shade. One game that attempted this complicated piece of programming is *Tau Ceti*, Pete Cooke's port from the Spectrum. This not only features sunrise and sunset but full light-source shading – as the sun moves around the sky, the light and shadow on the surface of objects in the gameworld change accordingly. *Flames of Freedom* also features this effect but it isn't really noticeable because the 3D playing area is so evenly lit.

www.stformat.com

DAN MALONE

Currently at work on *Chaos Engine* by the Bitmap Brothers (due November from Renegade)

Previous Projects: *Cadaver, The Payoff (Cadaver* data disk), *Speedball 2*

Background: "I've always been into comics and comic art. After leaving art college I was looking for work as an animator or comic artist, so when I saw an ad from Palace for a graphic artist I applied straight away. I didn't know it was going to be work on computers!

The first main program I worked on was *The Sacred Armour of Antiriad* on the Commodore 64; there was a small comic that came with it which I did too."

How did you come to work with the Bitmaps? "There was no real work on at Palace, so on looking around for work I saw an ad from the Bitmaps. I gave them a ring and they speeded up the development of *Speedball 2* a bit so I could work on it, which was nice of them."

Favourite Picture: "I'm very fond of Nighthawks by Edward Hopper."

Any favourite paint packages, or one you tend to use in preference to others? "All my stuff at the moment is done on *Deluxe Paint 3* on the Amiga and then ported to the ST. When I do originate things on the ST I use *Degas Elite* – it's very well designed and doesn't go about things in a round-about way. We've actually got a rewritten version we use – it includes animation and stuff like that."

AS LONG AS YOUR ART'S IN IT

Whichever style of graphics you want to create, you can be sure there's a program somewhere which can do just what you need. You're out of luck, however, if you want a single program that can do everything – there simply isn't currently a package that excels in all areas. It's really a case of horses for courses. Here, then, are *FORMAT's* Top Ten recommended commercial art/ animation packages:

1. CYBER PAINT 2. £51.00.

ELECTRIC DISTRIBUTION ☎ 0480 496666

Massively versatile, this has all the standard drawing tools, plus many more animation-orientated gadgets. Sequences produced with other *Cyber* programs *(Cyber Studio, Control* and so on) can be retouched and enhanced frame-by-frame, to produce 3D sequences with the detail of conventional animation. Stonkingly good, but quite pricey.

***STF* rating – 92%**

2. DELUXE PAINT. £49.99.

ELECTRONIC ARTS ☎ 0753 549442

Degas' big brother, acclaimed by some as the best ST art package. Its operation can be tricky, though, and disk accessing can be a pain. Also contains many animation features and some facilities not usually found in ST packages, such as graduated fills and Bezier curves. Similar in many ways to *Cyber Paint 2* – there's no agreement which is preferable. Try it for yourself with the useable demo on Cover Disk 15. (And if you missed that, turn to page 136 right now.)

***STF* rating – 91%**

3. CANVAS. £14.95.

MICRODEAL ☎ 0726 68020

You won't find a cheaper package than *Canvas* (apart from the Public Domain programs like *NeoChrome).* The low price doesn't mean low quality; it's full to the brim with the usual goodies and some more esoteric ones, like a 3D object creator – although this is slightly awkward to use and not really intended to replace *Cyber Studio* and the like. Definitely the one to go for if you have a limited budget.

***STF* rating – 90%**

4. CYBER STUDIO. £51.00.

ELECTRIC DISTRIBUTION ☎ 0480 496666

The premier 3D animation program for the ST. Despite its age no-one's come up with anything as versatile or powerful as this. It contains some rudimentary 3D modelling/colouring tools, and a recording system so that animations can be saved to disk frame by frame and replayed independently. Really at its best when used with *Cyber Sculpt* and *Cyber Control;* on its own it's probably adequate for the less serious 3D modeller.

***STF* rating – 87%**

5. SPECTRUM 512. £29.95.

SILICA SHOP ☎ 081 309 1111

Getting on a bit too, but still used by many people. Not the friendliest of front ends, but the tools available are well suited to the increased number of colours. Unlike *Quantum Paint,* you can actually draw on a screen that shows all the colours simultaneously – there's no need to redraw it every time you want to look at the full pic, so you get a better idea of how it's progressing. Some of the functions can take a while to execute – gradient fills are notoriously slow.

***STF* rating – 86%**

6. RETOUCHE. £150.

COPYCARE SERVICES LTD ☎ 081 679 7307

For the more serious (or richer) enthusiast, *Retouche* is an image processing program designed more for retouching existing images (hence, in a cliché, the name) rather than creating them from scratch. Pictures can be treated in an impressive number of ways, and tools simulate the effects of adding water, charcoal and other materials in a very realistic way. Useful for playing with digitised images. It's very specialist and very expensive, but there's nothing to touch it at what it does.

***STF* rating – 86%**

7. DEGAS ELITE. £24.95.

ELECTRONIC ARTS ☎ 0753 49442

The grand-daddy of art packages, still going strong but showing its age slightly. Fairly basic when compared to some of the modern programs – for instance, some functions such as Rotate are a little bit slow, and it lacks animation – but it contains virtually everything the casual doodler might need, plus a few extras, such as ten levels of magnification. Dead easy to use, too, it's still the most popular package, judging by how many *STF* Gallery pictures are drawn with it.

***STF* rating – 82%**

8. QUANTUM PAINT. £24.95.

SILICA SHOP ☎ 081 309 1111

The only ST art package to offer 4,096 colours on-screen simultaneously. It does this by an incredibly techie method that results in a slight flicker of the colours (since the ST shows only 512 colours on-screen anyway) and thus the pictures are best viewed on a monitor. Normal and 512 colour modes are also included, but unfortunately the limited drawing tools available and awkward mode of operation lessen the usefulness of the program. Could have been better.

***STF* rating – 78%**

9. ADVANCED OCP ART STUDIO. £19.99.

DATEL ELECTRONICS ☎ 0782 744707

Yet another veteran. An excellent program for creating sprites of all types (except 3D), its straightforward drawing features are limited. Some people swear by it, while others find it too annoying to be put to any serious use. (If you're after a first-class sprite creator, check out *Animaster* – see page 118 for how to get your copy.)

***STF* rating – 76%**

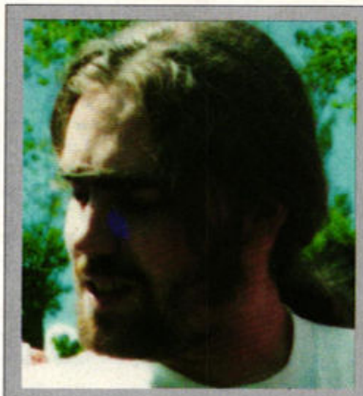
10. FLAIR PAINT. £24.95.

DATABASE SOFTWARE ☎ 0625 878888

Depending on your viewpoint, *Flair's* front end is either a masterpiece of creative programming or a pain in the accessory. It uses a proprietary pop-up window system that looks wonderful but makes some of the functions very difficult to access. Couple this with the relatively slow operation and you need some real patience to work with this package. It's a pity because there are some nice features tucked away, including Bezier curves and the ability to create pictures larger than the screen.

***STF* rating – 71%**

www.stformat.com



JON HARE

Graphic artist/designer for Sensible Software (see *Mega Lo Mania* review, page 76)

Previous Projects: *International 3D Tennis*, *Wizzball* ("though the conversion wasn't done by us on these two and we're not really happy with them"), *Shoot-'Em-Up Construction Kit*

Background: "I originally did an art course at college. Chris [Yates, another member of Sensible Software] was having trouble with some graphics he was doing for a company he was at, so he asked me to step in. Lo and behold, I found I was good at it. Our first games were on the 8-bits: *Parallax* on the C64, *Sodov the Sorceror*, *International Karate*, *Skyfox* and a *Lone Wolf* game on the Spectrum. The biggest jump we made was from the Commodore 64 to the 16-bits. Modesty aside, everything we did on the C64 was virtually guaranteed to be a hit, but it was easy because it was so limited. On the 16-bits you have so much more choice, so you're continually trying to perfect everything and find new techniques."

Favourite Picture: "I like some of Chagall's stuff, all those pictures with violins and goats. The Flemish school appeals to me too – those pictures with black backgrounds, heavy contrasts and very fine, lifelike faces. I hate the Impressionists like Renoir, but Dali's okay."

Favourite Graphic: "*Speedball 2* has some nice designs, though the game is awful. *Virus* is good too."

Favourite art package? "Unfortunately we do all our graphics work on the Amiga – not really through choice, just because we happened to have one. If we'd had an ST we would have used that instead. We're very conservative that way!"

HERMAN SERRANO

Last project: creating, retouching and revamping graphics for Audiogenic's *Exile*

Previous Projects: loading screens for *Starglider 2*, *Carrier Command*, *Verminator* and *Cybercon 3*; in-game graphics for *Vaxine* and *Weird Dreams*; intro sequence for *Predator 2*; many other projects

Background: "I did an Arts foundation course at Kingston Poly, and naturally used to visit the bar frequently. One day I met some programmers there who asked me if I would be interested in doing some computer graphics. I really got into it and did about 30 screens in a couple of weeks. We ended up doing something called The Ancient Mariner, which was little more than a slideshow, really, and was never released."

How did you get into professional graphics? "I went to Rainbird with the idea for *Weird Dreams*. At first they weren't really interested and sent a very junior bloke along to see me. Eventually I managed to persuade them and *Weird Dreams* went ahead."

● **Oh no! This Rigellian newsagent doesn't carry *ST FORMAT!* That's the worst thing about being an *Exile*...**

Favourite Picture: "I'm very much into the surrealists, so a good Dali suits me fine."

Favourite Graphic: "I was a big fan of *Dungeon Master*, so *Eye of the Beholder* was a favourite of mine. The graphics were excellent, though the animation, as is usual, was a bit of a let-down. People try to strive for good graphics because it sells a game but then they skimp on the animation."

Any favourite art packages? "Unfortunately, I don't use the ST for original graphics any more, though that's where I started. My favourite package was always *Art Director* – I liked the way the icon strip on screen had every function available, without you having to flick between screens."

IT'S GETTING DARKER, JIM

The background and surrounding graphics virtually dictate the style of the game. Darker colours naturally suggest gloom. The graphics for the spaceship in *Captain Blood* were drawn very much in the style of HR Giger, the designer of *Alien*, to give it an organic feel. With the blues and purples used, these finely-detailed graphics conjure up a dismally uninviting vision of the future. Compare that with the graphics in most platform games, like *Rainbow Islands*. These tend to be bright, with simply-drawn, almost childish, shapes and many contrasting primary colours to convey an atmosphere of happiness and fun.

PD ALTERNATIVES FOR THE STARVING ARTIST

Not everyone has 50 quid lying around to casually splash out on a graphics package, but as usual there are plenty of alternatives available in the Public Domain. Most decent PD libraries stock several, so shop around for the best deals. You might find exactly what you're after for just a few quid. (For your nearest PD library, check *FORMAT's* comprehensive directory on page 50.)

Perhaps the best known is *NeoChrome*, simply because it was bundled with many early STs and was Atari's first official graphics package. But the field doesn't end there. One area which is particularly well served by the PD market is that of monochrome packages. There are very few professional high-resolution-only titles, and the few that do exist are usually biased towards use by DTP packages. PD titles like *The Artist* and the *Atari Image Manager* give you more mono facilities than packages costing hundreds of pounds. Even if you're after the multi-colour displays offered by *Spectrum 512* or *Quantum Paint* you should find something capable of it in the PD – look at *Palette Master*.

As well as these programs there are of course many commercial software demos that enable you to try out various art packages in a restricted form, such as *DPaint*, *Paint Pot* and *Flair Paint*. These demo versions usually have the Save and Print functions disabled, but they're still good ways of seeing which package is right for you if and when you decide to shell out.

1. NEOCHROME MASTER

This version of *NeoChrome* has been completely updated by a member of the Delta Force programming team, bringing one of the oldest PD art programs bang up to the minute. Now included, along with the usual straightforward functions, are fully-functioning animation, full-screen display, improved user interface, a whole heap of drawing tools and many more enhancements to make this the best PD art program there is.
***STF* rating – 91%**

2. ANI ST

Originally released for £80 under the name *Aegis Animator*, this is now Shareware. It's more an animation tool than a fully-fledged paint package and specialises in morphological transformations – which means it can change one shape to another, calculating all the stages in between to give a smooth transition. Good results can be obtained with a little application, though it's probably not the best tool for straightforward sprite animations.
***STF* rating – 84%**

3. PALETTE MASTER

A little bit out of the ordinary in that it enables you to create full 512-colour pictures, though in practice you probably find that you use 20-50, because of a limitation of the number of colours you can have on one scan line. Has *Degas* and Neo importing functions, and pictures can be saved as stand-alone programs, though if you want to incorporate any into your own programs there is info included for doing so.
***STF* rating – 82%**

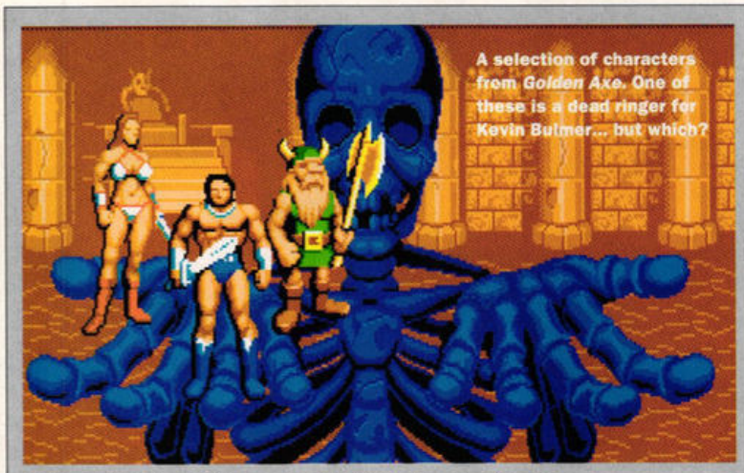
4. ATARI IMAGE MANAGER

Intended more for retouching existing pictures, particularly digitised images, than for creating them from scratch. Spurious visual "noise" can be eliminated, contrast altered, areas highlighted and so on, until you achieve the perfect picture.
***STF* rating – 79%**

5. MEGABLIT

The difference with this one is that your pictures may be anything up to 2,560 by 1,920 pixels in size – but only on a mono monitor with at least 1MByte RAM. Has *Degas* import/export options and a wealth of drawing tools.
***STF* rating – 78%**

www.stformat.com



A selection of characters from *Golden Axe*. One of these is a dead ringer for Kevin Bulmer... but which?

KEVIN BULMER

Just finished *Terminator 2* at Ocean

Previous Projects: *Corporation, Gauntlet 2, Resolution 101, Golden Axe, Mickey Mouse, Italia 1991, Dragons of Flame, Shadow Sorceror, Galaxy Force*

Background: "I'm a trained graphics artist, and I've got my own studio. I was always very interested in animation, and exploring avenues other than conventional pictures. When I started experimenting with computers I was so taken with them I moved away completely from my previous work! I started on a ZX81 – you can't get more fundamental than that – and moved up to an 8-bit Atari. We got an ST as soon as it was released – ours was about the 22nd ST ever imported into the UK! I spent most of my time trying to convince the software houses that the ST was the way forward – at that time everything was on 8-bit."

How did you get into professional graphics? "When US Gold said they might need a conversion of *Gauntlet* we were first in line. At that time Gremlin Graphics were in close collaboration with USG, so when the word came from USG to start the conversion we worked with them quite a bit. After the game was released, Gremlin moved away from USG. We did *Gauntlet 2* freelance and decided to stay in the computer graphics business. It's the best thing we've ever done."

Favourite Picture: "It's very hard to come up with one. On the wall of my office I have three MC Escher pictures – the three classics: the never-ending staircase, the impossible waterfall and the hands drawing each other."

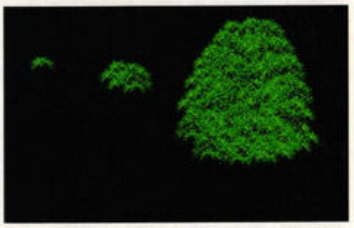
Favourite Graphic: "The scenes from *King's Quest 5* on the PC [soon for the ST] impress me a lot, although they've been hand-painted and then digitised, so I suppose it's cheating really."

Favourite paint packages? "We believe you should pump money into technology, so we've got a lot of very expensive stuff we can do wonderful things on, like the polygon heads at the beginning of *Corporation*. On the ST we use the whole range of Cyber packages – *Cyber Studio, Sculpt,* and so on. There's nothing to touch their ease of use. We've also got an Amiga 3000 with a 24-bit graphics board, which gives a resolution of 8,000x8,000 pixels with 16.8 million colours. We then use a program called *Rasta-Link* to convert these displays to ST, PC and Amiga screens – 16 million colours down to 16!"

SO YOU WANT TO BE A TREE

One of the items that crops up time and time again in games of all persuasions is the tree. It also happens to be one of the most difficult natural objects to draw, as anyone who's tried can tell you. That's if you try to do it "by hand." The most helpful technique is not to concentrate on drawing each individual leaf, but go for the "Gestalt" or holistic approach.

- Using your art package's airbrush function and a smallish nozzle, spray in a semicircular motion with a dark shade of green and again with a slightly lighter shade
- Now cut and copy this basic shape into the copy buffer. The shape is then pasted repeatedly onto itself with an overlap, so it's layered. Try to follow the basic "classic" shape of a tree: narrow at top, getting wider in the middle and then narrowing again slightly, like a pear upside-down
- You might want to airbrush a very small amount in black on the places where you'd be able to see through the boughs, just to give some shadow effects, and draw in the trunk and branches



A tree drawn as above. (You call that a tree? Looks more like a pretty wimpish bush to me – or Cousin Itt from the Addams Family gone a bit mouldy...)

JARGON BUSTERS (or "That's enough graphic language, pal")

Anti-aliasing: graphic displays with a relatively low resolution, such as the ST's, cause problems when you try to display diagonal lines. Instead of appearing smooth, the line is broken into a series of steps because there just aren't enough pixels to convincingly form the line, a process called aliasing. The problem may be lessened somewhat by shading the boundaries between the two contrasting colours with many shades of a suitable colour, giving a more gradual transition between the areas and smoothing out the line – anti-aliasing. One side-effect is that the whole display then tends to have a softer appearance. Anti-aliasing is almost never used in games because it takes so many colours to do effectively that it's very easy to run out of shades. See also *jaggies.*

Cut and paste: to delimit an area of the screen and copy it to a temporary storage area, before using it somewhere else, perhaps more than once. For instance, to draw a bush you could just draw one leaf, copy it to the paste buffer, and then simply use that image over and over again (perhaps rotated or flipped) to build up the complete bush.

Depth cueing: mainly used for 3D graphics, this is the technique of shading parts of an object intended to appear farther away with darker shades, reinforcing the impression of distance.

Depth sorting: see *hidden line removal.*

Dithering: a technique of mixing two colours in a "chessboard" pixel pattern. The colours don't literally "mix" in the way that paints do on a painter's palette, but they effectively blend visually, producing what looks like a third colour, halfway in tone between the two original shades. This is the usual way to produce what looks like more than the standard number of colours.

Flat/Phong/Gouraud shading: in simple terms, three algorithms used to shade 3D objects, giving increasingly sophisticated and realistic results. See the 3D feature in *STF* 23 for a fuller explanation – and see page 136 to order that issue if you missed it.

Gradient or shaded fill: like a normal fill, but using a range of similar shades to produce a smooth transition from one colour to another. More effective with displays using 512 colours (or more).

Hidden line removal: wireframe graphics (see below) may be displayed in two ways: as completely transparent objects, so that you can see every line used in their construction (as if they really were made of a frame of wire), or as solid objects (without shading), showing only those lines that would be visible in real life. The process of removing the parts you can't see is called hidden line removal, or "depth sorting," it is very processor-intensive and can often take a very long time.

Jaggies: common term for lines that display aliasing – see *anti-aliasing* above.

Mask: An area of colour used to blank the area of the screen where a sprite is to be displayed, to prevent the sprite overwriting the background when it's displayed. More details in the animation feature in *STF* 23.

Palette switching: technique used to give more than the "legal" number of colours on-screen at once. It basically involves changing the palette of part of the picture as the electron gun (the mechanism that actually displays the picture in the monitor or TV) physically moves down the display, so that the display as a whole contains more colours. Requires very accurate timing and is too processor-intensive to be used for much except backgrounds.

Raytracing: a way of colouring and shading 3D scenes by tracing the rays of light that would fall onto the objects from the light source and setting the colours appropriately. This process gives extremely realistic results, with shadows, reflections and refractions, but it has to be repeated for each pixel, taking immense amounts of time to produce even one frame and requiring many different shades to work effectively.

RGB: short for red, green and blue, the usual system used to quantify a colour. All colours are built up out of the three basic ones, and RGB numbers specify what amounts of red, green and blue are present, out of a specified scale. On the ST, for instance, there are eight levels of each colour (8x8x8 = 512 colours in total), so RGB 700 would be pure red, and 777 is pure white. The STE has 16 levels of each, making 16x16x16 = 4,096 colours.

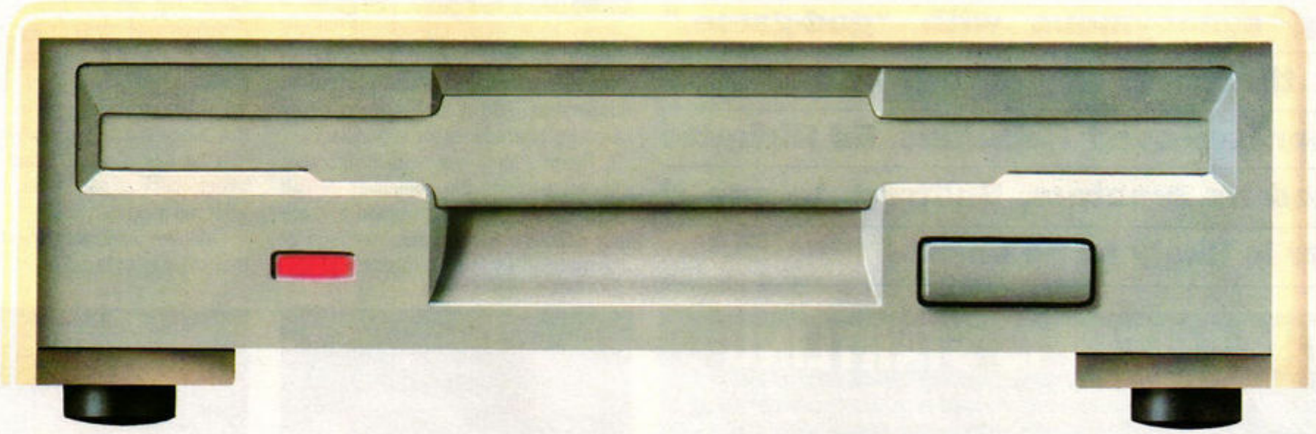
Sprite: a term commonly applied to any game character (usually mobile) that is animated, whether or not it is controlled by the player.

Wireframe: the simplest representation of a 3D object, made up of lines showing the object's edges, as if the object actually were made of a frame of wire. See also *Hidden line removal.*

Z-buffering: simply put, part of the technique used to decide which lines should be displayed during *hidden line removal* (see above).

www.stformat.com

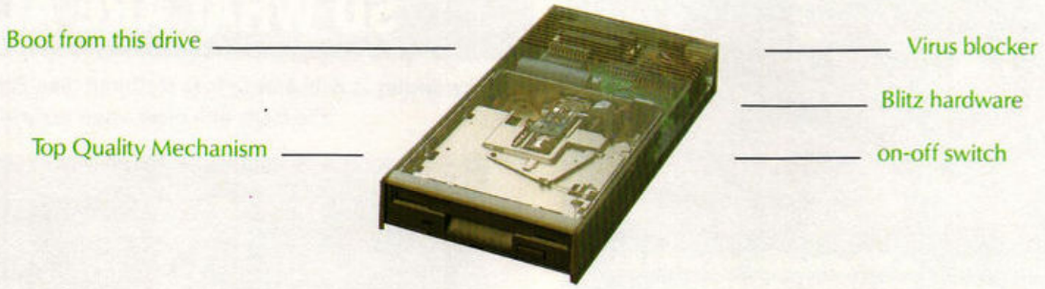
Where you can stick it.



Viruses, disk swapping, single sided internal drives, disks which won't back up. Is there no end to the whingeing of the Atari user?

At Power, we want to tell you just where you can stick your disks and worries. In fact we will show you. The slot in this picture belongs to our PC720B, the first intelligent disk drive. Insert a disk.

Now you can boot from it*, back it up at lightning speeds using the inbuilt Blitz Turbo hardware, with free, new software, (even if the disk is from a PC). And if your computer picks up a virus, the switchable virus blocker will protect both your drives (a bit like a hardware write-protect).



When you do not want these features, switch them off and the PC720B will pretend to be simply an extra drive.

The PC720B, the only drive to include Blitz Turbo, lets you boot from an external drive and combat viruses, is only available direct from Power, priced at just **£65**.

We have noticed how pricey unintelligent drives are. Perhaps, its your turn to tell people where to stick it.

*Internal drive is disabled while this feature is in use. Compatible with most models of Atari ST

1988 COPYRIGHT ACT
Power Computing Ltd., neither condones nor authorises the use of it's products for the reproduction of copyright material.
The backup facilities of this product are designed to reproduce only software such as Public Domain material, the user's own programs or software where permission has been clearly given.
It is illegal to make copies, even for your own use, of copyright material, without the express permission of the copyright owner, or the licencee thereof.

£65

Only available at

POWER COMPUTING LTD

Unit 8 Railton Road Woburn Road Industrial Estate Kempston Bedford MK42 7PN

Tel: 0234 843388 Fax: 0234 840234

Price includes VAT and is subject to change. Specifications are subject to change without notice.

www.stformat.com

A BRAVE NEW WORLD

The name *Populous* has virtually passed into the English language as being synonymous with "god-game." Now there's a newer, better and altogether improved *Populous*. Ed Ricketts visited its creators, Bullfrog, to see if a star is likely to be born.

Ever since the release of *Populous* three years ago – the game that spawned a thousand imitations (nearly) and started a completely new genre, god-games – people have been clamouring for its sequel. It's only now that the wildly-named *Populous 2* is about to make an appearance. And it looks set to easily overtake its predecessor in popularity.

Peter Molyneux, Bullfrog. big cheese, explains the objectives behind the second game. "We wanted a game that used the same basic methods of construction as *Pop 1*, raising and lowering land, but one that made you care more about your people rather than going all out for world domination. We've kept the basic gameplay the same, but we wanted more effects. *Populous* was really really badly written – the effects in it were so crude. So we included everything that was lacking from the original game in *Populous 2*. But everything is a double-edged sword – it all has a good effect and a bad effect, so you can never be sure just what will happen."

Another important specification was that the game, like the first, must be in

THE EFFECT IS STARTLING

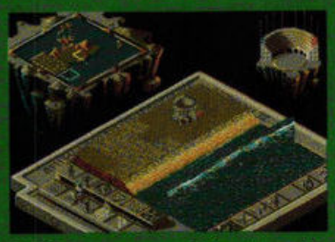
The casual *Populous 2* player is likely to spend all his time throwing effects at the other player and ignoring his own people – great fun but not really the way to play.

● The rain of fire can have a devastating effect, destroying any houses and people in a localised area. It doesn't have a lasting influence, though, because the landscape isn't altered in any way.

● "Pimples" initially sound pathetic. All the effect does is to randomly raise the land slightly in a selected area. Apply it for a longer time and it causes serious problems – the area becomes almost uninhabitable.

● Convertors are small holes in the ground. When people fall into one of them they are instantly converted to the other player's allegiance, so placing these in the enemy's camp can cause mass defection.

● The earthquakes happen the way they should have happened in Populous. Huge rifts appear in the ground, swallowing up people and houses, should any be on the fault line. They're a pain to remove too.



● Tidal waves can only be stopped by building a sea wall. Even the smallest gap in a sea-front wall lets the wave through, whereupon it starts spreading out again, turning your rolling fields into water.

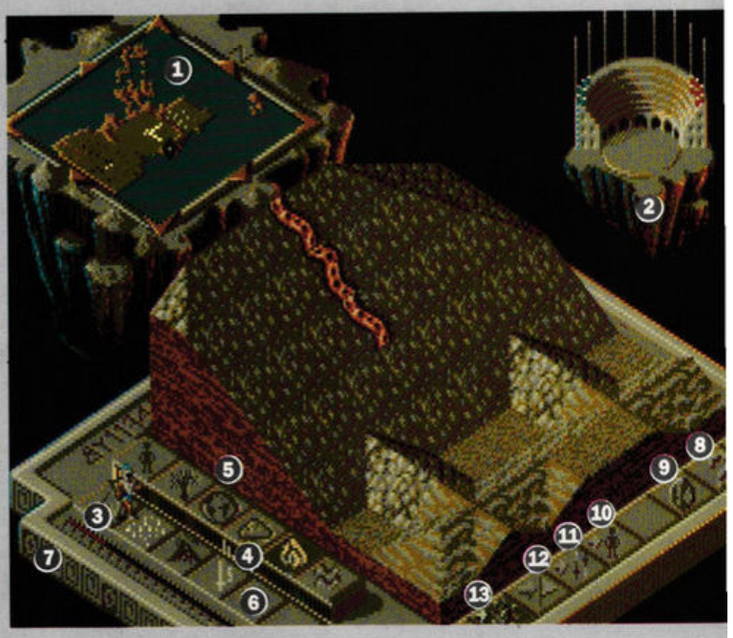
● The storm, though not a major effect, lasts for a fair time. Lightning arcs down from the clouds and strikes houses and people who promptly turn to ash, though they can sometimes survive a hit.

● Custom worlds can be created in the same way that they're developed in *Populous*. The panel in the top right gives you all the information you need to set up an easy-peasy world to stomp all over the opposition. Set the useable effects, intelligence rating and land effects for a tailor-made game.

● The volcano is the most spectacular effect you can use. A long animation sequence shows the land rising up. The top of the new mound then splits and lava pours out across the land making it impossible to build on that area in the future. Anything in the path of the lava is immediately destroyed.

SO WHAT ARE ALL THEM

The display is deliberately less cluttered than *Populous*, but some of the icons still need some explaining.



www.stformat.com

real time. "I hate games which flick the screen and stop the action. We wanted to design something which worked completely in real time and over which you never had complete control – you could only influence certain elements."

The game contains no original *Populous* code at all and runs at 25 frames a second, which basically means very fast. It will *probably* run on a 520 but there may be some features missing. "It's becoming very hard to write big games in half a meg these days," Peter says. For once, the game will certainly be hard disk installable – though you'll need 1MByte for that.

There are four sorts of game: the standard Conquest game, similar to the original *Pop*, where you complete landscapes and advance according to your score; the Problem game, where you're given a defined city and defined problems and have a time limit to solve the problems; a Challenge game, which presents you with a pre-defined city and gives you a set time to prepare for the disaster that is guaranteed to hit it; and a Custom game where you can set up your own landscapes.

The premise of *Populous 2* is this. As a god, your job is to keep your people happy, thus boosting your "manna rating." This is achieved mainly by giving them plenty of flat land to build their houses on, so they procreate and make even more happy people. Naturally, the other player (ST-controlled or human) is up to the same thing and tries to thwart you in any way he can.

Each player has a number of effects he can use to slow the other player's progress, with the eventual aim of wiping out the opposition altogether. The manna rating dictates just which effects you're able to use, and also the strength of those effects.

That, in a nutshell, is it. But that's like saying the Sistine Chapel has some nice paintwork. Take the number of effects: there were a paltry six in *Populous*. *Populous 2* has 36, divided into six groups: People, Vegetation, Earth, Air, Fire and Water. According to your speciality, you're more adept at some groups than others, and some effects aren't available at all, though as you progress and become more proficient you're able to access more effects. They range from the mild to the completely devastating. In the Vegetation group, for instance, there is an effect to make trees begin to grow. These spring up gradually and improve the living conditions for your people – the good side. The bad side comes when they start spreading too rapidly and encroach upon the living space. Conversely, the most dangerous and spectacular effect is the volcano. Rising slowly from the ground, the volcano splits at the top and starts spewing out lava, which runs down the side and onwards, burning everything in its path; houses are carried along by the flow and eventually burn up, too. Eventually the lava solidifies and forms new land, which is impossible to do anything with. There is no defence whatsoever against a volcano, so as you can imagine it's the most expensive effect in terms of manna to reach.

"We'll be doing a Celtic disk, for instance, and if there's the demand an Egyptian and maybe a Norse one."

PETER MOLYNEUX

There are other more subtle effects, too. Fungus, for instance, is initially laid down in any pattern you choose, but grows according to the rules of Life, an old algorithm with simple rules that can create extremely complex patterns (much like a Mandelbrot set). If you know the way the algorithm works, it's possible to create such a pattern so that the fungus only spreads in the enemy's direction. Depending on whether you specialise in Vegetation effects, the fungus either infects any life it touches and kills it off or simply shifts people out of their houses – either way it's damned awkward.

Just to complicate things even further, some effects combine. A whirlwind, for instance, normally sweeps people up and carries them off towards lower ground, which generally means they're dropped off in the sea where they're more than likely to drown. As the whirlwind whips up the sea, however, it forms a whirlpool, which whizzes off toward the land and eats it away. It's this sort of behaviour which means you're never sure just how the effects are going to turn out.

People effects are among the most interesting. For each group of effects you can call a hero to aid you. These are not directly controllable – they simply head towards the enemy and do their stuff until they're killed, much like the knights in *Pop 1*. Each hero has its own foibles: the hero for the Vegetation group, after killing an enemy, splits into two; each of those parts then splits into two, and so on. Naturally the parts become weaker with each split – otherwise the hero would be almost invincible. Helen of Troy lures the enemy to follow her with a somewhat suggestive wiggle of the hips; then, when she's got enough people hanging on her every footstep, she leads them straight into the sea. Exit several gullible inhabitants.

The concept of towns has been expanded, too. Rather than having lots of disparate little houses dotted round your landscape, it's to your advantage to plan your cities carefully. Not only can you lay down roads (which your people use in preference to rough ground), but you can surround an area with castle walls, effectively creating a city. It's impossible for anything to destroy these walls by raising and lowering land – only earthquakes (which cause huge rifts in the ground), certain heroes and some other effects can do it. The down side is that people won't settle near the walls, because they're scared of attack.

Cities take on a whole new meaning when you consider that saved games from *Populous 2* can be loaded into *Sim City* (and vice versa). Obviously altitude is lost and certain of the features changed (city walls become rivers, for example), but according to Molyneux there were very few problems in converting between the two game formats. The only real problem is that the *Sim City* playing area is much larger than *Pop 2's*, so *Pop's* cities appear as islands in the middle of a large sea when loaded into *Sim City*.

It's not only houses and cities that the people build. Sometimes they build temples in favour of certain gods. Which god it is may affect the strength of certain of your effects, but that's not the most important ramification. If a god's temple is destroyed by you in any way – an errant effect, for example – the god will be positively furious and bring his wrath down on you. Not only that, you'll be banned from using that god's effects again until you finish the landscape, which could be seriously limiting.

There were a paltry six effects in the original Populous. Now Populous 2 has 36, divided into six different groups

Populous 2 is optimistically due for release in October, but already Bullfrog are talking about add-on data disks. "All of the effects are stored as separate sections of code," Peter says, "so all a data disk would have to do is replace that particular section with the new graphics and program code. You can create completely different games – we'll be doing a Celtic disk, for instance, and if there's the demand an Egyptian and maybe a Norse one." *Populous 3* has even been mooted – but if *Populous 2* succeeds, there seems little point. As Molyneux says: "We want *Populous 2* to be the greatest game of all time." ***stf***

As we write this page, Peter has said Bullfrog are looking to take the playing area up to a full screen size. This would make it one of the first games of its type to use the full screen.

LITTLE PICTURES, THEN?

1 Overall map of the world, which shows you and your enemy's people and houses, plus any effects currently taking place. The arrows around the edge enable you to move in the appropriate direction. Alternatively, click directly on the landscape to zoom straight in.

2 The colosseum shows you at a glance the size of each player's populations, the weapon being used by any currently selected inhabitant and its intelligence. This gives you a useful indication of when you should stop developing land and start laying into your opponents.

3 The red bar and the little running man both indicate the level of manna available for the selected group of effects

4 These bars show you at a glance how many effects in each group are available to you with your present manna level. The more manna you have available, the more impressive and devastating the effects on offer. Just remember, your opponent retaliates.

5 Clicking on these items changes the current effect group: People, Vegetation, Earth, Air, Fire and Water are the ones available.

6 These icons represent the individual effects which are available within a group.

7 Cheat icons – mess around with them and see what they do!

8 Shows information on whatever is currently selected.

9 Global options – sets things like game speed, intelligence etc.

10 Instructs people to join up with other people if they see them. Otherwise, they must settle.

11 Orders your people to fight the enemy if they can spot any, or otherwise settle.

12 Settle mode.

13 The Papal Magnet – used in the same way as the one in *Populous*.

www.stformat.com

DEAL DIRECT DEAL DIRECT

SAME DAY DESPATCH

AT LAST!!

ALL PRICES INC V.A.T

A PREMIER TRADE SUPPLIER COMES DIRECT TO YOU - THE PUBLIC!

31/2" DISKS

Large or small users - we have the prices for you!

SONY D/S D/D 135 tpi

50's	42p each	£21.00
100's	41p each	£41.00
400's	37p each	£148.00
800's	34p each	£272.00
1200's	33p each	£396.00

MITSUBISHI D/S D/D 135 tpi

50's	37p	£18.50
100's	33p	£33.00
400's	30p	£120.00
800's	28p	£224.00
1200's	27p	£324.00

3 1/2" DISKS FROM 27p inc VAT

All disks are PIN numbered and carry a 100% quality control/no quibble guarantee. Disk labels supplied

STORAGE BOXES

31/2" (10 capacity box) "Slimpak"	£0.95 each
31/2" (10 capacity box) "Slimpak" see through	£0.95 each
31/2" (10 capacity box) see through "Vision 10"	£1.00 each
31/2" (40 capacity box) lockable disk storage box	£3.50 each
31/2" (50 capacity box) lockable disk storage box	£3.95 each
31/2" (80 capacity box) lockable disk storage box	£4.30 each
31/2" (100 capacity box) lockable disk storage box	£4.95 each
31/2" (120 capacity box) lockable disk storage box	£6.50 each
31/2" (150 capacity box) lockable & stackable	£22.95
31/2" 'POSSO' stackable box (holds 150)	£15.95
31/2" 'BANX' lockable/stackable (holds 90)	£7.95

All disks boxes are anti-static, contains keys, dividers and rubber feet (with the exception of 10's)

ACCESSORIES

Printer Stands (80 col)	£5.50
Printer Stand with tray (80 col & 132 col)	£6.95
Tilt 'n' turn monitor stands for Atari	£9.95
Four Player Adaptor	£4.95
Data Switches (2-way serial or parallel)	£15.95
Mouse/Joystick Extension	£3.95
A4 Desk Top Holder	£7.90
Mousemats (deluxe) red, blue 8mm	£2.95
Mousemats 5mm packaged	£1.95
Mousebrackets	£1.50
Atari printer leads	£3.95
31/2" cleaning kits	£1.95
Atari Dust Covers	£3.50
Star LC10 Dust Cover	£4.95
Roll of 1000 3 1/2" labels	£6.95
1000 Tractor feed labels	£9.95
Mouse/Joystick Switches manual	£9.95
Star LC24 200 dust cover	£4.95

PRINTER RIBBONS

	QTY1	QTY5	QTY10
Amstrad DMP 2000/3000	£2.90	£2.60	£2.20
Amstrad DMP 4000	£3.90	£3.60	£3.20
Amstrad PCW 8256/8512	£3.50	£3.20	£3.00
Amstrad PCW 9512	£2.90	£2.60	£2.20
Brother HR15/20/25/35	£2.50	£2.30	£2.15
Brother M1009/1109	£3.90	£3.60	£3.20
Citizen 120D/LSP10	£2.90	£2.70	£2.40
Epson MX/FX80/85/800	£2.90	£2.70	£2.40
Epson FX100/105/1000	£3.60	£3.40	£3.10
Epson LX80/86	£2.90	£2.70	£2.30
Panasonic KXP 1080/81/82	£3.90	£3.70	£3.20
Star LC10	£2.90	£2.70	£2.40
Star LC10 4 colour	£5.90	£5.30	£5.00
Star LC24 200 mono	£3.90	£3.60	£3.20

PLEASE NOTE THAT THIS IS JUST A SMALL SELECTION OF OUR LARGE RANGE. TELEPHONE 0530-813591 FOR PRICING ON OTHER RIBBONS NOT LISTED

RAM EXPANSIONS

520 ST 512K Ram solderless	£69.95
520 ST Ram upgrade with unpopulated board	£59.95
520 STE 1Mb Ram (2 x 256K Simms)	£39.95
520/1040 STE 2Mb Ram (2 x 1Mb Simms)	£114.95
4Mb expansions available	£POA

Features include: ON/OFF memory switch, auto-recharge battery backed clock, 4 low power fastrams.

SPECIALS

Star LC10 Mono Printer	**£158.95**
Star LC200 Colour Printer	**£209.95**
Star LC24-200 Colour Printer	**£279.95**
Philips Colour Monitor	**£249.95**

(ref. CM8833)

11 x 91/2 S.P plain 70 GSM Micro per paper

Pack 100	£2.50
Pack 250	£3.95
Pack 500	£5.95
Pack 1000	£8.95
Pack 2000	£16.95

ATARI

OMC ATARI STFM STARTER PACK

COMPRISES:
Discovery Pack incl. usual software
1/2 Meg additional RAM upgrade (solderless)
3 1/2" external disk drive with own PSU
10 3 1/2" DS/DD disks
1 (40 cap) lockable storage box
1 mouse mat, 1 mouse, 1 mouse bracket
1 joystick, 1 Atari dust cover

RRP £575

OMC PRICE £414.95

OMC ATARI STE STARTER PACK

With all items listed above
RRP £1000.00

OMC Price £374.95

Also available with 2 or 4 Mb RAM fitted - Prices on request

ATARI

Atari Discovery Pack	£269.95
Atari STE Turbo Pack	£289.95
Atari 1040 STE Family Curriculum	£389.95

ATARI LYNX

Hand held colour console including California Games & Power Pack

ONLY £119.95 inc. VAT

DISK DRIVES

31/2" External disk drive for Atari, Slimline design colour co-ordinated throughport connector. 1 year guarantee Double sided, own power supply unit.

ONLY £55.95 inc. VAT

SOUNDBLASTER

ZY FI

Twin stereo amplified speaker system for the Atari. Built in power supply, easy fitting instructions included

ONLY £39.95

JOYSTICKS

Quickshot II Turbo	£7.95
Quickshot III Turbo	£8.50
Quickshot III Tubo Microswitch	£8.95
Quickshot Maverick	£12.95
Quickshot Maverick Microswitch	£12.95
Quickshot Star Fighter Infra Red	£29.95
Quickshot Apache	£6.50
Zipstick Autofire	£10.95

Plus many more stocked!

MICE

Atari ST mouse, two button fully compatible replacement	£17.95
Naksha incl. 2 year warranty mouse mat and mouse bracket	£26.95
Geniscan GS4000 Scanner	£159.95

TO ORDER

CHEQUES AND P.O.'S PAYABLE TO OMC LTD AND SEND TO ADDRESS BELOW.
CREDIT CARDS SIMPLY TELEPHONE YOUR ORDER ON 0530 813591 (8 LINES) or 0860 922436 (mobile)
FAX 0530 813595 FOR OUR IMMEDIATE ATTENTION

VISA

Access

THE ORIGINAL MEDIA COMPANY LTD
DEPT ST, MEDIA HOUSE, UNIT 14, ASHBY ROAD, COALVILLE, LEICS LE6 2LA

TEL 0530 813591(8 lines) or 0860 922436 (mobile) FAX: 0530 813595

Trade a/cs welcome. All prices include VAT at 17.5%. Corporate, education orders welcome. Personal callers welcome
Delivery costs: 3-5 day TNT £3.95. Next day courier £8.95

DEAL DIRECT DEAL DIRECT

www.stformat.com

The king of the DAs

Desk Accessories can be the hero of the hour when you desperately need to format a disk inside *First Word*, and the villain of the piece when you've run out of memory (again!). But a few are destined always to wear white hats and halos. Ed Ricketts takes a look at *Harlekin 2* – a Desk Accessory that monitors its memory needs and even sets up crash barriers.

Harlekin 2

MACHINE: ALL STs
PRICE: £59.95 (£24.95 FOR UPGRADE)
FROM: HISOFT
CONTACT: ☎ 0525 718181

Take a look at the Desk menu on your Desktop. There they are, lurking in your ST and gobbling up all the memory – Desk Accessories. Six is never enough, is it? You always want that little program that does nothing remotely useful running in the background, but there's just no room for it. Unless you're a *Harlekin* user, that is. *Harlekin* was the do-it-all Desk Accessory released last year (and awarded 89% in *STF* 12 – to order this issue, see page 136) that incorporated all the functions you could ever want, yet only took up one slot. Now it's been revamped and re-released in the guise of *Harlekin 2*.

From the main *Harlekin* menu you have access to 15 separate modules, including a text editor, a manager, a comms program, a monitor, a calculator, an ASCII table, the control panel, file and disk utilities, a RAMdisk, a printer filter, a clock and alarm, a macro program and a cuddly toy. These are identical to those in the original *Harlekin*, but their operation has changed in three main ways.

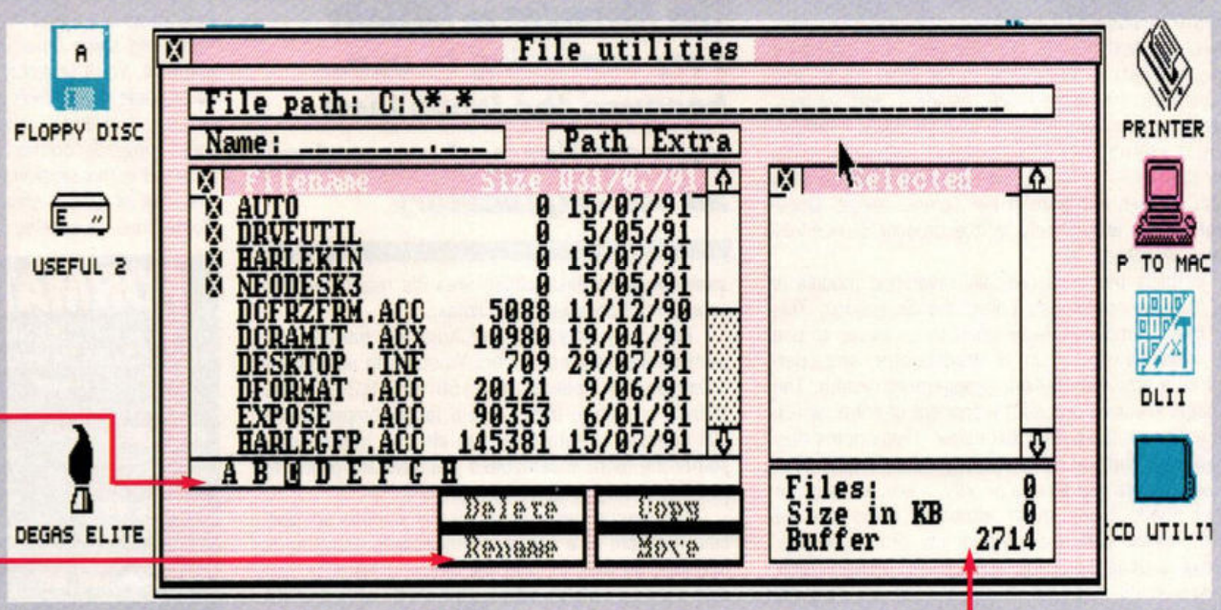
The first is that *Harlekin* now works on any size ST from the bog-standard 520 to the Mega 4. This is achieved by not having it all in memory at once, and only loading the relevant module when you need it. Although this sounds fine in practice, for floppy disk users – 90% of ST owners – it means (a) having the *Harlekin* disk permanently handy, and (b) waiting around every time you need to access something – though it doesn't really take very long to load most modules.

The next change is in the way it uses memory. From the main menu, you allocate the total amount of

From the main Harlekin menu you have access to 15 separate modules including text editor, control panel, comms program, file and disk utilities...

FILE UNDER "SELECTOR"

Harlekin 2's new file selector is a godsend to everyone who's had to labour with the GEM model, and outperforms any of the current PD alternative selectors. It's also the basis for the file utility menu, which offers file copying, deleting and renaming. Similar facilities are available from the Disk menu, where you can format or copy a whole disk.



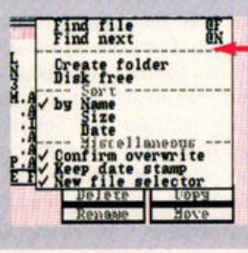
Click on these to access any currently available drive

File manipulation options

Selected files for copying, deleting and so on are listed here, along with their total size at the bottom

Normal file and folder display, with date and time of creation to the right

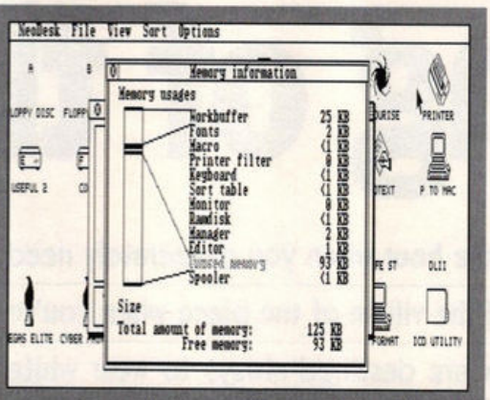
The "Path" drop-down menu gives you ten user-definable paths – click on any of them to access that folder instantly



"Extra" contains all the other bits you might need – folder creation, preferences, and file-finding utilities

WE'RE THINKING OF ADDING AN EXTENSION

A major innovation is the inclusion of *Harlekin* Programs or HPGs. HPGs are accessed from the second page of the main menu, and are basically extensions to the main *Harlekin* program. If you have a reasonable knowledge of C or assembly language you can use the supplied libraries to write your own utilities. In theory this makes the program infinitely expandable: it means that third party companies (or anyone at all) can write their own extensions to *Harlekin*, and thus customise it completely. This "extension module" idea is the same as that used by the Apple Macintosh and the new Atari Control Panel (as seen on the TT and on last month's Cover Disk).



● The most useful module supplied with *Harlekin 2* is the memory HPG, which shows you immediately how the memory pool is being used. There are others to convert the old Scrapbook to the new Manager format, and to change the system vectors *Harlekin* uses, in case of compatibility problems.

memory available to all of *Harlekin*'s modules – memory that is optionally reset-survivable, in which case all data in every module is saved in the event of a crash. This is set at boot time, and each module dynamically takes as much as it wants as and when it needs it from this pool. This means the memory is only being used by the active modules.

The last and perhaps most useful change is that you no longer need to run a separate configuration program to change macros and suchlike. Every aspect of *Harlekin* 2, with the exception of memory allocation, may be changed from the main menu, and comes into effect immediately – there's no need to save and reboot. All the information on your current set-up, including fonts, keyboard layout, RAMdisk size and so on, can be saved to a configuration file.

The text editor is fairly basic. It contains the usual cut and paste functions, as well as storage to an external clipboard that other programs may use. Source or text modes are available, the difference being that text is formattable in the latter mode, and pages may be printed with headers and footers. Search/replace functions are also included; however, there is still no form of justification. In operation, it's very speedy – up to *Protext* speed and maybe even faster, though not quite in the *Tempus* range. Document size is limited only by the amount of memory you've allocated.

Perhaps the most radically revamped module is the *Manager*, previously called the *Scrapbook*. This has been completely redesigned to be easier to use and more powerful than its predecessor, and operates as a time/information management system. The *Manager* revolves around the concept of notes, which you write with the built-in text editor. These notes may be any size and you can then assign them any or all of an icon, a date and time, a priority, a key, an alarm or a tick mark. Using these attributes notes can be listed, sorted and displayed in any order you like. Sorting is done using the **AND/OR** and **EQUALS/NOT EQUALS** icons. Say you create an icon for Personal notes and one for Office notes – you can mark a note with both of these, so sorting on notes with both Personal **AND** Office icons with the **EQUALS** icons selected will include that note. Doing the same with the **NOT EQUALS** icon includes all notes with neither a Personal nor an Office icon. Day, month and year displays give you at-a-glance reminders of selected notes with their connected dates, and the alarm can be set on any note to sound whenever you like.

You can print selected notes in a variety of ways. Priorities from A to C and a four-letter key can also be added for further identification and sorting, and you can set notes to automatically repeat weekly, monthly or yearly, as well as automatically moving forward to the next day if you don't acknowledge them by marking them with a tick (so they keep nagging you until you go away). One nice touch is that if you have an autodial modem connected, you can automatically dial any number included in any note simply by placing the cursor on it and using the Dial icon.

The *Manager* is initially very confusing to use, even if you're used to the old *Scrapbook*, because the icons look very similar and are not at all self-explanatory. Thorough exploration is recommended before you can begin to appreciate all the *Manager's* facilities. Whether it's actually of any use to you depends on whether you need to store information that's date dependent, because although you could use it as a straightforward data-holding area it's really designed as a form of computerised Filofax.

The Manager is initially very confusing to use... because the icons look very similar and are not at all self-explanatory

Previously only including Xmodem transfer, the terminal program now offers Ymodem to upload and download, at speeds from 50 to 19,200 baud. There's a capture buffer and a fairly comprehensive dial directory. Characters may also be translated to something more acceptable if you have any problems sending or receiving certain codes.

The macro menu opens up tremendous possibilities. A macro is a series of keypresses assigned to one key, so that, to take the simplest instance, you can put your whole address on F10, obviating the need to type it out in full every time. Commands, too, can be assigned. If you regularly need to search through your documents replacing "tango" with "prehistoric," the necessary keypresses – call the Search menu, type in the text, and set it going – can be put on to a single key. Macros are also available to call each of *Harlekin*'s modules. With a little thought the amount of tedious typing you do can be cut in half.

From the Control Panel you can do the normal things like changing the double-click speed and the keyboard repeat rate, but there's a lot more to it than that. From here you can edit, load and save both the system fonts and the keyboard layout, accelerate the mouse and activate a screen saver.

If you've ever used a monitor you know how useful they can sometimes be. *Harlekin's* monitor gives you disk, file and memory editing, a search (but not, unfortunately, replace) facility, hex/ASCII display and a printer dump. All the functions are straightforward to use and well error-protected, though it would have been nice to have a full-window ASCII display.

You can change the size of the RAMdisk at any time, but only within the limits of the allocated memory. Any files present in the RAMdisk can be saved as one large contiguous lump. This file is then loaded into the RAMdisk at boot-up, cutting out the need to fiddle about with lots of individual files.

Harlekin's printer filter intercepts characters sent from the ST to the printer and outputs the correct code for the printer to use. Most printers, for instance, use ASCII code 35 for the £ sign, while the ST uses 156. The filter changes every occurrence of 35 to 156. Filters are written as plain ASCII text files, following some fairly complex rules – so unless you know a lot about the way printers and their software works, you'd best get a tech-head to do it for you.

There are several other minor utilities. Printer and RS232 settings may be altered, as can the time and date. There's an on-screen clock with an alarm, a calculator (which unfortunately hasn't changed at all from the first version – a shame because it's very basic and easy to overflow), and an ASCII table which displays the entire ST character set with its codes.

If you've never used *Harlekin* before, get hold of *Harlekin 2*. It has every utility you could want, and being an Accessory, it's always available (provided there's a GEM menu present, of course). No one could pretend that £60 for a Desk Accessory is cheap, but if you can afford it, go for it. For existing *Harlekin* users, the choice is a little more difficult. There are really very few functional changes from the first program; apart from a redesign of the main menu and some other cosmetic touches, it's virtually identical. You'll probably only want to spend the £25 to upgrade if you can't stand being without the latest version. And there's also the fact that when another major upgrade comes along, you might wish you'd invested in this version. On the whole, *Harlekin* is still the king of DAs – though its slogan, "Dreams Can Come True," is pushing it just a tad. ***stf***

FORMAT RATINGS

***Harlekin 2* £59.95**
(£24.95 for upgrade from *Harlekin 1*).
Hisoft ☎ 0525 718181

FEATURES: 94%
An immense number of utilities included – everything short of a DTP program

SPEED: 90%
Uses its own screen display routines, so it's very fast. Disk access for floppy users can be annoying

EASE OF USE: 86%
The Manager is the worst culprit here, but in general everything's point and click

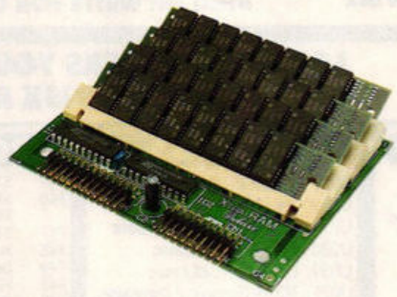
RESULTS: 92%
Does very little new, but it does it well

***FORMAT* VALUE: 91%**
Not by any means cheap (particularly if you're upgrading), but well worth it

THE COMPETITION
There are hundreds and hundreds of PD programs that cover some of the areas Harlekin does, and even some DAs that attempt the same job, such as James the Butler, but nothing comes close. Mortimer 2 from Kuma, coming soon, might pose a threat

www.stformat.com

Choosing a memory upgrade for your Atari ST just got easier!



Once Frontier's XTRA-RAM *Deluxe* is installed in your ST, you can upgrade in stages to 4MB whenever you like - it couldn't be easier. Includes a two year guarantee and a no-quibble ten day money back offer.

Is your ST always running out of memory? Frontier Software's new XTRA-RAM Deluxe is the easy to fit and simple to upgrade memory expansion that you've been waiting for.

Thousands of ST users have already upgraded their STs to 1MB or 2½MB using the original XTRA-RAM in their homes and offices without having to send their computers away. Now Frontier, makers of the original XTRA-RAM, introduce their new memory upgrade - The XTRA-RAM Deluxe.

The experience, quality and expertise that went into the best selling XTRA-RAM has been applied to the new XTRA-RAM Deluxe. The XTRA-RAM Deluxe will upgrade your Atari STFM to 1MB then 2½MB and then 4MB with easy to install SIMM memory cards. Your Mega 1ST can be upgraded to 2MB and then to 4MB. Mega 2STs can be expanded to the full 4MB. Once the XTRA-RAM Deluxe is installed in your ST, you can choose when to upgrade further - you simply change or add SIMM boards - just like the ST^E. You can even use these SIMM boards if you later upgrade to the ST^E.

Easy To Fit

Installation of the XTRA-RAM Deluxe couldn't be easier. Following the instructions laid out in our simple to follow manual which is written with the non-technical reader in mind, you disassemble your STFM or Mega ST, plug the XTRA-RAM Deluxe into two places inside your computer and reassemble it. The whole process takes around 1½ hours and most STs will not require any soldering whatsoever.

The XTRA-RAM Deluxe fits all MMU chips (including the 100109) whether they are soldered down or not. If your ST has a soldered down Video Shifter chip or a 101601 type MMU then some soldering will be required. You can do this soldering yourself or Frontier or your dealer can do it for you for a small extra charge. If your ST has a socketed Video Shifter chip and an MMU which isn't the 101601 type, then you can fit the XTRA-RAM Deluxe without any soldering whatsoever. If you need any further explanation of this, contact Frontier direct.

No Need To Stop At 1MB or 2½MB

Most memory upgrades for the Atari STs will give you a simple upgrade to 1MB for about the same price as the XTRA-RAM Deluxe. Some of these upgrades may be as easy to fit as the XTRA-RAM Deluxe, but they do not allow you to expand your ST further. Once the XTRA-RAM Deluxe is installed in your ST, all you have to do to upgrade further to 2½MB or 4MB is install extra SIMM memory cards into the empty sockets on the XTRA-RAM Deluxe. This is a very simple process which takes less than ½ hour.

Don't restrict yourself to just 1MB. Make sure that you choose an upgrade, like the XTRA-RAM Deluxe, which can grow with your needs.

Totally Compatible

The extra memory that the XTRA-RAM Deluxe gives your ST is totally compatible with all of your ST programs. The ST's memory controller chip logs in the extra memory and makes it available for your programs. You will automatically get extra memory for DTP, word processing, MIDI, running the Atari Laser printer and everything else that you use your ST for.

Software Included

Each XTRA-RAM Deluxe upgrade is supplied with free RAM disk and printer spooler software and a free RAM testing program so that you know with certainty that your installation has worked.

Satisfaction Guaranteed

The XTRA-RAM Deluxe is supplied under Frontier's ten day money back offer - if you aren't satisfied with the XTRA-RAM Deluxe for any reason you can return it to the place of purchase within ten days for a full refund (participating resellers only). The XTRA-RAM Deluxe also carries a full two years' guarantee. The XTRA-RAM Deluxe is designed and manufactured in the UK. Unlike some ST upgrades, Frontier guarantee that each XTRA-RAM Deluxe uses only brand new SIMM memory boards - making your ST and its memory upgrade more reliable both now and in the future.

Prices

Frontier supply the XTRA-RAM Deluxe in four ways:

- XTRA-RAM Deluxe Unpopulated (without memory) £39.99
- XTRA-RAM Deluxe ½MB upgrades your 520STFM to 1MB (can later upgrade your STFM to 2½MB and then 4MB) £69.99
- XTRA-RAM Deluxe 2MB upgrades your 520STFM, 1040ST to 2½MB, Mega 1ST to 2MB or your Mega 2ST to 4MB (can later upgrade your ST or Mega 1ST to 4MB) £119.99
- XTRA-RAM Deluxe 4MB upgrades your 520STFM, 1040ST and Mega 1ST to 4MB £199.99

Please add £3.00 postage and packing to all orders under £120.00. All prices include VAT. Frontier accepts payment by Visa, Access, Switch, cheque or postal order. Prices subject to change without notice. Goods subject to availability. Specification subject to change without notice.

Designed and Manufactured in the UK. Frontier also manufacture memory upgrades for the Atari ST^E.

Available from your local dealer, or direct from:

2 Year Guarantee

Frontier Software

MONEY BACK 10 DAY GUARANTEE

P.O. Box 113, Harrogate, North Yorkshire England HG2 OBE. Phone (0423) 567140/530577. Fax (0423) 522874.

www.stformat.com

MT SOFTWARE

PUBLIC DOMAIN, LICENCEWARE, SHAREWARE FOR ATARI ST/STE

MT SOFTWARE
Greensward House,
The Broadway,
Totland, I.O.W
PO39 0BX

☎0983 - 756056
9am - 6pm Mon - Sat (24hr)
RING OR WRITE FOR OUR *FREE* CATALOGUE

FOR EVERY 3 DISKS YOU BUY, YOU MAY CHOOSE ANOTHER DISK ABSOLUTELY *FREE*

COLOUR GAMES

G212 Number Guesser
G211 Pool, Roulette, Craps
G209 Bellum, Bubbles Magee, Blockade, Boggler
G207 Zog
G202 Zedonoid
G201 Pop Music Challenge
G200 Hunt the Wumpus
G198 Boing
G196 Llamatron
G195 Corewars
G151 Daniels Dungeon
G153 Froggy
G191 Droid
G192 Wizard
G193 Caverns of Nerak
G194 Haunted Monastery
G147 Jitterbug
G146 Bonk the Gonk
G143 Glob
G141 Boxing Champ
G123 Tracker
G122 Overlander
G121 Chance
G120 Escape From Ra
G118 Mutant
G117 Key to Atlantis
G136 Grand Prix
G127 Battle Command
G126 Wheel of Fortune
G125 Hedgehog
G124 The Name Game
G119 Chess
G110 Company
G109 Fruit Machine (not STE)
G104 Bermuda Race 2
G102 STumped
G072 Bumper Jack
G049 Tennis
G019 ST Vegas
G116 Chunnel - French Tutor
G044 Flight Simulator
G103 Top of the Pops
G011 Give Us a Break
G106 Die Alien Blob
G056 Empire Builder, Jumpster, Lost Treasure
G043 Treasure Search
G018 Floyd the Droyd

MONO GAMES

G131 Bounce, Pacman, Reversi
G130 Naval, Columbus, Arkanoid
G113 Napoleon
G076 Shanghai
G067 Pentimo
G064 El Bozo City, Sherlock, Squixx, Happy 4
G063 Around the World in 80 days
G029 Space Invaders, Chess, Arkanoid
G021 Puzzle, Pacman
G014 Andvril, Runners Revenge

ADVENTURES

G106 Don't Bank On It
G158 Pyramid of Muna
G159 Battle of Philips Against The Forces of Creation
G160 Underground Adventure
G162 Tamoret
G164 Sir Ramic Hobbs and the High Level Gorilla
G165 Quest For The Holy Grail
G166 Dragon Slayer
G167 Son Of Stagefright
G168 House Of the O's
G169 Fast Lane
G170 Crusade Adventure
G171 Adventures of Alice
G172 Paranoia
G173 Squynchia
G174 Elfs Adventure
G175 Star Portal
G176 Pork
G177 Easter Egg Hunt
G179 Ghost Town
G180 A Fable
G197 Operation Blue Sunrise
G208 The Mystic Well
G096 Dudley Dilemma
G084 Elven Crystals
G055 Hero
G038 Wizards Tower
G037 Under Berkwood

EDUCATION

G157 Noah
G199 GCSE Maths
G204 Franglais 2, World at Risk
G142 Dot 2 Dot, Kidcolour, Kidshape
G139 Mix 'n Match
G138 The Body Shop, Perfect Match
G137 Solar System Geography
G135 Geography Tutor
G134 The Search
G133 Zoo Maker
G098 Shipwreck
G094 Colouring Book
G079 Racing, Monkeys + Balloons, Spectral Sorcery
G041 Kidmusic, Kidpiano, Kidgraph, Kidgrid 2
G036 History File (3 disks)
G023 Kidpublisher, Kidsong, Numeric Go Round
G022 Kidpotato, KidsABC, Kidsketch, Kidstory
G016 Maths Made Easy
G009 Spelling Made Easy

EDUCATION PACK 1
5 DISKS ONLY £10.99
Lots of educational programs for the younger STer. Includes, Kidpotato, KidsABC, Kidsketch, Kidstory, Kidsong, Numeric Go Round, Kidpublisher, Number Maze, Kidmusic, Kidpiano, Kidgraph, Kidgrid 2, Colouring Book, Shipwrecked, Hangman

EDUCATION PACK 2
10 DISKS ONLY £19.99
★ NOW STE COMPATIBLE ★
A bumper education pack that includes G9, G16, G22, G23, G41, G36, G94, G98

BUSINESS

U009 1st Base - Database
U012 DB Master - Database
U013 Data Handler - Database
U036 Card ST - Database
U039 UG Data - Database
U072 TCOS Graphical Database
WP01 ST Writer Elite
WP10 First Word
WP02 Spell Check, Mailmerge, Word Count
U017 Home Accounts
U034 Double Sentry Accounts (DS)
U110 Gemcalc - Spreadsheet
U042 Opus 2000 - Spreadsheet
U030 ST Sheet
U078 Sheet V2
U041 Typing Tutor
U040 Inventory Pro
U070 Address Book
U090 Filofact
U111 How to Make Money With Your Micro

EASY TEXT PLUS
A fully featured desktop publishing package that produces stunning results on 9 pin, 24 pin and laser printers.
ONLY £19.99
RING FOR DETAILS

U019 Mono Emulator - run mono programs on a colour TV/monitor
U079 Colour Emulator - run colour programs on a mono emulator

ART + GRAPHICS

A57 Alt Help Disk
A58 Fractal Chaos (DS)
A59 Mandelbrot Adventure
A61 Electric Image (not STE)
A44 Sprite Studio + Sprite ST
A43 Low Cost Cad (DS) (SH)
A42 Neochrome V2
A41 IMG Utilities
A34 Animate
A24 Ani-ST
A22 Eplan (mono)
A20 Fractal Zoom
A36 Picture Convertors
A19 Easy Text Plus Demo
A18 Printmaster Library
A12 Pearle 3D Raytracing
A09 Vangoch, Studio 2
A08 Degas Extras
A05 Graphic Artist
A01 Pallette Master
WP15 LC10 Font Generator
Calamus, Pagestream + Signum fonts also available.

PROGRAMMING

P45 STOS Programs (DS)
P46 STOS Shoot-em-up Builder Kit (DS)
P47 STOS Soundtracker
P48 MODPAS Pascal
P49 Database Programmer
P43 Hitchhikers Guide to Bios
P40 Gemdos Users Guide
P39 GFA Basic Programs
P38 GFA Basic Tutorial
P37 XLisp
P36 Toy Prolog
P34 STOS Tutorial
P31 Small Talk
P29 Fast Basic Programs
P27 Modulo 2 (2 disks)
P26 Pascal Information
P25 Pascal Programs
P23 C Tutorial
P22 STOS STE Upgrade
P17 C Programs
P14 GEM Information
P11 ST Basic
P07 Forth
P05 Adventure Writing System
P04 Forth 83
P01 ST Basic Programs
P00 TOS V1.2

C PROGRAMMERS PACK
6 DISKS ONLY £16.99
Complete package for anybody learning C. Comprises Sozobon C (fully configured and ready to use) + 4 disk tutorial. Ideal if you are following the series in ST Format

MUSIC + MIDI

M07 Accompany ST
M30 Noisetracker ST
M42 Kawai K1 Editor
M29 Kawai K1 Librarian
M53 TBS Tracker (DS)
M52 Midi Music Maker
M51 Yamaha DX/TX Voices
M48 Make Music
M39 Yamaha 4 op Editor
M38 Roland Juno Editor
M34 Quartet Samples
M33 Quartet Music
M31 The Midi Guide
M28 Quartet Samples
M24 Sampling
M23 Stacatto
M22 Piano
M21 Music Writer (Mono)
M17 Roland D50 Librarian and DX Patches
M13 Yamaha P55 Editor
M10 FB01 Voice Ed
M09 TX812 Voice Ed
M08 MT32 Voice Ed
M03 Casio CZ101 Progs

CLIP ART

We have many disks of Clip Art for use with all DTP packages.

CLIP ART PACK
6 DISKS FOR ONLY £16.99
5 Double Sided Disks full of Clip Art + 1 disk full of format converters. Ideal for ALL DTP packages.
● Animals ● Office ● Sport ● Flags ● Maps ● Fonts ● Food ● Christmas ● Trademarks ● and lots, lots more

THE CATALOGUE

Our catalogue details hundreds of disks...
ACCOUNTS
ART + GRAPHICS
ASTROLOGY
ASTRONOMY
BUDGIE UK
BULLETIN BOARD SYSTEMS
CHEMISTRY
CLIP ART
COOKERY
DATABASES
DEMONSTRATION DISKS
DESK ACCESSORIES
DATA PROTECTION
DISK + VIRUS UTILITIES
EDUCATION
ELECTRONICS
FILM INFORMATION
FOOTBALL
GAMES
GENEALOGY
MUSIC + MIDI
OPERATING SYSTEMS
PICTURE DISKS
PROGRAMMING
SPEECH SYNTHESIS
SPREADSHEETS
SATELITES
TYPING TUTORS
WORD PROCESSORS
and much, much more
ORDER YOUR FREE COPY NOW

BUDGIE UK

What's new from Budgie?
B74 Firegame
B73 Seventh Heaven
B72 Avina Blue
B71 Dark Wars
B70 Pacman
B69 Douglas Rockmoor (1/2 Meg)
B68 Blackstar Mountains
B67 Paco and the Tunnels of Doom
B65 Space Weller
B64 Colony
B63 Castle Frankenstein
B62 Missile Alert
B59 Guided Missile
B58 Football Genius
B57 Bert the Squirt
B56 Gorb
See our catalogue for the entire range

DEMOS

We have all the latest product and machine demos including the complete POV collection

INTRODUCING ATARI ST MACHINE CODE

A complete assembly language programming environment for the beginner and intermediate ST programmer. Learn assembler the easy way, step-by-step!
BOOK COMPLETE WITH DISK!
(over 400 pages) **only £19.99**

The comprehensive book introduces the reader via many assembly language examples how to program the ST. No knowledge of assembler is assumed, all examples in the book are held on disk and can be assembled using the supplied text editor and assembler. The disk also contains a complete resource construction kit for producing dialog boxes, drop down menus, etc. Learn to program like the professionals. Registers, GEMDOS, XBIOS, GRAPHICS, DROP DOWN MENUS, DIALOG BOXES, WINDOWS and much, much more.

MT SOFTWARE

Prices - £3 each + 1 free with every 3
Codes - DS = Double Sided, SH = Shareware
1Meg - 1 Meg memory required
Mono - High Resolution
Not STE - Not STE Compatible
Overseas - Europe add 10% to total. World add 25% to total. Immediate despatch by 1st class post. Mail order only

BLANK DISKS & ACCESSORIES

	disks only	disks + 100 Cap box
10 Disks	£4.99	£11.99
25 Disks	£11.99	£18.99
50 Disks	£22.99	£29.99
100 Disks	£42.99	£42.99

ST/STE Dust cover.....£4.99
Mouse Mat.....£3.99

Coloured Disk Labels
50 labels £1.50
100 labels £2.50
1000 labels ...£13.50

Tractor Fed Labels
100 labels £3.00
200 labels £5.00
1000 labels ...£17.00

OUR FREE CATALOGUE CONTAINS FULL DETAILS OF THE ABOVE DISKS PLUS MANY, MANY MORE

www.stformat.com

PUBLIC SECTOR

GAMES

EAGLESTAR

Prophecy PD – All Colour STs

In something of a break from tradition, someone has written an extremely good adventure with the ST Adventure Creator *(STAC)*. This futuristic game is set on a prison ship, sometime in the distant future. *STAC's* parser is quite sophisticated, meaning that it can understand quite long sentences and it does not allow you to "pick up north." There are some detailed graphics to accompany the game which has a nice tense feel to it. Foreboding.

***STF* RATING – 83%**

● Things aren't going well on the good ship *Eaglestar*. For a start, some bugger's gone and bunged you in a cell, and then there's the legions of killer droids who'd like to laser your liver. Give me a cruise in a punt down the Hoover dam anyday.

TIME BANDIT

From the 2nd PD.ST games pack – Disk GP002

Gorden Bennet, now here's an old game. *Time Bandit* was just about the first ever game for the ST. It's a romp around fantasy land game in which you've got to collect keys and mash monsters and other sundry baddies.

● Oh no, there's a whopping great eyeball growing right out of my belly button. What are the guys down the pub going to say: "keeping a close eye on things, eye eye?" These jokes just get cornea and cornea.

The gameplay is a trifle bland, but it's still a bit of a giggle and there is a lot of terrain to explore. What's more the two player option spices things up a bit. Oldie, mouldy, and not very goldie.

***STF* RATING – 70%**

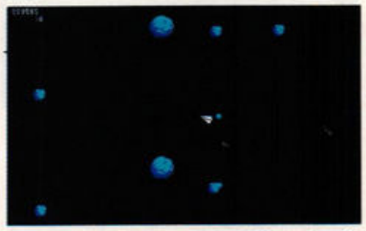
ELVEN CRYSTALS

The Surrey PD Club – Disk GAM012

● Dear old *STAC*. Whatever would we do without all these absorbing adventures that were created with it? Erm, probably go down the boozer and have a pint of "Don't you just hate it when that happens?" Fosters.

Another *STAC* written adventure, this time by a chap called Fink who belongs to the Angel Gang group (and yes, I do read *2000AD*). Bit grim, this one – seems to me that you die every three moves. The text descriptions are extremely gory – loads of vein severing and lungs swallowing quagmire mud. Cheery stuff indeed. Apart from all the dying, it's a bit of blast, though some of the graphics are a tad on the simplistic side. Hint: to escape the fog at the beginning travel S,W,N,W,S,S. Worked for me anyway.

***STF* RATING – 77%**



● Admittedly it doesn't look like a terribly frenzied game, but those *Megaroids* are travelling at a fair old whack and I did manage to reach the third level!

MEGAROIDS

From the 2nd PD.ST games pacl – Disk GP002

Again, a quite elderly game, but it's surfaced again in this groovy games pack from the boys at PD.ST. You shouldn't have much problem guessing the theme of the game from the title – it's an updated asteroids game. The controls are all very standard: left, right, thrust, fire and hyperspace. Scrolling is smooth and the gameplay gets nice and frantic. Most oft used expression when playing this game: "Blimmin' hell, there's 23 little boulders on me arse. Hit hyperspace double quick, matey."

***STF* RATING – 83%**

"Barty Brimstone's Talent Agency, Babs speaking. Can I help you? No, I'm sorry, Lionel the lizard licker is still on parole... Nope, sorry, Clare and her amazing climbing cleavage are standing in for Wogan this week... I can give you Andy Hutchinson though... Well, I'm sorry, it's him or nothing. All right, so I'll book him in for a three page review of Public Domain software for the usual fee of three Jaffa cakes... Lovely."

UTILITIES

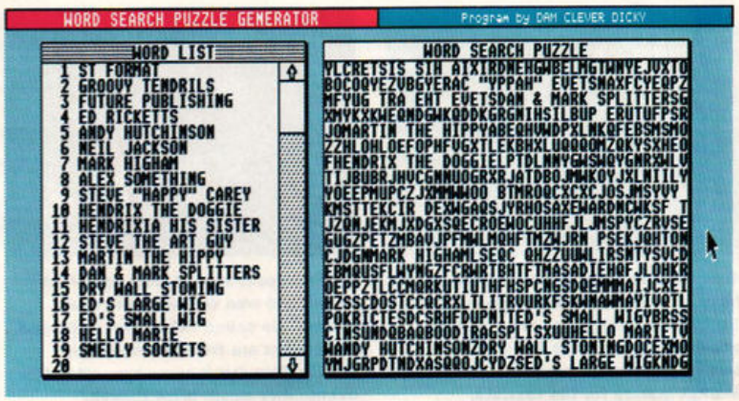
WORDSEARCH GENERATOR

The South West Software Library – Disk 1649 – All colour STs

Ever wandered around your local newsagents and seen all those Wordgrid puzzle books, usually adorned with an attractive looking girl in 1970s clothes? Well, you could make your fortune producing exactly that kind of book with this nifty program. Up to 100 words can be entered into the program. These are then laid out on a grid with all the words scattered around a maze of other letters. The objective is then to pick out the words. The whole puzzle can then be printed out and handed over to the nearest grandmother/train spotter. Triff.

***STF* RATING – 81%**

● All right then guys and girls. If you think you're clever, find all the words on the left in the grid below and win yourself a free game. If you don't want to ruin your issue, nip down the library and photocopy it. Send your answers to Smelly Sockets, *ST FORMAT*, 29 Monmouth Street, Bath, Avon. BA1 2DL.



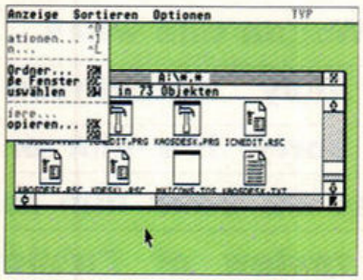
www.stformat.com

KAOSDESK

South West Software Library – Disk 1736

Lawks-a-lordy, another Desktop replacement. In common with *Gemini* (a very good Desktop available from all PD libraries), KaosDesk is a very professional-looking German program. The files sit inside your boot disk's Auto folder and effectively replace the bog-standard green Desktop. Custom icons and environmental variables have been added, along with improved window handling and disk functions. Well worth bunging on your boot-disk.

***STF* RATING – 90%**



● Personally, I wouldn't have named my brilliant new Desktop replacement *Kaosdesk*. Doesn't exactly instill a feeling of safety and motherly cuddliness, does it?

SPELL-ST

The South West Software Library – Disk 1642 – All STs

Most professional word processing packages have a spelling checker built in, but if you're using a Public Domain program then the odds are that you have to resort to the old dictionary. This program checks through a document, highlighting incorrect spellings and giving the occurence of these mistakes. You can then go through the program and bung in the right spelling.

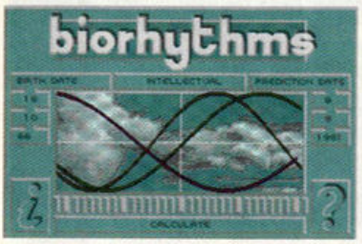
***STF* RATING – 71%**

BIORHYTHMS

Jennix PD – Disk 388 – All colour STs

It seems that as long as there are computers, there will be naff biorhythm programs which claim to predict what sort of day you're going to have, just from your date of birth. I mean come on, how do they know that the poll tax vultures, the Jehovah annoyance brigade or the crusty colonel from next door's incontinent poodle won't be around to badger you? Hurumph. Anyway, the program's pleasing to look at and moderately user obedient. The predictions, of course, are a load of old tripe, but then some people need this kind of thing as an emotional crutch. It's just graphically pleasing cobblers.

***STF* RATING – 40%**



● Sheesh, doesn't look like I'm going to have a terribly mentally stimulating day! Still, these biorhythms are about as accurate as Annie the Pot-boiler's bunion divination exercises in Bath Market Square for the tourists.

DEMOS

A LITTLE MUSIC DEMO

Riverdene – All Colour STs

No sprites, no bitplanes, no parallax scrolling, just excellent music. The Inner Circle boys have compiled some superb tracker music on this demo. Normally tracker music is simply an exercise in squeezing as many samples as possible into a really fast tune. The guys that wrote these tunes actually paid some attention to little things like melody. They've chosen their samples advisedly and produced some corking tunes. Other groups listen up: this is how you write tracker music.

***STF* RATING – 93%**

THINGS NOT TO DO

Riverdene – All Colour STs

Excellent demo idea this: take some International Karate Plus sprites, add some graphics of your own and blend with a bit of sick humour. The Inner Circle guys strike again with this small demo. There are seven things not to do, ranging from don't hit your brother to don't damage other people's equipment. In between jokes, the guys reveal that two of the demo group have gone off to work for Entertainment International. Nice to see demo coders making good. Sick but slick.

***STF* RATING – 91%**

● Wise words indeed. This excellent demo (and who said we don't like demos?) is called *Things Not to Do* and the sprites are from *International Karate Plus*. Don't know how often this eventuality would arise though.

SOMETHING FOR ALL THE FAMILY

£20 £30

Reader Lloyd Hopkins from Essex checked out his ancestors with the help of *Genealogy* and earns himself £25 for telling us about it. If you think you're capable of writing a good review of a piece of PD software and wouldn't mind seing your name in print, send your review to: PD reviews, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. Make sure your review is no more than 200 words long, and we need it on dsik as an ASCII file without hard carriage returns at the end of each line. Include the name of the PD library you got the program from, a printout of your review and a copy of the program – and your name and address. Sorry, we are unable to return any contributions.

GENEALOGY

Goodmans PDL

Those of you who are interested in genealogy know that drawing up a family tree can be a long and sometimes frustrating task, especially when you make a mistake and have to start again from scratch!

Here is a package which contains a number of programs which can be of assistance to the genealogist.

Family Tree is designed to print a family tree from the information about birth place/date, death place/date and parent/child relationships given to it by the user. The resulting trees are clear and well set out.

However, the program does have its limitations. Perhaps a more experienced genealogist could use this program to produce a framework on which to base a far more detailed, handwritten tree. Nevertheless, the program is still a valuable and powerful tool.

History provides the facility for the genealogist to store detailed information relating to births/baptisms, marriages and deaths/burials, enabling the user to access this information with great ease and speed and also supplies data for *Family Tree*.

The only criticism I could make of *Genealogy* is that the user interface could perhaps do with improving, although it is perfectly useable and functional in its current form. All in all, this is a cracking PD package and well worth a gold.

***STF* RATING 90%**

● Let's face it, people with brains wouldn't give a XXXX for anything else. The Movie demo was written especially for Atari. However, they'd have been far better off using the Acid demo. Talk about blowing your street cred.

STE MOVIE DEMO

Prophecy PDL – Disk Source 58 – All Colour STEs

Three demos on one disk just for all you STE owners out there. The STE Movie demo features some sampled DMA chip sound and a glimpse of the extended palette. The STE Acid demo is by one AN Cool of the Carebears. It's a long sampled music track with loads of bass. The Tracker on the disk is nothing special, but then, listened to through an STE they sound a whole lot better. One for the collection.

***STF* RATING – 85%**

ART AND MUSIC

STATE OF THE ART

Riverdene PDL – Disk DEM941ST

After a severe lack of Megademos over the last few months, a whole glut have appeared on the demo scene. This one is from the Wild Boys and features a

● All right, so it's balls again. But hey, these ones move really fast, honestly. Come on, guys, how much time would it take you to design some different shaped sprites?

www.stformat.com

EST. 1989

WIZARD P.D.

178, Waverley Rd, Reading, Berks, RG3 2PZ

Beginners Welcome!

POCKET POWER COLLECTION

13 disks of commercial software available at only £2.80 each. Football Manager, Warzone, Space Station, Seconds Out, Hotshot, Carting, Grand Prix, Artificial Dreams, Las Vegas, Frost Bite, Mouse Trap, Pluto's Protector, Fire Blaster or 10 games for £25.00

DUTL 23 ZX81, BBC BASIC CPM emulators plus other goodies like the ZX81 comes with 35 listings to load and run, and more.

DAST 01 PLANETARIUM simply the best PD Astronomy program. SKYMAP another great Astronomy program plus aSTronomer.

DARC 13 FUZZBALL TENNIS, PICK POCKET, ROLL n NUDGE, KILLER CHESS A superb collection of ARCADE GAMES.

DARC 10 BLASTER, JOUST, ASTRO PANIC, MEGAROIDS, MOTOR CYCLE and more! Another great collection of ARCADE ACTION

DBRD 01 MONOPOLY, LAZERCHESS, OTHELLO, CHECKERS, WHEEL OF FORTUNE, SUPERSIMON, MASTERMIND and more a superb collection of BOARD GAMES.

DADV 01 DDST, DUNGEONS & DRAGONS, Role playing adventure. PARANOIA, ENCHANTED REALM and ELBOZO CITY 3 more good adventures also on this disk.

DART 05 ANI ST
Great animation package formerly sold at £80.00 now PD, VAN GOUGH Paint package with animated sprites. 4 LANDSCAPE Generators including GENASIS and a CAD Package.

MUS 18 NOISE TRACKER V1.5 Super music program like the AMIGA sound TRACKER with music modules and player program. (DS DISK)

DMUS 03 The ACCOMPANIST SEQUENCER From H. COSH. WADDINGTON, 32 TRACK SEQUENCER DLX PIANO Turn your ST into a synth. JUKEBOX and POP MINIS DESKTOP MUSIC.

DWPR 06 ST WRITER V 3.8 and FIRSTWORD, The 2 best word processors for the ST(E) plus a spell checker, print spooler and a selection of ready to use letters.

ODD 07 THE WORLD OF STARTREK Over 300K of text interviews and biographies from the original STARTREK and NEXT GENERATION plus loads of pictures from both series. A must for all TREKKIES!!

For FREE 44 page catalogue send SAE (A5) or ring 0734 574685 All PD disks £2.25

NEW CATALOGUE OUT NOW

The ST Club

49 Stoney Street - Nottingham - NG1 1LX - (0602) 410241

ST Applications

Over two years ago New Computer Express described our newsletter: "To call it a newsletter shows a terrific amount of modesty on their part...It really is packed with information, with more concentration on the serious side of the ST." ST Applications is a complete re-design of The ST Club Newsletter that has grown to 3,500 subscribers since we started it four years ago. Each monthly issue runs to at least 60 A-4 pages. If you would like to subscribe or receive an evaluation copy please complete the form below.

Fontkit Plus 3.

The essential font utility for the ST. Edit or create GEM fonts, Signum fonts, screen fonts and downloadable printer fonts. Incorporates a suite of drawing tools, plus block manipulation tools, and it will import Calamus, Degas and Macintosh fonts. Price £19.95

UIS III

Powerful replacement for the Atari Item Selector. Universal Item Selector III incorporates a host of utility functions: format disks, copy, move and rename files and folders, create folders, find files, set file paths etc. "You'll wonder how you ever lived without it", ST Format, December 1990. Price £19.95.

The Catalogue

Our collection of PD and Shareware disks runs to over 2,000 disks and we guarantee same day dispatch on all orders. Our Free Catalogue - (46 pages A4) details these disks and all of our products and services: Books, Budgie disks and laser printing. We also publish: Astronomy Lab (£19.95), Key Master (£6.95), Oxford Chess (£9.95), Molgraph (£12.95), Guides to Timeworks DTP (£9.95), and 1st Word (£6.95). Details of these are in our current catalogue. Write or telephone for your copy today.

Please send me:

( ) 12 issues of ST Applications (£15)
( ) Sample copy of ST Applications (£2)
( ) A free copy of the ST Club catalogue

Cheque/PO made payable to the ST Club for £ enclosed

Your guarantee: If at any time you want to cancel your subscription you may do so simply by writing to us. The balance of your subscription will be refunded in full.

From:

.....

GOODMANS INTERNATIONAL

Public Domain & Shareware Guide

NEW
10 Disk Office Intro Set 1 Only
£14.95
ST Writer
Address Database
Bank Account
Business Accounts
Appointments
Zap Card Database
Video Database
Edhak Text Editor
Typing Tutor
Calendar Program

NEW
10 Disk Game Intro Set 5 Only
£14.95
Jigsaw 1
Froggy
Bubble Trouble
Zoox
Jumpster
Lazerball
League Soccer
Nova
Stumped
Top Pops

NEW
10 Disk Demo Intro Set 6 Only
£14.95
ULM Demo
Slaytronic 7
Gremlins
Star Wars
Trans Party
Raisons 2
Total vision
SDLM 90
Euro Demo Disk 1
Euro Demo Disk 2

Latest Titles
ST Writer, ver 4.2, enhanced and now operates in 6 resolutions-3 TT & 3 ST *Superboot* - version 7 now supports sampled sound etc

A.S.P. Approved
The first Shareware Vendor to gain approved status for our ST Catalogue from the influential Association of Shareware Professionals

Fair Prices
Two disk demos only £3.00 complete plus reductions on all multi-disk programs and disk sets (Why pay £3 per disk?)

Now incorporating
The official STOS Shareware Service
Discovery Pack Owners - Send to the new address for your STOS Extras Disk

Exclusive
CIRCUITRY 1 & 2
Excellent 48 room Platform Game Only
£3.95

Exclusive
DRAGONS TOWER
16 Level Machine Code Platform Game Only
£2.95

Exclusive
PACBOT
Variation on the old favourite - 60 levels Only
£3.95

Specials
From Goodmans, a translated version of SAGROTAN, the ultimate Shareware Virus Killer, that recognises over 470 bootsectors, 15 Viruses, mini-boot programs etc

Goldmaster Branded Disks
10 DS/DD.....£7.95
20 DS/DD...£13.95
50 DS/DD...£32.50

Mitsubishi Bulk
10 DS/DD.....£5.95
20 DS/DD...£10.95
50 DS/DD...£25.00

Prices INCLUDE VAT & UK Carriage

International Atari User
The NEW monthly magazine direct from America. Exclusive to Goodmans and Bath Publications Only
£1.75 per issue

Easy Text Plus
The price may be low but this superb DTP package is high on features
£19.95

Introducing Atari ST Machine Code
Book and disk set, an ideal introduction to m/c programming
£19.95

Modem Owners - Order via the Bath BBS FAX service on (0225) 840060

Discover why we were voted Public Domain & Shareware Service of the Year. Send £1.95 for the Spring/Summer edition of The International PD & Shareware Catalogue, with Shareware reviews,articles etc, or send only £2.50 for catalogue AND disk catalogue database

Goodman Enterprises (Dept STF) 16 Conrad Close, Meir Hay Estate, Longton, Stoke-On-Trent. ST3 1SW
Tel: (0782) 335650 Fax: (0782) 316132

Shareware is supplied as 'Try before you buy', and you should register direct with the author if you continue to use it.

variety of tried (meaning done before) and tested (as in everyone else has done one) themes. Vectorballs, fullscreen demos, 3D scrolls and lamer tests, they're all in here. Admittedly the demos are polished, but you can't help feeling that these guys could come up with something original. Best of the crop is their Vectorballs screen. Pretty bland really.

***STF* RATING – 75%**

KINKY BOOTS

Available from all PD Libraries stocking POV titles

Wicked demo this. Anyone remember that dreadful sixties song all about the joys of leather boots? Well this is a brilliantly sampled demo of the whole song. Yep, it's all here: Patrick McNee singing out of key about "naughty little schoolgirls" and Honor Blackman running through an entire boots back catalogue. Frothy, fun and frivolous.

***STF* RATING – 92%**

DNA

The Surrey PD Club – Disk DEM099 – All colour STs

The mysteries of life reduced to a chemical level it isn't. This is the group DNA's version of La Serenissima commited to floppy. Not much else you can say about it really. The whole song's in there, though as usual it all sounds pretty crap through a TV or monitor speaker which kind of negates the point. An extremely duff scroll text wibbles across the screen while the tune plays and urgh... c'est ca.

● Call me weird, call me cracked, call me Nigel, but boots just don't turn me on. I mean all that leather covering up what would otherwise be beautifully caressable.. (this caption has been terminated due to a hefty adverse pervy factor).

***STF* RATING – 62%**

KLF-91

Nightshift PD – Disk NS12 – All colour STs

"This is what the KLF is all about, also known as the justified ancients of Mu-mu." I find this disk deeply ironic. Those arch-samplers of the music world KLF have been sampled themselves and bunged onto a disk, complete with a blagged screen from the baseball game *RBI-2*. The sample is of a superior, if slightly tinny, quality. The whole song's here, so if you've got an STE or a Hi-fi lead for your STFM, load it up and crank up the volume. *KLF* is gonna rock you.

***STF* RATING – 80%**

PROTOZOA TRACKER TUNES

Prophecy PDL – All colour STs

The ST Replay sampler includes a sequencer program which was used to compile these tunes.

The strongest aspect of that particular program is the ability to playback your songs through a variety of devices. Send sound out through your ST (pass the ear plugs, please), a Replay cartridge (well worth it) or the monitor.

The songs themselves aren't massively impressive though there's some creative use of samples, such as a meaty slap-bass sound. Best of the crop: Legrind.

***STF* RATING – 73%**

● La Serenisima is one of those tunes that was always begging to be lumbered with a hip-hop tune. DNA from Bristol did it best, but they weren't the first. Check out Warehouse Raves collection 2 in your local record shop if you don't believe me.

THE *ST FORMAT* PD DIRECTORY

■ Where to go for Public Domain software – demos, games and utilities for around £3 a disk (or even less)!
Note: if you write to any of these PD libraries for a catalogue, remember to enclose an SAE.
■ The Source, Persistence of Vision and Budgie games are available from all reputable PD libraries. Simply mention the disk number (above the review) when you order the disk.

Alpha Computing, 32 Meadow Drive, Halifax, W Yorks HX3 5JZ
Atari Advantage, 56 Bath Road, Cheltenham GL53 7HJ ☎ 0242 224340
Atari ST User Group Norway, c/o SA Jensen, N-3630 Rodenberg, Norway
Akore Shareware, 7 Fishergate Point, Lower Parliament Street, Nottingham NG1 1GD ☎ 0800 252221
Awesomedemos. 3 Mason Road, Seaford, East Sussex BN25 3EE
B-Soft. 33 Corsham Road, Calcot, Reading, Berks. RG3 5ZH. ☎ 0734 416492
Budgie UK, 5 Minster Close, Rayleigh, Essex SS6 8SF
Caledonia PDL. 250 Oldtown Road, Hilton, Inverness, IV2 4PT ☎ 0463 225736
C. Hacks PDL, 19 Latimer Drive, Laindon, Essex SS15 4RD ☎ 0268 416888
The Circular PD Library, 14 Morrison Drive, Lennoxtown, Glasgow G65 7BA
D W Stables, Unit 1, Johnson's Shopping Centre, 29-31 Bond Street, Blackpool FY4 1BQ ☎ 0253 404550
Elmsoft, PO Box 17, Loughton, Essex IG10 2EE
EM PDL. 54 Watnall Road, Hucknall, Nottingham NG15 7LE. ☎ 0602 630071
EVPD, 15 Cleeve Road, Gotherington, Cheltenham, Glos. GL52 4EW
Floppyshop ST, 45 Provost Graham Avenue, Hazelhead, Aberdeen AB1 8HB ☎ 0224 312756
Freaks PDL. 29 Leap Valley Crescent, Downend, Bristol BS16 6TQ ☎ 0272 570122
Gemini Shareware, 10 Warwick Avenue, Slough, Berks. SL2 1DX ☎ 0753 28183
Goodman PDL, 16 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent, Staffs ST3 1SW. ☎ 0782 335650
Gunning PDL, 47 Auchingane, The Tryst, Edinburgh EH10 7HX ☎ 031 441 7952
High Tec Sequencing Services PDL, 20 South Lane, Shelf, Halifax, W. Yorks. HX3 7PN ☎ 0274 606205
Ian Blair Enterprises, 78 Carmarthen Road, Swansea SA1 1HS ☎ 0792 649060
Jennix PD, 66 Abbey Road, Strood, Rochester, Kent ME2 3QB ☎ 0634 723659
LAPD, 80 Lee Lane, Langley, Heanor, Derbys. DE7 7HN
Metropolis PD, 38 Howick Park Drive, Penwortham, Preston PR1 0LU ☎ 0772 748422
MPH, 10 Chandlers Court, Eaton, Norwich NR4 6EX
MT Software, Greensward House, The Broadway, Totland, Isle of Wight PO39 0BX ☎ 0983 756056
NBS, Dept F, 132 Gunville Road, Newport, Isle of Wight PO30 5LH. ☎ 0983 821983
Nightshift PD, 8 Bertelin Road, Beaconside, Stafford ST16 3JJ ☎ 0785 49332
Office Choice, Suite 14, Avon House, Town Centre, Cumbernauld G67 1EJ
Page 6 Publishing, PO Box 54, Stafford ST16 1DR☎ 0785 213928
Paradise Computers, 9 Westfield Crescent, Brighton BN1 8JB
PD Essentials, 22 Fern Avenue, Mitcham, Surrey CR4 1LS
PDQ, PO Box 38, Eastleigh, Hants SO5 5WR
PD.ST, 95 Elton Road, Sandbach, Cheshire CW11 9NF
Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey CR5 1EF ☎ 0737 554536
Public Domain Corporation, 4320 – 196th SW, Suite B-140, Lynnwood, WA 98036-6721, USA. ☎ 0101 206 745 5980 (catalog £1)
Public Dominator PD Atari, PO Box 801, Bishops Stortford, Herts CM23 3TZ. ☎ 0279 757692
Public Sector PDL, 50 Ripon Road, Stevenage, Herts. SG1 4NA ☎ 0438 364722 / 361324
Riverdene PDL, 30a School Road, Tilehurst, Reading, Berks RG3 5AN ☎ 0734 452416
St John's School Library PDL, 54 Beaconsfield Road, Sittingbourne, Kent ME10 3BB.
Senlac, 14 Oaklea Close, Old Roar Road, St Leonards On Sea, E.Sussex TN37 7HB ☎ 0424 753070
Softville PD, Unit 5, Stratfield Park, Elettra Avenue, Waterlooville, Hants PO7 7XN. ☎ 0705 266509
Solent Software, 53 Rufus Gardens, Totton, Hants. SO4 3TA ☎ 0703 868882
South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD
Sphinx Software, Erw Fynydd, Carmel, Llanelli SA14 7SG
ST Adventurers PD Library, 32 Merrivale Road, Rising Brook, Stafford, Staffs. ST17 9EB
Star PD, 1 Solva Road, Clase, Swansea SA6 7NX
ST Club, 9 Sutton Place, 49 Stoney St, Nottingham NG1 1LX. ☎ 0602 410241
STOS/Amos PDL, Sandra Sharkey, 25 Park Road, Wigan, Lancs WN6 7AA. ☎ 0942 495261
ST-PLUG, 1670 Heron Road, Box 22026, Ottawa, Ontario, Canada K1V 0C2. ☎ BBS 0101 613 731 2779. (Licensed Budgie distributor)
Surrey PD Club, 25 Windmill Way, Reigate, Surrey
Tower Top PDL, The Coragen Corporation, 4 Cardigan Close, Bletchley, Milton Keynes MK3 7EJ
TRuST PD, 18 The Park, Southowram, Halifax, HX3 9QY ☎ 0422 341606
Wacko Software, Willem Pijperstraat 63, 1077XL Amsterdam, The Netherlands
West London PD, 8 Berkeley Road, Hillingdon, Mdx. UB10 9DU. ☎ 0895 53521
Wizard PD, 178 Waverley Road, Reading, Berks, RG3 2PZ. ☎ 0734 574685
WoolleySoft, Humblesknowe Cottage, Ramolye, Dunblane, Perthshire, Scotland FK15 0BA

BUYER BEWARE: Inclusion in this directory does not imply that *ST FORMAT* endorses or recommends any individual PD Library in any way.

● If you run a PD library not listed here and would like to be included, or if you are already listed and want to amend any details, then send full details and a copy of your latest catalogue to: PD Directory, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW

www.stformat.com

Caledonia PDL

250 Oldtown Road, Hilton, Inverness, IV2 4PT

Hundreds of titles for the ST/STE
Including 105 Demo Compilation disks by 'Ripped-Off'

TV Titles 2.0 - Full working version - Only from Caledonia
STILL JUST £25.00 INC. P&P AND 30 PAGE MANUAL

1-9 disks (DS or SS) @ £2.50 each - 10 or more @ £1.90 each
Ripped-Off CD's @ £2.00 each

Latest titles include:

DTP-12:	Pagestream Font Editor
AU-121:	The Financier (Excellent finance manager)
AU-122:	Bill Aycock's Acc's (Inc. CAL 5.3)
STE-23:	Winter in July By Bomb The BAss (3D Stereo)
MU-24:	Noisetracker V1.5 plus .MODs

Disk catalogue with free game available now for £1.00 or a blank disk.
Special packs for beginners available - call for details - **0463 225736**
Educational packs made to measure - Also business packs arranged.
All at bargain prices

ATARI ST, AMIGA, SPECTRUM & COMMODORE etc.etc...

We have over 5000 programs and utilities for all makes of computers.

ALL AT 50p A DISK.

☆ No one can match our prices! ☆

For further details please send s.a.e. to:

THE PUBLIC DOMAIN SOFTWARE HOUSE,
Dept SF, 36 Briset Road, Eltham,
London, SE9 6JL
Tel: 081 450 1066 ext. 160

L.A.P.D

Quality P.D. for the Atari ST/STE
80 Lee Lane, Langley, Heanor, Derbys, DE7 7HN
Tel: 0773 761944/605010

* PD Disks £1.00 to £1.50 * * Budgie Licenceware disks £2.95 and £3.95 *
* Same day service, quality virus free disks *
* P&P FREE on orders over £5.00. (50p otherwise) *
Here are just a few of the disks from our comprehensive catalogue (£1.50 each)

M. 76 **FORM FINDER:** Sophisticated, yet simple to use horse racing analysis prog.
D.266 **STATE OF THE ART:** All new mega-demo from The Wild Boys. (Not STE)
G.131 **STAR TREK - THE GAME:** A real treat! Digi-pics, digi-sound. Superb. 1 Meg.
P. 12 **CRACKED SYNTAX TERROR:** The Syntax Terror demo cracked so that it can be examined to see how it's done! Two disks - £3.00 (other cracked demos available i.e. Darkside of Spoon (£3.00), Cuddly (£3.00), etc....etc.)
P. 17 **68000 PROGRAMMING COURSE:** 10 'How to do it' document files. S/S
M. 68 **MAKE MONEY WITH YOUR MICRO:** Get rich quick? SS
D.236 **ELECTRA (1Mb):** Very good multi-screen demo from Sweden. D/S
D.253 **DOUBLE DOOZER:** Super mega-demo from Chaos of Manchester. D/S
D.216 **FISH\ 'N' CHIPS:** A mega-demo from Sewersoft. D/S
D.195 **EUROPEAN DEMO:** Europe's top demo writers on two D/S disks (£3.00)
G.115 **MYSTIC WELL:** Excellent 'Dungeonmaster' type game from the States. S/S
G.124 **SPECTRAL SORCERY:** A game of battling wizards. S/S
D.265 **BETTER THAN LIFE:** Unbelievably written in 100% STOS!! D/S
G. 53 **STUMPED:** Cricket simulation with all the major rules catered for. S/S
G. 77 **CHAOS STRIKES BACK:** Ten new dungeons on two disks. (Original game needed to play.) (£3.00) S/S
ADVENTURES: Choose from **G96** Pork !, **G97** Pork II, G99 Dragon-Slayer, **G100** Star Portal **G114** Don't Bank on it, **G85** Asylum, **G128** Elven Crystals !, **G129** Elven Crystals II, **G90** Tamoret (D/S) plus many, many more.
M. 72 **ASSISTANT CHEF 1:** 42 mouth-watering recipes from ingredients to table. S/S
A. 30 **FULL SCREEN KIT:** Display your pictures in stunning full screen format. D/S
M. 33 **TECHNICAL MANUAL:** 4 manuals on one disk: GEM, GEMDOS, BIOS and engineering hardware specs. S/S
M. 1 **PLANETARIUM:** Commercial quality astronomy program. S/S
S. 44 **AUDIO SCULPTURE:** Excellent .MOD file player (Stereo on STE). Best with 1 meg D/S
S. 52 **WILD BOYS DIGI-SYNTH 4:** Nine .MOD files with a player. D/S
U. 14 **HITCH-HIKERS PD UTILITY DISK:** Disk full of excellent utilities by Stuart Coates. D/S
P. 16 **C ADVENTURE TOOLKIT:** Write yor own adventures with ease! S/S
******* **BUDGIE UK LICENCEWARE ***:** We have the full range available listed in our catalogue, including the NEW Lost Boys MAGGIE 7 (£2.95)

A selection of X-rated disks is available for strictly over 18's only.
A few of the disks from our budget collection (Only £1.00 each!)

B. 14 **ROBOTZ:** The best P.D. shoot'em up to date. S/S
B. 28 **CAVES OF RIGEL:** Underwater shoot 'em up. S/S
B. 19 **VIDEO POKER:** As close to the Casino game as possible. S/S
B. 20 **HACMAN:** 50 levels of Pac Man action. S/S
B. 27 **FROGGY:** Classic arcade action. S/S
B. 15 **ROLL 'N' NUDGE:** A working fruit machine. S/S

For a FREE copy of our latest, user friendly, catalogue disk just send a blank disk and S.S.A.E. to the address above and we'll send you one by return complete with a couple of FREE games, a slideshow, and the top rated UNIVERSAL PICTURES DEMO. Alternately send us £1.00 and we'll send you the same catalogue and free programs on one of our disks. (Please quote STF10)

The catalogue (without the freebies) can be downloaded from the Sherwood Forest BBS on 0602 397113.

CUSTOMERS WORLDWIDE ARE FINDING WE ARE THE ONES TO DEAL WITH FOR QUALITY AND SERVICE.

CENTRAL SCOTLAND'S PREMIER P.D. LIBRARY

SIMPLY THE BEST

We now stock the full range (75) of Persistence Of Vision demo compilation because they are simply the best!

POV18 TNT5/Star Wars Rap 2/Holburn
POV20 Alf/Psychadelik 2 STE
POV27 Aliens Digi Demo 2/TNT 2
POV32 TNT Lovespy/Death of Doc Syne/ Equinox
POV35 Police Squad/Magic Eye/Bananfisk STE
POV42 Psychadelik House/Megacrew/Rastar
POV43 Locomotion/Unique 3D Amiga
POV46 Milli Vanilli/ODU Demo 1/Fallen Angels
POV48 Sledgehammer/Charlie Chaplin/Anti Socials
POV51 Fat Bottem Girls/Robocop 2/Mr Spoons
POV52 War Of The Worlds/Jungle STE/ Softstuff
POV54 Joe 90/30Years in Bathroom/CES 90
POV57 Domino Dancing/Like A Prayer/ Star Trek
POV63 Harry Met Sally/Megamix
POV64 Adamski Killer/New Order/Space Ace
POV74 Powerslave/Ronnie/DMA 4

UTILITIES

U068 Quiz Construction Kit
U067 Various Fonts
U066 Fractal Kit
U065 Skymap
U064 ST CAD
U063 WG Data
U062 T-COS
U061 Various Fonts
U060 ST Graph
U059 JIL-CAD
U058 100 Business Letters
U057 Inventory Pro 2.0
U056 Multi-Tasker
U055 Address Log
U054 Low Cost CAD
U053 Gem DOS Guide
U052 STE Boot Disk
U051 Recover Utilities
U050 Gem Plus
U049 New Gen Family Tree
U048 Zap Card Banker
U029 Planetarium
U025 Edicad
U021 Gemini

GAMES

G045 Llamatron
G044 Block-X
G043 Froggy/Figel
G042 Pacman/Trivia/Yahzee
G041 The Name Game
G040 Boxing Champ
G039 Company Business Sim
G001 Strip Break Out
G036 D,Ont Bank On It
G023 Airwar Game
G024 Shymer Adventure
G030 Spooks
G035 Nethack Adventure
G034 Temon Shoot-em up
G033 Bubble Trouble

EDUCATION

E017 Geography Tutor
E016 Zoo Maker
E015 Spelling Made Easy
E014 Mix 'N' Match
E013 Dot To Dot
E012 Body Shop
E011 Chunnel French Tutor
E007 Wolf And Seven Kids

MUSIC UTILITIES

M009 Quartet Tunes
M012 Music Utilities 2
M010 Yamaha PSS Stuff
M013 Zogs Sample Convertor
M011 Music Utilities 1
M001 X-Bios
M004 Noisetracker
M005 Soundtracker
M006 Samples Disk 1
M007 Samples Disk 2
M008 Samples Disk 3

ART

A020 Neochrome Master
A018 Pearl Ray Tracing
A001 ANI-ST
A021 Mac Clip-Art (2)
A002 Art Utilities 1
A003 Art Utilities 2
A012 Artist
A013 Public Painter
A014 Doodle
A015 Colour Burst

DEMOS

D070 Stoned Again
D076 Fungus The Bogeyman
D077 Smooth Criminal
D078 Robomix
D083 Print-Technik Sound
D084 House That Jack Built
D085 Wind Him Up
D088 Checkmate Mega Demo
D089 Astro Demo
D090 Joke Demo

NEW BUDGIES **(2.95)**

MAG10 Maggie 5
BU71 Dark Wars
BU75 The Blag
BU74 Firegame
BU73 Seventh Heaven
BU70 Pacman ST

NEW BUDGIE PRO'S **(3.95)**

PRO16 ST 6800 Reference Version 3.0
PRO17 Splash Educational Art Package
PRO18 Funtime 1 and 2
PRO19 Music Of The Shapeshifters 3

Budgie Games 1 - 75
Budgie Pro 1 - 19
Budgie Comps 1 - 22
Budgie Mags 1 - 10
Budgie Demos 1 + 2
P.O.V. Comps 1 - 76
Our PD over 900 disks

1-9...£1.50
10-19...£1.25
20+..£1.00
Inc. P&P

TEL: 0236 737901

This is only a small selection of the hundreds of titles available from our constantly expanding library. Free disk catalogue sent with all orders. You can also call into our showroom and pick up your software. Payment by Access/Visa or make your cheques or P.O.'s payable to

Office Choice:-
Suite 14, Avon House, Town Centre, Cumbernauld G67 1EJ

www.stformat.com

SEE
LOW FOR
OMPETITION

WIN

Tel 0257 276800
Main office & 24 hour order line
Fax 0257 274753
Help desk 0490 3284
Weekdays 3–4pm
Overseas orders please add £5.00.
All prices include P+P and VAT.

WITH *Intraset Ltd*

Our compendium of gaming software uses your computer's intelligence and logic to predict winners and advise you on strategy. Whether you're an experienced punter or a novice, with a little time and our range of software, you can maximise your winning potential.

'A licence to print money' Mr FC Hammond of Essex who won nearly £10,000 in 16 weeks

'We have won many thousands' Mr PE Roberts of Dorset who so far has won more than £46,000

*Copies of these and other endorsements from actual customers are available on request.

COURSEMASTER
Our proven horse racing program for both FLATS or JUMPS £24.95

*NEW

TRACKMASTER
The Greyhound Racing Tipster £19.95
Coursemaster & Trackmaster Twin Pack **£39.95 (Saving £4.95)**

Using simple information from the racing card in daily papers or the racing papers, COURSEMASTER and TRACKMASTER will predict with consistent accuracy.

The winner is predicted as well as second and third places for tricasts. The programs also mention attractive long shots, recommend types of bets and most importantly warn when not to bet.

Successful betting extends beyond merely picking the winners and COURSEMASTER and TRACKMASTER will assist in managing your bets. They work out your winnings on the most popular types of bet including SINGLES, DOUBLES, PATENT, YANKEE, CANADIAN, print out your betting slips, and even maintain your betting bank account. SYSTEM BETS will regularly provide a system for MAJOR WINS with small stakes – try it and surprise yourself.

COMPETITION
Details and rules

Our company likes to see people winning, which is why we're running our fabulous 'Win a pc competition'. With every purchase you make, you will automatically be entered into the draw. You can also enter for free by sending a postcard to INTRASET.

1st prize – PC NT286 Colour
2nd prize – Complete set of Intraset Business and Gaming Software **3rd prize** – Complete set of Intraset Gaming Software **5 runners up** will each win their choice of one Intraset title.

Intraset's decision will be final on all matters.
Send an SAE for list of winners.
Draw dates 28/2/92 and 28/9/92

SPECIAL OFFER
POOLSMASTER and COURSEMASTER together for £44.95 (Saving £4.95.)

Our complete gaming suite: £110.00
POOLSMASTER (British & Australian), PERM-MASTER, SPOT-THE-BALL, COURSEMASTER, TRACKMASTER
Saving £22.70

POOLSMASTER British or Australian £24.95 each.
Poolsmaster British and Australian **£44.95 (Saving £4.95)**

The Football Pools Predictors

Developed after years of detailed study, POOLSMASTER uses a unique scientific formula to predict Home, Aways and Draws. The FORM PREDICTION option analyzes result possibilities with amazing accuracy. The unique indexing system allows for quick entry of fixtures and results, and updates itself season after season so there is no need to buy a new copy each year. Poolsmaster also contains a unique coupon number sequence predictor.

Together, both Poolsmaster editions cover **all** British league and cup matches and the Australian league.

PERM-MASTER £19.95
The perfect companion for Poolsmaster

Designed for users of PERM systems, PERM-MASTER ends the agony of checking by doing it for you. It comes complete with several of the top perms built in but you can also create your own with the unique PERM EDITOR and PERM CALCULATOR features. PERM-MASTER is fast and easy to use and can be used for most block and single line perms.
Additional discs of top perms are available at £14.95 each.

SPOT-THE-BALL £17.95

There is no more need for counting 'x's or using messy rubber stamps. Simply tell your computer where you think the ball is using the screen template provided. It will give you a print-out of up to 540 micro-fine crosses in your chosen shape or it can chose at random for you. SPOT-THE-BALL learns week after week and builds up a database of results for the SEQUENCE PREDICTOR OPTION.

GUIDE TO POOLS AND PERMS £14.95
The definitive guide to Pools permutations and betting systems

Written by the experts responsible for our successful software range. Master the fine art of prediction by reading this fascinating in-depth explanation of betting systems and perms. Plan a campaign for that elusive big win and use this books' tips on selecting the best matches and races and how to use perms to maximum effect on Pools, Horses and Dogs.

INTEREST-FREE CREDIT

Spend over £80 and spread the cost at no extra charge! (Cheque purchases only.)
Simply divide your order by 4 and send us 4 cheques each with your name and address and cheque guarantee number: Date the first cheque with today's date and post-date each of the other cheques by one month ie. 1/5/91, 1/6/91 etc. We will then hold each cheque until it is due.

All programs available for IBM/PC & compatibles, all Amstrad PC's, Amstrad PCWs, Atari, Amiga and CPC 6128. Coursemaster, Poolsmaster British and Trackmaster are also available for all Amstrad CPC's, all Spectrums and C64 & 128.

Intraset Ltd
Send an SAE for full catalogue

Send cheques or postal orders to INTRASET LTD (DEPT STF) **FREEPOST,** 10 Woodside Avenue, Clayton-Le-Woods, Chorley, Lancs. PR6 7BR.
Phone or Fax for lightning service. All major credit cards accepted.

www.stformat.com

ATARI STE PACKS

ALL ATARI ST PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES.

	512k	1mb	2mb	4mb
ATARI STE STANDARD PACK. consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.	£289.00	£319.00	£349.00	£429.00
ATARI STE DISCOVERY 1. consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack)	£299.00	£329.00	£359.00	£439.00
ATARI STE DISCOVERY 2. consists of the Standard Pack and First Basic, ST Tour, NeoChrome and 4 games (Dragons Breath, Super Cycle, Indiana Jones, Anarchy)	£299.00	£329.00	£359.00	£439.00
ATARI STE TURBO. consists of Standard Pack and STOS, Hyperpaint II, Music Maker II, First Basic and 8 games (Indiana Jones, Dragons Breath, Blood Money, Impossible Mission II, HKM, Anarchy, Outrun and Supercycle).	£309.00	£339.00	£369.00	£449.00
ATARI STE TENSTAR. consists of Standard Pack and Asterix, Chess Player 2150, Drivin Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Skweek and Trivial Pursuit II.	£309.00	£339.00	£369.00	£449.00
ATARI STE KUMA BUSINESS. consists of Standard Pack and word processor K-Word 2 (incl. K-Spell Checker), K-Database, K-Spreadsheet, K-Graph business graphics and Metacomco Basic language.	£319.00	£349.00	£379.00	£459.00
ATARI STE CURRICULUM. consists of Standard Pack and 3 levels of educational software (from 5 yrs to 50 yrs !!), a word processor, database, spreadsheet, Hyper Paint II and Music Maker II.	*Not Available*	£369.00	£399.00	£479.00

ST Accessories

SM124 Mono Monitor	£139.00
Megafile 30 Hard Disk	£399.00
Megafile 60 Hard Disk	£529.95
External 3.5" Disk Drive	£69.00
Golden Image Hand Scanner	£169.00
Forget-Me-Clock II	£19.95
ST Monitor Switch Box	£15.99
STE Stereo scart lead	£12.99
STFM scart lead	£12.99
STE Stereo MKII 8833 lead	£12.99
STFM MKII 8833 lead	£12.99
Joystick/Mouse extension lead	£4.99
Replacement Mouse lead	£3.95
Standard Parallel lead	£5.95
Internal PSU for STFM/E	£100.00
Replacement ST keyboard	£100.00
Mouse Mat	£3.50
2 x Midi cables	£6.99
13 pin din plug (ST monitor)	£2.00

PROTAR Hard Disks

We are now official stockists of the latest in high quality / low price ST hard disk drives from Protar. All Protar hard disk drives come with a full 12 month REPLACEMENT warranty (no lengthy repairs!!), a DMA through port, device number switching and superb disk management software.

★ NEW LOW PRICES ★
★ STE COMPATIBLE ★

Progate 20Mb Hard Disk	£279.00
Progate 40Mb Hard Disk	£341.00
Progate 40Mb with Cache	£423.00
Progate 44Mb Removable	£611.00
Progate 60Mb Hard Disk	£437.00
Progate 60Mb Tape Streamer	£581.00
Progate 80Mb Hard Disk	£486.00
Progate 80Mb with Cache	£565.00
Progate 150Mb Tape Streamer	£793.00
Progate 160Mb with Cache	£922.00

PRINTERS

All of our printers come with a parallel cable to suit Atari ST, Amiga and all standard PC etc (other cables available at extra cost - ask for details). All printers carry a full 12 months warranty. We only sell genuine UK stock - we do not offer inferior "grey imports".

CITIZEN
* 2 YEAR WARRANTY *

SPECIAL OFFER! *For a limited period only we are offering a CITIZEN PRINTER STARTER PACK with all Citizen printers. The pack comprises of : 3.5" disk full of printer drivers for the ST, Amiga & PC; 200 sheets of fanfold tractor feed paper; 200 fanfold tractor feed address labels; 5 tractor feed envelopes all for only £12.99 on top of the price of the printer*

Citizen 120D + *(9-pin, 144 cps draft, 30 cps NLQ)*	£139.00
Citizen Swift 9 *(9-pin, 192 cps draft, 48 cps NLQ)*	£199.00
Citizen 124D *(24-pin, 144 cps draft, 48 cps LQ)*	£199.00
Citizen Swift 24 *(24-pin, 192 cps draft, 64 cps LQ)*	£299.00
Citizen Swift 24X *(24-pin, 15" carriage version of Swift24)*	£399.00

Other Printers

star

Star LC200 Colour *(9-pin, 180 cps draft, 45 cps NLQ)*	£220.00
Star LC24-200 Mono *(24-pin, 200 cps draft, 67 cps LQ)*	£260.00
Star LC24-200 Colour *(24-pin, 200 cps draft, 67 cps LQ)*	£295.00
Canon BJ10E Bubble Jet *(ink jet, portable and compact)*	£289.00
Hewlett Packard Desk Jet 500 *(ink jet, 3 pages per minute)*	£459.00
Panasonic KXP 1124i *(24-pin, improved version of KXP 1124)*	£279.00

BEST PRICES
(0903) 700714
10.00 am till 12 midnight
7 days a week.

STE Ram Kits

DIY 1 - 512k upgrade	£29.99
DIY 2 - 2mb upgrade	£89.00
DIY 4 - 4mb upgrade	£159.00

All STE Ram Kits come with instructions and DO NOT require soldering in most machines. Call now to check your configuration (i.e. SIMMS or SIPPS).

Philips 8833 Colour Monitor

The Philips 8833 MkII is the perfect colour monitor for all Atari ST computers. With its stereo sound and super picture quality it really shows off the full capabilities of the STE. The Philips 8833 MkII also comes with 12 months on site warranty FREE!.

8833 with STFM cable	£249.99
8833 with STE cable	£249.99

Atari Lynx

Lynx Console Only	£79.99
Lynx + PSU	£84.99
Lynx + PSU + Comlynx	£89.99
Carrying Case	£14.99
Carrying Pouch	£11.99
Car Power Adaptor	£9.50
Mains Power Supply	£14.99
Sun Visor/Scratch Shield	£6.99
NEW LYNX GAMES :	
WARBIRDS	£23.99
BLOCK OUT	£23.99
NINJA GAIDEN	£23.99
PACLAND	£23.99
ULTIMATE CHESS	£27.99

All other games stocked. Prices from £19.99 each.

IF YOU WISH TO ORDER WITH US, THEN PLEASE SEND YOUR CHEQUES, BANKERS DRAFTS, POSTAL ORDERS, CASH ETC TO OUR MAIL ORDER ADDRESS OR RING OUR MAIL ORDER HOTLINE ANY TIME BETWEEN 10.00AM AND 12 MIDNIGHT, 7 DAYS A WEEK, AND USE YOUR ACCESS OR VISA CARDS. OR ALTERNATIVELY PAY A VISIT TO OUR SHOP, CHIPS COMPUTER CENTRE, AND SEE OUR WIDE RANGE OF COMPUTER GOODS AND SOFTWARE.

SHOWROOM
CHIPS COMPUTER CENTRE, 53 RUGBY ROAD, WORTHING, WEST SUSSEX. BN11 5NB.
TEL : (0903) 700804.
OPENING : MON TO FRI 10AM TO 6PM. SAT 9.30AM TO 5.30PM
FINANCE / CREDIT FACILITIES.
PART EXCHANGE CONSIDERED. NEW AND USED EQUIPMENT
ATARI STE, AMIGA AND PC COMPATIBLES ON DISPLAY.
ALL TYPES OF SOFTWARE (BUSINESS / LESUIRE)
REPAIRS UNDERTAKEN. TRAINING. INSTALLATION. ON-SITE WARRANTIES.

VISA

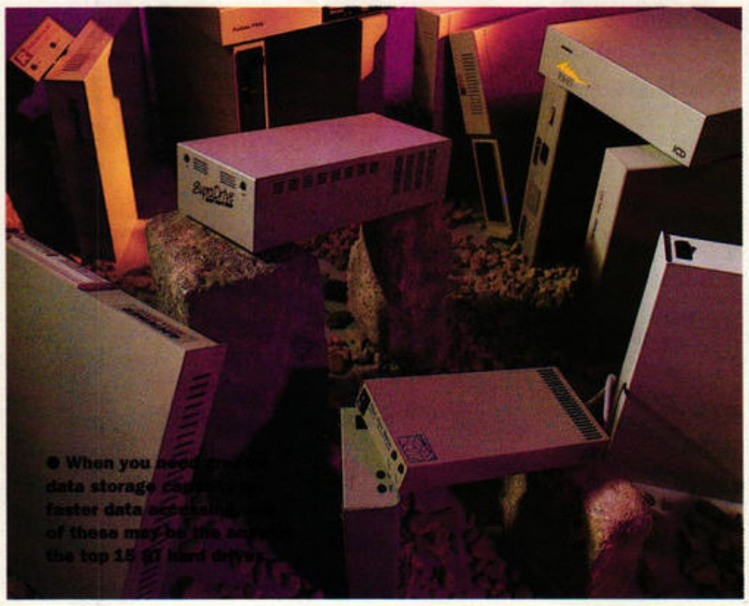
Access

MAIL ORDER
BEST PRICES (DEPT STF), 53 RUGBY ROAD, WORTHING, WEST SUSSEX. BN11 5NB.
TEL : (0903) 700714.
OPENING : 7 DAYS A WEEK 10AM TO 12 MIDNIGHT
ALL PRICES INCLUDE 17.5% VAT AND FREE DELIVERY (AVERAGE 4 - 5 DAYS).
PLEASE ADD £7.00 FOR NEXT WEEKDAY DELIVERY
GOODS USUALLY SENT OUT THE SAME DAY WHEN CLEARED PAYMENT IS RECEIVED BEFORE 2PM.
PERSONAL CHEQUES REQUIRE 7 DAY CLEARANCE.

All prices include 17.5% VAT and free UK delivery unless stated otherwise. All prices / specifications / special offers subject to change without notice.

BEST PRICES MAIL ORDER - OUR TELESALES LINES ARE OPEN FROM 10.00AM TILL 12 MIDNIGHT - 7 DAYS A WEEK

www.stformat.com



● When you need [illegible] data storage [illegible] faster data [illegible] of these may be the [illegible] the top 15 ST hard drives.

Drive a hard bargain

Whatever you use your ST for – music or DTP, mathematical modelling or databases, animation or even just game-playing – one day you're sure to find you need more memory. You may want to store a big music sample or just avoid that tedious disk swapping when one of today's huge games needs to load in a new graphics sequence. The solution is a hard drive. Ashley Shepherd rounds up 15 of the best currently available for your ST.

TEN REASONS FOR BUYING A HARD DRIVE

1. **Speed for compiling programs**
2. **Capacity for storing databases**
3. **Capacity for storing large music samples**
4. **Installing games such as *Wonderland* for fast loading of graphics**
5. **Convenience – storing many programs or utilities in one place**
6. **Storing and fast retrieval of desktop publishing documents**
7. **Storing many word processing documents in one place**
8. **Speed for sampling directly to hard drive and fast playback**
9. **Producing a graphical animation for presentations**
10. **Mathematical modelling – fractals, molecular analysis**

Hard drives are probably the most useful peripherals you can attach to your ST. They are simply data storage devices, and much like floppy disks they have tracks, sectors and cylinders. The difference is that hard drive capacities start at 20MBytes and can go up to several gigabytes (millions of kilobytes); they have access times as little as 11ms (11 thousandths of a second), compared to several whole seconds for a floppy disk, and transfer rates as high as 3MBytes/second – compare this to the time it takes to read four double-sided floppies!

This vastly increased memory and speed means you can have the capacity to store hefty music samples or DTP documents, save complex animation sequences or mathematically-modelled fractals, use the latest music software to sample direct to hard drive and even install sprawling games like *Wonderland* straight onto hard drive to eliminate time-consuming disk swapping and speed up loading immeasurably.

HOW DO THEY WORK?

Floppy disks are just that: inside the hard plastic case there is simply one little bendable plastic platter covered in magnetised iron particles. The platter rotates at about 300 rpm, and the drive has one or two read/write heads, depending on whether it is single or double sided. In operation, these heads actually touch the disk, which is why you can wear floppy disks out over time.

Hard drives, by contrast, can have several platters, and these are made of solid aluminium. They spin at about 3,600 rpm and the read/write heads don't actually touch the disk's surface – they travel just a couple of microns away from it, moving in unison during a read or write. To put this in perspective: the distance between the heads and the platter of a hard drive is so small that a single smoke particle, too small to be seen with the human eye, can wreck a hard disk beyond repair – yet another good reason not to smoke near your ST setup. More common are head crashes, when the heads literally hit the disk platter. Imagine two pieces of metal hitting each other at 3,600 rpm. It makes quite a mess and you can kiss goodbye to your data. It doesn't happen very often – though some drive mechanisms, such as the Syquest used in the Atari SH/Megafile drives and some others, are notoriously prone to head crashes. The risk of this, no matter how remote, is why backing-up your data is so important.

WIN THREE PROTAR HARD DRIVES – SEE PAGE 150

WHAT TO LOOK FOR

There are many different hard drive manufacturers, all making different drive mechanisms, and there are two types of hard drive available – fixed and removable. So what should you look for in a hard drive?

It very much comes down to what you want. Do you want a high data transfer rate for sampling? Do you want fast access time for database work? Bearing in mind that once you have the space it seems to disappear very quickly, how much data are you likely to want to store? And, very importantly, how much are you prepared to spend?

Whatever the answers to these questions, one feature you ought to consider is **auto-parking.** "Parking" your drive's heads means moving them to a safe place on the disk platters where no data is stored – usually the innermost part of the platters – so that if you jolt the drive and the heads do touch the disk surface no data can be destroyed. (We hasten to add that you should let the drive stop spinning before moving it, or otherwise the heads could still get damaged.) Auto-parking is when the heads automatically park the moment the power is switched off. This is normally achieved by a spring.

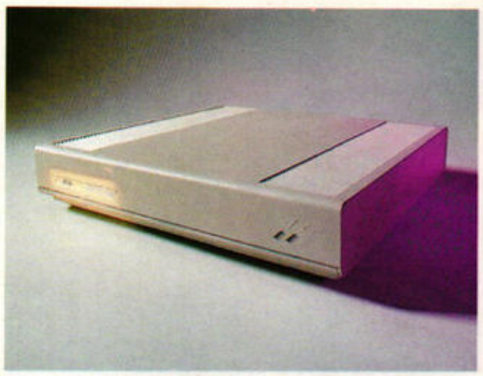
Should you wish to connect several peripherals to your ST's DMA port, such as other hard drives or the Atari laser printer, then you ought to check that the hard drive has a **through-port,** making it "chainable." It also helps to be able to change the drive's DMA address, so your ST knows which chained device it is talking to.

One feature many hard drives include is **caching** – the ability to "cache" or reserve some RAM for frequently-called data, saving head travel and speeding data recall still further. However, caching is only any good if you have at least 1MByte of memory, because otherwise you might not have enough memory to run your programs as well. By the time you've loaded your Accessories and the caches, you might have used some 400KBytes – not much left if you have a standard 520! If you only have a 512KByte machine, make sure you look at the un-cached timings in the speed comparison table on page 60.

All the drives tested came ready **formatted** and complete with all relevant **utilities** to get started. Several, however, came without a **plug** on the end of the power lead. If you spend £300 or more on a hard drive, the least you could expect is a plug!

● **How they work: p 56** ● **Speed table: p 60**

www.stformat.com

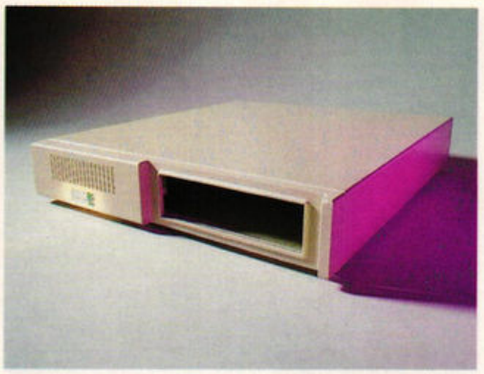


ATARI MEGAFILE 30 £369

Prices start at **£369** for 30MByte version
60MByte largest capacity
Comes with 12 month warranty
Silica Systems ☎ 081 309 1111

The Atari drive came without a plug on the lead, but it did have comprehensive installation instructions which made life more bearable. It has power and "drive busy" lights on the front. The size is 70x335x335mm and it fits nicely on a Mega ST with a monitor on top. Its lead is the shortest of those on review, and this would make life difficult for 520 or 1040 owners. There are both DMA in and out ports on the drive, and the DMA address can be changed, but you have to take the drive to an Atari dealer to get this done. There are no utilities as such supplied, just enough to get you going. It has the noisiest fan and heads of all the drives, and is by far the slowest. The only good thing about the Megafile is that you can guarantee it works, since it doesn't use SCSI or the ST's memory for a cache. Unless you are worried about compatibility, there's little reason for seriously considering this very outdated drive.

RATINGS
EASE OF INSTALLATION 75%
FEATURES 70%
SPEED 65%
NOISE/HEAT PREVENTION 68%
***FORMAT* VALUE 60%**

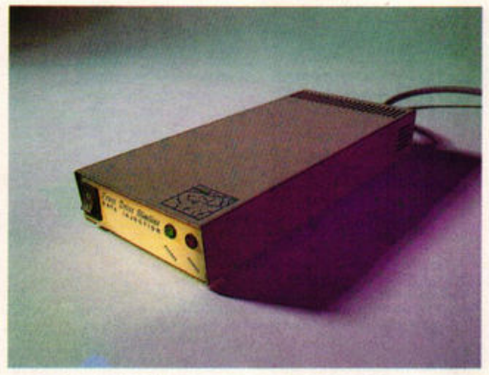


THIRD COAST 32MBYTE £299

Prices start at **£299** for 32MByte version
106MByte largest capacity
Comes with 12 month warranty
Third Coast Technologies ☎ 0257 472444

This drive has a large case (70x350x420mm), but it is rugged enough to withstand the weight of a monitor. The length of the lead also means it can be placed behind a 520 or 1040 ST. Installation of the drive is simple, although it has no real instructions with it, and it was the only drive that came with a manual giving technical details of the drive mechanism. The power switch is inconveniently on the back, but there is a "drive busy" light on the front and both DMA in and out ports. The DMA address can be changed by opening the case and altering a jumper. The drive has a 64K cache in the case, auto-booting, auto-parking and automatic bad block replacement, and it is extremely quiet in operation. It comes with a clock as standard and several utilities are supplied, such as the Turtle backup software, a tape driver and a virus killer. It is also the overall fastest drive. Good value, reasonable quality.

RATINGS
EASE OF INSTALLATION 75%
FEATURES 90%
SPEED 95%
NOISE/HEAT PREVENTION 95%
***FORMAT* VALUE 85%**

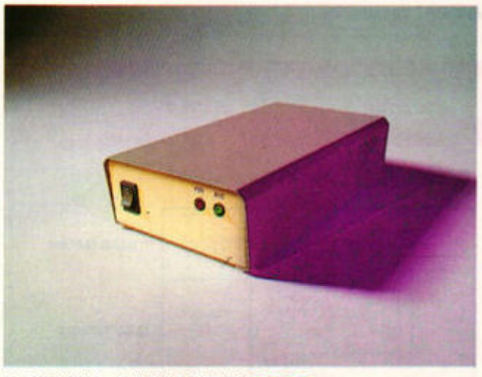


POWER 40MBYTE SLIMLINE £299

Prices start at **£299** for 40MByte version
Comes with 12 month warranty
Power Computing ☎ 0234 843388

Power Computing's slimline drive is just that, measuring a compact 240x110x40mm. It has the power switch on the front, along with the "drive busy" and power lights, and can auto-boot and auto-park. Unfortunately, the compact size is not quite the benefit it might seem to be at first glance. The drive has a big and bulky external power supply and arrived without a plug. Because of its very small size, there is no DMA out port, making the connection of any other peripheral to the DMA port impossible. The DMA cable has screws to connect it to the ST, rather than thumbscrews, making it necessary to get tools out to connect it. The cable is also fixed into the drive, making it impossible to replace should it ever get damaged. This drive is noisy in operation, and you cannot alter the DMA address. Very inflexible, definitely not for the serious user, but quite quick and cheap.

RATINGS
EASE OF INSTALLATION 75%
FEATURES 86%
SPEED 88%
NOISE/HEAT PREVENTION 83%
***FORMAT* VALUE 74%**

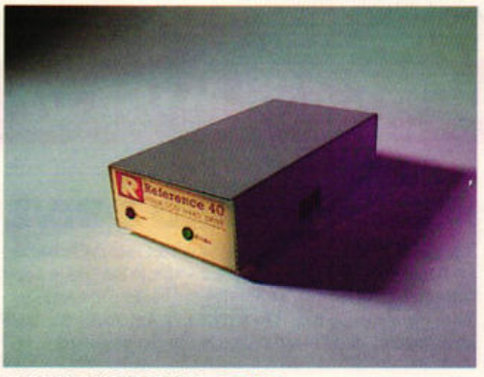


POWER 40MBYTE £329

Prices start at **£329** for 40MByte version
100 MByte largest capacity
Comes with 12 month warranty
Power Computing ☎ 0234 843388

The installation of this drive is quite simple, although there are no instructions on how to connect it to the ST. It comes with the ICD manual and utilities, and can auto-boot and auto-park. This drive measures 55x120x210mm and has a small but chunky external power supply. It has DMA in and out ports, but there is no way to change the DMA address. The power switch and both power and "drive busy" lights are on the front. There is a write-protect switch on the back to safeguard data, but it can only be applied to the whole disk. In use the drive is very noisy. If you only want a cheap drive it's worth a look, but it's not really for the serious user – especially since you can't alter the DMA address.

RATINGS
EASE OF INSTALLATION 88%
FEATURES 90%
SPEED 82%
NOISE/HEAT PREVENTION 85%
***FORMAT* VALUE 77%**



REFERENCE 40 £349

Prices start at **£349** for 40MByte version
100MByte largest capacity
Comes with 12 month warranty
Evesham Micros ☎ 0386 765500

Installation of the Reference drive is fairly simple – just as well, since it has the poorest installation manual of them all. However, the drive does come with the ICD utilities, and the ICD manual is extremely informative. This is the only drive that wouldn't auto-boot. It is very compact (50x190x100mm), but it has a big, bulky external power supply. The drive has no switch itself. The fan is quite noisy, although the heads are fairly quiet. There are both DMA in and out ports, but no way to alter the DMA address. Power and "drive busy" lights are on the front, and the lead is long enough to place it either side of the ST. Speed is about average, and it's worth looking at if you want a cheap drive and don't mind the inconveniences.

RATINGS
EASE OF INSTALLATION 70%
FEATURES 83%
SPEED 85%
NOISE/HEAT PREVENTION 73%
***FORMAT* VALUE 73%**

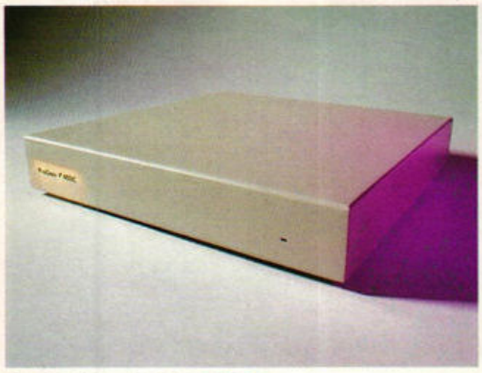
SUPRADRIVE 40MBYTE £399

Prices start at **£399** for 52MByte Version
105MByte largest capacity
Comes with 12 month warranty
Surface (UK) Ltd ☎ 081 566 6677

Supra were one of the first alternative hard drive suppliers for the ST, and at the time their drives were best performers. This one is 80x290x140mm in size and has DMA in and out ports and also a SCSI port. This model is due to be replaced by a 52MByte unit for the same price. When first connected, the test unit failed to boot, but Surface readily explained the problem, and once we changed the DMA number the drive worked very well. It includes auto-booting, a clock and some utilities. It has both power and "drive busy" lights, and in operation is fairly quiet and reasonably fast, but does not auto-park on power-off. Not a bad performer, but it's expensive for the performance. However, this may change with the new model.

RATINGS
EASE OF INSTALLATION 85%
FEATURES 85%
SPEED 79%
NOISE/HEAT PREVENTION 88%
***FORMAT* VALUE 75%**

www.stformat.com



PROTAR 40DC £423

Prices start at **£280** for the 20MByte
160Mbyte largest capacity
12 or 24 month warranty
Protar ☎ 0923 54133

The German-made Protar drive is very well built, a chunky 65x340x340mm and looks very smart. Installation is very simple and very well explained in the manual. The utilities supplied are of the highest quality, even recognising other manufacturers' hard drives, and include password and write protection on the various partitions. There are also some other utilities such as a screen saver, but unless you can read German you're out of luck. (On booting, the Protar also sets all your icons up in German.) The drive is very quiet in operation and you can save your partition information to a floppy for recovery purposes. The drive is auto-booting and auto-parking and has the power and drive selection switches on the back. It includes a 64K cache on board and a "drive busy" light on the front, and conforms completely to the Atari specification, so compatibility is not an issue. The lead is quite short, and may mean problems with a 520 or 1040. Not the fastest drive, but the one to buy if you want quality.

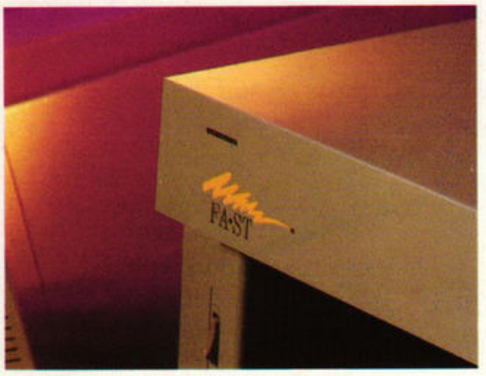
RATINGS
EASE OF INSTALLATION 95%
FEATURES 95%
SPEED 88%
NOISE/HEAT PREVENTION 95%
***FORMAT* VALUE 90%**

VORTEX 40MBYTE £599

Prices start at **£599** for 40MByte version
180MByte largest capacity
Comes with 12 month warranty
Silica Systems ☎ 081 309 1111

Vortex is also from Germany, and as with Protar the emphasis is definitely on quality. The drive can auto-boot and has DMA in and out. A DMA address selector and the power switch are on the back, "drive busy" and power lights on the front. Interestingly, you can write-protect the drive (all partitions or none), and instead of auto-parking at power-off it auto-parks the heads after a pre-set period without disk accesses (15 seconds default). It also powers down the motor after a period of no activity (5 minutes default). The manual is excellent, but installation would be easier if an English rather than a German plug were supplied. The case is smart and robust and the drive is almost silent. We found the auto-parking heads very frustrating in use – the drive took about 20 seconds to respond to the first access. We consequently turned the auto-park off, which then meant we had to manually park the heads. The caching supplied seems very ineffective, and is very awkward to set up. Adequate performance, but very expensive.

RATINGS
EASE OF INSTALLATION 75%
FEATURES 85%
SPEED 90%
NOISE/HEAT PREVENTION 95%
***FORMAT* VALUE 68%**



ICD FA.ST 50MBYTE £569

Comes with 12 month warranty
Silica Systems ☎ 081 309 1111

The ICD FA.ST is the only drive made by ICD, better known for their excellent ICD hard drive interface boards and utilities (supplied with many of the other drives reviewed here), so you'd expect it to be good. Installation is very well explained and would have been excellent had the drive arrived with a plug. The FA.ST has DMA in and out, and also a proper SCSI connector on it, though chaining the drive to another SCSI-fitted drive this way doesn't seem to work (quite possibly because the SCSI terminators need altering – a common problem area). The drive's power switch is on the back, along with a DMA device selector, and there are power and "busy" lights on the front panel. The drive is very fast and very quiet in operation, and the long lead means you can easily place it behind a 520 or 1040 ST. At 80x280x280mm it is smaller than the other large drives, though still not exactly in the compact category. The ICD FA.ST is fast, well-made and definitely worth looking at, but it is expensive.

RATINGS
EASE OF INSTALLATION 75%
FEATURES 90%
SPEED 94%
NOISE/HEAT PREVENTION 85%
***FORMAT* VALUE 75%**

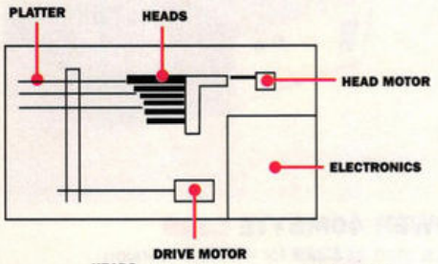
MEMORIES ARE MADE OF THIS

HARD AND FLOPPY DRIVES: WHAT'S THE DIFFERENCE?

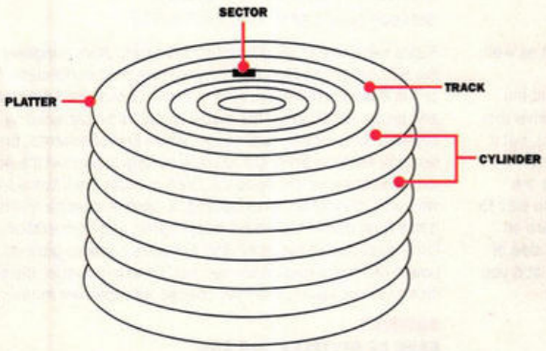
	Floppy disk	Hard drive
Sector size (bytes)	512	512
Sectors per track	9	17
Cylinders*	80	>500

INSIDE A HARD DRIVE

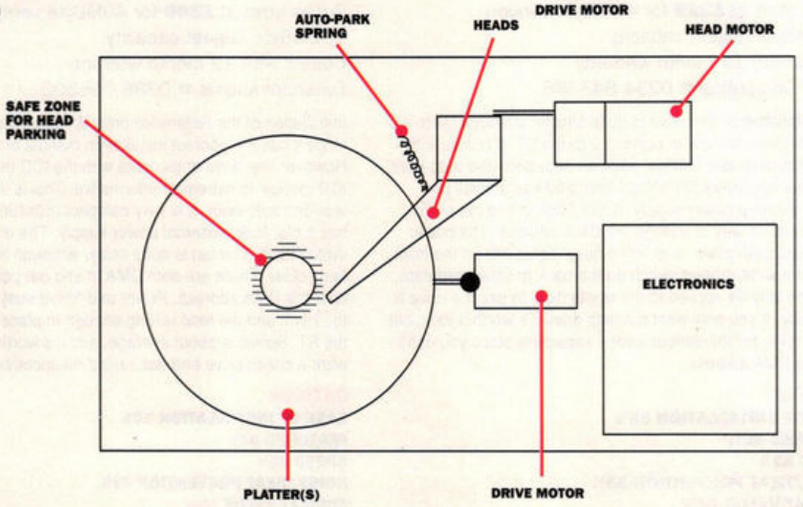
The side view at right shows how the drive's read/write heads are interleaved with the disk platters – almost like tissue paper between stacked plates, except that the heads don't actually touch the platter surface. The top view, below, shows the "safe" zone – free of all data – where the heads can be parked



WHAT EXACTLY *ARE* TRACKS, SECTORS AND CYLINDERS?



Tracks are concentric circles on a platter, sectors are smaller areas of a track and cylinders are a group of tracks in the same position on both sides of all platters. * Note that single-sided floppy disks do not have cylinders



www.stformat.com

Where can you buy the Amiga and ST Games you have always dreamt of . . .

AT DISCOUNT PRICES?

SURREY
The Games Room
Unit 15, Inshops,
Epsom Market Hall,
High Street, Epsom,
Surrey KT19 8TX
Tel: 0372 74465
Tue-Sat 9am - 5.30pm

WEST LONDON
Computer Games
309 Goldhawk Road,
London W12 8EZ
Tel: 081 741 9050
Mon-Sat 10am - 8pm
(nearest tube: Stamford Brook)

TITLES STOCKED INCLUDE:

Manchester United Europe,
F15 Strike Eagle 2,
Monkey Island, Hero Quest,
Pro Tennis Tour 2, Lemmings,
Eye of the Beholder,
Thunder Hawk, Gods,
Virtual Worlds, PGA Tour Golf,
Mercs, RBI 2,
Cruise for a Corpse,
and many, many more.....

ESSEX
Thatz Entertainment
Unit 33,
Romford Shopping Hall,
Market Place,
Romford RM1 3AB
Tel: 0708 744338
Mon-Sat 9am - 5pm
1/2 day Thur.

ESSEX
Thatz Entertainment
Unit 619, Pavillion Building,
Lakeside Shopping Centre,
West Thurrock, Grays.
Tel: 0708 890800
Mon-Sat 9.30am - 8pm

EAST LONDON
Computer Shopping World
259 High Street,
Walthamstow,
London E17 7BL
Tel: 081 503 6633
Mon-Sat 9am - 5pm

CAMBS/EAST ANGLIA
M.V.L.
White Hart Buildings,
Nene Parade, March,
North Cambs PE15 8PH
Tel: 0354 56433
Mon-Sat 9am - 10pm

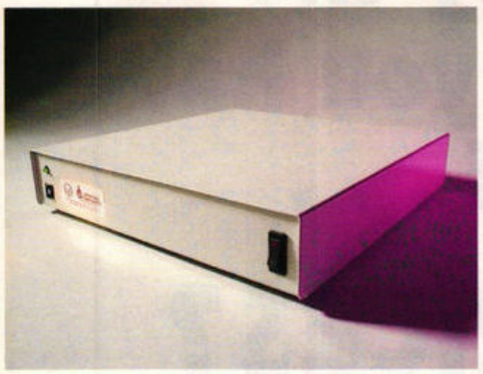
ESSEX
Video Screen Computer Games
205 St. Marys Lane,,
Upminster,
Essex RM14 3BU
Tel: 0708 640500
Mon-Sat 10am - 6pm

Call or Visit these Local Retailers Now!

A FURTHER £1 Discount on Amiga and ST Games and Peripherals for all personal callers who bring a copy of this advertisement

(Offer lasts until 30th September 1991)

www.stformat.com



LADBROKE 52MBYTE £429

Prices start at **£409** for 52MByte without clock
105MByte largest capacity
Comes with 2 year warranty
Ladbroke Computing ☎ 0772 203166

The Ladbroke drive arrived without a plug, and installation is not easy, since there is also no labelling on the DMA ports – but it does have both DMA in and out ports and a selector on the front panel which alters the address, so there is no conflict with any other DMA device. The drive uses the ICD utilities, includes the Turtle backup utility and features auto-parking, auto-booting and a 64K cache on the drive. The power switch is on the front, making life easy but leaving the switch prone to knocks. However, the 70x325x335mm case has protruding sides that go some way to protecting the switch, and the case is tough enough to support a monitor quite happily. The drive has been tested with most emulator boards and is one of the fastest reviewed, even without caching. It is quiet and has a long warranty, so it's well worth looking at.

RATINGS
EASE OF INSTALLATION 65%
FEATURES 92%
SPEED 93%
NOISE/HEAT PREVENTION 93%
***FORMAT* VALUE 81%**

GASTEINER 85 MBYTE £399

Prices start at **£269** for 30MByte version
100MByte largest capacity
Comes with 12 month warranty
Gasteiner Technologies ☎ 081 365 1151

The Gasteiner drive arrived without a plug and the DMA ports on the back were loose. This is a large unit, measuring 65x325x330mm. It has DMA in and out ports, but the DMA address cannot be set from outside the case and a warranty label prevents you from opening the case yourself. There are both power and "drive busy" lights on the drive, but they are not marked. The case looks cheap but is very sturdy and can support a monitor. The drive auto-boots and auto-parks. The manual appears to be a very poor translation from a German manual, and is good for nothing but a laugh. A very long lead is supplied, enabling you to place the unit almost anywhere. The drive is very quiet in operation and includes a backup utility. Not bad, but let down by poor manual and presentation. Not too quick either, but plenty of Megabytes per pound.

RATINGS
EASE OF INSTALLATION 70%
FEATURES 80%
SPEED 75%
NOISE/HEAT PREVENTION 90%
***FORMAT* VALUE 77%**

HUNTER 70MBYTE £359

Prices start at **£359** for 70MByte version
210MByte largest capacity
Comes with 12 month warranty
Hunter Business Systems ☎ 0382 581035

Just released for the ST; uses the Rodime mechanism and the ICD interface and utilities. Has both DMA in and out ports, a clock as standard and a 64K cache on the drive; auto-boots and auto-parks. Measures 70x280x280mm. "Drive busy" light on front panel along with power switch. The power lead could come out of the drive if pulled hard enough. Very fast and quiet, but trying to load the C linker produced a two-bombs "bus error" message. The drive also failed to copy or delete data with caching disabled. The drive is apparently incompatible with some software and/or ST hardware combinations – a shame, since it is very fast and cheap. Check before you buy.

RATINGS
EASE OF INSTALLATION 80%
FEATURES 85%
SPEED 91%
NOISE/HEAT PREVENTION 95%
***FORMAT* VALUE 52%**

THIRD COAST ST ADAPTOR KIT FOR PC 32MBYTE HARD DRIVE £230

Third Coast Technologies ☎ 0257 472444

Third Coast supply not just ST drives but also kits to adapt IBM hard drives, should you be unfortunate enough to have one lying around. The kit can only take the half-height IBM drives, not the older full-height type, and arrived complete with everything necessary except for any fitting instructions. This makes it a poor choice for the non-techie, since the cables can easily be put onto the drive upside down. Once sorted out, however, it all works very well indeed – even our slow old drive mechanism did very well in the speed tests. The kit came with the ICD manual, but not the ICD utilities themselves. Not for the average user, this one, but worth it if you are a techie!

RATINGS
EASE OF INSTALLATION 70%
FEATURES 90%
SPEED 89%
NOISE/HEAT PREVENTION 90%
***FORMAT* VALUE 76%**

REMOVEABLE HARD DRIVES – THE BEST OF BOTH WORLDS?

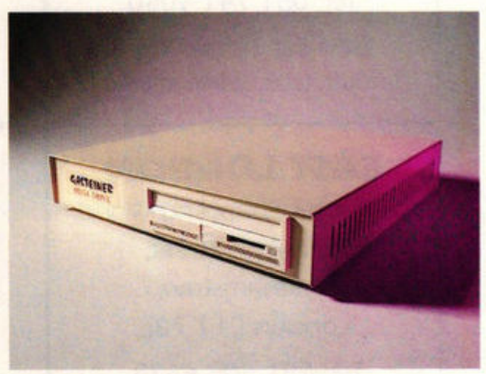
With a removeable hard disk drive, the disk platter is in a plastic case like a floppy disk. The advantages are threefold. First, security: if you work with sensitive information, you can simply take your data disk home or lock it in a safe. Second, a removeable drive makes the transport of large amounts of data easy. For example, Jean Michel Jarre uses STs, so he could send a 40MByte MIDI sample to the UK on one removeable disk rather than 50 floppy disks. The third advantage becomes evident if you need to keep large amounts of data: once you've filled the disk, all you need to do is remove it and pop in a replacement – though a new cartridge is an extra £100. The problem with removeable hard disks, however, is that they are inevitably not as well sealed as the fixed sort, making it that much easier for undesirable things to get into the drive, potentially causing head crashes. Long-term reliability is still not proven.

PROTAR 44R £611

Comes with 12 month warranty
Protar ☎ 0923 54133

The Protar removeable drive is based on the Syquest mechanism. As mentioned, this has a poor reliability record, but Protar's very stringent quality control procedure should catch any faults. The drive is the same size as the fixed Protar drives reviewed above (65x340x340mm), with a disk speed indicator light and a busy light on the front, and it has all the same features, except for the disk platter, which comes in a plastic case like a floppy disk. Once the disk is placed into the drive, it takes about 30 seconds for the drive to be ready for use. Considering that the platter is not in a vacuum, its speed is very impressive indeed. If the advantages of removeable hard disks appeal to you, then the high quality Protar may be the one for you.

RATINGS
EASE OF INSTALLATION 95%
FEATURES 95%
SPEED 80%
NOISE/HEAT PREVENTION 90%
***FORMAT* VALUE 79%**



GASTEINER 44R £599

Comes with 12 month warranty
Gasteiner Technologies – ☎ 081 365 1151

This is another 44MByte removeable drive, using the same Syquest mechanism as the Protar, so once again there is a possible questionmark over the unit's long-term reliability – and with this one you haven't got Protar's reputation behind you. The drive tested came with a plug but no cartridge. The manual is of the same poor quality as the 85MByte Gasteiner drive reviewed on this page – apparently a poor translation from the German. The drive is noisy and slow, but it does auto-boot, and the utilities – once you've thrown away the manual – are actually quite good. The DMA address can be changed on this drive. Not a fast drive, but it does the job, it's flexible and you can remove your valuable data, if that is what's important to you.

RATINGS
EASE OF INSTALLATION 70%
FEATURES 80%
SPEED 70%
NOISE/HEAT PREVENTION 84%
***FORMAT* VALUE 73%**

www.stformat.com

POWER COMPUTING

NEW LOW PRICES

New Series 900 Hard Disk

- Super-slim metal case
- Low profile mechanism
- No need for a cooling fan
- Buffered Thru'port
- Optional battery backed up clock
- High speed 20mS seek rate
- Write protect switch, protect your valuable data
- Power supply
- ICD Interface & Utility disk

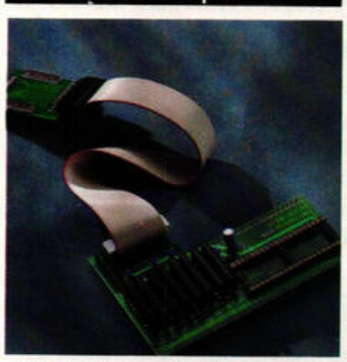
40MB	£329	100MB	£479
40MB with clock	£339	100MB with clock	£489

With any Power Hard Disk
Lattice C Version 5, **£55 (normally £89)**

NEW! 512K RAM Expansion

for all STFM Machines **£45**

ST RAM Expansion



- No soldering required
- Expand to 2MB or 4MB
- Plugs directly inside the ST
- Full fitting instructions
- Uses latest high capacity RAM chips

2MB RAM Expansion	£99
4MB RAM Expansion	£169
1MB Simms for STe Expansion	£40

SLIMLINE

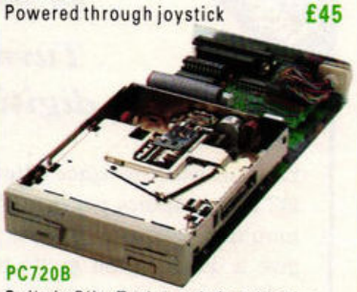
40MB Slimline Hard Disk	£299
100MB Slimline Hard Disk	£449

For Quantum & Sony 11mS Access drives, add £35

POWER DRIVES

PC720
Built-in power supply **£55**

PC720E
Powered through joystick **£45**



PC720B
Built-in Blitz Turbo and virus blocker & boots from drive B **£65**

PC720I
Atari internal drive **£35**

PC7200I
Official internal drive **£45**
(no case cutting, but must be small button)

PC720P
Including PSU **£50**

5·25" External drive **£95**

ORIGINAL SERIES 900

Series 900 100MB Hard Drives

SPECIFICATIONS

- High quality NEC mechanism
- Auto booting as standard
- 32MB partitions on STE
- Thru'port for external devices
- Fast 20mS drive
- ICD utilities included
- 1 year guarantee

Other sizes available

POWER SPECIAL OFFER PACKS

PACK 1

- 100MB SERIES 900 **£499**
- Power supply
- Power mouse
- PC720 Power floppy drive

PACK 2

- 100MB SERIES 900 **£499**
- Power supply
- Power mouse
- Any two pieces of software from: Hisoft Devpac v2, Hisoft C, Hisoft Proflight, Neodesk v3, PC-Ditto

PACK 3

- 100MB SERIES 900 **£499**
- Power supply
- Lattice C v5
- Power mouse

The prices are only for the packs described and cannot be split

MEGA STe

STe 1	£799
STe 2	£1149
NEW Supercharger	£249
Power Mouse	£15

New Atari TT workstation

available now!

- Powerful 68030 32MHz processor
- Up to 26MB RAM
- Many graphics resolutions

The ideal high-power machine for office word processing and publishing

2MB	£1879
4MB	£2229
8MB	£2449
Hi-res colour monitor	£469

B TURBO

- Back-up your disks at lightning speed
- Copies from the internal to the external drive
- Cleverly by-passes your ST's disk controller chip
- Back-up an ST disk in around 40 seconds **NEW**
- Switchable between drive & Blitz **£20**

ICD INTERFACES

ICD interfaces are ideal as a start for building your own desk unit. They are compatible with the powerful ICD hard disk utilities and come with full fitting instructions.

Ad-SCSI with Thru'Port	£89
Micro-SCSI Internal Mega Drive	£69
Add-SCSI Plus with Thru'Port & Clock	£99
AdSpeed	£199

SOFTWARE

Lattice C V5	£89
Devpac V2	£29
Hisoft C	£29
Pro Flight	£29
Harlekin	£45
Wercs	£24
Knife-ST	£29
PC Ditto	£29
Neodesk V3	£34
AT-Once ST+	£189

CHIPS

MMU	£28	DMA	£28

Power Computing Atari ST tech support telephone 0203 661136 Mon-Fri 5pm-8pm

All prices include VAT, delivery and are subject to change

All trademarks acknowledged.

Specifications are subject to change without notice

Access

POWER COMPUTING LTD
Unit 8 Railton Road Woburn Road Industrial Estate Kempston Bedford MK42 7PN
Tel: 0234 843388 Fax: 0234 840234

VISA

Next day delivery £4·50

POWER COMPUTING U.S.A. 21 South 5th Street Suite 900 PHILADELPHIA PA 19106 TEL. 215 922 0050 • FAX 215 922 0116

POWER COMPUTING SRL ITALY Via Delle Baleari, 90 00121 Ostia Lido ROMA 2 Lines (06) 5646310 • FAX 5646301

POWER COMPUTING FRANCE 15 Bld Voltaire 75011 PARIS FRANCE TEL. (1) 43570169 (6 lines) • FAX (1) 43380435

POWER COMPUTING ENQUIRIES TO ACL Engineering Perth AUSTRALIA (09) 481 0555

www.stformat.com

TIME TRIALS – JUST HOW FAST *ARE* THE HARD DRIVES?

TEST (Key below)	Atari 30MByte £369	3rd Coast 32MByte £299	3rd Coast DIY kit £230	Power 40 slim £299	Power 40 £329	Reference 40 £349	Supra 40MByte ££399	Protar 40DC £423	Vortex 40MByte £599	ICD FA.ST 50MByte £569	Ladbroke 52MByte £429	Hunter 70MByte £359	Gasteiner 85MByte £399	Protar R44 £611	Gasteiner R44 £599	Floppy Disk 60p?
1	193.81	96.87	99.09	99.33	137.36	139.16	171.73	122.41	127.62	96.77	96.97	98.86	156.68	131.37	187.61	
2 W	——	47.56	70.11	65.96	65.44	67.31	——	76.63	74.61	48.59	54.24	68.55	——	20.77	——	
2 WO	139.53	63.94	91.63	93.72	92.36	93.59	81.76	86.58	75.58	64.53	79.14	failed	88.50	106.18	113.60	
3	1,266	768	799	796	812	792	885	824	805	778	771	776	928	911	1,043	
4 W	——	9.30	9.59	10.19	10.42	9.64	——	9.87	9.99	9.24	9.43	9.29	——	9.92	——	
4 WO	10.88	9.40	10.08	10.91	10.69	10.23	9.60	9.92	10.17	9.55	9.50	10.44	10.04	11.79	10.12	30.14
5 W	——	10.87	11.14	12.46	12.52	11.49	——	12.84	13.26	10.66	10.88	failed	——	13.11	——	
5 WO	15.7	11.74	12.99	13.92	13.74	13.98	12.31	13.11	13.65	12.06	12.03	failed	13.31	17.36	13.20	53.51
6	3.15	2.72	2.84	2.84	2.78	2.78	2.89	2.75	2.67	2.73	2.75	2.83	2.91	2.89	2.91	13.34
7	2.24	1.81	1.94	1.96	1.91	1.98	1.88	1.82	1.79	1.78	1.83	1.92	1.98	1.92	2.18	9.20
8	17.95	12.53	13.86	13.56	13.51	13.37	13.20	12.22	13.52	12.68	13.03	13.33	14.70	14.87	15.71	82.27
9	2.82	2.27	2.56	2.48	2.38	2.40	2.62	2.01	2.44	2.41	2.29	2.52	2.51	2.41	2.61	
10 W	——	9.85	9.02	10.11	8.71	10.13	——	17.60	15.40	9.94	9.78	9.54	——	21.32	——	
10 WO	25.24	15.53	17.35	21.45	21.55	23.37	15.55	18.10	15.82	15.75	16.62	failed	18.95	86.00	23.89	
STF	60%	85%	76%	74%	77%	73%	75%	90%	68%	75%	81%	52%	77%	79%	73%	

THE TESTS PERFORMED

We measured (in seconds) how long each drive took to complete these tests. The lower the figures, the faster the drive

1. Copy a floppy disk (*STF* Cover Disk 13) to hard drive (720K)
2. Copy a large number of files (5.57MByte) across two partitions – with caching (W) and without
3. Install *Wonderland* on hard drive
4. Compile a C program (7.274K)– with caching (W) and without
5. Link the above C object file – with caching (W) and without
6. Start *1st Word*
7. Start *Organiser*
8. Start *Wonderland*
9. Start BASIC
10. Delete files from test 1 – with caching (W) and without

MUSIC EDUCATION
COMPOSERS • TEACHERS • LECTURERS

A COMPOSER'S GUIDE TO USING C-LAB NOTATOR

• Attractive Ring Binder • 4 DS Disks • • 145 pages • Exercises • Example Compositions & Score Extracts

An invaluable resource for C-LAB owners used by composers, teachers, lecturers and home-study musicians around the world.

'...the quality of the materials was excellent. I particularly liked the "Composer's Guide to Notator" which is a useful general introduction to using sequencers in education.' Times Educational Supplement

Special Price £65 + VAT & CARRIAGE

ACCESS/VISA Local Authority Orders welcome.

Impac Resources Limited
Unit 4B
Thornton Industrial Estate
Pickering YO18 7JB
0751 77456

impac RESOURCES LTD

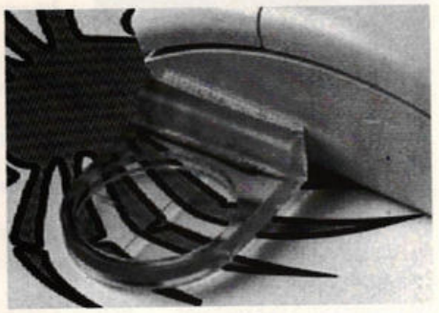
Simple! Ingenious!

TRACEY

Turn your mouse into a digitiser – for just £7.95!

Do you want to trace photographs and sketches into your DTP or graphics package? You need Tracey! This precision-moulded transparent puck attaches to your ST's mouse to give a quick visual guide of what you are tracing. Fixes to either side of the mouse for left or right handed use.

★ Removable when not in use
★ Ideal for Atari, Naksha and all flat-sided mice
★ Only £7.95 including VAT and p&p



"Transparently useful and original" – *ST Format, Dec. '90*

"If the rule that all the simplest ideas are the best is applied, then Tracey gets the prize" – *Computer Shopper, Jan '91*

Cheque with order. Trade enquiries welcome.

SideWise Ltd (Dept ST27), PO Box 4, Totnes, Devon TQ9 7EN

THE NEW CREATOR & NOTATOR VERSION 3.1

THE UNIVERSAL MIDI SEQUENCING & NOTATION SYSTEM FOR THE ATARI

Since the introduction of Creator in 1986 and Notator in 1988, C-LAB have been dedicated to the development of the Universal MIDI Music System. Powerful, flexible, expandable, reliable and yet simple to use. A system that evolves with you. A system that allows you the freedom to realise your full creative potential.

The C-LAB development philosophy continues with the release of Version 3.1 which amongst its many new features includes two vitally important innovations.

Firstly GRAPHIC ARRANGE. This radical new concept in music control allows the arrangement of musical events by combining visual access with audio control, thus giving far greater flexibility in the manipulation of complex compositions than ever before.

Secondly in recognition of the importance of complete integration with analogue tape based set-ups, comprehensive MIDI control of the FOSTEX R-8 is now available.

If you are a registered C-LAB user you will have automatically received full information on these and the many other new features in V 3.1 If however you have not yet registered or are new to the C-LAB Creator & Notator systems, please contact us for inclusion on the mailing list.

SOUND TECHNOLOGY plc

Sound Technology plc, Letchworth Point, Letchworth, Herts. SG6 1ND. Tel: 0462 480000. Fax: 0462 480800

www.stformat.com

PUBLIC APOLOGY

M.D. Office Supplies would like to apologise to all its competitors in this magazine. As ever we shall be selling our diskettes, storage boxes, etc at sensationally LOW, LOW PRICES.

JUST LOOK AT THESE AMAZING OFFERS

100% CERTIFIED 3.5" DSDD DISKETTES 100% GUARANTEED

probably the best diskettes money can buy. Well over 5 million a year sold 100% certified and tested to be error free. You simply cannot buy better.

25 DSDD 3.5 plus our deluxe storage box £19.99
50 DSDD 3.5 plus our deluxe storage box £29.95
100 DSDD 3.5 plus our deluxe storage box £44.95

OR

200 DSDD 3.5 plus 2,100 capacity lockable boxes

£74.95

All diskettes supplied are without doubt superb quality, supplied with labels.
Storage boxes are anti-static, lockable and have ample dividers.

NAKSHA MICE

Replacement mouse for the ATARI range of computers. Features include, 2 year warranty, free helpline, high 280 dpi resolution, micro switched buttons, very expensive operation stealth software.
All this and more for only

£22.95

RE-INK

It's simple. Why waste your old fabric ribbon when you can re-use it so easily? Re-ink allows you to re-use the ribbon up to 100 times. The savings to you are incalculable How much is this wonder product?

£12.95

STACKABLE STORAGE BOXES

Have we got two for you

BANX BOX

90 capacity, stacks horizontally or vertically, colour coded dividers and is security lockable.

All this for only £8.95

BIG BERTHA
240 CAPACITY DRAWER TYPE
stacks horizontally, vertically, ample dividers and is lockable
only **£22.95**

SPECIAL CHRISTMAS VALUE PACK

We have put together some of our most popular lines and made a special value package.

1. 100 3.5 DSDD diskettes
2. 100 3.5 diskette labels
3. 100 capacity lockable box
4. Deluxe mouse mat
5. 3.5 head cleaner
6. Computer dust cover
7. Mouse house

R.R.P. £69.70

Available now for only £49.95*

*Please note we reserve the right to supplement an item with one of the same value should a particular item be out of stock

See us on stand 124 at the Computer Shopper Show Dec 5th - 8th Wembley. Don't miss it!

M.D. OFFICE SUPPLIES

18 CRESCENT WAY, ORPINGTON, KENT, BR6 9LS
TEL: 06898 61400
FAX: 06898 50628

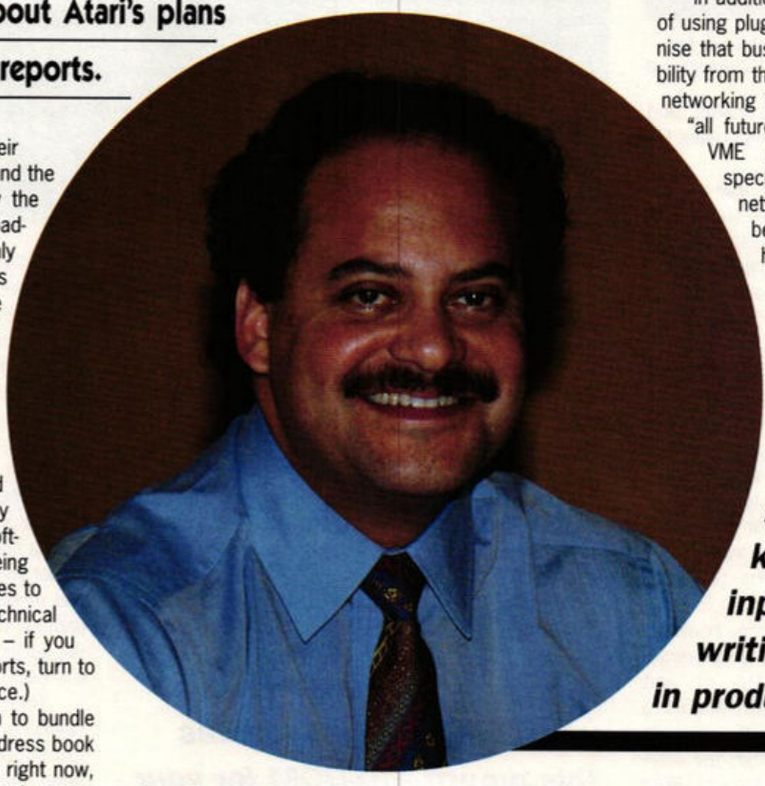
VISA Access

We also sell HD 3.5 & 5.25 disks at probably the lowest prices in the UK. Ring for details

www.stformat.com

On the record

The ST wasn't named after Sam Tramiel, but he is the managing director of Atari US – the man in the hot seat. Recently, this jovial Canadian was in Britain, so Andy Hutchinson and Neil Jackson headed down to Atari UK's HQ for an exclusive chat about Atari's plans and projects. Alex Soboslay reports.



PHOTOGRAPHER: NEIL JACKSON

Atari are pinning great hopes on their two new portable STs, the Book and the STylus (formerly STyle, originally the ST Pad). Book is an A4-size notepad-type machine, storing data mainly on RAM cards. STylus is a keyboard-less "portable user interface" – you write directly onto an LCD screen and the computer interprets your handwriting and turns it into an ASCII text file. Sam Tramiel revealed that there are plans to begin production of the Book "very very soon," with a first batch of 500 starting this month.

"As for the STylus," he said, "I would conservatively say it will be in production by December." The handwriting-recognition software, he claimed, "is very close to being finished. We're just doing some final touches to it." (*ST FORMAT* brought you exclusive technical details of the new machines in issue 22 – if you missed that, or any of our subsequent reports, turn to page 136 for the *FORMAT* back issue service.)

Is there any other software Atari plan to bundle with STylus, such as a card index or an address book program? "Yes. I can't tell you what it'll be right now, but it'll be all kinds of neat little things for the user, really friendly to use." Current handwriting-recognition systems sell in the US for around $6,000. Sam aims to make sure the STylus is "*very* competitively priced in the Notebook area or the handwriting-recognition area" and hopes to bring it out for as little as $1,000!

Sam is enthusiastic about the controversial technology of handwriting-recognition and insists that TOS, the ST's operating system, is ideal for this application because it is graphics and windows-based. "It's a natural for pen writing," he declared. "If you use MS-DOS, you have to use *Windows* (the PC equivalent to the ST's GEM Desktop). If you have to use *Windows*, you have to use 2MBytes of RAM and you have to have an 80MByte hard disk – and in a portable machine with a hard disk, if you move the machine in any direction fast, the hard disk goes absolutely crazy. So this should be a unique position for us."

One potential problem is how you transfer data from your Book or your STylus onto your ST, so you can make use of it in one of the powerful programs the ST supports. Sam revealed that both the new machines are to come with a small, portable, 3.5-inch floppy drive, which can be either battery or mains driven. This, he said, is ready for shipment next month. Atari have also developed a program to transfer files from the STylus or Book to an ST, he added. "A very easy transfer program. And STylus will also have standard data cards" like those currently used in Atari's hand-held Portfolio.

In addition, both STylus and Book will be capable of using plug-in networking cards. Atari clearly recognise that business users demand a networking capability from their machines: the Mega STE already has networking facilities built in, and Sam revealed that "all future high-end Atari machines" are to have VME (Virtual Memory Enhancement) slots, specifically intended to support the Ethernet networking system. The software is now being developed, and Sam's goal is to have Ethernet cards built-in.

The Book and STylus also exploit what is widely agreed to be one of the best aspects of the ST, that remarkable mono display. We asked whether Atari's plans involve sticking to the present split resolution/split monitor standard or if they expect to be turning more to multisync monitors. "Without telling you too much about the new machines," Sam replied, "there'll be many different resolutions, all compatible with the present machines and software. The advantage of having the monochrome display we have today is that it allows for ST Books and for STylus, which some other companies won't have the ability to do. So we're very glad to have that. We will not abandon that. There will be higher resolutions in both monochrome and colour, and multisync monitors could take a position in that."

Atari's STylus, the keyboard-less ST you input text into by just writing on its pad, "will be in production by December"

SAM TRAMIEL

When pressed about other new machines, Sam hinted at the possibility of a "fourth ST" (as industry sources are calling it), perhaps as soon as 1992. He confirmed that there will certainly be an enhanced TT with multi-tasking capability – that is, the ability to run more than one program at the same time. "It's very far along in the development process," he said. "The whole issue is to make sure it will be as compatible as possible with existing packages which were not written to be multi-tasking packages. It will be at the same price point as a standard TT – it will just be an upgrade to a TT, or any future machines using 68030s or 68040s. It will definitely be available by March."

Another upgrade on the way is the so-called Ajax chip, which will enable Mega STEs and TTs to handle 2MByte floppy disks. Sam said that Atari will be ship-

ONE FOR THE "HACKERS?"

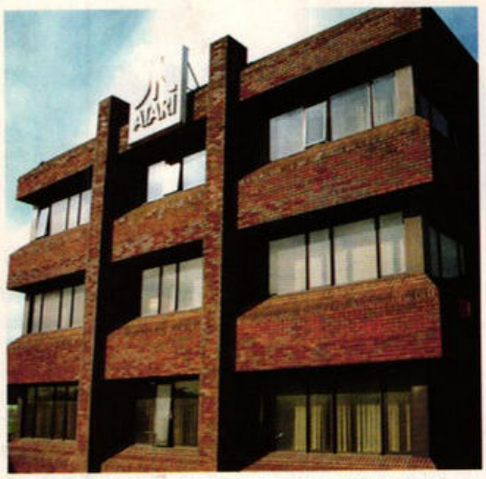
Way back in December, *ST FORMAT* brought you world exclusive news of the development of the STT add-on transputer board – an enhancement especially suited for maths-intensive applications. When we asked Sam Tramiel about this piece of hardware, he passed the buck to Bob Gleadow, Atari's UK boss. So: STT, Bob?

"It's a simple extension for the 'hacker' market, as it's frequently referred to," Bob said. "STT is a development name for a project which we're working on. If it's finalised it won't be limited to just transputers. All the preliminary work has been completed, but in any R&D department there are projects which get started but aren't finished."

So are you saying that this one won't see the light of day?

"Nope, I'm not saying anything. A lot of the early Atari market was based on these 'hackers.' If you remember the furore that surrounded the DMA problem with hard drives, you'd think that 7 million people were upgrading to hard drives. So there must be a 'hackers'' market out there somewhere."

www.stformat.com



● In this building in Slough, they've found a use for those Atari power-packs. They use them as doorstops!

ping TTs fitted with 2MByte drives this month, and later making available "very inexpensive upgrades for the TT and for the Mega STE."

Sam was reluctant to give anything away about the Falcon project – Atari's secret new super-computer built around CD-based data storage technology. (*ST FORMAT* brought you the world exclusive details in issue 25.) He did however reveal that the Falcon "uses a Motorola processor and it's 32-bit. It's a 68030/68040 and it'll be very exciting."

He wouldn't say any more than that – but this is the first suggestion anywhere that the new machine uses the Motorola 68040 central processing chip. This is an *extremely* rapid chip which can be run at speeds up to 32MHz – that is, as much as *four times* the speed of existing STs. It's at the cutting edge of technology and so far there are no other computers which use it. If Falcon does indeed use this CPU, it will offer you unprecedented processing power at your fingertips.

You won't have to wait for the Falcon, however, to benefit from the new CD-I (Compact Disc-Interactive) technology. Sam announced that Atari will next month be releasing a SCSI-based CD-ROM – that is, a CD-based ROM built into your ST or STE. This will include a special adaptor to convert from the standard SCSI protocol to the ACSI on which CD-ROM devices are currently based. This should open up the possibility of truly huge games, for example, being released on a single CD-like disc where now they might take up four floppies.

Atari don't intend to follow Commodore down the "CD-TV" path – producing stand-alone devices. "It'll be a peripheral," Sam insists. "We might in the future have a slot where you can plug a peripheral into your main housing. Instead of buying an add-on box, you just take a small CD-ROM player of some size and just plug it in the front of your housing just like you would with a floppy or hard disk drive. Our new housings will have the ability to do that."

"We are looking at how to integrate CD-I," Sam added. "There's also a new format from Sony, a small 3.5-inch CD – a brand new format. We're talking with Sony, we're talking with Philips and we're definitely going to be involved in CD technology for a long time."

But what about software? Will there be any Atari CD software in the future?

"Yes, although it'll mainly be third party software. We'll be doing a lot of development on the CD games side, but not on the applications side. I've seen a lot of CD-I software and I've seen a lot of CD-TV and still, from a game-playing point of view, I haven't seen exciting games. I see great educational applications, I see great database applications, but not really fun interactive games yet."

Sam couldn't say how much we might expect to pay for titles in the CD-I range, when they finally hit the streets. "It really depends on what you're buying," he said "– whether you're buying an encyclopaedia or a game. I'm not sure how much they'll cost. I'll know more after this week when I visit Philips."

However, all these new developments don't mean that Atari have forgotten the present strengths of the ST. We mentioned the ST's dominance of the MIDI music market on both sides of the Atlantic, and Sam confirmed the company's continuing commitment to the field – in their new machines as well.

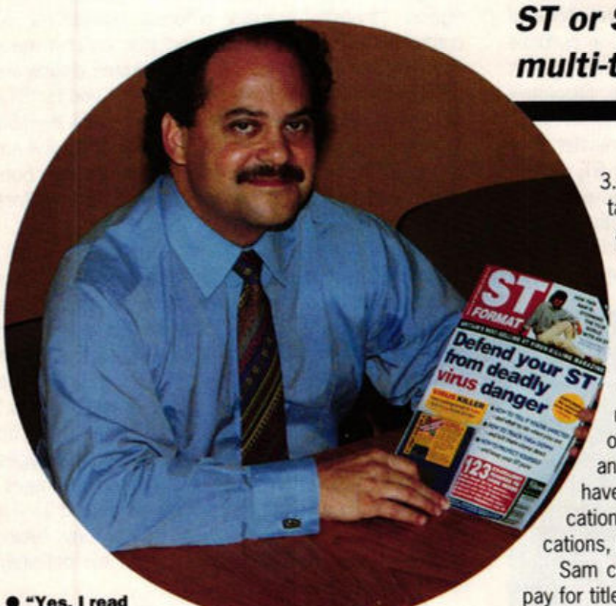
"MIDI is a very important market sector for us," he affirmed. "We get a lot of pleasure out of it, from being involved in the music world. On the ST Book we have a little module which will plug into it. I forget the actual specs, but it'll have more MIDI ins and outs on that module. It'll also have a thing called SMPTE. We had our MIDI expert James Crumpty working on it with the outside world and he said, 'This is what we need.' It is being tooled now."

This is an inspired move. The STACY portable ST seemed to be just what musicians had been waiting for, but disastrously short battery life scuttled that ill-fated machine. A MIDI module for the Book may cement the ST's position as the machine of choice for the serious musician. However, industry rumours about the likelihood of a MIDI multi-tasking environment for the ST seem to have come to nothing. "Not from Atari," Sam said. "The MIDI world is doing all kinds of things, but nothing we're supporting ourselves. It became a very controversial thing, who to support and who not to support."

One thing seems certain: with Sam Tramiel at the helm, Atari is not likely to rest quietly on its laurels. Progress is his watchword, and that can only be good for all ST owners. ***stf***

Atari's plans include TTs with 2MByte floppy drives this month, CD-ROM for your ST or STE next month and a multi-tasking TT by March

SAM TRAMIEL



● "Yes, I read *ST FORMAT* every month," said Sam... er, more or less

BUT WHAT ABOUT MY STE?

Many of us aren't thinking about new Atari machines yet – people who bought an STE, for instance, which was supposed to be on the cutting edge of technology but (as *FORMAT* revealed) suffered from a DMA chip fault that made some STEs incompatible with some hard drives. We asked Sam Tramiel whether the problem had finally been laid to rest.

"Yes. The problem is clearly out of the way now. We made a new chip, called the 4140 DMA chip, added more grounds to it and made it much more secure. So the problem is definitely gone. It was a grounding fault in the original DMA chip."

The absence of technical data at the time about the DMA chip problem exposed how hard Atari seemed to be making life for developers – or anyone who wanted to know about the internal system of the machines. We asked whether Atari were addressing this issue, and Atari UK Managing Director Bob Gleadow replied: "In the US they came out with a scheme to sell the developer documentation without the hardware – without the disks etc – as a software package. We will be embracing that in about 60 days' time."

Sam Tramiel added: "We're also writing, in our Dallas R&D labs, special technical reference guides on new hardware. So we'll be publishing books now on the new machines."

● What about enhancements to the existing machines? Certainly one of the criticisms of the ST and even the STE is the dreadful soundchip. Is this problem being addressed?

"The STE has two soundchips," Sam replied. "We had to leave the AY chip in the STE for compatibility. The major areas we're looking at for our future machines are graphics and sound. You'll see some great graphics and sound on our 68000 TOS family machines."

● One of the things that impressed people straight away about the STE was the analog joystick capability, yet we've really seen very little hardware developed to make use of that. Are there any plans to use those kind of redundant sockets on the side of the STE?

Sam: "I won't give you any dates, but we are working on a very special joystick, for that port. It'll be an add-on."

***ST FORMAT:* When you say "special" what does that mean?**

Sam: "It'll have more than two buttons on it."

THINGS TO COME?

Sam Tramiel wasn't in town just to chat to *FORMAT*. He was here talking to software developers about the impressive new machines Atari have been brewing up in their Sunnyvale labs.

Just for the record, the names we saw in the sign-in book at Atari UK's head office (apologies to Atari MD Bob Gleadow – but hey, we're nosy journalists) were: Prospero, HiSoft, Oxford, Working Title, GST, AVR, Arnor and Electronic Arts. Can you guess what these developers have in common? There may just be a clue there about the next Atari machine!

www.stformat.com

EAGLE SOFTWARE

118a Palmers Road
New Southgate
LONDON N11 1SL.
(10 am - 6pm 6 days - 6 lines)
Tel: 081-361 2733
(Faxline after 6pm)

10% off orders over £50

Access VISA

ST & AMIGA BUDGET TITLES UNDER £10

3D Pool	£7.99	Flood	£8.99	Road Blaster	£6.99
3 Slooges	£8.99	Gauntlet II	£6.99	Rocket Range	£8.99
Afterburner	£6.99	Hard Drivin'	£6.99	R-Type	£6.99
Arkanoid II	£6.99	Hitch Hiker's Guide to Galaxy	£6.99	Run The Gauntlet	£6.99
Ballistix	£8.99	Hong Kong Phoey	£6.99	S.D.I.	£6.99
Barbarian II	£6.99	Hostages	£6.99	Shadow of the Beast	£8.99
Batman Caped Crusader	£6.99	IK+	£6.99	Sherman M4	£6.99
Beach Volley	£6.99	Impossible Mission II	£6.99	Shuffle Puck Cafe	£6.99
Blood Money	£8.99	James Pond	£6.99	Sky Chase	£8.99
Cabal (Amiga only)	£6.99	Kid Gloves	£6.99	Speedball	£8.99
California Games	£6.99	Kult	£6.99	Stryx	£8.99
Carrier Command	£8.99	Last Ninja II	£6.99	Super Hang On	£6.99
Centrefold Square	£6.99	Lombard RAC Rally	£6.99	SwitchBlade	£6.99
Cloud Kingdom	£6.99	Michael Jackson Moonwalker	£6.99	Thunderstrike	£6.99
Colorado	£6.99	New Zealand Story	£6.99	Toobin'	£6.99
Colossus Chess	£7.99	North & Socuth	£6.99	TV Sports Football	£8.99
Continental Circus	£6.99	Out Run	£6.99	Vigilante	£6.99
Crazy Cars	£6.99	Operation Wolf	£6.99	Waterloo	£8.99
Deadline	£8.99	Passing Shot	£8.99	Wings of Fury	£6.99
Defender of the Crown	£8.99	Photon Paint (Amiga Only)	£7.99	Wizball	£6.99
Def of the Earth	£6.99	Platoon	£6.99	WC Leaderboard	£6.99
Deluxe Strip Poker	£6.99	Predator	£6.99	Xenon II	£8.99
Double Dragon	£6.99	Rambo III	£6.99	Zork I	£8.99
Dragon Ninja	£6.99	Red Heat	£6.99	Zork II	£8.99
Fantasy World Dizzy	£4.99	Resolution 101	£6.99	Zork III	£8.99

TOP TITLES	ST	AMIGA
HalfMeg Upgrade + Clock	N/A	£29.99
1 Meg Cricket	N/A	£19.99
1 Play 3D Soccer	£16.99	£16.99
3D Construction Kit	£29.99	£36.99
4D Sports Boxing	£16.99	£16.99
688 Sub Attack	£16.99	£16.99
A10 Tank Killer	£21.99	£21.99
Action Stations	N/A	£16.99
A.D.S.	£19.99	£19.99
Alcatraz	£15.99	£15.99
Alien Storm	£16.99	£16.99
Alpha Waves	£15.99	£15.99
Amazing Spiderman	£15.99	£15.99
Amos 3D	N/A	£23.99
Amos Compiler	N/A	£19.99
Amos The Creator	N/A	£36.99
Armourgeddon	£15.99	£15.99
ATF II	£16.99	£16.99
Back to the Future III	£15.99	£15.99
Back to the Golden Age	£16.99	£16.99
Bandit King of Anc.China	£21.99	£21.99
Barbarian II (Psygnosis)	£16.99	£16.99
Bard's Tale III	£16.99	£16.99
B.A.T.	£22.99	£22.99
Battle Chess	£15.99	£15.99
Battle Chess II	£16.99	£16.99
Battle Command	£14.99	£14.99
Battle Hawk 1942	£16.99	£16.99
Battle Master	£19.99	£19.99
Batman the Movie	£14.99	£14.99
Betrayal	£19.99	£19.99
Big Run	£16.99	£16.99
Bill and Ted's Adventure	£16.99	£16.99
Billiard Simulator II	£16.99	£16.99
Billy the Kid	£14.99	£14.99
Blue Max	£19.99	£19.99
Bomber Bob	£16.99	£16.99
Brain Blaster	£16.99	£16.99
Brat	£16.99	£16.99
Buck Rogers	£19.99	£19.99
Cadaver	£16.99	£16.99
Cadaver - the pay off	£10.99	£10.99
Cadaver - the Last Supper	£10.99	£10.99
Captive	£15.99	£15.99
Cardinal of the Kremlin	£16.99	£16.99
Carve Up	£15.99	£15.99
Celica GT4 Rally	£15.99	£15.99
Centurion	£16.99	£16.99
Chaos Strike Back	£16.99	£16.99
Champion of the Raj	£16.99	£16.99
Chase HQ	£14.99	£14.99
Chase HQ II	£14.99	£14.99
Chinto's Revenge	£16.99	£16.99

TOP TITLES	ST	AMIGA
Chips Challenge	£16.99	£16.99
Chuck Rock	£16.99	£16.99
Chuck Yeagers AFT	£16.99	£16.99
C.Y's Air Combat	£20.99	£20.99
Code Name White Shad.	£23.99	£23.99
Cohort	£20.99	£20.99
Colditz	£19.99	£19.99
Colors	£14.99	£14.99
Corporation	£10.99	£10.99
Crime Wave	£16.99	£16.99
Cruise for a Corpse	£16.99	£16.99
Crystals of Arborea	£16.99	£16.99
CyberCon III	£16.99	£16.99
Darkman	£15.99	£15.99
Das Boot	£21.99	£21.99
Days of Thunder	£15.99	£15.99
Demoniak	£19.99	£19.99
Deuteros	£16.99	£16.99
Double Dragon III	£16.99	£16.99
Dragon Wars	£16.99	£16.99
Dynamite Debugger	£15.99	£15.99
Duck Tales Quest	£16.99	£16.99
ELF	£15.99	£15.99
Elvira Mistress of Dark	£21.99	£21.99
Epic	£14.99	£14.99
Euro Superleague	£14.99	£14.99
Eye of the Beholder	£19.99	£19.99
F14 Tom Cat	£18.99	£18.99
F15 Strike Eagle II	£23.99	£23.99
F16 Combat Pilot	£16.99	£16.99
F117A Stealth Fighter	£21.99	£21.99
F19 Stealth Fighter	£19.99	£19.99
F29 Retaliator	£14.99	£14.99
Fate of Atlantis (Adv/ture)	N/A	£16.99
Fate of Atlantis (Arcade)	N/A	£16.99
Feudal Lords	£16.99	£16.99
Final Blow	£16.99	£16.99
Final Conflict	£16.99	£16.99
Final Fight	£16.99	£16.99
Final Flight	£16.99	£16.99
Final Whistle	£9.99	£9.99
Flight of the Intruder	£22.99	£22.99
Fore Play	£15.99	£15.99
Future Baseball	£16.99	£16.99
Gauntlet III	£16.99	£16.99
Geisha	£16.99	£16.99
Genghis Khan	£21.99	£21.99
Gettysburg	£18.99	£18.99
Gods	£15.99	£15.99
Golden Axe	£16.99	£16.99
Golden Shot	£16.99	£16.99
Graham Gooch Cricket	£21.99	£21.99
Grand Prix	£23.99	£23.99

TOP TITLES	ST	AMIGA
Gunboat	£21.99	£21.99
Gunship 2000	£21.99	£21.99
Hard Drivin II	£15.99	£15.99
Harpoon (1 Meg)	£19.99	£19.99
Hawk	£19.99	£19.99
Hero's Quest (1 Meg)	£21.99	£21.99
Hero's Quest (Gremlin)	£16.99	£16.99
Hill Street Blues	£16.99	£16.99
Horror Zombies	£16.99	£16.99
Hudson Hawk	£15.99	£15.99
Hunter	£20.99	£20.99
Immortals	£15.99	£15.99
Imperium	£16.99	£16.99
Indianapolis 500	£16.99	£16.99
Interceptor	£26.99	£26.99
Iron Lord	£15.99	£15.99
Ivanhoe	£14.99	£14.99
Jahangir Khan's Squash	£16.99	£16.99
Jimmy White's Whirlwind	£16.99	£16.99
Judge Dredd	£18.99	£18.99
Kick Off II (1 Meg)	£15.99	£15.99
Kick Off II (.5 Meg)	N/A	£13.99
Kick Off Winning Tactics	£9.99	£9.99
Killing Cloud	£15.99	£15.99
Killing Game Show	£16.99	£16.99
Kings Quest V	£26.99	£26.99
Knight of the Sky	£23.99	£23.99
Last Ninja III	£16.99	£16.99
Leisure Suit Larry III	£25.99	£25.99
Lemmings	£15.99	£15.99
Line of Fire	£16.99	£16.99
Life & Death	£20.99	£20.99
Logical	£16.99	£16.99
Lost Patrol	£14.99	£14.99
Lotus Esprit	£15.99	£15.99
Lotus Turbo Challenge II	£16.99	£16.99
M1 Tank Platoon	£19.99	£19.99
Mad Professor Moriarty	£15.99	£15.99
Magnetic Scroll	£19.99	£19.99
Man Utd. Europe	£16.99	£16.99
Master Golf	£23.99	£23.99
Maupiti Island	£16.99	£16.99
Megatraveller I	£20.99	£20.99
Mega -Lo-Mania	£20.99	£20.99
Merchant Colony	£20.99	£20.99
Mercs	£16.99	£16.99
Metal Masters	£16.99	£16.99
Metal Mutant	£16.99	£16.99
Midnight Resistance	£14.99	£14.99
Midwinter	£19.99	£19.99
Midwinter II	£23.99	£23.99
Mig 29 Fulcrum	£21.99	£21.99
Moonshine Racers	£15.99	£15.99

TOP TITLES	ST	AMIGA
Monkey Island	£15.99	£15.99
Monkey Island II	£16.99	£16.99
Murder	£16.99	£16.99
Mystical	£15.99	£15.99
Myth	£15.99	£15.99
Nam 1965-1975	£21.99	£21.99
Narc	£14.99	£14.99
Navy Seals	£14.99	£14.99
Neverending Story II	£16.99	£16.99
Nightshift	£16.99	£16.99
Ninja Remix	£14.99	£14.99
Nitro	£15.99	£15.99
Obitus	£21.99	£21.99
Operation Stealth	£16.99	£16.99
Operation Thunderbolt	£14.99	£14.99
Outrun Europa	£16.99	£16.99
Pang	£14.99	£14.99
Panza Kickboxing	£16.99	£16.99
PGA Golf Tour	N/A	£16.99
Pitfighter	£16.99	£16.99
Plotting	£14.99	£14.99
Populas+Sim City	£21.99	£21.99
Powerhouse	£18.99	£18.99
Predator II	£15.99	£15.99
P.P. Hammer	£16.99	£16.99
Prehistorik	£16.99	£16.99
Pro Flight	£30.99	£30.99
Pro TennisTour II	£16.99	£16.99
Prince of Persia	£15.99	£15.99
Puzznic	£14.99	£14.99
Railroad Tycoon	£24.99	£24.99
Rainbow Islands	£14.99	£14.99
R.B.I. 2 Baseball	£20.99	£20.99
Realms	£20.99	£20.99
Red Baron	£23.99	£23.99
Renegade (Coin-op Hits)	£14.99	£14.99
Rick Dangerous II	£16.99	£16.99
Robin Hood	£16.99	£16.99
Robocop	£13.99	£13.99
Robocop II	£14.99	£14.99
Rod Land	£16.99	£16.99
Rogue Trooper	£14.99	£14.99
Rollin' Ronny	£15.99	£15.99
R-Type II	£16.99	£16.99
Savage Empire	£19.99	£19.99
Secret of the Silver Blues	£21.99	£21.99
Shadow Dancer	£16.99	£16.99
Shadow of the Beast II	£15.99	£19.99
Shadow Warrior	£14.99	£14.99
Silent Service II	£23.99	£23.99
Sim Earth	£16.99	£16.99
Simpsons	£15.99	£15.99
Ski or Die	£16.99	£16.99

TOP TITLES	ST	AMIGA
Skull & Crossbones	£16.99	£16.99
Smash TV	£15.99	£15.99
Space Ace	£26.99	£26.99
Space Gun	£15.99	£15.99
Space Quest IV	£26.99	£26.99
Speedball II	£15.99	£15.99
Spindizzy Worlds	£16.99	£16.99
Spirit of Excalibur	£20.99	£20.99
Star Trek V	£16.99	£16.99
Strider II	£15.99	£15.99
Super Cars II	£15.99	£15.99
Super Monaco GP	£16.99	£16.99
Super Off Road Racing	£15.99	£15.99
Super Space Invaders	£20.99	£20.99
Supremacy	£19.99	£19.99
Swap	£16.99	£16.99
Switch Blade II	£15.99	£15.99
SWIV	£15.99	£15.99
Team Suzuki	£15.99	£15.99
Team Yankee	£19.99	£19.99
Terminator II	£14.99	£14.99
Test Drive III	£15.99	£15.99
Their Finest Hour	£19.99	£19.99
Their Finest Mission	£19.99	£19.99
Thunderhawk AH-73M	£21.99	£21.99
Thunder Jaws	£16.99	£16.99
Toki	£14.99	£14.99
Torvak the Warrior	£15.99	£15.99
Total Recall	£14.99	£14.99
Tournament Golf	£16.99	£16.99
Turrican II	£15.99	£15.99
Ultima Martian Dreams	£20.99	£20.99
Ultima V	£19.99	£19.99
Ultima VI	£20.99	£20.99
Ultimate Ride	£16.99	£16.99
UMS II Planet Editor	£23.99	£23.99
Under Pressure	£17.99	£17.99
UnReal	£16.99	£16.99
UN Squadron	£15.99	£15.99
Untouchables	£14.99	£14.99
USS John Young	£16.99	£16.99
Vendetta	£16.99	£16.99
Warlock the Avenger	£14.99	£14.99
War Zone	£15.99	£15.99
White Death (1 Meg)	£19.99	£19.99
Wild Wheels	£14.99	£14.99
Wing Commander II	£19.99	£19.99
Wings (1 Meg)	£19.99	£19.99
Wiz Kid	£14.99	£14.99
Wolfpack	£19.99	£19.99
Wonderland	£19.99	£19.99
W.W.F.	£15.99	£15.99
Ziltrax	£16.99	£16.99

MIND GAMES only £14.99
Austerlitz, Waterloo, and Conflict in Europe

EDITION ONE only £15.99
Double Dragon, Xenon, Gemini Wing and Silkworm

PRECIOUS METAL only £14.99
Xenon, Captain Blood, Crazy Cars and Arkanoid

VIRTUAL WORLDS only £20.99
Driller, Total Eclipse, Castle Master, The Crypt

LIGHT FORCE only £14.99
Bio Challenge, IK+, Voyager, and R-Type

WHEELS OF FIRE only £13.99
Hard Drivin', Chase HQ, Powerdrift and Turbo Outrun

THE WINNING TEAM only £18.99
Escape from Robot Monsters, APB, Klax, Vindicators, Cyberball

FLIGHT COMMAND only £12.99
Eliminator, Strike Force Harrier, Lancaster, Sky Fox and Sky Chase

DOUBLE DOUBLE BILL AMIGA only £22.99
Tv Sports Football, Lords of the Rising Sun, Tv Sports Basketball, Wings

FIST OF FURY only £16.99
Dynamite Dux, Shinobi, Ninja Warriors, Double Dragon II

POWER UP only £16.99
Altered Beast, Rainbow Island, X Out, Chase HQ, Turrican

FULL BLAST only £17.99
Chicago 90, Rick Dangerous, Highway Patrol 2, P47, Carrier Command and Ferrari Formula One

PLATINUM only £16.99
Black Tiger, Strider, Forgotten Worlds and Ghouls and Ghost

MASTER MIX only £16.99
Super Wonderboy, Turbo Outrun, Dynamite Dux, Thunderblade and Crackdown

VIRTUAL REALITY 1 only £21.99
Midwinter, Carrier Command, Stunt Car Racer, Starglide II, Int. Soccer Challenge

TEST DRIVE II COLLECTION AMIGA only £20.99
Muscle Cars, California Challenge, European Challenge, Duel, Super Cars

BIG BOX only £15.99
Captain Blood, Tin Tin on the Moon, Safari Guns, Teenage Queen, Bubble Plus, Purple Saturn Days, Kryption Egg, Jumping Jackson, BoBo, Hostages

POWER PACK only £14.99
Xenon 2, TV Sports Football, Bloodwych and Lombard Rally

HOLLYWOOD COLLECTION only £16.99
RoboCop, Ghostbusters 2, Indiana Jones, Batman the Movie

ADDICTED TO FUN RAINBOW COLLECTION only £13.99
New Zealand Story, Bubble Bobble, Rainbow Islands

CHALLENGERS only £17.99
Kick Off, Super Ski, Fighter Bomber, Great Courts and Stunicar Racer

MAGNUM 4 only £17.99
Afterburner, Double Dragon, Operation Wolf, and Batman Caped Crusader

TNT only £15.99
Hard Drivin, APB, Xybots, Toobin and Dragon Spirit

HEROES only £16.99
Barbarian 2, Running Man, Star Wars and Licence to Kill

VIRTUAL REALITY 2 only £17.99
Virus, Sentinel, Weird Dreams, Resolution 101, Thunderstrike

Please make cheques and P.O.'s payable to *Eagle Software*. P+P is included in the UK. Orders under £5 please add 50p P&P per item. Europe: please add £3 per item. Elsewhere add £4.00 per item.
If the title you want is not listed please *phone for prices*. **Catalogue now available - phone for details**
or tick box. ☐

Computer _____ Date _____
Title _____ Price _____
_____ Price _____
_____ Price _____
_____ Price _____
_____ Total _____

Name: _____
Address: _____
_____
_____
Postcode: _____ Tel: _____
Card No: _____
Exp Date _____

Access ☐ Visa ☐ Cheque ☐ P.O's ☐

Mail Order only

www.stformat.com

UNIVERSAL OVERNIGHT DISTRIBUTION LTD

If you need cheapo "no name" disks & cut throat prices, please ignore this advert

Tel: 0228 512131 (24 hour order line) • Personal Callers Welcome • **Fax: 514484**
Unit 26, Enterprise Centre, James Street, Carlisle, Cumbria, CA2 5BB

HIGH SPECIFICATION 3.5" DISKS

	Our Brand	KAO
50 DSDD	44p each	49p
100 DSDD	40p each	44p
250 DSDD	35p each	41p
500 DSDD	34p each	38p

Individually wrapped, 100% certified and guaranteed 3.5" DSDD 135tpi disks with labels.

3.5" DISKS WITH BOXES

25 Disks with locking disk box	£17.95
35 Disks with locking disk box	£22.95
45 Disks with locking disk box	£26.95
55 Disks with locking disk box	£31.95
80 Disks with locking disk box	£39.95
160 Disks with locking disk box	£71.95
240 Disks with locking disk box	£122.95

All Universal brand disks exceed ANSI standards, contain free labels and are probably the best buy on the market.

Individually wrapped 100% guaranteed DSDD disks

Remember - Prices INCLUDE VAT AND POSTAGE

DON'T RISK STORING DATA ON OTHER TYPES OF DISKS - OURS ARE INDIVIDUALLY WRAPPED, 100% CERTIFIED AND GUARANTEED ERROR FREE

MEGA COMPETITION

You could win a £50 mail order voucher every month!!

Just dial: 0898 • 886 • 200

••• And Listen •••

Call charged 34p min cheap, 44p min peak

DISK BOXES

Lockable high quality disk boxes at unbeatable prices:

Qty:	1+	3+	6+
50 cap	£5.99	£5.25	£4.99
100 cap	£6.99	£6.25	£5.99

12 capacity library cases...Five for £5.75

DUST COVERS

Amiga and Atari Dust covers. High quality covers protect your Amiga or Atari keyboard

1+	3+	6+
£3.75	£3.25	£2.99

QUALITY COMES FIRST AT UNIVERSAL!

ACCESSORIES

Mouse Mat:	£2.99
Mouse House:	£1.99
3.5" Cleaning Kit:	£2.95
5.25" Cleaning Kit:	£2.95
IBM or AMIGA parallel printer cable:	£7.95
Universal plastic printer stands	£6.95
Extra disk labels (3.5") per 100	£1.50

MONITOR STAND

The monitor stand enables you to swivel your monitor in nearly any direction.

1+ £14.50 - unbeatable

High quality 14" Universal monitor stand takes any monitor from 12" to 16"

WHY BUY DISKS FROM US?

1. All disks exceed ANSI standards.
2. We supply shops, PD libraries and educational establishments on a regular basis.

Access

ALL PRICES INCLUDE VAT AND POSTAGE!!

VISA

To order via telephone simply quote credit card number and expiry date

To order via mail make cheque or PO payable to: UNIVERSAL OVERNIGHT DISTRIBUTION LTD

Trade customers, call for spot prices. Bulk buyers - we have great prices.
Overnight courier (get your goods tomorrow!) **£7.99.** Minimum order value: £10 on all orders.

SCREENPLAY

There are, alas, many ways to get lost on the road of Life. Temptation lurks on every corner, sin beckons every second of the day, and Guildford is a particularly dodgy area. But never mind – by the time you've finished reading *FORMAT's* Screenplay pages, all that will seem like Heaven.

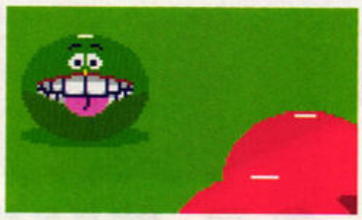
SCRUTINISED THIS MONTH

CHALLENGE GOLF	85
CLOUD KINGDOMS	88
FLIGHT OF THE INTRUDER	68
FOOTBALLER OF THE YEAR 2	88
JIMMY WHITE'S WHIRLWIND SNOOKER	72
KID GLOVES	88
MAGIC POCKETS	82
MEGA LO MANIA	76
MICROPROSE GOLF	78
RBI 2	70
SUPERCARS	88
VIRTUAL WORLDS	90
WRECKERS	81
SCREENPLAY EXTRA	88

THE *ST FORMAT* REVIEW POLICY

- It is *ST FORMAT* policy to review only finished games – that is, the games you could actually buy in the shops – never incomplete or demo versions
- We review *all* games released, but *only* when they're finished. We will not be rushed into reviewing unfinished games to beat our "competitors"

FLIGHT OF THE INTRUDER
You haven't seen the film! You didn't catch the video! The book you meant to get round to at some point but never actually found the time to get started! But now – you *can* read the review of Mirrorsoft's new f(l)ight sim. Wonder if it will take off? ..... **page 68**



JIMMY WHITE'S WHIRLWIND SNOOKER
Snooker loopy nuts are we. Er, well, actually we're not (it doesn't make much sense on a black and white telly), but we did get rather excited about Virgin's new simulation of that game with the red, white and green balls – and we're not talking marbles here ..... **page 72**

MICROPROSE GOLF
You'd have to go a fair way to beat this golf sim. It's likely to drive the competition green with envy. You'll have no time for sandwedges when you're playing this. Wood you like me to go on, or can you not putt up with any more? (Sad, isn't it?) ..... **page 78**

MAGIC POCKETS
Between posing for publicity shots, writing press releases, thinking up silly company names and trying to become the best-known designers since Michelangelo gave it up, the Bitmap Brothers produce the odd game or two. And this is one of them ..... **page 82**

MEGA LO MANIA
Suffering from Klep To Mania, Soci O Pathy, Par A Noia, New Ro Sis, Triskaideka Phobia or even Phobo Phobia? Why stop there? Try *Mega Lo Mania* and transform yourself into a game god! Then all you'll need is a spelling lesson or two..... **page 76**

MILLENNIUM TOP TEN
Millennium are awkward so-and-sos, aren't they? Having a name that no-one can spell properly. Two L's, two N's, no P's. It's quite simple really, innit? Anyway, they pick their top ten just for us this very issue ..... **page 109**

COMPLETE GUIDE THROUGH *WONDERLAND* ● HOW TO SOLVE *KING'S QUEST 4* ● HOW TO SURVIVE *LIFE & DEATH* ● PAGE 95

www.stformat.com

● No! I'm driving, you work the bombs. Whaddya mean you're bored with 'em? Let go the flipping stick – you'll have me over. Stop it! Look, if you do that one more time then I'm gonna pull this yellow ejector handle. Got it?

FLIGHT OF THE INTRUDER

War! What is it good for? Endless cash-ins and cultivating a blasé attitude to death and destruction? Neil Jackson ignores Rules of Engagement and asks who wants to die.

Created by the same team which brought you *Falcon*, Rowan Software, *Flight of the Intruder* is based on the book of the same name by Stephen Coonts, a former Intruder pilot. Just as in *Falcon*, you first enter your name in the duty roster before moving on to choose your mission. You can leap straight in by selecting the Scramble option which takes you directly to the pilot's seat of an F-4 Phantom waiting on the deck of a carrier. Alternatively, you can take a few more precautions and head for the briefing rooms. There are two: one for Phantom missions and one for A6 Intruder missions. Beginners are advised to opt for the Intruder briefing, since that plane is a lot easier to fly than its superfast, afterburning counterpart.

Whatever plane you select, the briefing rooms are the same. There you find the operations, sub-divided into missions for each plane type. Most planes fly in pairs, with you controlling one and the ST controlling your wingman. You can take whichever mission most appeals to you. Some are easier than others, even on the same operation. For example, on a bombing operation, two phantoms handle the MigCAP (Mig Combat Air Patrol), circling around over the sea waiting to engage any enemy aircraft. Another two phantoms fly the Wild Weasel – a dangerous Surface-to-Air (SAM) suppression mission. Here the phantoms encourage the enemy to fire SAMs at them, rather than at the bombers. The Intruders are responsible for bombing the targets. One target is engaged by each pair of Intruders and there are often more than two targets. Consequently the air becomes pretty

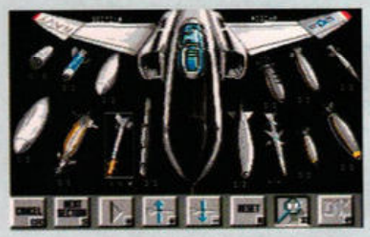
F4 PHANTOM vs A6 INTRUDER

These two planes were the mainstay of the war in North Vietnam. Each had its own job to do, but supported the other at the same time. The Grumman A6 Intruder was a fat, tough old bird which could dangle tons of trouble from its oversize underbelly. The McDonnell F-4 Phantom was a sleek racehorse of the sky, capable of supersonic speed. While it lacked a machine-gun (making dogfights a nightmare!), it bristled with anti-aircraft missiles and could out-turn a SAM without a second thought

HEAD-TO-HEAD

	Phantom	Intruder
Max Speed mph:	1,500	644
Max Ceiling ft:	55,000	42,400
Full Weight lb:	58,000	60,400
Max Ordnance lb:	16,000	18,000

● Intruder ordnance, lieutenant? You got it. Walleye TV-guided missiles, 500lb Slicks, even a few tons of old *ST FORMAT* back issues to drop on 'em!

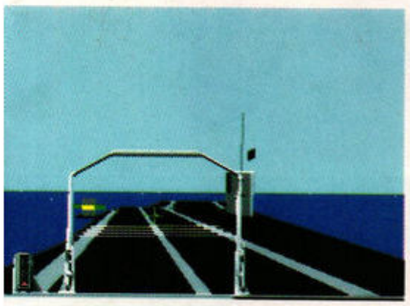


● Going on holiday, sir? You need a Phantom, Shrike anti-radar missiles, a couple of Sidewinders, some sun-tan lotion – and don't forget your flip-flops!

● The A6 Intruder was a two seat, side-by-side affair, capable of carrying vast numbers of bombs. Its ability to dogfight was limited, but it still held its own in Vietnam.

● The F-4 Phantom was a supersonic jet fighter with bombsand missiles aplenty.

www.stformat.com



● Landing on the carrier is a bit like crash-landing onto a matchbox. Use the ACLS, fly the meatball (the yellow and green lights to the right) and aim to catch the third arrestor wire. If you mess up, you're a bolter – just boot the throttles and go round again.

thick with friendlies and it's up to you to hit the right planes in a fire-fight.

There is a wealth of other things to check and re-check before you even get near to a plane. You need to know the exact location of the target, what the enemy activity is like in that area and which type of bomb or gun is the best in the circumstances. These details are accessed using an icon display with keyboard shortcuts. Each icon brings up a separate sub-screen showing the topic in detail. Large maps show the waypoints and enable you to get Intelligence reports on specific areas. Close-ups of the planes show all the various bomb-types and give you information on their capabilities. You may even need to check a photograph of the target, just so you can be sure of hitting the right building when you do your dirty work.

After you're finished in the briefing room, you hit another icon to go to the carrier deck. You appear behind the controls of your chosen plane, facing out to sea at the end of the catapault. Five seconds later you're jettisoned into the air and your work starts in earnest. Landing gear up, wait for the speed to rise before climbing too hard, retract the flaps and then pull back the nose to soar into the sky.

Then comes the long haul to the target with only the noise of the engines and the chatter of the radio for company. Messages are constantly relayed to you from other aircraft on the operation, the carrier and the Early Warning planes. Their comments appear in the top left of the screen, colour-coded so you know what's from who. A sampled voice is triggered every time a message comes in, but all it says is "graa-gu-flump-graa-blah-click," which can be a bit annoying. Luckily you can turn it off, as you can the engine's drone.

There is an abundance of options within *FOTI*. You can fly at five ranks, each one causing more and deadlier enemies to come searching for you than the last. You can enjoy the effects of negative G red-out and blackout, or employ a super-engine which is unaffected by atmospherics. Even the infamous Rules of Engagement can be temporarily forgotten. Weather too can be controlled to a degree, as can the rate of fuel and ammo use. There's even an option to record your flight with an on-board camera and watch it later (assuming you land).

VERDICT: *FOTI* is a massive game, with massive potential. It won't appeal to everyone, since it's fairly technical. The manual is 215 pages long and it explains everything you need to know, but it's no light read. There are oodles of key commands to memorise and some highly complex bombing procedures to work in mid-flight. Not a game for ditherers!

Graphically, *FOTI* rivals *F-19 Stealth Fighter* and *Falcon*. There are some neat effects, especially when you down an enemy aircraft. However, there are occasional glitches where the 3D gets momentarily confused. These, thankfully, are few and far between and don't detract from the excellent gameplay.

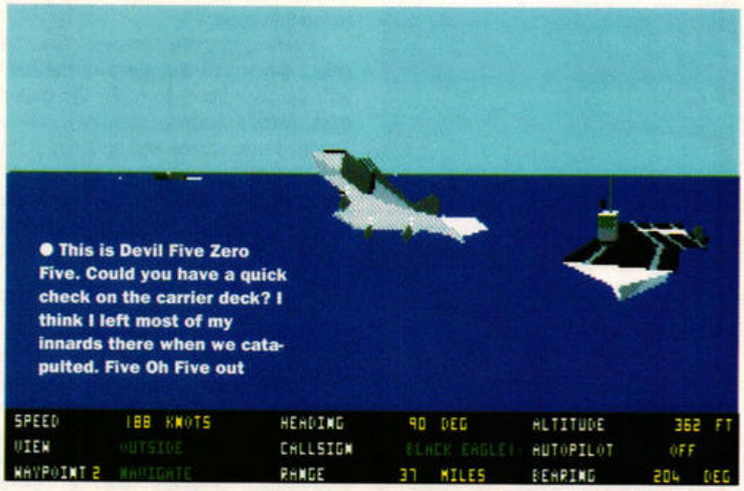
You'd be forgiven if you thought that all flight-sims are the same – most of them are. *FOTI* is sufficiently different and has enough new elements to make it an exciting, pulse-heightening experience. With a bit of practice, you'll get a great deal from it and enjoy yourself immensely. You may, however, need to take a spare pair of trousers for the first few carrier landings.

NEIL JACKSON

IT'S MY ENGAGEMENT PARTY

The term most feared in the Navy during Vietnam was RoE or Rules of Engagement – the rules governing which targets American Navy jets could bomb. Only the President could officially add targets to the list, and even the type of bomb to be used was decided in advance by the politicians in Washington. Worse than this, some obviously dangerous targets like SAM sites were not allowed to be bombed because of the risk of killing Soviet advisors who may have been there. Consequently the Rules of Engagement were the bane of pilots' lives. Transgressing them meant an instant court-martial.

● No, look. I've told you before. You can't bomb my coffee cup if I can't bomb yours. You're going to have to start by strafing that small deserted patch of sea, and then we'll meet up, refuel, and I'll drop the ice-cream cone down the front of Ho Chi Minh's pants. Okay?



● This is Devil Five Zero Five. Could you have a quick check on the carrier deck? I think I left most of my innards there when we catapulted. Five Oh Five out

FLIGHT OF THE INTRUDER

MIRRORSOFT £34.99

Double-sided drives only

- First 15,000 limited edition with novel by Stephen Coonts
- Many new features which improve on *Falcon*
- Great sound and fast graphics
- Lots of variation in gameplay and realism
- Tough at first, but worth staying with

STF RATING 92 %

JARGON BUSTERS

Your guide to the gung-ho gobbledegook

AAA or triple A Anti-aircraft artillery
ACLS Automatic carrier landing system
AOA Indexer Angle of attack indicator, showing the tilt of the plane as it comes in to land
ASI Air speed indicator
BARCAP Barrier air combat patrol. Fighters which defend a carrier against enemy aircraft
Bingo Fuel Just enough to get home!
Bogey Unidentified aircraft. May be friend or foe
CAG Commander Air Group. The man who plans the missions
CO Commanding Officer. The guy you listen to!
COMED Combined Map/Electronic Display
CV and CVA Aircraft Carrier and Aircraft Carrier (Attack)
DIANE Digital Integrated Attack Navigation Equipment
DMZ Demilitarized Zone. The border between North and South Vietnam
Double Ugly Pilot's term of endearment for the F-4 Phantom
EW Early Warning
Feet wet/feet dry Pilot's term for flying over sea or land
FFAR Folding Fin Aircraft Rockets
FOD Foreign Object Damage, such as a bird in the engine intake
G Measurement of acceleration force. 1G is normal
GIB Guy in Back. Navigator in an F-4 Phantom's rear seat
GSD Glide Slope Deviation. The horizontal scale on the ACLS indicator
LGB Laser Guided Bomb, like a Paveway
Nuggets Airmen on their first tour of duty
SAM Surface to Air Missile. Your worst nightmare
SAR Search and Rescue. Your best friend
Sierra Hotel More military phonetics. Short for Sh*t Hot!
Trap Arrested landing, using the hook and wires
VVI or VSI Vertical Velocity (Speed) Indicator. Shows the rate at which you are climbing or diving
Zoo Prisoner of War camp near Hanoi. You don't want to go there!

● Here is the news. Today, President Johnson announced that in-flight Naval terminology is not of an acceptably clear and understandable nature. It's fallen to *ST FORMAT* to explain it all...

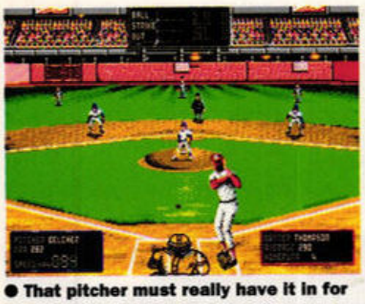
www.stformat.com

RBI 2

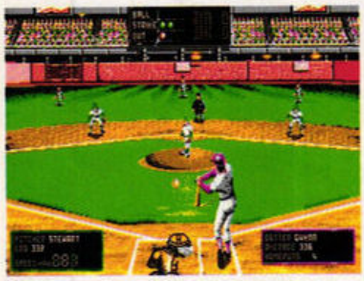
● The batter belts towards first just as the ball whizzes towards the fielder there. It's pucker time!

It's a good, wholesome sport, is baseball. Fast, sporting, fun and as American as Mom's home-made apple pie. But because the English actually invented it (and called it rounders), it's come back to haunt us in the shape of *RBI2*.

RBI stands for Runs Batted In (the 2 doesn't stand for anything), and what it's all about is getting as many of your men around the diamond-shaped pitch as you can manage, then getting the opponent's team out as he tries to do the same to you.



● That pitcher must really have it in for you, chucking a hard ball at 94 mph straight towards your head...



● Halfway into your swing you decide you didn't want to play the stroke. But it's too late, so get your running trousers on and prepare to dash for first.

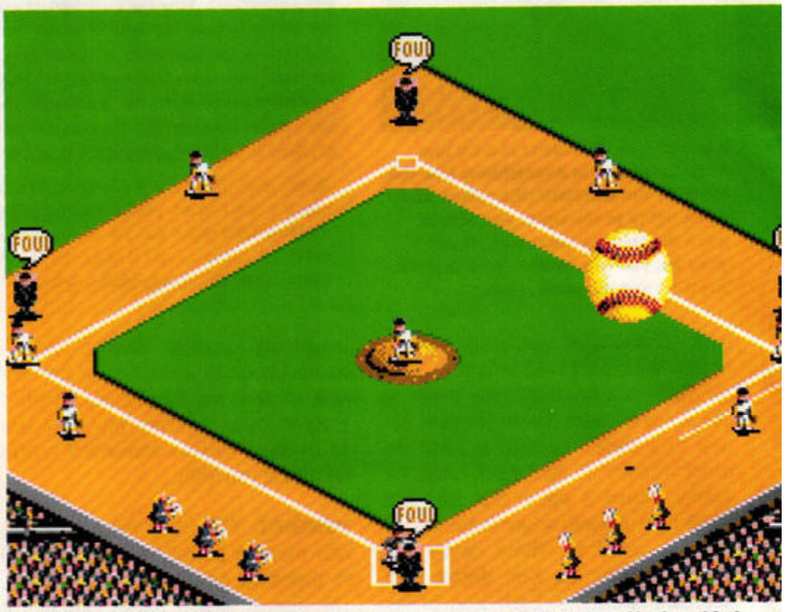
Luckily there's very little management-sim nonsense. Pick your team from the biggest in the USA, select the best pitchers and batters and you're away. Well, you'd better read the manual first to learn the rules, but once you're *au fait* you can get stuck in. Batting simply requires you to move your bloke left, right up and down, then hit "Fire" when the ball comes whizzing towards him. He then runs automatically to the first base.

Pitching is more complex. You can select the speed and curve of the ball, with the idea being to make the batter miss (what's known, strangely, as a strike). Three strikes and he's out. If he hits, though, your control switches to the outfielders who try and catch the ball, then throw it to any base with a batter dashing madly towards it. If it gets there, he's out too.

Like rounders, it's all incredibly exciting, and the graphics are great too. There's a pitching/batting view (from behind the batter) and there's a view of the diamond, which scrolls in any direction to follow the ball into the outfield. It's clear, fast and enjoyable to look at. Scoreboard graphics are an extra bonus, adding a marvellous stadium atmosphere. This is enhanced by the sound effects. They're slightly comic hitting, running and falling over noises, with crowd cheers whenever anything cheer-worthy occurs.

VERDICT: Only one thing lets *RBI2* down slightly: there isn't quite enough player participation in the game. When you're batting all you can do is waggle a bit on the spot, then hit "Fire" at the right time – it's down to luck where the ball goes. Everything else is done for you. Pitching and fielding is more interactive (and more fun) but the batting is too simple. Overall, though, *RBI2* is excellent fun if you like baseball, and highly exciting in the two-player mode where you can see your opponenet grimace with every lucky shot. And with a free cap in every box, it makes you glad us Brits invented the game.

JAMES LEACH



● In this unique baseball game, make sure you watch the ball shadow. You've skied the ball, but it's a foul – it's nipped behind the diamond, as the shadow shows.

RBI 2

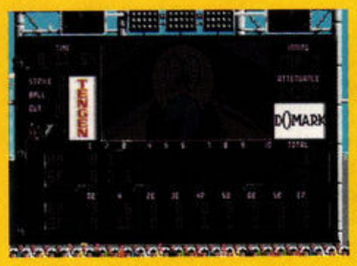
DOMARK £24.99

- The only baseball game on the market at the moment, so it's certainly original.
- The effective, graphically pleasing twin view system is unique among sports sims. The scoreboard is far more entertaining than the one used in *Kick Off*.
- Not as interactive as other sports games such as *Kick Off 2* – and therefore not quite as exciting.

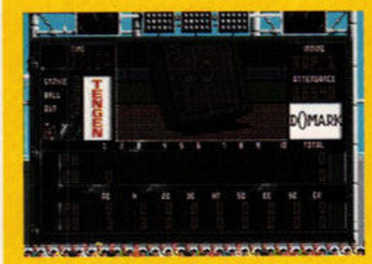
STF RATING 76 %

WHAT'S GOING ON HERE THEN?

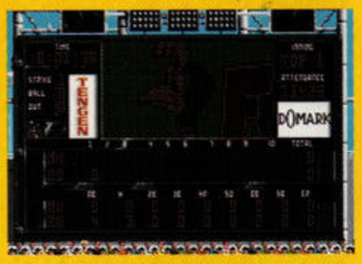
The electronic scoreboard appears briefly after every pitch, giving you all the facts you need to know – and many you aren't too fussed about. It also has a large video display with bright stylised cartoon graphics, telling the crowd exactly what's happening – essential since most of them are too far away to see.



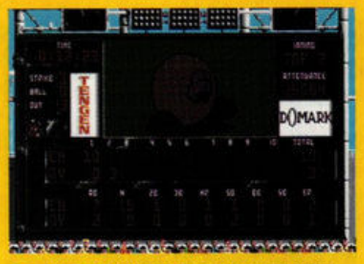
1 Home run. A batter has thwacked the ball right out of the park. He (and any other players on any of the bases) can jog round to fourth without fear of getting out. Oh, and the crowd goes absolutely wild too.



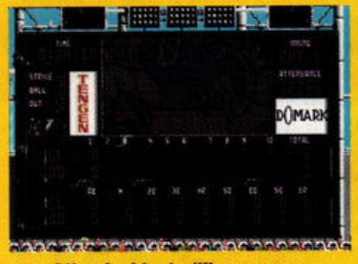
2 Safe. This terrible pun occurs whenever a batter gets to a base before the fielder can stump him out. He then proceeds to wait there until the next batter hits.



3 Foul ball. An even worse pun. If the ball is hit behind imaginary lines stretching from the batting position to the first and fourth bases he can't run – nor can anyone on the bases.



4 All out. When three batters have been given out, the whole team is out, no matter who's left standing on the bases. It's a tough game, son, but someone's got to play it.



5 Other incidents (like someone sliding onto a base micro-seconds before the ball gets there) have their own graphics. When you get bored, hit "Fire" to go back to the action.

www.stformat.com

The Coolest Dude In Town!

Available on:
AMIGA · ATARI ST
IBM PC (VGA 256 Col, EGA, Tandy 16 Col)
Commodore 64
(Disk and Cass)

Rolling Ronny

STARBYTE

AMIGA SCREEN SHOTS SHOWN

© Starbyte Software 1991.
© Virgin Games Ltd 1991.

Virgin GAMES

stformat.com

WHIRLWIND SNOOKER

Snooker! Thrbb! Arenchasickofit? There's more snooker on the telly than there are adverts, plus the snooker-celebrity quiz shows to boot. Where will it all end? Here, possibly. This game, as Hurricane Higgins might say, is not to be sneezed at. *Jimmy White's Whirlwind Snooker* is the work of programmer Archer MacLean, previously known for his kung-fu masterpiece *IK+*.

Facing stiff competition from Firebird's *3D Pool*, you'd think there was nothing new you could add to a snooker game. You'd be wrong. *JW's Whirlwind Snooker* has its pockets stuffed with neat tricks which set it rest and spider above the competition.

In the one-player game, you select one of four computer-controlled players. They have different abilities, so you can pick a level of skill to suit your own. However, even Tom (the wimpiest player) is a real crack shot who spends all of two seconds planning, lining up and then potting you into oblivion. It's marvellous to watch, but demoralising when you get thrashed. Pick a two-human-player game if you're a beginner. At least you know both players are equally crappy.

Before you can break, you must position the cue ball. This is done by dragging it with the mouse pointer, anywhere within the D. You can then add topspin for that extra roll-on, or a bit of side to curl the ball like a pro. You do this with the icons at the top or side of the screen. A small black cross shows the impact point of the cue on the ball, and it's a lot easier to read than a real cue ball.

When you're happy with positioning, the angle of your cue and the top/stun/side or spin, it's time to chalk your cue tip and whack the sucker. Various strengths of shot can be applied, with stunningly realistic results. As ball strikes ball, you notice the fluid movement which makes *JW's Whirlwind Snooker* so cool. You'd think you were looking at a real table, with real balls. Nothing jerks, nothing slows down or moves erratically. Balls cannon around, gradually tailing off as they run out of steam. Spectacular!

VERDICT: Strangely, it's not just the smoothness and realism which makes it a "must have" game. Nor is it the Jimmy White licence (it could be *Fatima Whitbread's Snooker* – I'd still want it!). It's what happens when you leave it alone. If you take too long deciding a shot, then one of several things happens. Flies descend onto the table and flit about on your balls (ooer!), or the balls start pulling ugly faces at you, or waving placards. No, really!

JW's Whirlwind Snooker is enhanced by some excellent sound effects, too. Crowds clap and cheer when you pot a ball, the cue sounds perfect and the crack of ball against ball is, well, overwhelming. You can smell the beer and fags and the musty scent of the Hexagon (almost). Even when you miscue, the "twank" of your cue announces the fact to all and sundry, just like for real. It's embarrassing, really.

So, if you're bored with snooker, you're either watching too much non-interactive telly, or you're not playing this. It's more enthralling than a Steve Davis 147 break, weirder than Dennis Taylor's glasses and funnier than Ray Reardon's haircut. Get it now, but beware, you might have to "cue" for ages (groan...)

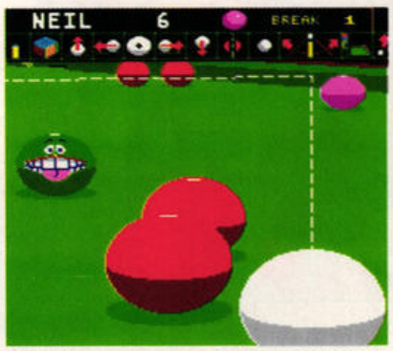
NEIL JACKSON

● **Do the double! Using the computer player's abilities, you can find out the correct angle and power you need to pull off a master stroke time and time again.**

● **Buried deep within *Jimmy White's Whirlwind Snooker*, there's a help screen which tells you exactly what does what. Manuals? Ha! They're a thing of the past.**

RAINBOW-COLOURED SPOTS BEFORE YOUR EYES

No, you haven't been overdoing it with the Snooker Party animals and you haven't gone overboard with the magic mushrooms either. The balls in *Jimmy White's Whirlwind Snooker* have a lively personality all of their own. If you should take too long deciding on your shot, you're treated to a right royal ribbing by the nearest balls on the table, who take enormous pleasure in putting you off your next shot. Never mind though, you've got the remedy for their jibes. A good hard whack on the head with a five-foot length of stick should shut them up before they make too much fuss!



● **It's been a very long, hard evening here at the Crucible Theatre tonight. The players are tired and emotional, and... Oh goodness! What on earth's going on here then?**

● **Now stop that before you blimmin' start. I've been pretty close to Yellow for a year now, and I'm not about to let you come along and knock her around.**

● **And you needn't think you can sneak up behind me and knock me sideways, either. I wasn't born yesterday. Yar boo, and sucks to you!**

www.stformat.com

GIVE US A BREAK, JIM

The Trick Shot editor in *Jimmy White's Whirlwind Snooker* is a complete sub-game for you to experiment with. Just like an "off night" in the Crucible, you can sneak back to the table and set up shots that would give Newtonian physicists a headache. Balls can be dragged around the table to any position you choose, and the computer player can be called upon to do the aiming for you. All you need to do is call your mum in as you nonchalantly plug the cue ball. Sneaky or what?

● Reckon you could pot black without touching the reds? Ludicrous shots like this are easy to set up with the Trick Shot Editor.

● Aiming and examining the balls is usually where most snooker games fall down. Not this one. Everything can be scrolled around in all directions by mouse. You can zoom in and out, and reposition at the touch of a button.

● Gentlemen, it's time to place your balls. Breaking means you need to get properly set up before cueing, so you can drag the cue ball around for your favourite opening shot.

JIMMY WHITE'S WHIRLWIND SNOOKER

VIRGIN £24.99

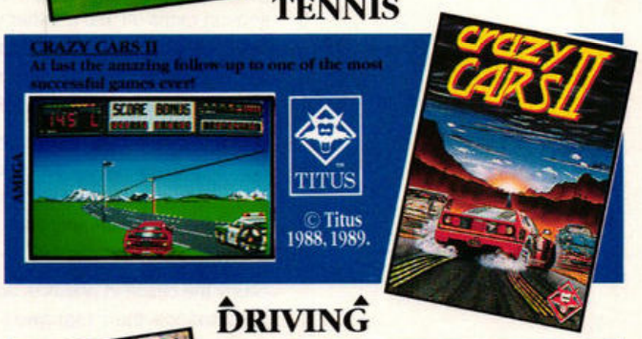
- Smoother ball motion than both *3D Pool* and *Billiards 2 Simulator*
- High giggle-factor, previously unseen in snooker games
- Tough computer players make for exciting and challenging gameplay
- Trick Shot Editor and Save options make for better value for money

STF RATING 94 %

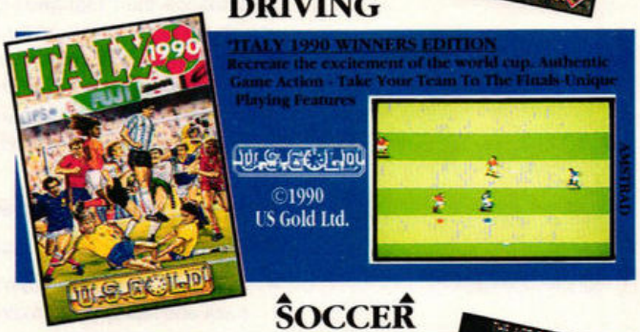
4 FANTASTIC SIMULATIONS IN ONE GREAT PACK

COMBINING THE VERY BEST IN

TENNIS



DRIVING



SOCCER

AND AIRBORNE ACTION

*Italy 1990 Winners Edition Programme.

This compilation © 1991 US Gold Ltd. All rights reserved

US Gold Ltd, Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021-625 3366

Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which vary considerable between different formats in quality and appearence and are subject to the computers specification.

www.stformat.com

What will you cha

FORMULA ONE

GRAND PRIX

Have you ever wondered what it would be like to be one of those 26 drivers, revving on the grid, waiting for the Green light to start you off on a mayhem of crashing gears, smoke, roaring engines and burning rubber as the Grand Prix season races off into another year? Well, now you can strap on your seat belt! MicroProse and Geoff Crammond, the author of 'Revs' and 'Stunt Car Racer', have teamed up to engineer the only complete Formula One Grand Prix simulation.

MicroProse Grand Prix is crammed full of features: 16 undulating 3D circuits from the street tracks of Phoenix and Adelaide to the glamorous Monaco harbourside and the choice of 26 independently controlled cars out of the current teams; from Jordan and Brabham to Williams and Ferrari.

Study the circuit in practice, adjust your car to achieve peak performance, then roar away for your fastest qualifying lap time to put you ahead of your rivals on the starting grid. Overtake the other cars by slipstreaming or outbraking them into corners, then watch them in your wing mirrors as they try to catch you. Be careful, you might have to avoid a shunt that's just happened around the next bend. It's tough, it's challenging, it's exciting, it's the most realistic Grand Prix simulation ever.

- Authentic cockpit controls with radio and adjustable wing mirrors.
- Realistic tyre and brake wear; judge when to make that vital pit stop.
- View the racing action from television cameras located all over every track and replay your greatest triumphs and worst disasters.
- Unpredictable weather patterns; the race may start dry but a sudden cloud burst may force you to change your tyres and style of driving.
- Four levels of difficulty, from novice to potential Champion, make this a challenge to all drivers.
- From the back of the starting grid to World Champion, MicroProse Formula One Grand Prix, it's all there bar the shouting!

Formula One Grand Prix will be thundering into all good software stores soon for your Commodore Amiga, Atari ST and IBM PC & Compatibles.

MicroProse Simulation Software is available at all good software stores. If you experience difficulty in obtaining any of the MicroProse titles they can be ordered directly from us at MicroProse, Unit 1, Hampton Road Industrial Estate, Tetbury, Glos. GL8 8LD. Tel: 0666 504326

MicroProse Simulation software -Y

COMMODORE AMIGA AND ATARI ST SCREEN SHOTS SHOWN. ACTUAL SHOTS MAY VARY BY FORMAT.

www.stformat.com

nge into tonight?

MICROPROSE

GOLF

Computer owners who like golf have been fortunate to have a wide range of games to choose from. Now, with MicroProse Golf, they've also got the definitive simulation. If you've been playing around, stop; and start playing a proper round.

MicroProse Golf accurately recreates the fairways and greens of each hole using stunning 3-dimensional technology which allows you to travel anywhere around the course. You can even follow the ball as it flies through the air and watch from numerous selectable TV viewing positions.

Accurately modelled club and ball dynamics take account of club selection, ball and foot position and swing, with varying course conditions adding to the huge range of effects that you can witness at first hand. MicroProse Golf is so true to life that it will actually improve your own golf game!

- Realistic 3-D landscape allows you free movement around the whole course.
- Animated "Televisual" presentation and camera positions, including a unique follow-the-ball option.
- Six challenging courses, each in a different style, including 'links', 'woodland' and 'water' courses.
- Options to change stance, swing, tee and ball positions and see their effects on your shots before, during and after each stroke.
- Varying ground and atmospheric conditions.
- Player profiles which change over time, including a full handicap system.
- A dozen game types including strokeplay, matchplay, best ball, skins and a full tournament option for 1 to 4 human players.
- Customizable computer opponents and replay facilities.
- Statistical and graphical hole-by-hole analysis of your performance.
- Easy to learn tutorial and 150 page manual packed with hints and tips to help your own game.

MicroProse Golf will be teeing-off soon at all good software stores for your Commodore Amiga, Atari ST and IBM PC & Compatibles.

MICROPROSE™
SIMULATION • SOFTWARE

u're not properly dressed without it.

www.stformat.com

MEGA LO MANIA

Is it a god-game? Is it a strategy sim? Is it a *Populous* clone? Ed Ricketts, resident iconoclast, asks in a holier-than-thou way, "What on earth does *Mega Lo Mania* think it is?"

● Strange spellings and even stranger speech abound in *Mega Lo Mania*. More little people, more overhead views, but don't be fooled – a god-game it may be, with warring tribes aplenty, but *Populous* it isn't. Just what is it then?

Populous. There, the word's been said. It's obligatory to mention *Populous* in connection with any game that has a 3D isometric view and little people running about in it, even if the game in question is as different from *Populous* as chalk is from a certain comestible. *Mega Lo Mania* has those things but that's where the similarity ends.

The aim is to conquer a number of islands and become the Ultimate Ruler of Everything. These islands are spread over ten epochs, ranging from caveman level to the far future. You begin each epoch with 100 people under your command, and play against up to three other demigods.

Each epoch has three or four islands, and each island is split into a number of sectors. Initially you have control over one of these sectors, and your goal is to win control of as many of the sectors as possible, to eventually wipe out all the other players' men and win the island.

Naturally you need weapons, but before you can build them they have to be researched. At the beginning of the game you can only research and build primitive items such as catapults, but after researching certain weapons you move up a technology level. Tech levels are represented as a year – like 1850 – so in effect your technology is moved forward a number of years. This means the sophistication of the weapons you can produce increases, so for example you may be able to make swords and bows-and-arrows. Not all the weapons you make are offensive – defensive ones are necessary to protect your towers from enemy raids.

There is a lot to become familiarised with initially, but soon everything falls into place and controlling the game is as easy as clicking on an icon

Everything you build needs certain elements as components. Each sector has one or more natural elements which are automatically collected by your men, but for the more advanced weapons many more are needed. In this case you need to construct a mine to provide supplies of these elements – and of course mines are only available at higher tech levels. As the tech level increases still further, you can build factories and laboratories to produce even more sophisticated weapons.

When you feel you have enough might to take on the enemy, you can send out an army to attack another player's sector. If the attack is successful you gain that sector and can build a tower there if you like. Alliances can be formed temporarily between two or even three players, but in the end there can be only one winner.

Your men may be assigned to various jobs – so that some are mining elements, some researching inventions, some off fighting and some simply doing nothing but reproducing. The more men you devote to a job, the quicker you can get it done. Any who are still breathing at the end of an island are usefully put into storage ready for the end of the game, modestly known as The Mother of Battles – but that's another story.

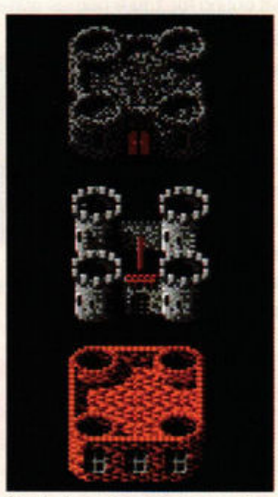
Mega Lo Mania has one outstanding attribute: sound. There isn't another game to touch it for samples; virtually every action you perform is accompanied by some kind of humorous sampled voice. So for instance if you use up all the elements in one sector a trouble-

EVOLUTION FOR THE IMPATIENT

As you progress through the tech levels, not only do your weapons become more sophisticated but your men and towers change to reflect the technological advances too.

● Your people start as cavemen wearing furs, but soon reach the Roman Age and adopt rather fetching togas. Bottom right is a 1980's businessman and a man in storage, ready for the Mother of Battles.

● It's the same story for your weapons. Rocks and catapults are about all you can manage early on, followed by biplanes, fighter planes, flying saucers and finally nukes. The first ten are defensive weapons.



● The towers appear as various types of castles to begin with, but change to industrial buildings in the 1920s and detached houses in the '80s, ending up as weird futuristic domes in 2001. These three main towers are from 900, 1400 and 1850 respectively

I CAME, I SAW,

The large number of icons, arrows and figures you need to be familiar with in *Mega Lo Mania* initially appears daunting. Fear not, though, because once you get the gist of the game you know almost instinctively what an icon does – and anyway, there's an optional help mode that explains each icon as you move the cursor over it.

1. The world map shows every sector on the current island and any towers or armies present in each one
2. Number of each player's soldiers currently in this sector. Clicking on the shield gives a detailed breakdown
3. Game speed indicator/control
4. Island name and the current tech level of this sector

www.stformat.com

at-t'mill voice tells you, "We're running out of minerals;" completing an invention in the factory brings forth a woman's voice in broad Cockney telling you that "The production run is completed;" and even when you pause a secretarial woman echoes "Putting you on hold". If these annoy you, (a) why? and (b) you can switch to music or sound effects, both of which are way above the average warbly blips that pass for sound in other games.

Fortunately the graphics haven't been neglected either. Although your men are very small, you can see the changes in them as they progress, and each weapon they use has a different graphic. The towers and other buildings are impressive and the whole shebang is nicely detailed and shaded.

VERDICT: *MLM* probably sounds impossibly complicated and about as exciting as watching the Open University, but this is far from the truth. There is a lot to become familiarised with initially, but soon everything falls into place and controlling the game is as easy as clicking an icon. Sensible Software have managed to pace the game perfectly, so that you really have to work hard on some of the islands to get a sight of the more spectacular effects lurking there.

The game is also dangerously addictive and frustrating – frustrating because the password system only takes you to the beginning of an epoch, so if you complete two out of three islands and switch off, even with a password you still have to work through the first two the next time around.

Don't be fooled by appearances: underneath *Mega Lo Mania's* innocent exterior, there's one hell of a game waiting to take you eagerly by the throat. And once it does so, you won't want it to let go.

ED RICKETTS

● As the sun sets over the first level, you know battle awaits you. You must rule all three islands before you can move to another archipelago. Strangely, though, all the islands' names begin with different letters of the alphabet and end in "A." Sillia and sillia!

MEGA LO MANIA

MIRRORSOFT £25.99

- Superficially similar to *Populous*, but the comparisons end as soon as you start playing
- Everything *Powermonger* should have been: inventive, detailed, annoying, addictive – and most of all, fun
- Unique among god-games – there's nothing that combines strategy and enjoyment so well
- Great humour, especially in the sampled voices that chime in all the time

STF RATING 94%

MEET THINE ENEMY

Alliances are vital during the early stages of an island. If you can team up with someone else it means you have one less enemy to worry about, at least for the time being. Of course, you may be asked for an alliance yourself. Choosing the right person to befriend is another crucial decision. In certain situations you can use your ally as a blocker. In a bottleneck, their presence can stop the other enemies getting past to invade your sector. The other important thing to watch is that all your allies can become enemies again at the drop of a hat (or a nuclear warhead, for that matter).

● Scarlet leads the red people and she's no cowering wallflower – more like an ardent feminist. Ask her for an alliance and she usually refuses with a haughty "Hah! No." She's tough and invasive, so you'd better watch out.

● Oberon, yellow king, is a bit of a weed and has a very camp voice. He often timidly asks you, "Do you want to come on my team?" in such a pathetic way you want to stomp all over his people. Well, I did anway.

● Green leader Caesar has a definite Italian accent. Beg an alliance and it's either "Si, si, why not, eh?" or "No, I donna think it woulda work." He's a bit of a side-switcher though, so watch your back (and your tower).

● Madcap is – er, mad. He leads the blue people and usually refuses an alliance with a "No way, buster!" Still, you'd probably feel the same way with that, um, thing stuck in your eye. He's quiet but explodes when he fights.

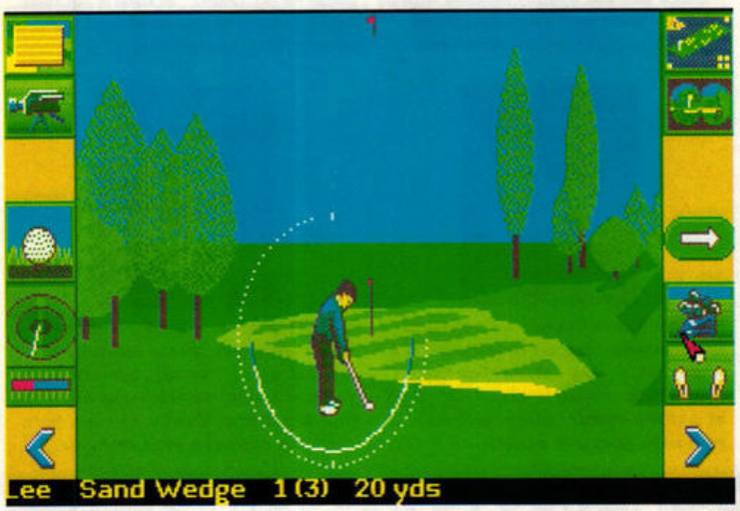
ICON-QUERED (OR, OMNIPOTENCE IN 19 EASY LESSONS)

5. **Blueprints – shows you the "ingredients" you need to build any item you've researched**
6. **Displays charts showing the defensive state of each of your buildings in this sector. When the bar disappears, so does your building**
7. **Shows any defensive weapons you've invented and how many of each you can create**
8. **Shows any offensive weapons that you've managed to invent during the game**
9. **The number of currently idle men in this sector**
10. **This icon reflects the buildings present (in this case a lab). You choose which item to research there**
11. **When you have a factory, you can make advanced items by clicking this icon and choosing a design**
12. **If you've built a mine, these icons show the elements being mined and the number of miners**
13. **This element can be collected without a mine**
14. **Alters the number of men mining each element**
15. **The mine itself**
16. **The laboratory**
17. **Your tower for this sector**
18. **The factory**
19. **Some weapons need more than one man to operate – these three men are wheeling a huge gun about**

www.stformat.com

MICROPROSE GOLF

The most difficult sport to simulate on an ST (bar Himalayan Tortoise Poaching) is reincarned yet again as *Microprose Golf*, but don't worry – there's hardly a golfing pun in sight as Ed Ricketts tees off (except that).



● There's only one sport which has a bigger snooze factor than golf and that's the annual Australian dung beatle fight. Now Microprose have come up with a simulator that promises to liven up the fairways in the shape of the exquisitely named *Microprose Golf*. Surprisingly, it's not half bad.

Almost as many people hate watching golf on television as hate snooker, but nearly everyone has dabbled on the greens at one time or another – and all of us have made complete fools of ourselves when the ball dribbles off towards the right for approximately four feet. It *looks* dead simple – just bash the ball as hard as you can towards the green – but you usually end up digging up most of the fairway when you miss the ball completely. It's all a little bit simpler with *Microprose Golf*.

Golf attempts to be the ultimate simulator. There are 11 sorts of game, ranging from Skins (where you play each hole for money) and Tournament (the standard 18, 36 or 72 hole game) to Threeball and Head-to-Head. Some of these are only accessible to players with no handicap, so just as in real life you need to win plenty of tournaments before you can play against the pros. Up to four people can play, including eight ranked computer opponents with customisable playing styles – if you're awful at putting, for instance, you can make your opponent even worse.

Instead of showing you the ball and the green and expecting you to get the one on to the other by any means possible, the game gives you the option of changing every fine detail to polish up your shot. If you think the default club isn't suitable, change it. Tee heights and even the way you stand affect a shot in real golf, and the same applies here. And all the time you must allow for the wind blowing your ball off course.

The graphics certainly pass "good" and could almost be described as "stunning." The fairways are covered with contours and show very clearly the changing ground height, particularly when the "camera" is following the ball across rolling hills and rivers. A Replay option enables you to view each shot from several camera angles and save the most impressive straight to a disk. Because all the courses – and the objects on them, excluding the player – are actual 3D objects, they can be viewed from any angle without needing sprites for each view, giving you some very realistic vistas.

There is, of course, a problem with this non-sprite-based approach: the objects, especially the trees, don't have all the detail they could – since they're constructed of polygons the little detail there is in the trees only appears when the ball stops moving. One other minor graphical gripe is that the golfer sprite is a little shoddy and badly animated, as if it has been added as an afterthought. The ball moves and bounces just as you would expect it to, though.

Surprisingly for a game with very little audio potential, effective samples have been used throughout – the thwack of the club meeting the ball, a splosh when you land in water and the swish of branches when you hit a tree.

VERDICT: There's very little to find fault with in *Microprose Golf* – so here's the very little. First, six courses seems like plenty to begin with but you soon need more. Further data disks are doubtless planned, possibly with some simulations of real courses. Second, £35 is a lot of money for a game. Unfortunately it seems increasingly to be the case that you have to pay "premium" prices for good games.

These reservations aside, *Golf* is a real gem. It easily takes the award for best golf sim for the ST – there's just nothing to touch it for detail, ease of use and impressive graphics. Most of all, it's fun – a feature which could easily have been lost amid the wealth of detail.

If you have even a slight passing interest in golf get this and you'll be addicted for weeks. All told, it's better than the real thing – you don't have to leave your chair for this. (There! Not a golfing pun in sight.)

ED RICKETTS

GOLF

MICROPROSE £34.99

- Nothing touches this on the ST – it makes *Challenge Golf* (page 85) et al look decidedly sickly
- Excellent graphics mean it's good to look at as well as to play
- The details really make it shine – how many other golf sims allow you to alter tee height?
- Pricey, but guaranteed to keep you playing for a long, long time

STF RATING 95 %

www.stformat.com

TAKING A SHOT AT THE ICONS

Icons – you can't live with them, you can't live without them. Well, you couldn't play *Microprose Golf* without them, anyway. They're scattered round the screens with a vengeance, and everything is controlled using them.

Shows green speed – very slow to very fast and all points in between

Enables you to select which sort of camera action should follow your ball

Indicates the lie of the ball – here it's in the light rough

Wind direction and strength

The essential power/swing meter. The outer arc shows the power and moves clockwise when you first hit the button. Click to stop the power and start the swing meter moving from the top down, and click a third time to stop it. The centre white area gives a straight shot while blue slices left or right

Gives the view from behind the flag looking towards your ball – very handy for double-checking slopes and suchlike

Enables you to access the course map to plan your shot

Within 20 yards of the hole, this overlays a grid on to the green. This grid indicates ridges, bumps, and slopes – left/right or uphill/downhill – which helps you set up your putt accordingly

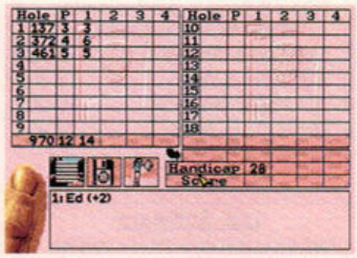
Click this to start the power level rising

Change clubs – usually the default club is okay

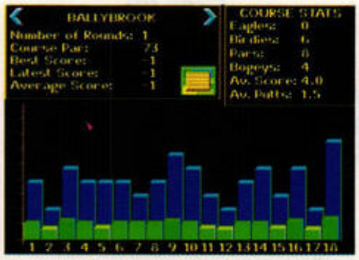
These arrows shift the direction in which you're facing very slightly to the left or right. Alternatively you can click directly on the part of the course you want to face

Adjust your stance – even small movements of the feet inwards or outwards can affect the size of the hook and slice areas on the power meter

● Putting is a much simpler affair than driving. Once you've worked out how hard and in which direction you need to hit the ball to get it across the green, just click on the arrow to start the meter rising. The centre mark gives you a useful indication of how hard you'd need to hit the ball if you were on a level green to hole out.

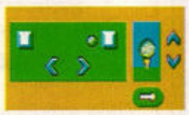


● The all-important score card. Obviously the idea is to score as many points as possible – the record so far stands at 423,000. The score here is pathetic – I mean, 2 points is nothing, is it? It's not easy, though – you have to find different places to put the ball without getting it in the little hole too often. Odd game, golf.



● Once you have played a round with a character you get the chance to save his profile to disk. This character is then updated every time you play, to take account of the changes to your handicap and stats. You can see these numbers in bar chart form where you can examine them right down to the stats for individual holes.

● Before each shot you see an overhead view of the course, with such details as the projected flight of the ball to aid your club selection. You can also adjust tee height, stance or rotate the course for a better view (on the right).



JUST ADD SOME SAND AND WATER

● Some courses have a considerable amount of the golfer's nightmare, water. If the ball lands in water and it hasn't yet touched land then you have to take the shot again; otherwise it's placed as close as possible (on land) to the spot where it went down.

● Less disastrous than water is sand – at least you can still take a shot from here. You do find the hook and slice areas drastically changed, though, and you may be in for a surprise if you take a shot as normal without studying the power meter. Note the small cloud of sand as the ball hits.

www.stformat.com

MJC COMPUTER SUPPLIES

Suppliers of Discount Software since 1984

Educational, Local Authority and government orders welcome. Overseas orders please call or write for quotations. All goods subject to availability, prices subject to change without notice. E & O E.

Prices include VAT and delivery by post.
Courier delivery available on any item £5.

TO ORDER: Please call the telephone number listed below to place credit card orders (Access/Visa) or send cheques/POs made out to MJC Supplies to:

MJC SUPPLIES (SF)
Unit 2 The Arches, Icknield Way,
Letchworth, Herts. SG6 1UJ.
Tel: (0462) 481166 (6 lines)

PROTAR PRODUCTS

PROGATE HARD DRIVES

Protar's superb range of hard drives, fully compatible with all ST's, offering up to 12 partitions per disk, selectable boot partition and a wide range of configurations to suit all requirements, from 20Mbyte to 160Mbyte.

Progate 20 (20.4 Mb formatted).....£280.00
Progate 30 (30.7 Mb).....£327.00
Progate 40 (42.9 Mb).....£341.00
Progate 60 (61.9 Mb).....£437.00
Progate 80 (80Mb).....£486.00

DISCACHE MODELS

are fitted with 64Kb cache memory, which can reduce disk access times by up to 50%. Guarantee extended to 2 years.

Progate 50DC.....£423.00
Progate 100DC.....£565.00
Progate 160DC.....£922.00

PROTAR MONITOR

Protar's VISTO C141M is a medium resolution monitor based on the Philips CM8833, but with improved circuitry. Supplied complete with ST cable.

£248.00

Includes free courier delivery

THE COMPLETE COLOUR DIGITIZING SOLUTION

VIDI-ST AND VIDI-CHROME ST

The best value video digitiser available for the ST. Grabs mono images in 16 shades from any domestic VCR with a composite video output can be saved as NEO or Degas files for use with other graphic or D.T.P. software.

NOW PACKED WITH

VIDI-CHROME

Colour software upgrade for VIDI. Use a mono or colour video camera with the supplied red, green and blue filters to digitise in 512 colours on an STFM or 4096 colours on an STE

RRP £119.95
OUR PRICE £89.95

ROMBO RGB SPLITTER

Splits a composite colour video signal into separate red, green and blue for use with Vidi-Chrome now includes power supply

MJC PRICE £59.95

THE COMPLETE COLOUR SOLUTION

Package consisting of
VIDI-ST
VIDI-CHROME
RGB SPLITTER
all leads and power supply
RECOMMENDED PRICE £179.00

OUR PRICE £139.95

GOLDEN IMAGE OPTICAL MOUSE

A high resolution three button mouse with no balls to clean or replace. Includes optical mat and holder.

£34.95

NAKSHA MECHANICAL MOUSE

Our most popular mouse. Includes Operation Stealth, Mat and Holder

£24.95

EDUCATIONAL SOFTWARE

DISNEY SOFTWARE

From the world's best animators comes a new range of educational software featuring all of your favourite characters
For 2-5 year olds

Goofy's Railway Express.....19.95
(Learn about colours and shapes)
Donald's Alphabet Chase.....19.95
(Learn about the alphabet)
Mickey's Runaway Zoo.....19.95
(Find and count the runaway animals)

FUNSCHOOL

The all time best selling educational software from Database Educational. A number of programs per package covering a range of subjects.

FUN SCHOOL 2
8 programs per package
For 2 to 6 years.....£12.95
For 6 to 8 years.....£12.95
For the Over 8's.....£12.95

FUN SCHOOL 3
6 programs per package
For 2 to 5 years.....£15.95
For 5 to 7 years.....£15.95
For the over 7's.....£15.95

Sesame Street Colouring Books

Use the mouse to colour in the characters from the TV show,
INCLUDES FREE WATCH.
Letters for you.....15.95
Numbers Count.....15.95

Kosmos Educational Software

Answerback Junior Quiz (6-11).....14.95
Factfile Spelling (6-11).....7.95
Factfile Arithmetic (6-11).....7.95
Factfiles are data for Answerback Quiz only. 10 other subjects available

Kosmos Language Tutors

The ideal aid to learning vocabulary
French Mistress (12-adult).....14.95
German Master (12-adult).....14.95
Spanish Tutor (12-adult).....14.95

Learn to Read with Prof.

Prisma Software's complete reading course for 4 to 9 year olds.
1. Prof Plays a New Game.....19.95
2. Prof Looks at Words.....19.95
3. Prof Makes Sentences.....19.95
4. Prof Hunts for Words.....19.95

LCL Software

Each package is designed as a complete course, including a 100 page plus paperback book, with 24 programs.
Primary Maths Course (3 to 11).....£19.95
Micro Maths (12/adult to GCSE).....£19.95
Micro French (12/adult to GCSE).....£19.95

Other Educational Titles

B. Spell (5-8).....10.95
Schooltime Maths (over 5's).....10.95
Play-Spell (7 and over).....10.95
Master Time (3-11).....12.95
Hooray for Henrietta (5-12).....17.95
Henrietta's Book of Spells (5-12) 17.95

GRAPHICS & PRESENTATIONS

Timeworks DTP ....see "Special Offers"
Easy Draw 2.....36.95
Supercharged Easy Draw 2.....59.95
Deluxe Paint ST.....44.95
Canvas.....10.95
Degas Elite.....19.95
Spectrum 512.....22.95
Cyber Studio (1Mb req'd).....39.95
Cyber Paint.....39.95

PROGRAMMING

Tempus 2 - Programmers Editor.....29.95
GST C Compiler.....15.95
Hisoft C Interpreter.....39.95
Lattice C v5.....99.95
Nevada Cobol (CPM inc. emulator).....33.95
Hisoft Highspeed Pascal.....69.95
Hisoft Wercs Plus (inc GDOS).....33.95

STOS - THE GAME CREATOR

STOS Basic Interpreter.....19.95
STOS Add-on Compiler.....13.95
BOTH THE ABOVE STOS AND COMPILER.....32.95
STOS Maestro Software.....15.95
STOS Maestro Plus sampler.....52.95
Game Makers Manual (book).....11.95

DATABASES/FINANCIAL

Prodata.....55.95
Data Manager Professional.....29.95
Super Card 2 *by B.Ware*.....24.95
3D-Calc Spreadsheet.....21.95
Mini Office Spreadsheet.....15.95
Personal Finance Manager Plus.....29.95

WORD PROCESSING

Protext Version 4.3.....64.95
Protext Version 5 (1Mb).....99.95
Wordflair (1Mb req.).....57.95
First Word Plus.....49.95
Word Writer.....36.95

SAMPLERS

Mastersound 2,
playback via monitor.....29.95
Replay 8,
output for Hi-Fi or monitor.....59.95
Replay Stereo,
twin outputs for both.....64.95
Replay Prof.
Mono, Hi-Fi/Monitor.....99.95

MISCELLANEOUS

Quartet V1.5 4 voice music synth.36.95
Playback gives stereo to STFM's..24.95
Mini Office Communications.....15.95
Mini Office Presentation Graphics.15.95
Harlekin 2 *new version*.....34.95
Hisoft Knife ST.....19.95
Flexidump (9 pin Mono only).....17.95
Flexidump Plus (all dot matrix).....31.95
Forget-Me-Clock 2.....24.95

CUMANA CSA 354 DISK DRIVE

Quality external, double sided disk drive. Including PSU and cable.

£69.95

SPECIAL OFFERS!!

MINI OFFICE
Spreadsheet, Presentation Graphics or Communications
ANY TWO FOR £30.00

TIMEWORKS DESKTOP PUBLISHER
PLUS Golden Image Opto-Mechanical Mouse **£69.95**
or ***With*** Cumana CSA 354 disk drive ***Plus*** First Word Plus (no mail-merge) **£124.95**
or ***With*** Vidi ST and Vidi Chrome ***Plus*** First Word Plus (no mail merge) **£134.95**

www.stformat.com

WRECKERS

Typical – you've just put your head down for a month's cryogenic sleep when your space beacon is attacked by alien green blobs. Particularly nasty green blobs too. They eat their way straight through the hull of your space beacon and grow into bigger, deadly, plasma-bolt-firing green blobs. It's your job to save the day by fending off attacking waves of the little wreckers and keep the space beacon transmitting.

Luckily you have a few tricks up your sleeve. Along with your standard issue space-hero anti-plasma chemical gun, you have the services of three combat droids and the ability to produce more. Just as well, really – you soon need lots of them. You also have these amazing giant hoovers, which suck up the plasmodians before they reach the beacon.

Unfortunately your superiors have installed a "safety device" which blows up the joint if you can't clear the infestation quickly. With the clock ticking away, away you spend the game running around in a mad panic repairing the transmitters, shooting plasmodians and controlling the droids.

The space beacon is shown in 3D isometric view and the display scrolls in eight directions. You control each of your three heroes using the standard joystick controls. Some clever programming means you can dart around at a fair lick, although your characters have a very peculiar way of moving. They can only move in four directions and this makes it difficult to control them with much precision.

www.stformat.com

The graphics are functional and well-designed rather than awe-inspiring. The droids are detailed but your main on-screen alter ego looks a little like a cartoon character. Scrolling is reasonably smooth and fast, and the droids float about nicely. The hoover machine is particularly well done. Sound effects are a mixture of samples and chip stuff and add to the atmosphere well – the mutant monster screams alarmingly as he crashes around, shaking the whole screen. (Oh, didn't I mention the mutant monster? Heh heh...)

VERDICT: *Wreckers* could easily have you pulling out your hairs pretty quickly. It's a frantic rush to save the station from the endless hordes of plasmodians. No sooner have you dealt with one attack or overheating transmitter than another crisis pops up. After some practice, however, the game becomes somewhat repetitive as you learn to deal with each wave of aliens. Particularly annoying is the way you have to use the diagonals on the joystick to move around.

You'll either love or hate the mad dash to save the space beacon from destruction. If you survive the initial difficulties and develop some winning tactics, the game's long term interest is in doubt. But for those who like arcade shoot-'em-ups with tactics, this could be right up your street. It has a sort of manic quality to it.

CHRIS LLOYD

● As if invading plasmodians weren't bad enough, in this challenging arcade/strategy game you also have to cope with this ready-brek monster – in fact a mutated crewman who stomps around screaming and killing things. Even if you manage to dodge this tricky character you can bet the next wave of aliens is going to hamper your chances of fixing the transmitter. Not exactly original but *Wreckers* is absorbing nonetheless.

WRECKERS

AUDIOGENIC £24.99

Can run on single sided disks

- Very similar graphics and playing environment to *Escape from the Planet of the Robot Monsters*
- Quite an original concept but sadly it's been very badly executed
- Joystick controls similar to *Brat*. Having to hold the joystick diagonally in your hand makes it confusing to work out where you're going

STF RATING 68 %

THOSE VALUABLE ICONS

Countdown to self-destruct – you have to work very fast.

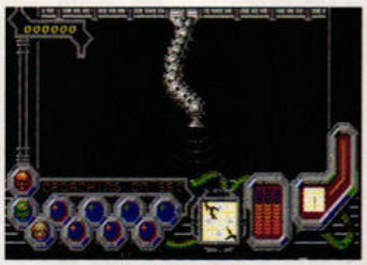
Your chap's lifeforce.

The space beacon's main systems status bars – generator power, atmosphere control and gravity control.

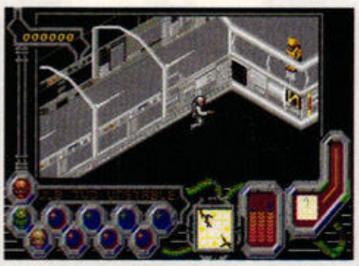
You need to make sure you constantly monitor any messages coming from the central computer.

Your plastic pals. You can have up to ten droids at your command, from lowly cleaners to very mean combat models.

Long range scanners – give you a little time to prepare for the rain of little green blobs.



● This is your first line of defence – a battlepod can come along and hoover up the invading alien green blobs with a satisfing sucking sound.



● Your second line of defence is to don a spacesuit and zap them before they eat through the hull. Air is limited, so try not to breathe too much.

● Your mechanical helpers. Managing you droids properly is vital. They complain if you mistreat them by – oh, shooting them, for example.

www.stformat.com

MAGIC POCKETS

You might think you kept a lot in your pockets when you were a kid, but the star in *Magic Pockets* has a bicycle, a giant gorilla, some snails, and a mountain tucked away in his. Ed Ricketts wonders what happened to all the boiled sweets and bits of purple fluff.

Kids! Don't you just ha – *love* them? The software companies apparently do – we've had a spate of games recently featuring mischievous little – er, sprogs, the most famous of which is probably *Brat*.

Magic Pockets features a sprog, too – one called the Bitmap Kid. This Kid has lost all his favourite toys in the depths of his less-than-ordinary pockets, which isn't surprising when you consider how large they are. The only way to get them back is to enter the pockets themselves (the contortions don't bear thinking about) and find the damn things.

What all this amounts to is a platform game played over four worlds – a cave, a jungle, a lake and a mountain – each with at least five levels. Every level has the ultimate aim of finding a particular toy and leaving with it (although it's not absolutely necessary to get the toy to leave). Along the way you encounter the denizens of the Kid's pockets, none of them eager to help you – quite the opposite: they eat your sweets, get in your way, attack you and even steal your precious toys for themselves.

● The Bitmap Brothers bring you *Magic Pockets*, a tale concerning a small *Brat*-like and the huge number of useful things he keeps in his voluminous pockets.

Magic Pockets is just another platform game but its style and execution are absolutely wonderful

Of course, you do have a weapon to get rid of these monsters, which varies from world to world. In general, the longer you hold down the "Fire" button the bigger your shot becomes. You can use these large shots to go into a tumble, which sends the Kid whizzing around the screen. While he's in a tumble the Kid is invincible and instantly kills anything in his path. It's possible to trap monsters in the largest shot of the current weapon. If you jump into such a monster then you're rewarded with either a power-up or bonus sweets; the harder you hit it the more sweets you get, so it's a good idea to tumble into one if you can manage it.

Pockets has a complex bonus system. For every monster you kill the value of the sweets you get from a trapped monster increases, until you reach the next 5,000 points; then you get power-ups instead of sweets, which also increase in power as you kill more monsters. These power-ups range from a milk bottle, which gives you an extra life, to a Speedball helmet which not only makes you invulnerable but kills everything you touch. With a bit of luck and skill you can choose how you're going to play your game by collecting the appropriate power-ups.

All this bounding about is accompanied by some nifty graphics in the distinctive and detailed Mark Coleman style. The Kid is suitably chubby and very streetwise, with his baseball cap and trainers, while most of the monsters look completely fed up. Everything's nicely animated, though some of the effects look as if they've been taken straight from *Gods*. The audio effects are unfortunately sound chip stuff only, though they fit the arcade atmosphere nicely and aren't too intrusive. The touted Betty Boo soundtrack was created with *TCB Tracker* and is surprisingly good, though of course it's only heard at the beginning of the game.

VERDICT: Just when you think the platform genre has gone green and is starting to smell a little strange, up

THERE'S JUST SNOW FUN IN HERE

Your weapon changes from world to world. Although they all work in basically the same way, their execution varies. In the first two worlds using your weapon properly (no sniggers) enables you to go into a tumble.

On world one, the cave, you can use whirlwinds. You can wrap up the monsters in them before you jump 'em, but they can be used more effectively. Just fire and pull down to make wind and then stand in it. Quickly pull down again to go into the killer tumble.

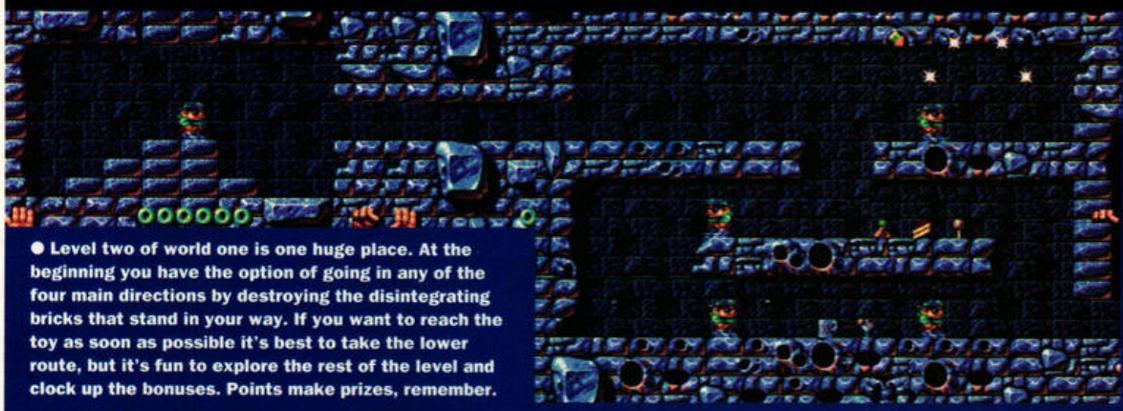
You wield a mean cloud in world two, the jungle. You can use it for more than just tumbling. When each cloud disintegrates it releases a drop of rain. Direct a cloud to rain over a stump and a plant grows, creating a whole new set of platforms for you to mess around on.

World three is set on a lake, so most of the time you're trying to stay out of water – unless you can find the diving helmet. Your weapon can help here – you throw blocks of ice into the water which freezes the surface, enabling you to walk across at your leisure.

The final world represents a mountain. Because you're high up it's very snowy, so snowballs for weapons seem logical. If you roll a normal-sized snowball along the ground it collects more snow and grows bigger, finally ending up as a huge monster-trapper. 'Snow joke!

www.stformat.com

WHERE'S MY POCKET MAP? (OUCH!)



● Level two of world one is one huge place. At the beginning you have the option of going in any of the four main directions by destroying the disintegrating bricks that stand in your way. If you want to reach the toy as soon as possible it's best to take the lower route, but it's fun to explore the rest of the level and clock up the bonuses. Points make prizes, remember.

Going right (past a few snails) takes you to this small cavern. There's nothing to be gained by jumping across the gap – it doesn't lead anywhere...

...so drop down the gap and onto the ledge with all the goodies, avoiding all the snails...

...and onto the floor (although throwing Maltesers at the snails probably won't do a whole lot of good)

Leave by the right-hand wall, once you've destroyed the crumbling bricks to let you through. Then: onwards and downwards...

pops another game to prove you wrong. *Magic Pockets* is, after all, just another platform game, but its style and execution are absolutely wonderful. The Bitmaps have included enough small details, incentives, power-ups and complexity of play to keep you interested for a very long time – and just when you do start getting bored, you reach the next world and everything changes. Most of all, the game is great fun to play – you can be at it for hours and still discover new details and features.

Some of the effects look as though they've been taken straight from Gods

However critical you may be, you can never find much wrong with a Bitmap Brothers game, because they always manage to deliver the goods. With *Magic Pockets*, they've come up with their best game yet.

ED RICKETTS

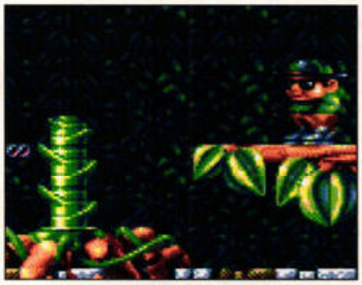
MAGIC POCKETS

RENEGADE £24.99

- Similar to *Gods*, but much more light-hearted and not quite as difficult
- Bonus systems are as old as the hills, but none have been quite as involved or useful as this one
- The best platform game since *Switchblade 2*

STF RATING 90%

● Before you can leave each world there's the equivalent of the end-of-level monster. The first world gives you a race on the bicycle against Rockies, while on the second you have to beat this huge gorilla with the boxing glove.



● Just about the last thing you'd expect to find in the middle of a jungle is the whirly bit out of your mum's old twin-tub. Perhaps it's a relic from an ancient utilitarian cult of mangle-worshippers.

● Snails are odd creatures. Sometimes you charge in to attack, but one stops you. Hiding under its shell it becomes invulnerable. Your tactic? You hide too, and wait for it to come out.

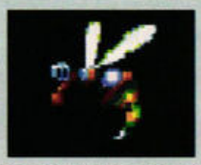
WELL, FANCY EATING YOU HERE

Your enemies from world two are just as annoying as those snails and Rockies from world one, if not more so because most of them are airborne.

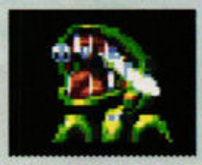
The bees are harmless, providing you keep out of their way, but once they spot you they zoom in with their stingers armed at the ready – and they're very hard to kill.

These snakes may look a little familiar if you've played the Bitmaps' previous big hit, *Gods*. Again, these aren't the brightest of creatures, but some of them are certainly pretty nippy.

You encounter two sorts of ape during your travels through the levels: the innocent jungle dwellers who are quite happy to live and let live (unless you get in their way, that is)...



Mosquitoes are frankly a little stupid, just like in real life, buzzing around in small areas and getting in the way when you least want to see them. Make sure you remember to bring your fly squat with you.

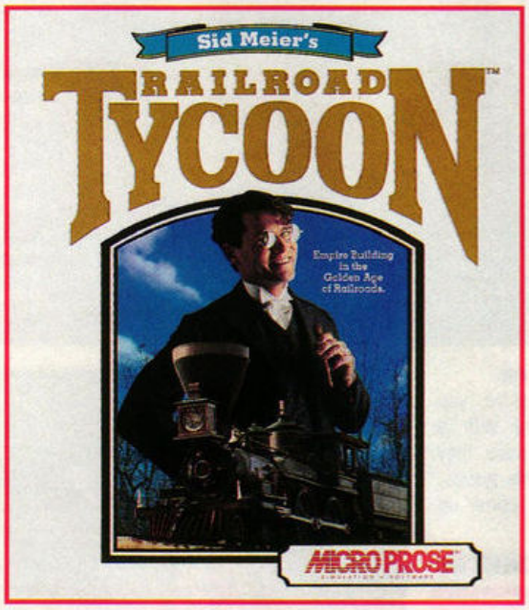


You may think you could avoid venus fly-traps but these aren't any old vegetation – they uproot themselves and walk around. They're not just after you – any mosquito that strays too close has had its chips.

and Roamers who are on the lookout for trouble. Once they spot you they beat their chests and leap around in your general direction. They're also very good at climbing the vegetation too.

www.stformat.com

Railroad Tycoon



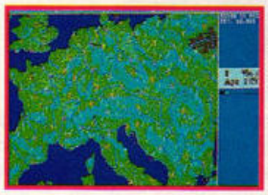
Empire Building in the Golden Age of Railroads

Big business. Tough decisions. Excitement, challenge and compelling attention to detail. 'Railroad Tycoon' delivers an entire era to your computer.

Set in the golden age of Railroads, 'Tycoon' gives you complete control of the economic resources of the Industrial Age, and the commercial struggles which thrust the world into the 20th Century.

You control every aspect of your Railroad's operation. Every choice you make affects the world around you. Change your Railroad - Shape a Nation.

Determine the fate of towns, the prosperity of businesses, the success of entire industries. Select the types of trains which will run on your Railroad, determine their schedules and designate the kind of cargo they'll carry. Overcome natural hazards such as storms or floods, or man-made catastrophes such as labour strikes and rate-wars. Other tycoons are determined to crush you or brush you from their path, and you'll have to outmanouevre them whilst operating your railroad and dealing on the stockmarket. All these decisions are set against the ever-ticking clock of history. Trains improve, cities grow, industry alters. Every change brings a new decision - every decision a new change.



The only thing more powerful than your locomotives is your drive to shape the nation. Your ambition. Your control. Your Railroad.

Railroad Tycoon is steaming towards all Commodore Amigas, Atari STs and IBM PC Compatibles now !

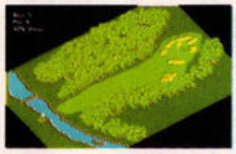
MICROPROSE™
SIMULATION • SOFTWARE

IBM screen shots shown. Actual shots may vary.

MicroProse Ltd. Unit 1, Hampton Road Industrial Estate, Tetbury, Glos. GL8 8DA.

www.stformat.com

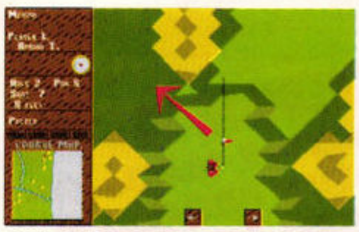
CHALLENGE GOLF



● The first hole looks easy but has got more bunkers than Berchtesgarten.

Karl Marx once called golf "the opiate of the masses." He realised he was wrong of course, so he changed it to religion, but the fact remains that golf is more popular now then ever before. Consequently a plethora of golf games has appeared recently.

Joining the fray is *Challenge Golf* from On-Line Entertainment. It sticks pretty much to the standard format. There is a choice of four courses (selected from a strangely detailed relief map of the world.) Select a course and you can start. You watch a little character swing his club, judge the correct strength on a power meter by hitting the mouse at the right moment, then try and do the same on the direction meter. The whole thing takes about half a second so you need to be quick – and a good mouse also helps.



● It's the LegoLand Open. The greens are a bit blocky, it has to be said.

You're automatically faced in the direction of the pin and given the best club. You can change clubs and alter the direction, using a red arrow under your feet. Use the on-screen map to point in a different direction (on dog-leg courses for example). It's not an effective system but it works when you're used to it.

Once you've hit the ball and watched it bounce off unconvincingly, the display cuts to a 3D overview of the course. The shot is replayed so you can see where you are in relation to the green. Then it's on to the next shot. If the pin distance isn't great you're given a shorter club and off you go again, until you get on to the green.

Once there, you see a rather blocky top view of yourself, the hole and a large arrow indicating any slope. There's also an aiming line which you can swivel to compensate for it. Clicking the mouse on a moving scale decides the power, then you watch the ball roll along. And here's the biggest headache of the game: it's very difficult to get the ball in the hole. No, I'm not just crap at it – the parameters for a "hole out" are set too strictly. The ball can actually roll slowly right over the hole (or even stop on top of it) without going in. It's infuriating, and makes all your skilful driving and chipping worthless because you can drop dozens of shots within inches of the hole.

VERDICT: *Challenge Golf* isn't really a contender. The graphics aren't very impressive; they're blocky and slow to update. The sound is virtually non-existent. Ball thwacks are all there is. And if the ball drops into water you get silence and the word "Splash" on the screen!

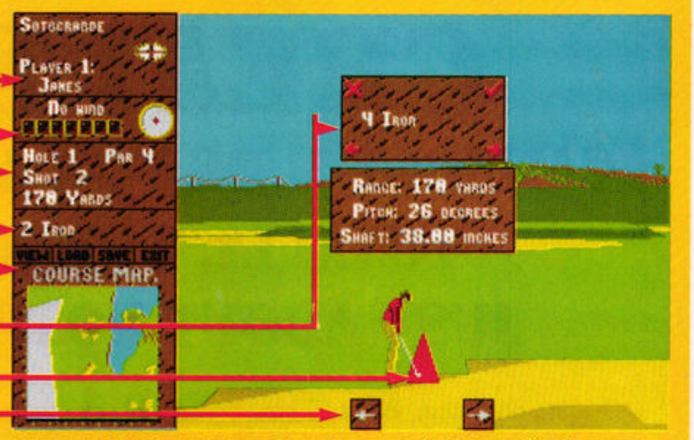
Playability, too is below par (oops, sorry). You don't have enough control, and once you've mastered the timing of the gauges that's about it. The greens are irritating to play, and the ST actually moves the position of the ball between shots to line it up with the compass points. This could be a result of lack of memory or poor programming, but it doesn't exactly elevate the gameplay.

If you're after a decent golf game, this isn't it. Just be thankful that there are plenty of others around which are.

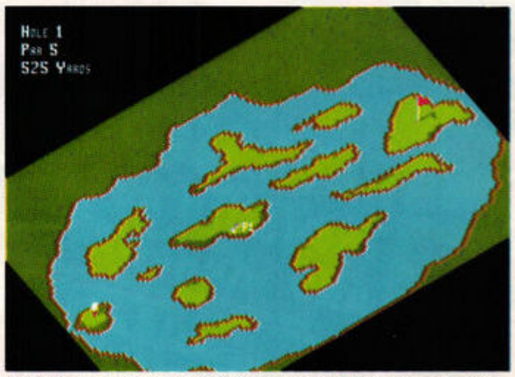
JAMES LEACH

TEE GREEN GOLF PUN

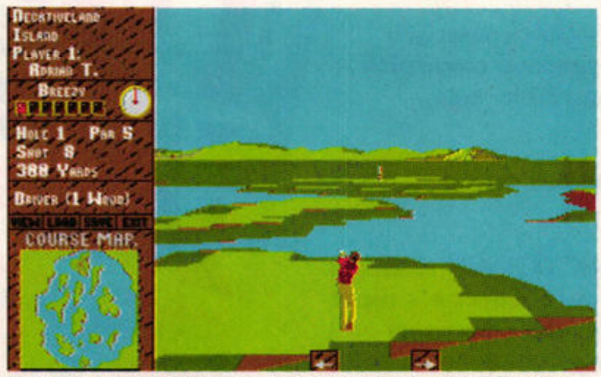
How you cope with the high-tech Golf War



● Try and pitch the ball above those large wooden information placards.



● Global warming has left St Andrews looking more like Rhyl Sun-Centre than fields of unnaturally trimmed grass.



● A very nice shot but now how are you going to get all the way to the green without soaking your dayglo?

CHALLENGE GOLF

ON-LINE £24.99

Can run on single sided drives

- Slow and rather inflexible. Doesn't compare well to *Microprose Golf* (reviewed on page 78).
- The graphics aren't as clever or impressive as those in *World Class Leaderboard*.
- Not as flexible as either of the above games. Too many things are done for you.

STF RATING 52 %

● Here we see how the masterstrokes are delivered by a true professional. If you can get a drive right then it's pure pottery in motion.

www.stformat.com

PUBLIC DOMAIN

GREAT SOFTWARE

CAN BE YOURS FOR AS LITTLE AS ABSOLUTELY, TOTALLY, DEFINITELY, VERY NEARLY, JUST ABOUT NOTHING AT ALL. (HONEST)

Owning an Amiga, PC or ST now means that you can buy incredibly good software for little more than the price of a disk. Stunning games, utilities, demos, graphics, word processors and more can be found in Public Domain and Shareware software.

But (but! but!!) where do you start? How do you know which programs are completely wonderful and which ones should be re-formatted instantly? What's the best way to buy PD? And – whilst we're at it – just what *is* PD anyway?

For these answers and a whole trainload more, you'll need a new magazine called **PUBLIC DOMAIN**.

- Every issue is **packed full of reviews** – PD programs assessed for the Amiga, PC and ST.
- Every review is **screenshotted**. You can see exactly what you'll be buying.
- Every copy of PUBLIC DOMAIN comes with an incredible **program-packed coverdisk** – so you can get the very best PD for your machine every time.
- Every page is in **glorious full colour**, so you'll have unrivalled quality.
- And every edition of PUBLIC DOMAIN is backed by the full editorial resources of **Europe's most successful** news-stand computer magazine company, Future Publishing.

PUBLIC DOMAIN comes to you from the company that brings you Amiga Format, PC Format, ST Format, Amiga Shopper, PC Plus, Commodore Format, Your Sinclair, New Computer Express, Amiga Power, Amstrad Action, PC Answers, Sega Power and 8000 Plus; markets leaders all.

First issue on sale October 3rd at £2.95

INCREDIBLE PACKAGE! MASSIVE MAGAZINE PLUS PROGRAM PACKED COVER DISK!

IF YOU WANT OUR ADVICE, BUY IT!

"VERY SLICKLY CODED WITH TERRIFIC ATTENTION TO DETAIL - A BRILLIANT CONVERSION" - COMMODORE FORMAT

VOLFIED

THE ULTIMATE TAITO COIN-OP CONVERSION

"A FIRST CLASS CONVERSION" - ZAPP

Use your planning skills and put them into quick action, as you fight through 16 levels of challenging gameplay crammed with masses of enemies, special and hidden bonuses.

Pick up extra powers like lasers, power-ups and time stops and face the ever changing massive "Boss Alien".

VOLFIED: READY TO ATTACK YOUR NERVOUS SYSTEM!
VOLFIED: SKILL, STRATEGY AND EXTREMELY QUICK REFLEXES
VOLFIED: AMAZINGLY SIMPLE IN CONCEPT, INCREDIBLY ADDICTIVE TO PLAY
VOLFIED: YOU HAVE TO SEE IT TO BELIEVE IT

LICENSED FROM TAITO/TAMCO PROMGRAMMED FOR THE COMMODORE AMIGA, C64, ATARI ST AND IBM PC & COMPATIBLES BY OXFORD DIGITAL ENTERPRISES

TAITO

AVAILABLE ON IBM PC, AMIGA, ATARI ST, COMMODORE 64 AND ARCHIMEDES

4 THE STANNETTS, LAINDON NORTH TRADE CENTRE, BASILDON, ESSEX SS15 6DJ TEL: No: (0268) 541126 Fax No: (0268) 541125

EXPANDE EMPIRE ARCADE

SCREENPLAY EXTRA

This month's roundup of late or not-so-great games kicks off with the first four releases from Gremlin's new budget label, GBH, now out at £7.99 each.

SUPERCARS

With the car racing game *Supercars 2* doing very nicely thank you for Gremlin at the moment, it was inevitable that their budget arm would release its prequel. Frankly, there's very little to tell between the two.

Like its successor, *Supercars* is viewed from overhead, and also requires you to bomb round a track hitting hell out of all the other cars in a bid to reach and retain first place. The tracks feature all the usual twisty-turny bits and those awkward 90 degree corners which slow you down at every opportunity. Then there's the other cars, who just won't leave you alone.

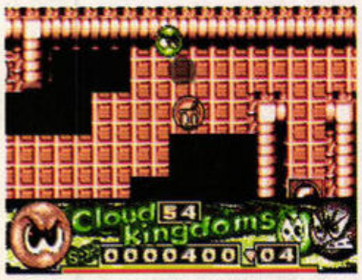
Thankfully, if you win a race and clock up some cash you can visit the garage and buy the usual motoring accessories you'd find in any Halford's, like missiles, armour plating and turbochargers to show the others who's boss. Or – eventually, after a few wins – you can trade in your old car for the brand new (and very expensive) model, after negotiating your way round the smarmy salesman by matching the right answer to his question.

● **Some way into *Supercars 2*, you may discover that turning corners is a better option than crashing into them and hoping you bounce off in the right direction**

So if you're thinking of getting *Supercars 2*, why not save a few pounds and get this instead? It's virtually identical. The graphics are nicely drawn and colourful – though the cars themselves are a bit of a cop-out – and there's nothing wrong with the animation. For well under a tenner you'd be silly not to choose this one.

***STF* RATING: 74%**

CLOUD KINGDOMS



● **Implausible Caption No 23 (collect them all): While painting his chic new "house without walls," Terry (the eight-way rolling ball, you remember) is overcome by fumes and begins floating away to the *Cloud Kingdoms***

Great Intro Sentences of Our Time: "Terry was a small, green, eight-way rolling rubber ball." Another example of games programmers' fascination with balls, this – not to mention bad puns. Playing the part of Terry Ball (there goes the pun), for some reason or other you have to roll and bounce around some precarious platforms high above the earth in a quest for keys and magic crystals. There are (of course) Bad Insect Monsters and (naturally) Giant Rolling Blackballs who don't really have anything better to do than roll around (hence the name) and get in your way. These have to be bounced over – or failing that, crashed into. The latter course probably isn't a good idea, though, because it sends you sailing over the side with a surprised look on your face. (Balls have faces, didn't you know?)

Cloud Kingdoms might be a very good game if it wasn't for the control system. To be blunt, it's a bugger. Just as you get used to rolling about the platforms without falling off, along comes a blackball and you have to try to bounce over it without slipping off the other side. Not only that, there are secret trapdoors which open without any warning at all and also send you to your doom. In fact, everything combines to make life hell, and playing the game is just a smidgen too difficult to be fun. Still, the animation and graphics are enjoyable (the rolling blackballs in particular), so you might like it, even if it's just to complete your collection of games with balls in them.

***STF* RATING: 68%**

FOOTBALLER OF THE YEAR 2

Before you run and hide, *FOTY 2* (surely "Footy?") is not just another footy sim – it concentrates more on the management side of things. As a player in a Superleague, you have the chance to spend money on a certain number of "goalcards" each week, which give you the opportunity to score a goal. The more cards you buy, the more chances you get. Certain tactics are displayed before each match, showing how your teammates are going to arrange themselves in front of the goalmouth. It's your job to remember your part of the plan and be in the right place at the right time to boot the ball into the net. Miss and you're in disgrace. There's no game as such, just these short set-pieces before the goal.

● **How to Spot a Sportsman From Quite a Long Way Away: No 1, *Footballer of the Year (2)*. Next month: How to Steal Lines From Classic Comedy Programs Without Being Done for Plagiarism.**

You also have the chance to play double or nothing by answering a trivia question on the history of football. Or if you feel your club is a dead loss, put yourself on the transfer market and try to get moved somewhere else.

FOTY 2 is a weird hybrid of management games. There's actually very little to do, save buy goalcards (what the hell are goalcards anyway?), get involved in what little action there is and watch your statistics do nothing at all. Most of the screens are text displays with the odd menu, but the animation on the "action" bits is adequate, though it wouldn't win any awards. On the whole, the concept just doesn't include enough to do to keep you interested for any length of time. Different doesn't always necessarily mean good.

***STF* RATING: 67%**

KID GLOVES

More Millennium tomfoolery from Gremlin. This time it's a platform game starring the eponymous Kid. There's really very little to mention here that you haven't seen a thousand – nay, a million – times before. It's a flick-screen game that presents you with the usual range of creatures you avoid with well-timed jumps, and the standard collectables – keys, money, food and the like.

You really would have to be desperate to get something like this. It's devoid of any originality, gloss or interest, the graphics are poor and badly animated and there's simply nothing here at all to make you want to play. Not exactly Gremlin's finest hour.

***STF* RATING: 44%**

● ***Kid Gloves* (some parents are really cruel, aren't they?) wonders how he got conned into being in this awful game with awful graphics and an awfully high price for this sort of rubbish. In this case, GBH ought to stand for Go Buy Hanother game instead**

www.stformat.com

MEGALOMANIA™

A GAME OF DESTRUCTION, EVOLUTION AND POWER!

Every new civilisation needs a God to oversee them, and this is your once in a lifetime opportunity to achieve supreme power and immortality.
The arena is a vast glass orb at the top of the universe in which all new planets are conceived and nurtured and it is your task to steer your race through a fierce and bloody evolutionary war, to gain complete control of the planet. The game they play is a curious one, it is a game they call...

MEGALOMANIA™

SCREEN SHOTS FROM AMIGA VERSION

© 1991 SENSIBLE SOFTWARE

IMAGE WORKS, IRWIN HOUSE, 118 SOUTHWARK STREET, LONDON SE1 0SW TELEPHONE: 071 928 1454 FAX: 071 583 3494

www.stformat.com

VIRTUAL WORLDS

Domark £29.99

With the news that *3D Construction Kit* – which generates Freescape landscapes – has made Domark over a million pounds, it's a logical step for them to release most of the Freescape games in one compilation – as a tutorial aid to show all those *3DCK* owners just what it can do, natch, not as an attempt to cash in, heavens no!

The games featured are *Driller, Total Eclipse, Castle Master* and the previously unreleased *The Crypt* (sequel to *Castle Master). Driller* was the first Freescape game and originally appeared on the 8-bits. The planet Evath is about to bust a gut because of the gas building up inside it. It's your job to traverse each of its 18 sectors (when you've figured out how to enter them in the first place) and place a drilling rig to release at least 50% of the gas in every sector. You find the correct place either by trial or error or following the subtle clues littered around, such as the bloody great cross on the ground in some sectors. Rigs can be moved once placed, but that costs plenty of energy, something you're not exactly rolling in. However, you can find energy crystals here and there. As if all that weren't enough there are puzzles to confuse you, enemy defences to shoot at you and a time limit.

Driller really is a very good game. For once the plot is an integral part of the gameplay, the game is fun to play (a mixture of arcade and puzzle genres) and the polygonal 3D Freescape display is well suited to the futuristic and blocky objects you come across.

● In two hours the moon will totally eclipse the sun, triggering the curse of Re, causing the moon to explode and shower the earth with meteorites, plunging civilisation into a dark age of starvation and conflict. Which probably isn't a good thing, on the whole. That's the plot of *Total Eclipse*. What you have to do is to enter a pyramid deep in the heart of Egypt, work your way up to the shrine at its apex and destroy it to stop the curse from taking effect, all within two hours. This involves you in the usual shenanigans: winding your way through the puzzles, locked doors, sliding platforms, red herrings and so on, while keeping an eye on your water level (which equates to energy). *Total Eclipse* is probably the least well done of the four games featured here; the graphics have the obvious Egyptian slant, but aren't really up to conveying the atmosphere in a convincing way. Gameplay is what you've come to expect from a Freescape program: nothing too taxing but occasionally annoying and limited.

● Some things you ought to keep in mind in *Driller:* 1. Beware of the huge pyramids. 2. Beware of the guns that fire at you. 3. Beware of eating too much and getting that embarrassing gas build-up in Lapis Lazuli.

● *Castle Master* is generally reckoned to be the most accomplished of the Freescape collection, in both graphics and gameplay. Simply put, your twin has been imprisoned in one tower of a castle and – well, you can probably guess the rest. Gameplay is much the same as in *Total Eclipse* – plenty of exploring, object collecting and mapping, though this time there are spirits flitting around which sap your energy if you don't kill them off sharpish. Samples are well used, too. Most events of any import are accompanied by the appropriate sound effects, even if some of them are cut off rather abruptly.

● Darned clever mousetrap in the *Crypt,* this. The mouse enters, sits in the comfy chair, settles down to eat the cheese and suddenly spots the putrid colour scheme, at which point it drops dead from fright. Ingenious, no?

● *The Crypt,* unfortunately, is a virtual re-run of *Castle Master,* using the same graphics, the same presentation and almost the same gameplay. You'd think you were playing the same game. It's a bit of a con, really.

Overall the collection is sound, though if you play the games one after another you realise just how similar they all are. Just change the style of the graphics, the plot and perhaps the controls a bit and you've got a new Freescape game. Still, there's a lot to keep you busy if you really want to finish each game. Strangely enough, *Driller,* the oldest title here, comes out best, perhaps because it really does have a plot and a purpose rather than just an excuse to wander around in 3D. And let's face it, they're hardly Virtual Worlds, are they? When was the last time you saw a circular pond with square edges?

***STF* RATING: 78%**

FORMAT RATINGS REVIEWED

How did *FORMAT* rate the games currently in the shops?

MICROPROSE GOLF	page 78	95%
JIMMY WHITE'S WHIRLWIND SNOOKER	page 72	94%
MEGA LO MANIA	page 76	94%
FLIGHT OF THE INTRUDER	page 68	92%
HUNTER	*STF* 26	92%
MIDWINTER 2	*STF* 26	92%
ARMOUR GEDDON	*STF* 26	91%
F-15 STRIKE EAGLE 2	*STF* 26	90%
MAGIC POCKETS	page 82	90%
Games Summer Edition	*STF* 26	88%
Germ Crazy	*STF* 25	88%
Talespin	*STF* 25	82%
California Games	*STF* 25	81%
Switchblade 2	*STF* 26	81%
Impossible Mission 2	*STF* 25	80%
Maupiti Island	*STF* 26	79%
Champion of the Raj	*STF* 25	78%
R-Type 2	*STF* 26	78%
Toki	*STF* 25	78%
Virtual Worlds	page 90	78%
Crime Does Not Pay	*STF* 25	77%
Logical	*STF* 25	76%
RBI2	page 70	76%
Atomino	*STF* 26	74%
Supercars	page 88	74%
The Ball Game	*STF* 26	73%
Fantasy Graphics Disk	*STF* 25	73%
Creepy	*STF* 26	72%
LED Storm	*STF* 25	72%
Life and Death	*STF* 26	72%
Navy SEALS	*STF* 25	72%
Billiards 2 Simulator	*STF* 26	71%
Forgotten Worlds	*STF* 25	71%
Gary Lineker's Hot Shot	*STF* 25	69%
Cloud Kingdoms	page 88	68%
Impossamole	*STF* 26	68%
Prehistorik	*STF* 25	68%
Wreckers	page 81	68%
Footballer of the Year	page 88	67%
Shadow Dancer	*STF* 25	67%
Tom and the Ghost	*STF* 25	67%
Outzone	*STF* 25	66%
Barbarian	*STF* 25	65%
Bionic Commando	*STF* 25	63%
Famous Five on a Treasure Island	*STF* 26	61%
Mercs	*STF* 25	61%
Switch Blade	*STF* 25	58%
Challenge Golf	page 85	52%
Snott	*STF* 26	52%
Street Fighter	*STF* 25	52%
Frenetic	*STF* 26	51%
Kid Gloves	page 88	44%
Sharkey's Moll	*STF* 26	39%

www.stformat.com

WANTED

BRAVE ADVENTURERS

NO PREVIOUS EXPERIENCE NECESSARY

If you've ever pictured yourself as a Brave Adventurer but have been put off by the complexity of Role Playing Adventures this is the game for you.

Shadow Sorcerer has all the excitement and intrigue of AD&D's more complex adventures and also features the following "gamer friendly" innovations:

Shadow Sorcerer

- *100% "point 'n' click" icon control (no laborious typing).*
- *3D isometric play area giving you more control on the playing environment.*
- *Control up to 4 characters in a life or death struggle against evil.*
- *Hexagonal grid map aids strategic planning.*
- *Combat action adventure.*

This new concept in role playing adventures means that in minutes you could be confronting the Shadow Sorcerer, the down side is that within minutes you could also be dead!!

Screen shots from Atari ST version.

Screen shots are only intended to be illustrative of the game play and not the screen graphics which vary considerably between different formats in quality and appearance and are subject to the computers specifications.

U.S. GOLD®

Official Advanced Dungeons & Dragons® Computer Product

DragonLance®

SSI™ TSR™

ADVANCED DUNGEONS AND DRAGONS, AD&D, DRAGONLANCE and the TSR Logo are trademarks owned by TSR, Inc., Lake Geneva, WI, USA and used under license from Strategic Simulations, Inc., Sunnyvale, CA, USA. © 1991 TSR, Inc. © 1991 Strategic Simulations, Inc. All rights reserved.

U.S. Gold Ltd, Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 625 3366.

www.stformat.com

BYTEBACK

FAST DELIVERY SERVICE ....and the keenest prices

Ring us now! **0636-79097** we're programmed to help

THE BEST OF THE PUBLIC DOMAIN!

DISK PRICES

All disks guaranteed virus free!
1 disk.....£1.25
10 disks + file box £9.99
11 and over 99p
Prices are inclusive, nothing to add!

GAMES

BG.01 Monopoly; Classic property game. Plus: Chess, Backgammon, USA Football.
BG.02 Haunted House; Platform game. Plus: Daleks, Aggravation, Warzone..
BG.06 DGDB; Gauntlet style game. Plus: Stone De-luxe, Breakanoid and Fruit Machine Simulator.
BG.14 Invasion; STAC produced text and graphics adventure. Plus: Cluedo style detective game and Paranoia...
BG.17 Spooks; Super Pac-Man version. Plus: Pipe Panic; arcade favourite!
BG.18 Megaroids; Asteroids version. Plus: Line Up 4, Hangman, Explode, Blaster, V-Kill; Virus Killer.
BG.19 Cards; Cribbage, Poker squares, Solitaire, Klondike, Blackjack. Plus: Rubics Cube, Fun Face...
BG.20 Dungeon Master; Maps of levels showing doors, treasure etc. Plus 40+ pages of information, hints, tips...
BG.24 Give us a break; version of the pub snooker/trivia game.
BG.27 Strip Breakout; Knockout bricks to reveal a naughty picture...
BG.34 Assassin; Excellent graphic adventure written with STAC.
BG.43 Wizards Tower; Superb text and graphics adventure written with STAC.
BG.44 Zoltar II; Super shoot-em-up game with digitised sounds!
BG.45 Orbit II; Superior Arkanoid copy, compiled STOS game!
BG.47 Vegas Gambler; Professional Casino style games: Roulette, Poker, Blackjack and Slot Machine!
BG.55 Froggy; Classic road crossing game. Plus: Caves of Rigel; maze game.
BG.56 Cribbage, Checkers, Yahtzee, Target and Joust, Arcade classic!
BG.57 Dungeon Master - NEW Dungeon created using Dungeon Master Editor! Original Dungeon master required!
BG.58 Soko; Original addictive 50 level puzzle game. ST Format ****
BG.59 Bubble Trouble; Smooth Pacman variation. Jumpster; Q-Bert style...
BG.62 Millipede; very good version of the old arcade classic.
BG.64 STumped; STOS produced tactical cricket game. STOS not needed to run!
BG.65 Joust; Arcade game version. Space War; space strategy game.
BG.66 Mystic Well; Dungeon Master style role play adventuring game.
BG.67 Temon; Shoot-em-up construction kit produced arcade game.
BG.68 Die Alien Blob; SEUCK produced vertical scrolling action game.
BG.70 Hac-Man; Very professional Pac-Man version. Plus: Hero; Gauntlet style game.
MG.01 Bolo; Arkanoid variation, bat can move all over screen! (col/mon).
MG.04 Bumper Jack; STOS produced platform game. Plus Yatzy; dice game.
MG.05 Mars Maze; another excellent STOS produced platform game.
MG.08 Star Trek - Next Generation; Battle the Ferengi in this strategy game, digitised samples! (Not STE)

UTILITIES

BU.01 Neochrome MASTER; Will now load Degas and IFF format! Animation fully implemented, total keyboard control, object rotation, 10 screens, rasters.
BU.07 STWriter ELITE; high quality word processor. Fully documented!
BU.29 Label printing accessories; address, disk and cassette labels.
BU.34 B-Boot; Enables booting from drive B, address book, database etc.
BU.36 Assistant Chef; excellent recipe database for the cooks...
BU.37 Pools; expert results predictor, includes large match database!
BU.39 Fractal Zoom; comprehensive fractal generation program.
BU.42 GEM fonts; 60+ fonts for hi-res screen and Epson printers.
BU.44 .IMG utilities; convert Degas, Neo, Tiny etc. to .IMG format!
BU.45 Planetarium; Astronomy, view the stars from anywhere in the world.
BU.46 Mouse Pointer; design your own pointer! 50 shapes included! etc...
BU47 Eplan; CAD program for design of electrical circuits, documentation on disk. Print out finished circuits!
BU.48 Home Accounts; up to 3 different statements; 100 entries per statement.
BU.49 Typing Tutor; excellent English typing tutor. Includes exercises on home keys, numbers, capitals, etc..
BU.50 GEM Font Master; super font editing program, use 3 resolutions!
BU.53 Opus spreadsheet + charting program - quality shareware! (D/S)
BU.54 Amateur Radio Utilities; Morse tutor, Grayline calculator, etc.
BU.56 Your second manual to the Atari ST, invaluable reference book...
BU.57 ANI-ST (formerly Aegis Animator costing £79.90!) + GFA Raytrace demo!
BU.58 FSelect; alternative file selector, Desk Manager; Choose auto programs & accessories etc..
BU.59 ZX81 Emulator; including 38 program files! Uses the original keyword entry system. Brilliant!
BU.60 BBC Emulator, + Apple Emulator, accessories; CPanel & Disk Cache. Disk Toolbox; useful disk utilities!
BU.61 ZX81 Programs; 100+ files to use with ZX81 emulator (BU.59), 3D Defender, Pacman, Chess...
BU.64 Fractal Landscape Explorer, Mandelbrot show, Spirograph...
BU.67 Cardfile; Simple name and address database with search facility.
BU.68 Magniwriter; ST Writer version with larger text! Ideal for use on TV, for children or poor eyesight!
BU.72 STE Boot disk; enables STE to boot up in medium resolution! etc...
BU.73 Noisetracker; Conversion of the Amiga PD music program; Soundtracker! Complete with sampled sound modules.
BU.74 Electronic Bank Statement; keep your bank account under control!
MU.05 Sheet v2.0; powerful spreadsheet with documentation and tutorial, Lotus compatible, 1280 rows x 280 columns!
MU.07 Gemini; superb NeoDesk style desktop replacement! German origin.
MU.12 Hard disk utilities; invaluable aid to hard disk users...
MU.13 F-Copy 3; Superb copier, will even backup some copy protected disks! Features: Fast Format, Virus Check, Scan Disk, Multiple copy, Verify...

EDUCATIONAL

BE.01 Things to do with numbers; full working demo! Plus: Kid Publisher...
BE.02 Kidprogs; Kids Graph, Kids Grid, Kids Music, Kids Piano, Kids Notes...
BE.03 Kidprogs; Kid Potato, Kids ABC, Kid Sketch, Kid Story...
BE.05 Colourbook; Fun for the younger child, an on screen colouring book!
BE.07 Word Extract, word puzzle help. Plus: Starchart; astronomy program.
BE.08 Geography Quiz; good educational game, plus Maths Made Easy.
BE.09 Spelling Made Easy, educational program that talks to you!
BE.10 Jigsaw; load any Degas picture as jigsaw puzzle! Great fun!
BE.11 KShapes and KShapes Plus; great Fuzzy Felt style fun for youngsters!
BE.12 Shipwreck; Answer sums in this fun game! + Guillotine Man; Hangman.
BE.13 The Wolf and 7 kids; superb multi-choice adventure game for the little ones. Race Cards; give answers to addition sums to race cars. Great!
BE.14 Noah's Ark; unscramble letters to make names of animals.
ME.02 EZGrade; teachers grading prog. Molgraph demo; 3D molecular display. Easel ST demo; loads desktop picture.
ME.04 Search; good historical study program created with STAC.
BE.15 Body Shop; Learn about Human Anatomy, build skeleton and assemble organs while learning correct names.
Dot to Dot; join the dots to discover the hidden picture! Also, design your own dot to dot picture. Both programs are great fun for young children!
ME.05 Play Spell; 2 levels from this great educational platform game. B.Spell; spelling game with digitised letter sounds & speech!
ME.06 Kid Publisher Professional! Desktop publishing for youngsters! Plus; Super Kidgrid; picture maker. Kid Painter; simple paint program. Design jigsaw type puzzles with ease! (Demos; save/print options disabled!)

CLIP ART

DC.01 Small symbols; seasonal, flags, school, cars, Disney, creatures...
DC.02 Titles, headings, Christmas, Easter, Hallowe'en, golf, sports...
BC.03 Logos, Trade marks, symbols, people, food, magazine titles...
DC.04 Alphabets, Christmas symbols, lots of eyes, happy, sad, weird...
DC.08 Garfield, Beano, Dandy pictures. Picswitch enables easy view & print!
DC.09 Viz Magazine; comic pictures, plus culinary; utensils, food...
MC.01 Boys and Girls; Pictures of small children at play.
MC.04 Illuminated Letters; Fancy A to Z. Plus; Funny pictures...

MUSIC

SO.01 Midi Special; Steinberg switch, 32 track sequencer, midi channel scope, hi-tech trivia.
SO.02 Composer; enter notes from midi keyboards or computer, copy, transpose or output. Plus: Soundcomputer.
SO.03 16 Voice Synthesiser; multi voice record, filter of controllers, variable resolution metronome...
SO.05 Alchimie Jr.; powerful midi sequencer, many features! (mono) (D/S).

HELP

DA.01 66 Adventure game solutions! Including: Future Wars, Bards Tale, Indian Jones, Zork 1, 2 and 3...
DA.02 62 Adventure game solutions! Including: Leather Goddesses, Kult, Ultimas 1 to 5, Space Quests...

DEMOS

BD.26 Snowman; digitised animation and music. 1/2Mb version! (D/S)
BD.33 STE demo; See what your STE is capable of and be amazed!
BD.34 What the Butler Saw; end of the pier style fun. Slightly naughty!
BD.38 ANI ST; 2 excellent animations produced with ANI ST (see: BU.57) Juggling Lamps and the Trash Can demo.
BD.39 Teenage Mutant Hero Turtles: Excellent sample of the Turtles theme tune plus picture. Great one for kids!
BD.40 Smooth Cyber Studio produced animation featuring a space station revolving on a starry background!
BD.41 Monarch; Impressive animation with excellent graphics and music.
MD.15 Snowman; digitised animation and music. Brilliant! (Mb)
MD.21 The Brilliant UNION multi demo colour monitor & joystick required!
MD.22 UNION Demo 2; The cuddly demo! Lots of amazing animations accessed by moving an arcade style jetman!
MD.28 Whataheck; demo collection by the Carebears again. Stunning!!
MD.30 Cyber demos; Buzy Bee, Saturday Morning Workout, Chasers, - superb animated films from Cyber Studio.
MD.32 STE Demos; 400 colour version of the Amiga classic BOING demo.
Movie ST; Animation using hardware scrolling & blitter routines!
MD.35 Aliens; digitised sound and pictures from this Sci-Fi classic!
MD.38 Probe; Animation of a Voyager style space probe slowly spinning in space then moving around a planet.
MD.41 Robocop; Digitised samples of some of the more memorable sections of the film plus digitised sound! Approximately 7 minutes long and comes on 2 packed disks! (not STE).
MD.42 When Harry Met Sally; The very amusing bit from the film where Sally demonstrates to Harry how to fake...
MD.43 Star Trek; Good sample of the opening sequence from the TV series plus a superb Enterprise animation...
MD.47 Police Squad; sampled opening sequence of this great series! (Mb)
MD.48 Jungle demo; graphically super amusing cartoon style animation with sampled music and sound effects! (STE)
MD.50 So Watt; Care Bears do it again. Great sounds and mega smooth graphics.
MD.51 Dark Side of the Spoon; superb collection of stunning demos!
MD.52 Robomix Demo; digitised scenes from the film with sampled speech, sound effects and soundtrack!
MD.53 Chad Jackson; hear the drummer get wicked; Stos Maestro, Neochrome used on this sampled sound demo!

To order any of the above disks simply quote the required disk numbers.
Catalogue Disk.....99p
(**FREE:** First Word - Word Processor!)

TOP QUALITY DISKS - SENT BY RETURN OF POST!

BYTEBACK

DEPT ST, 6 MUMBY CLOSE, NEWARK, NOTTS, NG24 1JE

Cheque, postal orders or credit card facilities are available

Access VISA

www.stformat.com

NOW – from the makers of ST FORMAT

MOUNTAIN BIKING UK

the magazine that does for mountain biking what Format does for the ST

Every issue contains:

- **Bike tests – Britain's definitive reviews**
- **The latest equipment**
- **Racing news – big competitions at home and abroad**
- **Touring – what you need, where to go, how to get there**
- **Riding techniques**
- **Maintaining your machine**

And a whole load more!

PLUS – IN THE CURRENT ISSUE

WIN a Ridgeback 700 SE and other goodies in our £1,000+ Competition!

Featuring some of the top names in the industry

PAUL HINTON – *Raleigh team pro and the mountain bike journo of the year*

STEVE WORLAND – *one of the dudes from Pace Research, the hottest UK bike manufacturer.*

BRANT RICHARDS – *MTB tech expert – all you need to know about how a mountain bike works (what do you mean it's just a bike?)*

BRIAN HEMSWORTH – *the man who knows everything there is to know about riding an emteebee (you don't just get on and pedal!)*

AND Check out our amazing subscription offer – six quid's worth of free lube! (to use on your MTB, not your ST)

MOUNTAIN BIKING UK
Britain's best selling monthly bike mag!
At your newsagent
NOW!

www.stformat.com

DATAPLEX COMPUTERS LTD.

dataplex

129 Bath Road, Slough, Berkshire, SL1 3UW
Tel: 0753 535557

19 High Street Swindon, Wilts
Tel: 0793 488448

SHOWROOM open: Mon - Fri 9.30 - 5.30 Saturday 9.30 - 4.30
MAILORDER Consumables £1.50 Hardware £8.00 Prices excluding VAT

HARDWARE

Atari 520 STE Extra Pack £265
which includes free box of disks and mouse mat.
Atari 1040 STE Family Curriculum £315
and free box of disks and mouse mat.

MONITORS

Philips CM8833 Mark II high colour monitor + leads £189
SC 1224 (Atari Colour) £235
SM 124 (Atari Mono) £119

RAM UPGRADES

STE 0.5 Mb £39.00
STE 1 Mb £42.00

DISK DRIVES

1 Meg 3.5" Internal £49.00
1 Meg 3.5" External £60.00
1 Meg 5.25" External £9.00

ACCESSORIES

Mouse Mat £3.00
Unbranded 3.5" disks, box of 10 ..... £8.00
ST Printer Lead £5.00
Atari Mouse £19.00
Naksha Mouse + Software £24.00
Keyboard Dust Cover £5.00

PRINTERS

Star LC20 Mono £125
Star LC200 Colour £169
Star LC24-10 ..... £160
Star LC24-200 (24 pin mono) £205
Star LC24-200 (24 pin) £219
Star LC200 Colour (24 pin) £245
Citizen 120D+ £120
Citizen 124D £170
Citizen Swift 24 ..... £249
Colour upgrade for Citizen Swift 24 ..... £39
Panasonic KXP1124i (24 pin) £214
Panasonic KXP1624 (136 col) £329
Epson LX400 ..... £125
Epson LQ400 ..... £179
Canon BJ10e £195
HP DeskJet 500 ..... £329
All above come complete with leads.

LASER PRINTERS

Hewlett Packard IIIP £699
HP III £1089

PRINTERS/MONITORS/ACCESSORIES

Tilt/Swivel Monitor Stand £13
Star LC10 Sheet Feeder £58
Star LC2010 Sheet Feeder £58
Citizen 120D Sheet Feeder £68
Copy Holder Anglepoise £17

HARD DRIVES

20Mb Ext £235
30Mb Ext £275
40Mb Ext £289
40Mb Ext (64K Cache) £340
60Mb Ext £355
80Mb Ext £309
80Mb with Cache £480
160Mb with Cache £799

TAPE STREAMERS

T60 60MB £495
T150 150Mb £675
Data Cartridges 60Mb £29
150Mb £39

DELTRONICS' Fantasy Graphics Disk

NOW STOS COMPATIBLE!

★ WITH SCREEN SAVER ★

Over 4 megabytes of graphics featuring various Monsters, Backgrounds, Objects, Artifacts, Weapons and Armour. You can even construct a 3D Dungeon.

Here's what they said about it:
"I'm very impressed with the quality of the graphics" - Zero Magazine
"A disk crammed with fantasy graphics" - ST User
"Each graphic lovingly created" - ST Action
"Every scenario catered for" - New Computer Express
★ 73% ST Format rating

ONLY £9.99 (For C. O. D. add £2)
Also available TALESPIN ADVENTURE CREATION SYSTEM
ONLY £14.99 (Overseas mail add £1)

Mail order direct to:

DELTRONICS

(Dept. Format) 72 Leigham Vale, Streatham, London. SW16 2JG. Tel: 081-769 9568 (Enquiries)

The Midnight Oil

Whew! What a summer. No, obviously not the weather, but for British football. On June 9th, I cheered myself hoarse at Wembley as the Monarchs took the first World Bowl. A few weeks earlier, Man. Utd. proved the "experts" all wrong about the quality of British soccer, when they easily beat Barcelona in the European Cup Winners Cup Final. United played 9 European matches without a single defeat. And now, a new NFL season, and Arsenal, Spurs, Liverpool and United back in Europe. Football's back!!!!

It's been a busy summer for game design too. In 1983 I wrote my first game "League Division One" for the BBC Micro. Subsequently "Mexico '86", "Soccer Supremo" and "Rome '90" appeared. But it was "Division One '85" that really hit the button for most fans. It was the game, unlike any other computer soccer game I know, which took soccer seriously. So, this summer, it had to be "Div One '92" for the Amiga and ST computers. It's six times the size of "85" and I believe it will have the same impact. Call me if you want to chat about it.

Malcolm Howard

DIVISION ONE '92

"HUGELY ENJOYABLE, BUT DANGEROUSLY ADDICTIVE."
Dr. Trevor Harley, psychologist

Soccer management is about judgement. Judgement of a player's skills and the combination of skills that make up an effective team. Judgement of an opposition's skills and the tactics that will ensure that your team's skills overcome those of the opposition. This season's league champions will be managed by the guy whose judgement proves correct more often than that of his fellow managers.

"Division One '92" will give you the opportunity to pit your judgement against the computer simulated managers and teams of the English first division. As new manager you must, initially, make the best of the squad of players that your predecessor has left. But, through the youth squad, the reserve squad, and the transfer market, you have the opportunity to assemble a squad that plays your type of football. Success through the seasons will be your responsibility. The first division, the FA Cup, the League Cup and the three European titles are there for the taking.....for the right manager.

HEADCOACH v3

"IT'S A PITY TO CALL THIS JUST A GAME"
A & B Computing

The new NFL season is looking fascinating. The Bills, the Bears, the Raiders and the Chiefs all looked good last season, and with the 49'ers returning to earth, and the Giants likely to be affected by Bill Parcells joining Bill Walsh in the commentary box, the SuperBowl could go to one of many teams. And who will be the top coach this season?

"HeadCoach V3" has been designed for lesser mortals, like you and me, to pit their wits and knowledge of American Football against the giants (sorry about that) of the game. Through the seasons you will need to build a 45 man squad to allow a gameplan design that will overcome any team in the NFL. SuperBowl glory can be yours, then you can join the Bills (sorry again) or go on to build yet another squad, and take yet another SuperBowl. The team and coach of the nineties haven't yet been decided. Time to stake your claim?

Access VISA MasterCard

Tel. Sales 0438 721936

	HC	D1'92
Amiga	☐ £19.95	☐ £19.95
ST	☐ £19.95	☐ £19.95

Direct Sales
The Midnight Oil,
Dept STF
18 Hazelmere Road
Stevenage SG2 8RX

www.stformat.com

GAMEBUSTERS

"Never in the field of human vegetables has so much been sold –" What? That isn't the cheat code to level 12 of *{Insert Game Name Here}*? I've got to do it the hard way? Lucky *FORMAT's* featuring three complete solutions this issue!

WONDERLAND

The extremely wonderful Thushan Kumaraswamy of Cheshire (is that an anagram of something?) is this month's dosh winner. He's sent in a complete solution to *Wonderland*. As Thushan points out, although there is a built-in help facility it's by no means comprehensive, and anyway you lose points for it. So here we go with Alice's Guide to *Wonderland* in 89 Easy Steps...

1. E, get pears.
2. Wait (for the rabbit to appear).
3. Follow rabbit W, SW, W, W, S, S, S.
4. Get jar (as you fall down the hole).
5. Get off leaves and search them, get number 10 key.
6. W, open musical door, NW.
7. Get key in C, get sheet music (when one of the chairs is beside the piano).
8. SE, E, unlock door with key in C, open door, S.
9. Get card, shoe, overall and coat hanger.

● **Step one: Always Take the Pear that Turns Into a Lantern. There's a particularly poignant story associated with that, but unfortunately we don't have the space to go into it here. Suffice to say you'd be shocked and dismayed if the full truth were ever revealed.**

ST FORMAT £25 PRIZE WINNER

10. N, E, SE, get potion bottle, open curtain, look under table.
11. Get glass box, go to the music room, open piano.
12. Get on chair, open potion bottle, drink potion, get on piano.
13. Get key in G, get off piano, get off chair, go to long hall.
14. Wait (for the rabbit to appear), get blue fan and blue gloves.
15. Open fan, wave it, wear overall.
16. Wait (until rabbit appears again. He gives you a door key and opens the E exit).
17. E, get stick insect (don't worry if you fail), get stick.
18. N, W, get gardening gloves, E, S, S, get saucer and left pouch.
19. NW, E, SW.
20. S, S, W, W (you should see a puppy).
21. Throw stick (the puppy goes for the stick and brings back a silver key, but you can't get it yet).
22. Go to by the palace gates, E, open gate, N.
23. Untie washing line and get it, unlock front door with front door key.
24. Open front door, N, N, get egg, open back door, open cupboard, get cup, N, E, put hanger in vice, straighten hanger, open vice, go to the hall.
25. E, W, U, open clock, get card.
26. Put sheet music under bedroom door, put hanger in keyhole, pull sheet music, get sheet music and key.
27. Unlock bedroom door with bedroom key, open door, N, open chest of drawers, get pink gloves, get pink fan, get quartz bottle.
28. Go to in the woods, SE, SE, NE, SE, SE, S, N, NE, NW, SW, NW, NW, NE, get gardening fork, NE.
29. Examine washing line and get peg, N, open front door.

● **Caterpillars: you can't live with them and you can't live without them. Oh hang on, yes you can. Well, you can't live with them, certainly. I mean, you'd keep treading on them all the time and the carpet would end up a complete mess. Yuck!**

30. E, get gazettes, get card, get glasses case, E, W, U, E.
31. Look under bed, get slippers, remove shoes, wear slippers, W, S.
32. Wear gardening gloves, put peg on nose, E. (This is a good time to save the game.)
33. Pull rope, W, get carving knife. Do the next three commands in one line for safety: open cooling cupboard, get jug, close cupboard. Get glass key, E.
34. Pull rope, go to the dining room, unlock glass cabinet with glass key, open glass cabinet, get pass.
35. Go to outside a kitchen, SW, NW, W, SW, SW, SW, get card, W.
36. Don't bother with the puppy or the silver key.
37. E, NE, E, open hatch, U, get tub, open door.
38. E, get tea chest, S, SE, NW.
39. Drop fork, gazettes, egg, jar, potion bottle, fold napkin, get napkin.
40. E, get sack, W, open front door, S, W.
41. Go to the palace gates, N, N, put saucer in mist.
42. Go to the giant mushroom, give sherbet to caterpillar (and take note of the response).
43. Go to the horse chestnut tree, pour cream into saucer.
44. Go to the palace, N, show pass to guard, give pink gloves and pink fan to rabbit (when he appears).
45. W, get coat of arms and hook, drop coat of arms.
46. Open left door and right door, S, N, W, N, W.

www.stformat.com

47. Ask chef about paper, get steak, give sugar to chef.
48. Open tub, give tub to chef, give napkin to chef.
49. SW, unlock cellar door with cellar key, NE, E, S, S, turn handle clockwise.
50. Go to the wiggly-waggly path (beside the treacle well), attach winch handle to winch, get rope, tie rope to cup, drop rope, turn winch handle clockwise, turn winch handle anti-clockwise, get cup, untie cup, drop rope.
51. Go to the palace kitchens, give treacle to chef.
52. Go to the river (where the puppy is, *but* go through the woods, not through the river), give steak to puppy, get silver key.
53. Go to the old tree, unlock silver door with silver key, open silver door.
54. Go to the walnut tree, U, open tree house door, W, tie washing line to tree-limb, D.
55. Wear blue gloves, open sack, get hedgehog, put hedgehog in sack, close sack, put hook in hole, open trap door, drop washing line.
56. D, N, get green bottle, get wedge, open cellar door.
57. N, U, give green bottle to chef.
58. Go to the eastern hall, U, E, open cabinet, get large lens, get nail varnish remover bottle, W, W, get card.
59. Open queen-side drawer, get wooden key, E, U.
60. Drop tea chest, stand on it, open

● By Step 35 you're wading about in rivers. At this point, incidentally, you could try typing in "Get Hieroglyphic Accommodation with Bejewelled Manoeuvring" – it doesn't actually do anything but it's a useful spelling exercise and helps take your mind off the fact that all this wading is getting your feet rather distressingly wet.

glasses case, get card, put small lens (from glasses case) into small end (of telescope), put large lens in large end.
61. Point telescope SE, look through telescope, close left or right eye (depending on which eye is looking through the telescope, okay?), look through telescope. You should see a card in the tree house.
62. Go to the walnut tree (the tree house), U, put arm in hole.
63. Go to the giant mushroom, cut right side of mushroom with knife (do this twice), go to the mad tea party.
64. Stand on table, eat chunk, get on teapot, eat chunk, get in teapot, say hello to dormouse, get card, get out of teapot, get off teapot, wait (until you're normal size), get off table.
65. Go to giant mushroom, cut left side of mushroom with knife.
66. Go to throne room, stand on queen's throne, eat chunk, pull bell pull, S.
67. Get card, get red key, S, N, N, E, open guard door, E.
68. Unlock locker 10 with number 10 key, open locker 10, get number 3 key, unlock locker 3 with number 3 key, open locker 3, get number 7 key, get card, unlock locker 7 with number 7 key, open locker 7, get boots.
69. Work your way back to the walnut tree, in the walled garden, by hand

● One of my many vices. The others are wasting caption space with terrible jokes and explanations of my other vices. Which brings me to my vices...

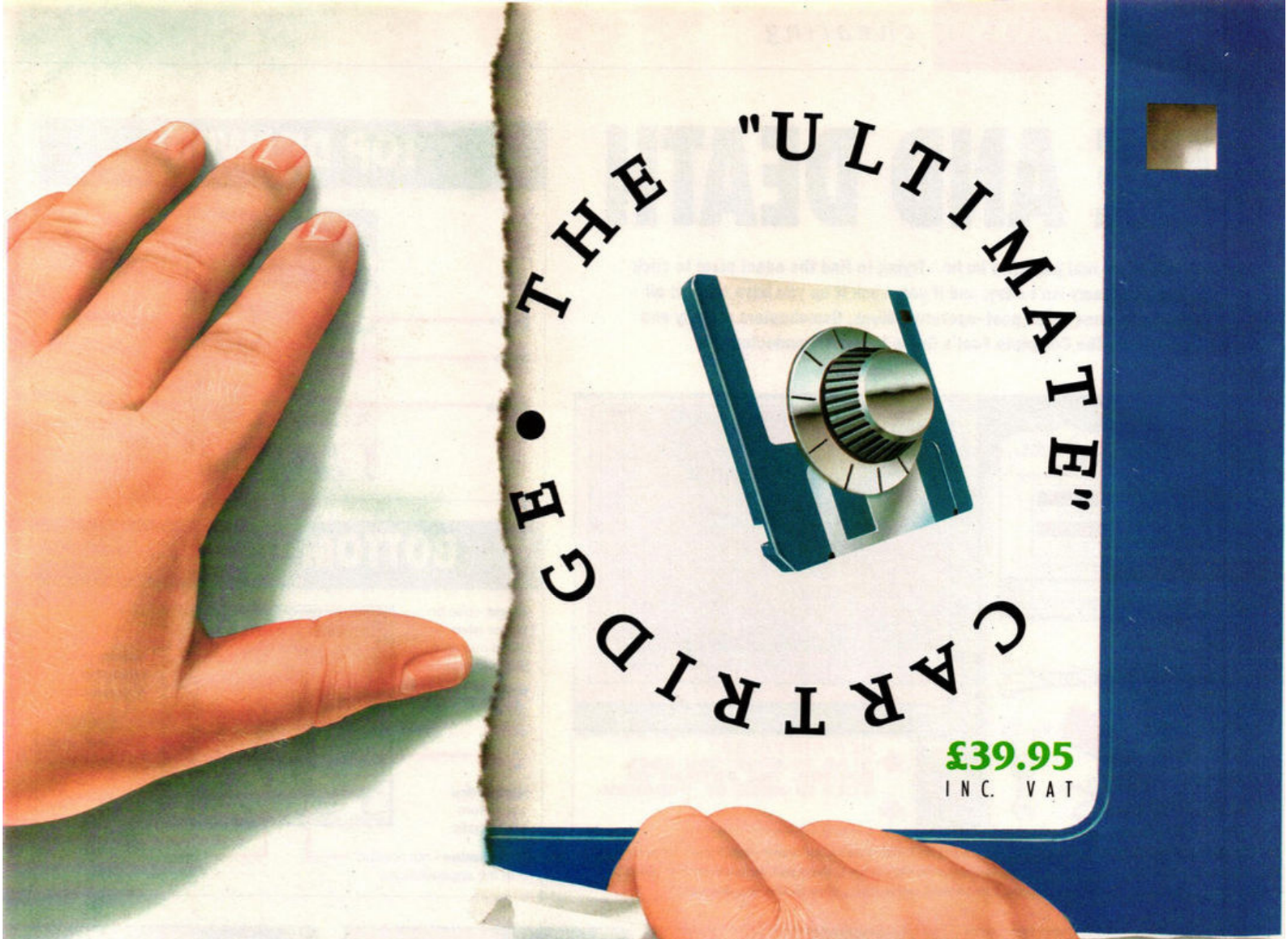
using the secret passage through the Palace kitchens and the cellar. This smuggles the boots out of the cellar past any guards. Drop boots (at the walnut tree), go to giant mushroom, cut right side of mushroom with knife.
70. Go to the path (where the red brick is), lever red brick with knife, try to get card (you should fail), go to the walled garden (the centre of it, down from the limb), get card, go to walnut tree (where the boots are), get boots.
71. Go to the long hall, unlock the tiny door with key in G, open tiny door, eat chunk, W, SW, dip brush in paint (when you have got bigger).
72. Remove slippers, wear boots, W, W, N, get card.
73. N, unlock hedge door with wooden key, open hedge door.
74. Drop boots, go to palace kitchens, give flour to chef.
75. Get crystal key (repeat this command until you catch the key), E, unlock crystal chest with crystal key, open chest, get invitation.
76. Go to the breakfast room, get egg.
77. Go to rabbit's bedroom, open nail varnish remover bottle, dip brush in nail varnish remover.
78. Dip brush in white fluid, paint egg.
79. Go to elm tree, open quartz bottle, drink potion, put egg in mouth, wait, drop breakfast egg into nest, wait. Repeat nine times.
80. Open glass box, eat cake, get flamingo, wait. Repeat three times.
81. Make your way south of the duck pond, avoiding the pond itself, and keep trying to go SW until the guard lets you on the Croquet Green.
82. (When you get onto the Croquet Green) open sack, get hedgehog, drop hedgehog, hit hedgehog with flamingo, SE, hit hedgehog with flamingo, get card. (Repeat hitting the hedgehog with the flamingo until the end of the game. This surreal little exercise means you eventually get back to the south of the duck pond.)
83. Go to the eastern hall, close guard hall, lock guard door with red key.
84. Go to breakfast room, get fork, go to back garden (in the rabbit's house), search compost with fork, get card. (This should give you the full suit of diamonds! The order, which is important

● Dormouse: small rodent found mainly in books by Lewis Carroll and fairy tales of all descriptions. Cunning PR work (by credulous animators such as one Walt Disney) has resulted in deceptive image of innocent cuteness. Lives on a diet of – erm, crawling things and the like. Commonly thought responsible for the death of Jimmy Hoffa and is known to be hiding Lord Lucan.

later on, is: 6, 2, J, Q, 4, 3, 10, K, 7, 9, 5, A, 8.)
85. Go to the palace driveway, open tailor's door, E, give tailor the suit.
86. Get chef's overalls, go to palace kitchens.
87. Unlock pantry door with pantry key, open door, NW, get tarts. (You get captured at this point but don't worry. Note the order of the diamonds on the list as he reads out the Roster. It should be the same as the order in which you collected the cards.) Wait.
88. When asked for a card, make sure you give the name of a diamond that is higher in the order than the one who is accusing you. For example, if a four of diamonds is accusing you, you type "say six of diamonds." Repeat this for all the accusers you face.)
89. And, um, that's about it. You've completed the dream. No problem at all, now was it?

● The Invisible Man entertains his old friend and colleague Count Dracula (who of course cannot be photographed).

www.stformat.com



www.stformat.com

TOP SECRET

Introducing "The Ultimate", the last word in Atari ST Cartridges. "The Ultimate" can take control of your Atari ST, whatever program it is running, and let you look around inside it. Whether you're a programmer, games player, or just curious about your Atari ST, The Ultimate gives you the power that you need!

● Control your Atari ST whatever it is doing ● Read memory ● Search memory ● Print memory ● Disassemble ● Disassemble to disk ● Edit memory ● Search for graphics ● Search for sprites ● Edit screen configurations ● Set up colour palettes ● Alter plane configurations ● Load and save screen displays ● Run external TOS programs ● Load TOS programs ● Load & save graphic screens ● Low level disk editor ● Disk analyser ● Examine formats ● Format analyser ● File editor ● Directory editor ● Formatter ● Break & restart function ● Search for infinite lives ● Look for music ● Play music ● Load & save music ● Search for soundtracker music ● Search for sound samples ● Many more features

Only Available from

Telephone 0234 843388 Fax 0234 840234

POWER COMPUTING LTD, Unit 8, Railton Road, Woburn Road Ind. Estate, Kempston, MK42 7PN.

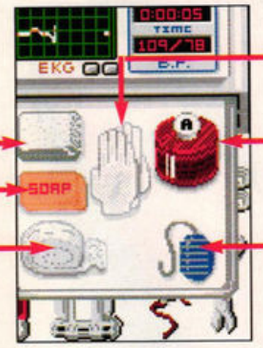
The Cartridge the ST has been waiting for.

www.stformat.com

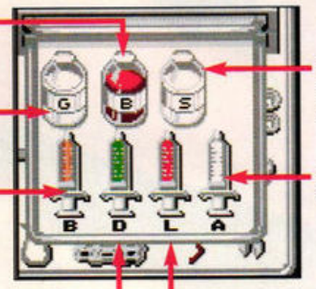
LIFE AND DEATH

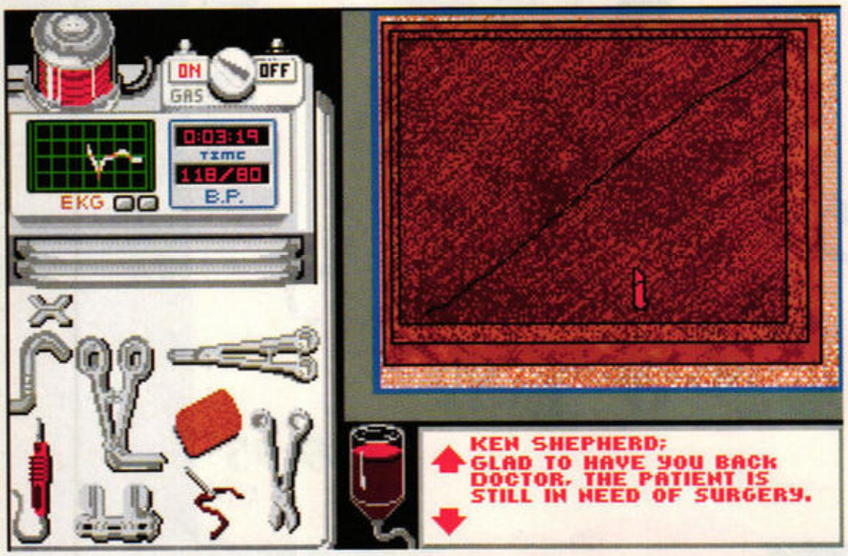
Life & Death. **It's a real pain! (Ho ho ho.) Trying to find the exact pixel to click on in an appendectomy isn't easy, and if you muck it up you have to start all over again. So to ease those post-operative blues, Gamebusters proudly and blatantly presents The Complete Fool's Guide to the Appendectomy!**

TOP DRAWER

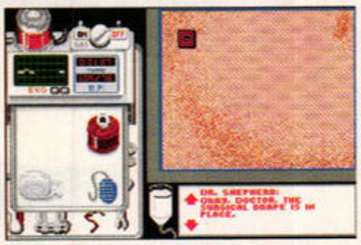


BOTTOM DRAWER

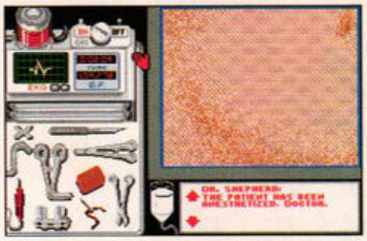




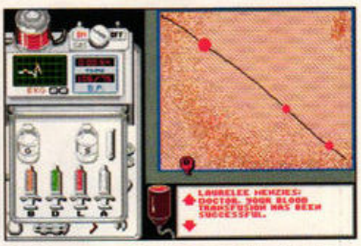
1. First things... er, first. Cleanliness is next to Editorliness, so wash your hands with the soap in the top drawer (see the panel to the right on this page), then put on your rubber gloves. Next, completely cover the exposed area with antiseptic, also in the top drawer.



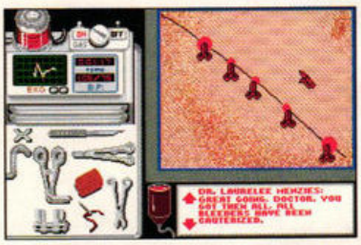
2. Good so far. The patient is shy, so drape the rest of his body. Try to leave as large a space as possible to work in, so click on the top left corner with the drape. This means only a thin line of drape shows around the area.



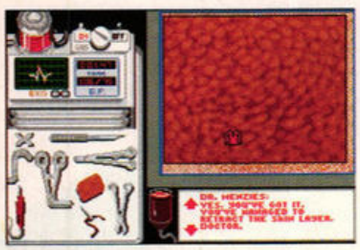
3. Before you put the patient under, say goodbye. No! Er – give him some antibiotics. These are in the bottom drawer, in the syringe marked B (obviously for "Biotics, anti, syringe full of, one"). Then turn on the anaesthetic.



4. Now comes the fun part. The first incision must be made from the top left of the area to the bottom right – using the scalpel, naturally. Beware! As soon as you start cutting, you get a message from one of the other surgeons warning you that the patient's blood pressure is dropping. *Don't stop cutting...*

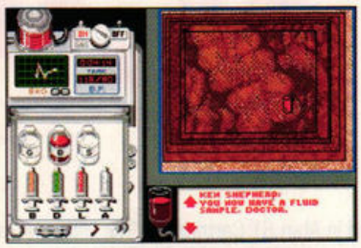


5. ...until you reach the bottom right, then immediately put the blood bottle on the IV line. If you stop halfway through cutting to put the blood on and come back later you fail the operation. The incision will bleed! Clamp each of the bleeders off and cauterize them, until you get told that they're all done.



6. Right, remove all the clamps. Don't bother about swabbing the blood – it's not necessary. Get out yer retractors and pull that skin back – just click anywhere on the area with them. Now repeat this procedure for the next two layers – the second doesn't bleed because it's muscle. Be sure not to incise anywhere outside the currently-exposed layer, or you fail.

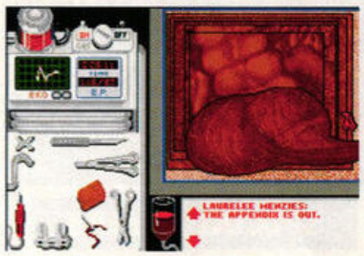
7. The next layer is the transverse muscle layer and should be incised the opposite way – from upper right to lower left. Retract this layer and you're through to the peritoneum. This should be incised differently. Make a small nick with the scalpel at the top left by clicking twice. A hole appeasr. Now use the scissors to cut from top left to bottom right, and retract the layer.



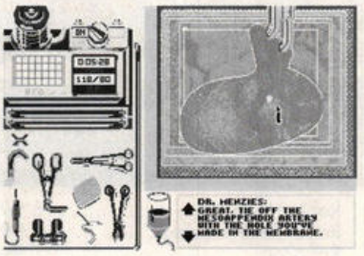
8. The coloured dots are meant to be peritoneal fluid. Take a sample using the test tube from the bottom drawer (far right). Click with it on the fluid, which now needs to be removed with the suction tool – again just click on it.

9. Now we're getting there. Click on the intestines and the cecum (caecum, if Americans could spell; Secombe if it presented *Highway)* pops out. To stop it flopping back in you need to pack it with gauze, which as you recall is in the top drawer – pick it up and click with it on the cecum.

www.stformat.com

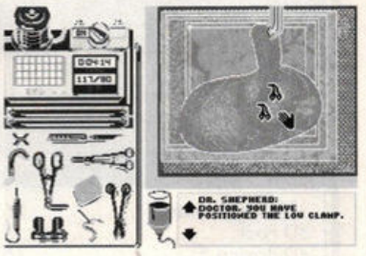


10. Click two more times on the cecum and the appendix should be exposed. Pick up the clamps and click precisely where the arrow indicates.



11. This is the first really tricky part. You need to sever the mesoappendix membrane. Pick up the scalpel and click with it *exactly* where the hole is on the screenshot – a few pixels out either way and you kill the patient immediately. (Now you know why they say surgeons need steady hands!)

12. Now close the incision by picking up the suture (needle and thread to you, madam) and clicking it directly on the hole. Only one is needed.

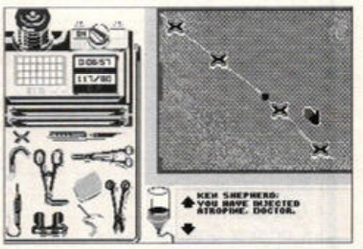


13. The artery must be removed. Pick up the scalpel and click *once* with it precisely where it is on the screenshot. You'll know if you get it right. Before you remove the appendix it has to be clamped in two places. Take a clamp and click with it about half way up the appendix – see the screenshot. If you're told this is the high clamp, take another and click with it slightly below the first.

14. Now comes another difficult part. You must click with the scalpel *exactly* on the point indicated on the screenshot – again, once is enough. This is a crucial point, very easy to get wrong. Get it right and the appendix disappears and you're over the worst part. Click empty-handed on the cecum to invert it and expose it for suturing. Take the suture and click once on the round stump.

15. Click on the cecum to put it back in, and use the right mouse button with the retractors to close up the peritoneum. Then use the sutures to sew up the incisions. Try to place them as closely as possible on the incision, spaced as in the screenshot. If you do put one a little out of line, it's best to leave it rather than trying to cut it with the scissors. One out of line can't hurt!

16. Repeat the closing/suturing procedure until you get back to the skin layer. Here you need to use skin clips – about four should do. The only thing left to do is mumble a quick prayer and turn off the anaesthetic. If everything's well you get a message from the other doctors and the head chappie appears with this message. Great!



Now all you have to do is master the aneurysm graft...
Remember, throughout all of this you need to be prepared for the patient to develop bradycardia or PVC heart rhythm and use the appropriate drug (as indicated by the labels on the screenshot) and remember to do it quickly!

KING'S QUEST 4

Paul Borgerson of Southport has sent in solutions to many, many adventure games. We've chosen *King's Quest 4*, since this was the most recent and we've covered a lot of the others in past issues.

First let me say that this is probably the shortest route. Use this and you don't see all the pictures of the game. So try some different directions to see what happens!

We start on a beach in the land of Tamir.

E, N, E, look under bridge, get gold ball. E, open door, clean house (enjoy watching), get pouch of diamonds, leave house.

S, enter mine, E, give pouch, W, leave mine.

E, look at this location for a bird which is picking up a worm (if there isn't any worm go to another location, east or west, to find a worm), get worm.

E, E, allow yourself to be taken away, wait for henchmen to return in cell. N, N, W, open door. W, look at books inside the right shelf, get book, look at picture, walk to left wall, look at wall, walk to left shelf, pull latch. W, get shovel.

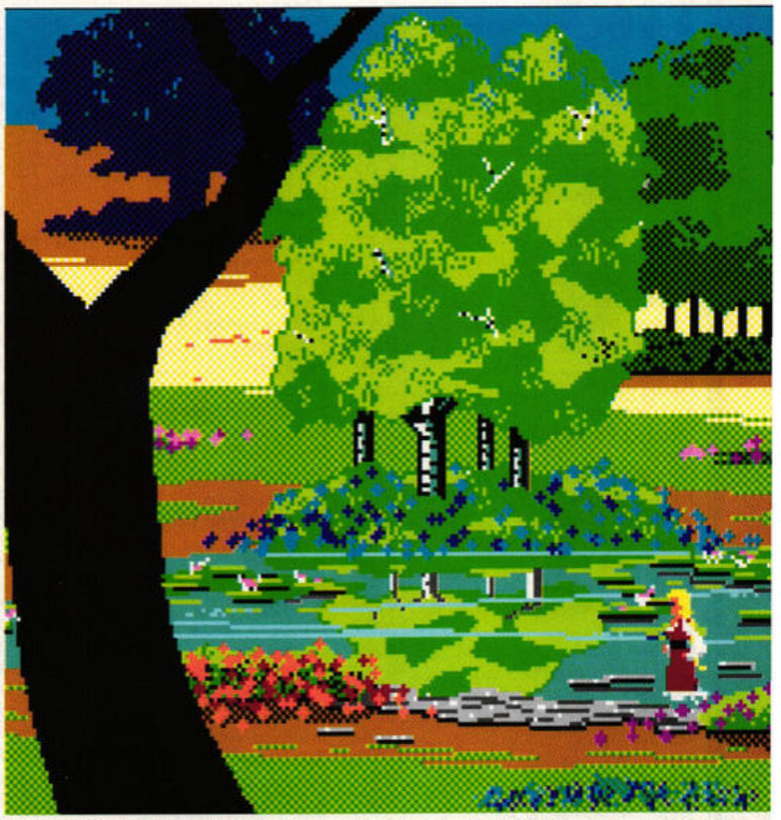
E, E, S, W, W, walk to right side of pond, drop gold ball, catch frog, kiss frog, get gold ball. W, W, N, W. (Wait until the fisherman is gone.) E, open door, offer pouch to fisherman, leave house. W, walk to end of pier, bait hook with worm, start fishing. (Repeat this until you catch a fish.)

E, E, E, N. Wait until Cupid arrives, get bow.

W, S. Wait here until man arrives, give book to man, get lute.

N, N. Wait here until Pan arrives, play lute, give lute to Pan.
W, S, W. (Back on the pier; let's have an inventory check. You should have: silver flute, lantern, gold ball, small crown, bow, shovel, fishing pole, dead fish!) Now enter the water (but save game first – a shark may appear!).

W, W (on island), here look around for a peacock feather, get feather. (You can also go to Genesta to see how sick she is, but it's not necessary for the game!) better save game when leaving the island again. →



● **Er – whoops. Probably not the best place to start searching for – um, whatever it is you're searching for, unless you're one of those get-in-there-and-delve-about type of adventurers to whom a pond means a challenge rather than a wet bottom**

www.stformat.com

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 STF10, 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. Telephone orders: Mon-Fri 9am-7pm. Saturday 10am-4pm. Fax orders: 0268 590076. Tel orders: 0268 590766

3D Construction Kit	26.99
3D Pool	7.99
4D Boxing *	16.99
4D Driving *	16.99
Afterburner	6.99
Alien Storm *	16.99
APB	6.99
Arachnaphobia *	16.99
Arkanoid 2	6.99
Assault on Alcatraz *	16.99
Austerlitz	9.99
Back to the Future 3	16.99
Batman Caped Crusader	6.99
Battle Command	16.99
Beach Volley	6.99
Beastbusters *	16.99
Big Game Fishing *	16.99
Big Run *	16.99
Billy the Kid *	16.99
Birds of Prey *	26.99
Blade Warrior *	16.99
Blazing Thunder	6.99
Blue Max *	19.99
Blues Brothers *	16.99
Cadaver	16.99
Cadaver Data Disk	9.99
California Games	6.99
Captain Planet *	16.99
Captive	16.99
Carrier Command	7.99
Car Vup	9.99
Castles *	19.99
Chaos Engine *	16.99
Chuck Yeager	16.99
Commando War *	16.99
Continental Circus	6.99
Corporation	9.99
Corporation Data Disk	4.99
Creatures *	16.99
Cricket Captain	16.99
Cruise For A Corpse	16.99
Cybercon 3	16.99
Daley Thompson Challenge	6.99
Das Boot *	19.99
Defenders of the Earth	6.99
Deluxe Paint	39.99
Deuteros *	16.99
Double Dragon	6.99
Double Dragon 3 *	16.99
Elf *	16.99
Emlyn Hughes	13.99
Excalibur	19.99
F15 Strike Eagle 2	22.99
F16 Combat Pilot	16.99
Fantasy World Dizzy	6.99
Ferrari Formula 1	8.99
Final Blow *	16.99
Final Fight *	16.99
First Samurai *	16.99
Flight of the Intruder	22.99
Flood	8.99
Football Director 2	13.99
Ford Q8 Rally *	16.99
Forgotten Worlds	6.99
Gauntlet 2	6.99
Gauntlet 3 *	16.99
Godfather Action *	16.99
Godfather Adventure *	19.99
Gods	16.99
Golden Axe	16.99
Graham Gooch *	19.99
Gunship	14.99
Hard Drivin	6.99
Hard Drivin 2	16.99
Heroquest	16.99
Hero Quest Data *	9.99
Hitchhikers Guide	7.99
Hollywood Collection	14.99
Hong Kong Fuey	5.99
Hunter *	19.99
IK +	6.99
Indy Jones-Atlantis Adv * (1 Meg)	19.99
It Came From Desert *	16.99
Jack Nicklaus Golf	16.99
Jimmy White's Snooker *	16.99
Jungle Book	6.99
Kamikaze	6.99
Kick Off	7.99
Kick Off 2	9.99
Killing Cloud	16.99
Kings Quest 4	26.99
Knightmare *	19.99
Knights of the Sky *	19.99
K.O 2 - Final Whistle	8.99
K.O 2 - Giants of Europe *	7.99
K.O 2 - Return to Europe *	7.99
K.O 2 - Super League *	9.99
K.O 2 - Winning Tactics	5.99
Kristal	9.99
Laser Squad 2 *	16.99
Last Ninja 2	6.99
Last Ninja 3 *	16.99
Leather Goddess	7.99
Legend *	16.99
Legend of Billy Boulder *	16.99
Leisure Suit Larry 3	26.99
Lemmings	16.99
Lemmings Construction Kit *	16.99
Lemmings Data Disk *	13.99
Licence to Kill	6.99
Lombard Rally	6.99
Lords of Chaos	16.99
M1 Tank Platoon	19.99
Magic Pockets *	16.99
Magnetic Scrolls Coll *	19.99
Man Utd Europe	16.99
Master Golf *	19.99
Mega-Lo-Mania *	19.99
Mega Traveller 1 (1 Meg)	19.99
Mega Traveller 2 (1 Meg)	19.99
Mega Twins *	16.99
Mercs	16.99
Miami Chase	6.99
Midwinter	14.99
Midwinter 2	22.99
MIG 29	22.99
Moonshine Racer	12.99
Moonstone *	19.99
NAM	19.99
Navy Seals	16.99
Off Road Racer	16.99
Omnicron Conspiracy	7.99
Operation Stealth	16.99
Operation Wolf	6.99
Oriental Games	9.99
Outrun	6.99
Outrun Europa *	16.99
Pitfighter 2 *	19.99
Platinum	19.99
Platoon	6.99
Player Manager	12.99
Police Quest 2	26.99
Populous 2 *	19.99
Powerdrome	8.99
Powermonger	19.99
Powermonger Data Disk 1 *	9.99
Power Up	19.99
Predator	6.99
Predator 2	16.99
Prehistoric	16.99
Prince of Persia	19.99
Projectyle	8.99
Quattro Arcade	9.99
Quattro Sports	9.99
Race Drivin *	16.99
Railroad Tycoon *	22.99
Rainbow Collection	13.99
Rambo 3	6.99
R.B.I. 2 Baseball	19.99
Reach for the Skies *	16.99
Red Baron *	26.99
Red Heat	6.99
Rick Dangerous 2	16.99
Rise of the Dragon *	26.99
Robin Hood *	16.99
Robin Smith's Cricket	16.99
Robocop	7.99
Robocop 2	16.99
Robocop 3 *	19.99
Robozone *	16.99
Rocket Ranger	7.99
Rock Star Ate My Hamster	4.99
Rodland *	16.99
Rotator *	16.99
R-Type	6.99
R-Type 2 *	16.99
Run the Gauntlet	6.99
Ruff and Reddy	6.99
Secret of Monkey Island (1 Meg)	16.99
Sega Master Mix	19.99
Shadow Dancer	16.99
Shuttle *	19.99
Silent Service	9.99
Silkworm	6.99
Sim City + Populous	19.99
Sim Earth *	19.99
Simpsons *	16.99
Simulcra	7.99
Skull and Crossbones	16.99
Smash TV *	16.99
Space Ace	26.99
Speedball	7.99
Speedball 2	16.99
Storm Ball	12.99
Stratego *	16.99
Striker Manager	16.99
Strip Poker 2 + Data	6.99
Subbuteo	6.99
Super Cars	6.99
Super Cars 2	16.99
Super Grand Prix	6.99
Super Hang On	6.99
Super Monaco GP	16.99
Supremacy	19.99
Switchblade	6.99
Switchblade 2	16.99
SWIV	16.99
Team Suzuki	16.99
Team Yankee	19.99
Teenage Mutant Turtles	16.99
Teenage Mutant Turtles 2 *	16.99
Terminator 2 *	16.99
Their Finest Hour	19.99
Their Finest Missions *	9.99
Thunderhawk *	19.99
Toki	16.99
Toobin	6.99
Top Cat Bev. Hills	6.99
Toyota Celica	16.99
Tracksuit Manager 2 *	16.99
Triad Vol 3	9.99
Turbo Challenge	16.99
Turbo Challenge 2 *	16.99
Turrican	7.99
Turrican 2	9.99
UMS 2 (1 Meg)	19.99
Utopia *	19.99
Violator	6.99
Virtual Worlds	19.99
Walker *	16.99
War Zone	12.99
Welltris	9.99
Wheels of Fire	12.99
Whizkid *	16.99
Wild Wheels *	16.99
Winning Team *	19.99
Wizzball	6.99
Wonderland (1 Meg)	19.99
World Wrestling Fed *	16.99
Wrath of the Demon	19.99
Xenomorph 2 *	16.99
Yogi + Friends	5.99
Yogis Great Escape	6.99
Yogi & Greed Monster	6.99
Z-Out	13.99

SPECIAL OFFERS

KICK OFF 2
NOW ONLY
£9.99

STEREO SPEAKERS FOR ATARI STE ONLY £29.99

NAKSHA MOUSE ONLY £22.99

TURRICAN
NOW ONLY
£7.99

TURRICAN 2
NOW ONLY
£9.99

ROBOCOP
NOW ONLY
£7.99

JOYSTICKS

Cheetah 125 + - £6.99
Quickjoy 2 Turbo - £9.99
Comp Pro Extra - £14.99
Quickshot 3 Turbo - £9.99
Quickjoy Jetfighter - £10.99
Quickjoy Topstar - £16.99

BLANK DISKS

Unbranded

10 x 3.5" DSDD - £5.99
20 x 3.5" DSDD - £10.99
50 x 3.5" DSDD - £23.99
100 x 3.5" DSDD - £44.99

Branded - TDK

3.5" DSDD - £1.25 Each

www.stformat.com

E. (If there isn't a whale then go back and try again until you are absorbed by a whale!) Once inside whale, get bottle, open bottle, read note. (Nice joke.)

(Now this is very strange – so read this first and then try it out.) You have to tickle the whale with your feather but you can do this only from a high vantage point. Go to the right side of the screen (don't try the middle of the screen – you'll fall down). Walk up and to the right. If you are high enough you can tickle the whale and end up being back in the sea!

Swim north to another island, walk near pelican, throw fish to pelican, get whistle, walk to wreck on right , look inside wreck (you get the bridle for the unicorn), blow whistle, ride dolphin.

E, E, N. Walk around here until unicorn arrives, shoot bow, walk to head of unicorn, put bridle on unicorn, ride unicorn, wait...

(Back from the castle again.) N, walk near waterfall (don't walk in water!), wear crown (go inside waterfall), get board, light lantern. (Save game!)

E. (If a troll appears then simply walk back from cave and try again.) Get bones (near the cave entrance).

S, E, E. (Save game! – there is a chasm in the darkness.) Walk near chasm, put board on chasm, walk over chasm.

N, E (at a pond), walk to green plants (not into the swamp!), jump, jump, jump, until you reach the island. The last plant is too far away to jump over. Put board on water, walk over board to island, play flute (until the snake is mesmerised), go tree, get fruit (better save again), walk over board again, get board, jump (until you reach the cave entrance again!), walk through hole. S, walk near chasm, put board on chasm, walk over board. (Save game!)

W (keep your eye out for the troll), N, W, W, turn off lantern, go to water (outside waterfall). W, S, W, S. If the ogre or his wife appears then go north and south again fast until they are gone. Open door. A dog runs towards you. Give bone to dog, go upstairs, get axe, go downstairs, go to closed door, open door, look keyhole. Wait until you hear ogre coming, look keyhole again, (watch,) open door, walk to hen, get hen, walk to door, open door, leave house.

N, E, E. Go to Lolotte's castle again and see what is going on. Return; N, N, N, use axe (the trees are no longer dangerous).

N, E (inside cave). Here: walk around pod and walk in between the two witches standing at the wall, take eye, leave cave, enter cave again, take scarab, give eye; don't waste time, leave.

S. It is now night in Tamir. S. Zombies appear – but you have a scarab, so they go away.

W, enter house again. (The whole house seems to be alive!) You hear the cries of a baby. Up, go left door.

W, walk to cradle, take a look inside the cradle.

E, S, down, S, W (cemetery).

Warning! Save Game! You have to dig five times with the shovel; if you try it once too many then the shovel breaks. You have to know the correct graves. If you find nothing in a grave after digging, then restore your saved game. I cannot tell you the grave where you have to dig. You must read the tombstones and write down what they say. Walk to the smallest grave (it's on the left side on the tree in the third row – try it by reading the tombstone), dig. You should get a baby's rattle. If not, then this was the wrong grave! Restore Game and try again.

E, enter house, walk to baby cradle, put rattle into cradle. Now you hear things in the lower floor and the second ghost appears. Walk downstairs, look ghost. You get information which you need. Leave house again.

W, dig, get coins.

E, enter house, wait until ghost appears, give coins. You hear something in the upper floor – third ghost. Up, go right door, look woman.

S, down, S, E. Save, then dig, take locket.

W, open door, up, go right door, give locket to woman. You hear something downstairs.

S, down, W, look ghost – Good heavens! It's Lord xxx!

E, S, W, dig, get medal.

E, open door, wait until ghost appears, give medal to ghost. Now, a little boy appears, the fifth and last ghost. Upstairs, go right door (the trap door is open now), climb ladder, look ghost, climb down ladder.

S, downstairs, S, E, dig, get horse. W, open door, up, right door, climb ladder, give horse to ghost, open chest, look inside chest, get paper sheets, climb down.

S, downstairs, W, W. (Better save game somewhere around here!) Up, up, sit down organ, play sheet music, get skeleton key, stand up, better save again, walk down, down.

E, E, S, E, unlock door,open door, get rope, climb down rope. Mummy appears, but don't worry. Get Pandora's box, climb up rope.

W, S, E. Back in the castle, see what happens... Now in Edgar's room... wait until Edgar comes. Walk door, get rose, look rose, unlock door, open door (better save), walk downstairs.

E, walk to the door near the henchman. Warning: if you come too near to the henchman, then you will be married to Edgar and all is over!

If you manage to avoid that awful fate: in the kitchen walk to the right cupboard, open cupboard, get possessions.

W – walk upper doorway east.

E, E (better save), up stairs. Don't look in the west location; if you do, it's a sure thing the henchmen will catch you. Up stairs (Lolotte's room), unlock door with gold key, open door, walk to the right side of Lolotte's bed, shoot bow, get talisman.

Down stairs, now you can go west, open door, get hen, get Pandora's box.

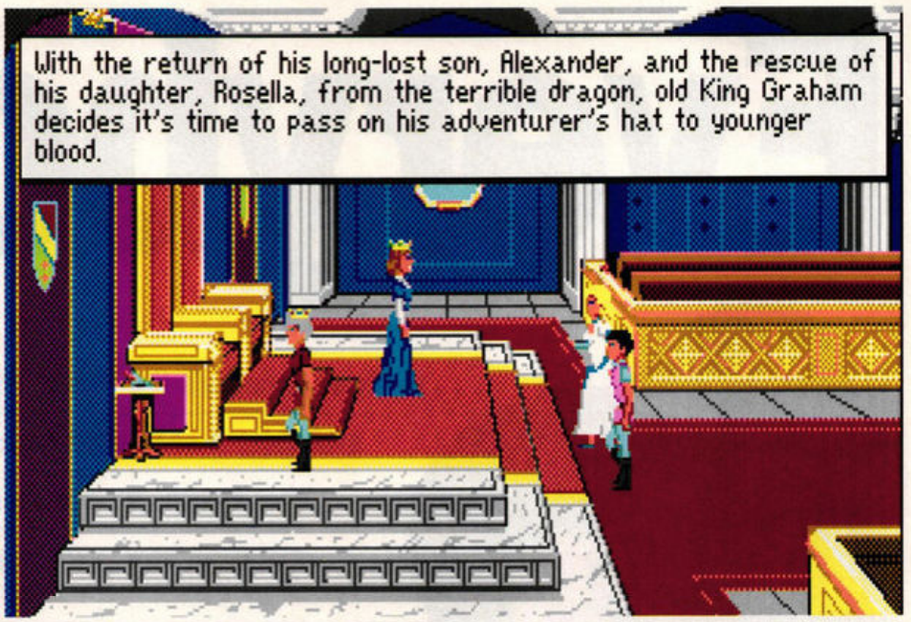
S, E (better save), go downstairs.

W, S, W, inside stable, open gate. Walk near the gate from the left side looking to the right gate, open gate.

S, down path (use your mouse!).

W, W, W, W, W, N, N, W. (Better save once more.)

W, W (island of Genesta again). Go inside Genesta's castle, walk near bed and – finally! – give talisman to Genesta. You've done it! Now all you have to do is sit back and enjoy the last sequence of the game! ***stf***



● **"Oi! Tradesmen and princesses on a quest to find the magic talisman to save the good fairy Genesta whilst also searching out the charmed fruit to save their dying father, round the back!"**

AND FINALLY, MARMADUKE...

And finally, Hermione, a few shorter tipettes. Normal service will be resumed next issue!

ATOMINO
Psygnosis

Never mind all this complete solution walk-through business. Try these Level codes from Mark Wheeldin of Bolton:

10: ACID
20: ARROW
30: EMISSION
40: LAVA
50: CAVE
60: ELIXIR
70: BONE
80: WOOD
90: FOUNTAIN
100 GETWISE

CONQUEROR
Rainbow Arts

Nick Worthington of Cheshire has found an "undocumented feature" (titter titter) in this getting-on-a-bit strategy shoot-'em-up. Select a strategy game at level 9. Choose a side, pick one of the cheapest tanks, start the game and get knocked out. Even though you are dead a bug gives you the bonus points for that level (about 40,000) *and* a chance to play that level again, naturally with better tanks bought with the extra credits.

SUPERCARS 2
Gremlin

On page 88, we spilled the beans on the cheaper but almost identical prequel to this racer. However, if you've got this one: when on the options page delete the names of players one and two. Then type in these names instead: "I Walk the Hill" for player one and "Inwards" for player two. Now you have 99 of each weapon as well as grade three armour, engine and battering ram. You also qualify in every race.

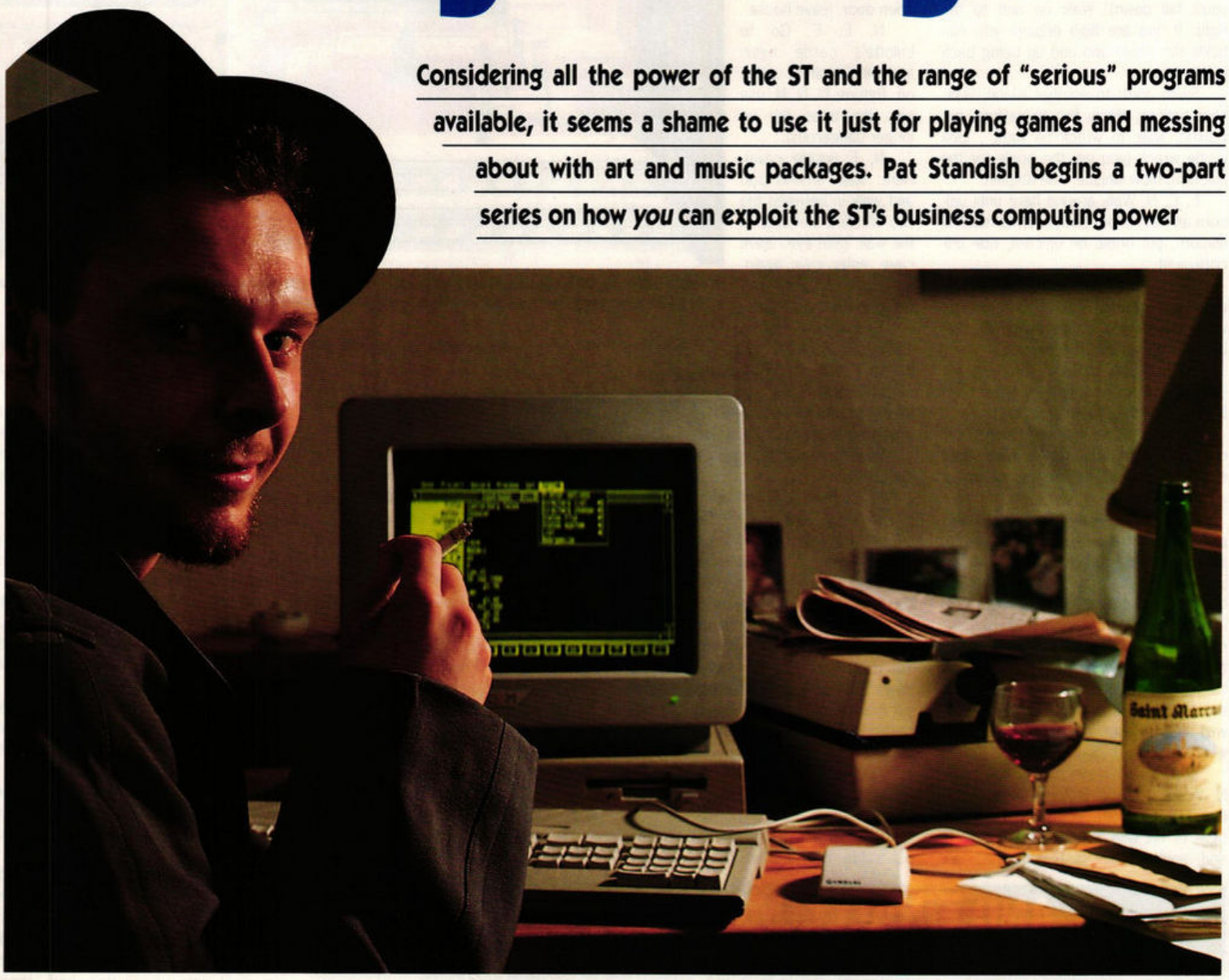
Z-OUT
Rainbow Arts

Jon Paul Witt of Merseyside has completed this game and thus learned these cheats, because apparently they're given to you on completion. Seems a little bit pointless then, dunnit? Anyhow, for the rest of us: pressing Q and K together gives you unlimited energy, pressing Q and keys 1-6 gives you access to levels 1-6 respectively, and pressing Q and 7 takes you to the end of the game.

www.stformat.com

Everybody's

Considering all the power of the ST and the range of "serious" programs available, it seems a shame to use it just for playing games and messing about with art and music packages. Pat Standish begins a two-part series on how *you* can exploit the ST's business computing power



Business doesn't necessarily mean boring – in fact, playing with "serious" software can open up a whole new world, and you don't need to be a budding entrepreneur to take advantage of the range of packages around. Like any other programs, after all, they are tools designed to make complex or repetitive tasks easier, and you can use them anywhere those tasks are relevant. At the same time, learn to use databases and spreadsheets for hobby purposes and you're likely to find you have an excellent grounding for future employment. You might even find ways to use your ST as a tool for part-time business ventures and so make enough money to cover the cost of all those add-ons and upgrades you've been promising yourself for ages.

Programs intended for business can be pretty daunting to use at first, but once you understand the principles involved and what you can use them for, they soon lose their mystique and become no more frightening than games. One of the most off-putting things in getting to grips with a new topic is the jargon. It often sounds like a foreign language but is really no more complicated than the terms you already know – like RAM, floppy, mouse and so on. The Jargon Busters boxes in this article should set you on the road to understanding the world of business software. And don't worry – every expert was a beginner at first.

WORD PROCESSORS

The word processor is usually the first business program to be considered by any computer user. At its simplest it is merely a typewriter which, instead of printing characters as you type them, holds the text in memory. This enables you to correct any spelling errors or typos before committing the words to paper. It also enables copies of the text to be stored on disk for future reference.

"Ah, but," we hear you say, "I haven't got a printer so a word processor is no use to me." Don't you

You don't need a printer to use a WP – many journalists use a modem and never see their words on paper till the magazine is printed

www.stformat.com

business

believe it! Text produced on a word processor can be used in all sorts of ways without ever getting a sniff at a printer. What about sending letters to your friends? If they have computers with which your ST can exchange disks – the ST can read PC-format disks, and so can Macs and Commodore Amiga games machines, as well as PCs – you can simply type your letter, save it and post the disk. At the other end your friends simply load your disk to read your missives.

Then again, perhaps you use a modem and wish to send a message down the telephone line to a Bulletin Board (BBS) or conference. Time spent on-line is expensive, so it's an advantage to be able to type up your message beforehand and then simply upload it. Many journalists use this system to send text to magazines – their words might never see paper at all until the magazine is finally printed.

DATABASES

Databases are used to organise information – anything from Christmas card lists and telephone numbers to details of video or book collections. Although they seem complex at first they are really only the electronic equivalent of a filing cabinet or card →

JARGON BUSTERS

WORD PROCESSORS

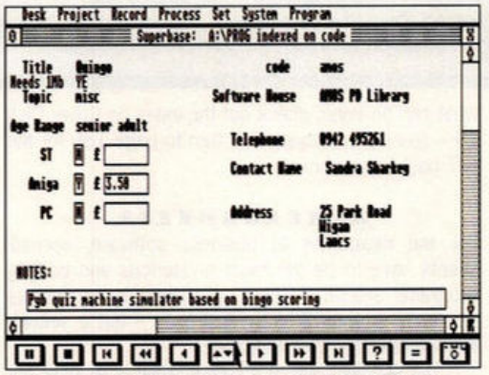
ASCII (American Standard Code for Information Interchange) – Each word processor has its own system for storing text which is rarely recognised by others. ASCII is a standard system which virtually every word processor understands.

FONTS – Different typestyles such as Times, Helvetica and so on. Many word processors support several fonts, as do printers.

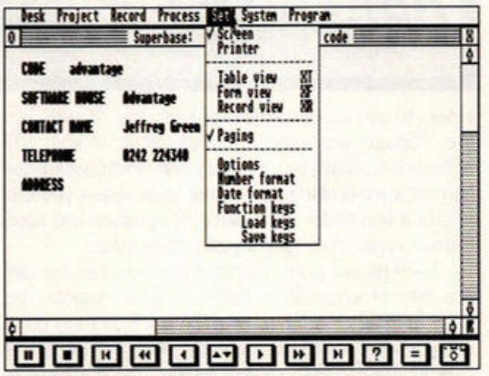
MAIL-MERGE – A system of grabbing names and addresses from a database and inserting them in standard letters (like the "Dear PAT STANDISH, Congratulations! You have been chosen to represent WIGAN in our great prize draw...").

WYSIWYG (What You See Is What You Get) – A system whereby text is displayed on the screen exactly as it will appear when printed out. WYSIWYG word processors tend to be slow updating the screen.

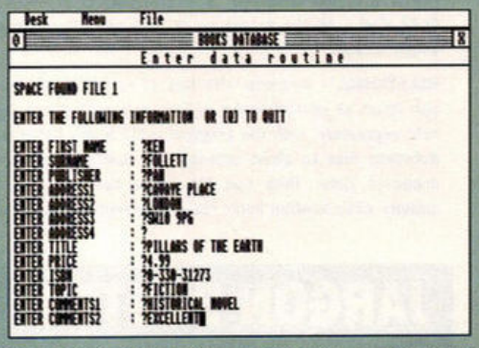
● ***Protext*, the word processor we use at *ST FORMAT*, in its spell checking mode. The dictionary doesn't know these words – yet! (Fancy not knowing *"STF"*...)**



● **Forms set up with the versatile database *Superbase* can show data from two files at once – here both the games and the suppliers details...**



● **And here simply the supplier. This "relational" facility – the ability to call on related data in different files – saves having to enter duplicate data.**



● **Entering all the details all the time can be a tedious, time-consuming pain. A relational database is easier...**

THE BOOK COLLECTOR

Richard Moss is an avid collector of books. In order to keep his massive collection in a manageable state – and keep the details handy for insurance purposes – he uses a database to record all his acquisitions. Each record in the database holds details of a single book together with the author, publisher and ISBN code (the unique number for every book published).

At the moment he uses a flat-file database but is thinking of moving up to a relational database (see Jargon Busters box). As he puts it: "Some of my favourite authors have over a dozen books to their name. I'm getting fed up having to type all the authors' details in again every time they bring out another. With a relational database I can simply enter a short code for the author for each new release."

Does Richard plan to enter all his current books again? Not a pleasant task. "No need. My current database can organise the data so that it can be saved out as ASCII text to disk. Then all I need to do is load it into the new program. I might have to fiddle a bit to make the programs match, but using a word processor it should only take an evening or two."

www.stformat.com

LOCAL FOOTBALL LEAGUE ORGANISER

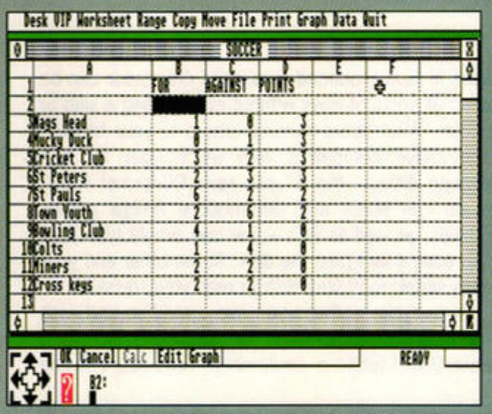
Mandy Allen wished she'd kept her mouth shut about owning an ST when she was roped in by her boyfriend to keep track of the local amateur football league. While commiserating, we asked how she had approached the task.

"The first thing I needed was a database to store details of all the different teams, contact numbers, addresses and so on. Then there was a word processor with mail-merge facilities to send form letters to all the clubs.

"The hardest part was organising results and working out an updated league table after every match. A spreadsheet turned out to be the easiest program for that, and since I needed a database too I chose a program which incorporated both. As the result cards come in, I feed the new details into the spreadsheet, then use the recalculation facility to add them to the cumulative totals from previous matches. Then it's simply a matter of sorting the clubs into order according to their points totals and printing out the results.

"I also use the database facilities to keep track of my boyfriend's club – names and addresses of players and so on, and whether they're behind with their subs.

"Finally, with the word processor's mail-merge facilities I've also been able to begin setting up begging letters to local businesses asking for sponsorship."



● Once the results for all the matches are entered, the database option "sort" shows the state of play.

→ index, so you can use them to keep any records you like. Perhaps you want to record details of your *STF* collection so that you can easily find which back issue carried a particular topic. Using a database you can create a record for each piece of software and hardware covered, plus tutorials and other topics.

Each record would consist of brief entries for various bits of information such as issue number and page, perhaps the *STF* rating and price and any other info you want for quick reference. Having typed all the data in you can then search through the database to find, say, all the flight sim reviews or RAM upgrade articles simply by asking the database to retrieve the items of interest. Once all the slog of entering the data is done, finding what you want is far quicker than ploughing through piles of glossy magazines. To see what can be done, check out the index on Cover Disk 19 – and if you missed that, turn to page 136 for the *STF* back issue service.

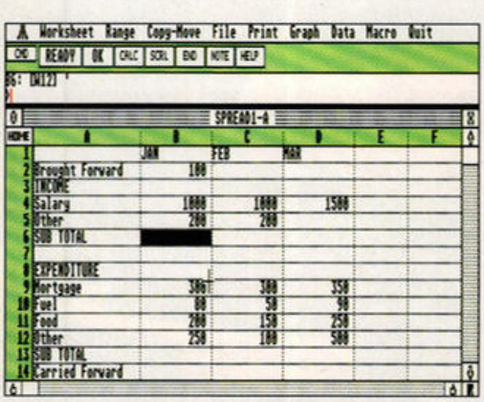
To the newcomer, spreadsheets seem mysterious and baffling – but you can think of them as pads of paper with built-in calculators

SPREADSHEETS

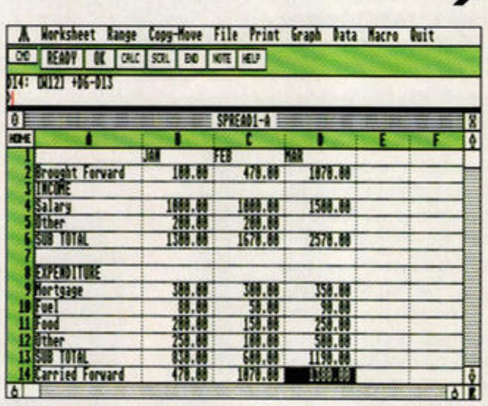
For the newcomer to business software, spreadsheets have to be the most mysterious and baffling programs around. At first sight there is no obvious use for a screen divided into boxes – but a second look makes things a lot clearer.

The simplest use of a spreadsheet is to work out budgets (or cash- flow forecasts). Imagine you want to buy a new car and therefore need a bank loan. The bank manager is going to need convincing that you are able to afford the loan repayments, and here's where a spreadsheet comes in handy. By constructing a table of income and outgoings over the proposed period of the loan, you can easily see whether the repayments are likely to push you into the red. The big advantage of spreadsheets is when you want to change the figures: adjust the repayment level and a good spreadsheet automatically recalculates your budget to arrive at an affordable figure.

Students off to college can also use a spreadsheet to help plan the use of their grants. Before you buzz off to the Union for a pint, use a spreadsheet to check that you'll be able to eat and pay your →



● Spreadsheets can be very daunting to the inexperienced user, but *LDW Power* is simple to use – and very powerful. Here we have the beginnings of...



● A forecast – which is really just a calculation like any you might do on your own calculator. Totals, subtotals and forward cells hold the formulae required.

JARGON BUSTERS

DATABASES

● ELEMENTS IN THE DATABASE:

FILE – A collection of database records on a similar theme – such as all the details of your video collection.

RECORD – A summary of all the info on a particular item, such as name, address and telephone number.

FIELD – Individual items of information which are collected together to form a record such as the name, publisher, price or rating of a specific game.

● WAYS OF ORGANISING YOUR DATABASE:

FLAT FILE – All the details on an item are entered in a single record.

RELATIONAL – Records with lots of common information (such as several books by the same author) can be held separately, with the program using a link between database files to avoid entering and holding reams of duplicate data. Thus one file might hold details of authors while another holds records for individual books.

JARGON BUSTERS

SPREADSHEETS

CELL – The box formed where a row and column cross. Values entered can range from text to figures with the option to enter a formula instead.

COLUMN – A vertical set of cells.

ROW – A horizontal set of cells.

FORMULA – Algebraic expressions using the contents of other cells as values to save having to perform the same calculation (or similar ones) over and over again.

RECALCULATE – After you change the value held in one or more cells, "recalculate" is used to force the program to go through all the formulae affected and change the resulting figures.

www.stformat.com

SOFT EXCHANGE

Offers you the best in quality service and prices.
All our diskettes are of high quality Japenese media.

	PANASONIC BULK 3½ DS/DD	SONY BULK 3½ DS/DD	KAO 3½ BRANDED
10	4.99	5.99	5.99
20	8.49	9.99	10.99
30	12.49	14.49	15.99
40	15.49	17.99	19.99
50	18.99	21.99	22.99
100	33.99	38.99	42.99
200	63.99	75.99	79.99
300	94.99	108.99	114.99
400	123.99	139.99	147.99
500	154.99	169.99	179.99
1000	289.99	329.99	349.99
2000	574.99	659.99	689.99

Includes Labels and Lifetime guarantee.

SPECIAL OFFERS

10 Disks + 100 Cap Box	£10.99
20 Disks + 100 Cap Box	£13.99
30 Disks + 100 Cap Box	£18.49
40 Disks + 100 Cap Box	£21.99
50 Disks + 100 Cap Box	£24.99
100 Disks + 100 Cap Box	£39.99
200 Disks + 2x200 Cap Box	£67.99

Including Labels

ACCESSORIES

40 Cap Box	£5.99	80 Cap Box	£6.99
100 Cap Box	£7.99	BANX Stackable Boxes	£8.99
Mouse Mats	£2.99	Disk Labels 50	£1.50
Disk Labels 100	£2.50	Disk Labels 200	£3.50
Disk Labels 500	£7.50	Disk Labels 1000	£13.99
Disk head Cleaner	£2.99	Dust Cover Keyboard	£4.99
Dust Cover 12" Monitor	£5.99	Dust Cover 14" Monitor	£6.99
Logitech 2 Button Mouse	£23.99	Wang 5½ Disks Box of 10	£4.99

All prices include VAT, post and packing in UK, overseas orders please write or telephone. To order please send Cheque/P.O. made payable to

SOFT EXCHANGE

101 Clifton Road, South Norwood, London SE25 6QA
Tel: 081 653 9094 (24 HRS ORDER LINE)ACCESS/VISA ACCEPTED.
Government and Educational orders quoted at very competitive prices.

Access VISA

Access

Memory Express

VISA

CHECK OUT OUR NEW PRICES!

520 STFM - 1040 Upgrade Kit Reqiring Soldering	£37.99
520 STFM - 1040 Upgrade Soldered Kit Fitted	£62.99
520 STFM - 1040 Plug In Board	£59.99
520/1040 STFM - 2MB Plug in Board Expandable To 4MB	£118.99
520/1040 STFM - 4MB Plug In Board	£180.99
MEGA 1 - 4MB Plug In Board	£180.99
MEGA 2 - 4MB Plug In Board	£118.99
520 - 1040 Plug In Board Unpopulated	£28.49
520 - 2/4MB Plug In Board Unpopulated	£56.99
256 * 4 /1MEG * 1 DRAM Chips For Populating Boards (Minimum Of 4)	Each..£5.25
520STE - 1040 Plug In Simms	£29.99
520/1040STE - 2MB Plug In Simms	£89.99
520/1040STE - 4MB Plug In Simms	£179.99

ALL PLUG IN BOARDS FITTED FREE WHILE YOU WAIT BY PRIOR APPOINTMENT

All Prices Include

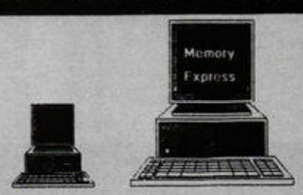
ALL SUPPLIED WITH SOFTWARE BASED UPGRADE CHECKER.
ALSO A RAM DISK & OTHER PUBLIC DOMAIN SOFTWARE.

Internal Double Density Disk Drive (Requires Case Modification)	£49.99
Internal Double Density Disk Drive Fitted	£59.99

TELEPHONE IN THE FIRST INSTANCE FOR FURTHER INFORMATION AND FREE TECHNICAL ADVICE.

138 PACKER AVENUE
LEICESTER FOREST EAST
LEICESTER
LE3 3QH

24 HOUR ANSWERLINE
0533 - 393136



Think that little byte bigger

Delivery & Packaging Free On Orders Over £100
Orders Under £100 P&P (UK & BFPO) £3.00 Inc VAT

Cambridge Business Software

ATARI ST SOFTWARE

ACCOUNTS

Small Business Accounts Cash	£69.95
Small Business Accounts Extra	£99.00
Cashbook Controller	£39.95
Final Accounts	£24.95
Cashbook Combo Pack	£59.95
System 3 (Inv/Stock)	£39.95
Home Accounts 2	PHONE
Sage Cash Trader	£79.95
Wages ST	£89.00
Personal Accounts Plus	£26.90
Personal Finance Manager Plus	£34.95

DATABASES

Adimens Plus	£99.00
Data Manager Professional	£29.95
Superbase Personal 2 (v3.02)	£69.95
Super Base Professional (v3.02)	£175.00
Digita DGBase	£39.95
Prodata	£59.95

DESKTOP PUBLISHING

Timeworks DTP	£69.95
Calligrapher Junior	£69.00
Pagestream v2	PHONE
Fleet Street Publisher v3	£159.00
Calamus	£250.00
O-Line Art	£159.95

COMPUTER AIDED DESIGN

PC Board Designer	£135.00
BeckerCAD	£99.00
Megapaint II	£79.95
Megapaint II Professional	£199.00
GFA Draft Plus v3.13	£79.95
CAD 3D v1.0	£18.95
CAD 3D v2 (Cyber Studio)	£39.95
Cyber Control	£32.95
Cyber Paint V2	£39.95
Cyber Sculpt	£59.95
Cyber Texture	£39.95
Architectural Design Disc	£17.00
Easy Draw 2	£39.95
Supercharged Easy Draw 2	£59.95

MUSIC

NEW C-LAB Creator v3.1	£269.00
NEW C-LAB Notator v3.1	£429.00
Creator/Notator Upgrade	£239.00
C-LAB Notator Alpha	£179.95
C-LAB Aura	£89.00
C-LAB Midia	£59.95
C-LAB v.3 upgrade	£37.95
Cubeat	£239.00
Cubase	£459.00
Sequencer 1	£79.95

LANGUAGES & COMPILERS

Mark Williams C v3	£89.00
Mark Williams C Source Debug	£42.00
Prospero C	£75.00
Prospero Fortran	£75.00
Prospero Pascal	£75.00
Prospero Toolkit	£55.95
Hisoft Lattice C v5	£115.00
Hisoft High Speed Pascal	£89.95
Hisoft C. Interpreter	£49.95
Hisoft Devpac v2.22	£45.00
Hisoft Devpac TT	£119.00
Hisoft Power Basic	£39.95
Hisoft Basic	£59.95
Hisoft Nevada Cobol (With CP/M)	£42.00
FTL Modula 2	£52.00
FTL Modula 2 Developer	£69.95
FTL Toolkit	£49.95
GFA Basic Interpreter v3.6	£45.00
GFA Basic Compiler v3.6	£24.95
Nevada Cobol (with C/PM)	£42.00
MPE Forth 83 (GEM)	£44.00
Minix v1.5	£149.95

SPREADSHEETS

K-Spread 3	£67.95
K-Spread 4	£89.00
NEW 3D Calc	£34.95
Logistix v1.2	£79.95
Hyperchart by Atari	£95.00
LDW Power Spreadsheet	£99.00
Digicalc	£29.95

WORD PROCESSORS

Thats Write	£85.00
Write On	£45.00
GST First Word Plus v3.2	£57.95
Protext v5	£109.00
Protext v4.2	£69.95
Wordperfect v4.1	£179.95
Timeworks Wordwriter	£39.95
Wordflair	£65.00

MISCELLANEOUS

NEW AT Speed C16 PC Emulator	£229.00
PC Speed	£99.00
SLM 804 Replacement Drum	£169.95
SLM 804 Toner Cartridge	£39.95
SLM 804 Epson Emulator	£24.90
Neodesk v3 (UK)	£29.95
Deluxe Paint	£59.95
Hyperpaint v2	£29.95
Hyperdraw	£29.95
Degas Elite	£19.95
Harlekin	£39.95
Turbo ST v1.8	£29.95

No surcharges on European orders!
Many other titles in stock.

Phone 0763 262582 *NOW!*

protar **HARD DRIVES**
FAST, HIGH-SPEC, HARD DRIVES FOR ALL STs

NEW LOW PRICES!
- FAST ACCESS TIME
- EXTERNAL DEVICE NO. SWITCH
- DMA THROUGH PORT
- UP TO 12 PARTITIONS
- AUTO BOOT/PARK
- EXCELLENT GRAPHICS-BASED SOFTWARE
- 12 MONTH INSTANT REPLACEMENT WARRANTY

Progate 20Mb	£279.00
Progate 30Mb	£326.00
Progate 40Mb	£340.00
Progate 40DC	£423.00
Progate 60Mb	£437.00
Progate 80Mb	£486.00
Progate 80DC	£565.00
Progate 160Mb DC	£922.00
Progate 440Mb	£1589.00
Progate R44 removable	£610.00
T60 Tape Streamer	£580.00

24-HOUR ORDER LINE (0763) 263127
MODEM USERS — CALL OUR BULLETIN BOARD ON 0763 261624
All prices include VAT & delivery. Make cheques payable to Cambridge Business Software.

Melbourn Science Park, Cambridge Road, Melbourn, Royston, Herts. SG8 6EJ

IMMEDIATE DESPATCH (subject to availability)
ORDERS WELCOME FROM EDUCATION, GOVT. & TVEI
HOW TO ORDER:
TEL 0763 262582 • FAX 0763 262425 • TELEX 817932

VISA

GFA-BASIC System 2.0

Interpreter + Compiler + 300 page manual

Plus

£15.00 discount voucher off other GFA products.

Valid for GFA-BASIC 3.6 Interpreter, GEM Utility Pack and GFA-DRAFT Plus

For only £20.00

GFA Assembler 1.51 £25.00

GFA
Data Media UK

Available by mail order or telephone order from:

GFA Data Media (UK) Ltd
Box 121, Wokingham,
Berkshire, RG11 1FA
Tel: 0734 794941

Cheque/postal orders payable to GFA Data Media (UK) Ltd accepted.

GFA BASIC 3.6 INTERPRETER (ST)	~~50.00~~	40.00
GFA BASIC 3.6 COMPILER (ST)	30.00	
GFA BASIC 3.0 S/W DEVELOPMENT BOOK + DISK	20.00	
GFA BASIC 2.0 ADVANCED PROG. BOOK + DISK	20.00	
GFA ASSEMBLER 1.51 (ST)	~~50.00~~	25.00
GFA DRAFT PLUS 3.13	~~100.00~~	75.00
GFA GEM UTILITY PACKAGE	30.00	
GFA G SHELL	20.00	
GFA BASIC AND ASSEMBLER USER BOOK	20.00	
LIMITED SPECIAL OFFERS (only available direct from GFA)		
GFA RAYTRACE	10.00	
GFA BASIC 2.0 INTERPRETER + COMPILER	20.00	
All prices include VAT, post and packing within UK.		

VISA

MasterCard

I wish to pay for the items indicated by Visa/ Mastercard; please charge _____ to my account. My card number is:

Signature

Expiry Date

Order Date:

Name (on card)

Address

Postcode

STFORMATOCT91

ATARI 520STE DISCOVERY PACK

Atari 520STE with double sided disk drive, mouse, owners manual, First Basic, Neochrome, ST Tour, Indiana Jones, Super Cycle, Dragons Breath, Anarchy.
Atari CX40 Joystick
ONLY £299.95
PLUS FREE! Our software pack comprising: Wordprocessor, Mail Merge, Database, Spreadsheet, Virus Killer, Your 2nd ST Manual, eleven great games, disk of desk accessories, five programs for small children.

DISCOVERY PLUS PACK

Contains all the items in the Discovery Pack above, plus!! Vinyl computer cover, mouse mat, twin joystick extension lead, 10 blank disks, Joystick
ONLY £319.95
Plus free! Our software pack comprising:- Wordprocessor, Mail Merge, Database, Spreadsheet, Virus Killer, Your 2nd ST Manual, eleven great games, disk of desk accessories, five programs for small children.

SPECIAL BONUS OFFER
Buy any Atari ST computer from us and you can buy a ten game software pack containing: Asterix, Chess, Live and Let Die, Skweek, Onslaught, Pipemania, Rick Dangerous, Rock 'n' Roll, Onslaught, Trivial Pursuit for ONLY £19.95

MONITORS

SEPTEMBER SPECIAL OFFER
Philips CM8833 MK2
Colour Monitor
Only £239.95
Including Connecting Lead

ATARI SM124 MONITOR £139.95

ATARI 1040STE FAMILY CURRICULUM PACK

INCLUDES
ATARI 1040STE, Mouse, Manual

Business Module:- ST Word, ST Calc, ST Base

Creative Module:- Hyperpaint 2, Music Maker 2, First Basic

Play and Learn Module:- Prof Plays A New Game, Prof Looks At Words, Prof Makes Sentences.

Junior School Module:- Answer Back Junior Quiz, General Knowledge Quiz, Spelling, Primary Mathematics

GCSE Revision Module:- Micro Mathematics, French Mistress, Geography Quiz

ONLY £364.95

PLUS FREE!! A superb disk containing eleven great games.

FAMILY CURRICULUM BONUS PACK

All items in the family curriculum pack above, plus:- Vinyl Dust Cover, Mouse Mat, Two Microswitched Joysticks, 10 blank disks in a box.
ONLY £389.95

VINYL DUST COVERS

Atari 520ST/1040ST	£5.95
Panasonic KXP1081	£4.95
Panasonic KXP1180	£4.95
Panasonic KXP1124	£4.95
Star LC10	£4.95
Star LC24/200	£4.95
Star LC200	£4.95
Citizen 120D	£4.95
Citizen Swift 9	£4.95
Citizen Swift 24	£4.95
Atari SM125/SM124 Monitor	£6.95
Philips CM8833	£6.95

PRINTERS

September special offer
Star LC24/200 Colour Printer
only £289.95
Including connecting lead.

Panasonic KXP1180	£159.95
Panasonic KXP1123	£209.95
Star LC10 (UK)	£154.95
Star LC200 Colour (UK)	£209.95
Citizen 120D	£139.95
Citizen Swift 24	£269.95
Citizen Swift 24 Col	£299.95
Citizen Swift 9	£189.95
Citizen Swift 4 Col	£219.95

ALL PRINTER PRICES INCLUDE CONNECTING LEAD

DISK DRIVES

CUMANA CSA354 1Mb	£79.95
Roctec Drive 1Mb	£69.95
Zydec Drive 1mb	£59.95

ACCESSORIES

Mouse Mat	£4.95
Twin Joystick Ext	£5.95
Mouse Bracket	£2.95
Tilting Monitor Stand	£12.95
Disk Head Cleaner	£2.95
ZY F1 Stereo Speakers	£39.95

SEPTEMBER SPECIAL OFFER
FORGET ME CLOCK 2
ONLY **£16.95**

Naksha Replacement Mouse
For the Atari ST/Amiga
only **£24.95**
FREE! Mouse Pad and Bracket and Operation Stealth game

JOYSTICKS

Professional	£12.95
Professional Plus	£13.95
Cheetah 125+	£7.45
Cheetah Mach 1	£9.95
Quickjoy Megaboard	£21.95
Konix Speedking	£9.95
Konix Navigator	£12.95
Cruiser	£8.95
Quickshot Apache	£7.95
Quickshot Python	£10.45
Quickshot Maverick	£12.95

SERIOUS SOFTWARE

First Word Plus V.3	£57.50
Wordwriter	£36.95
Home Accounts	£17.95
Personal Finance Manager +	£32.95
Degas Elite	£18.95
Deluxe Paint	£44.95
Easy Draw 2	£39.95
Neo Desk 3	£29.95
Data Manager Professional	£34.95
Replay Professional	£99.95
Replay 8	£59.95
Quartet	£39.95
STOS	£21.95
STOS Compiler	£14.95
STOS Maestro	£16.95
STOS Maestro +	£59.95
STOS Sprites	£10.95
Lets Make Series	
Greetings Cards	£8.95
Signs And Banners	£8.95
Calenders And Stationery	£8.95
Art Library 1 Or 2 (State)	£8.95

EDUCATIONAL SOFTWARE

Fun School 2 Under 6 years	£13.95
Fun School 2 6-8 years	£13.95
Fun School 2 Over 8 years	£13.95
Fun School 3 Under 5 years	£16.95
Fun School 3 5-7 years	£16.95
Fun School 3 Over 7 years	£16.95
Magic maths 4-8 years	£17.95
Maths Mania 8-12 years	£17.95
Three Bears 5-10 years	£17.95
Better Spelling (8 to 14)	£17.95
Better Maths (12 to 16)	£17.95
Learn To Read With Prof (4-9)	£20.95
Prof Looks At Words (4-9)	£13.95
Prof Makes Sentances (4-9)	£16.95
Letts Spell At The Shops	£13.95
Lets Spell At Home	£13.95
Lets Spell Out And About	£13.95

SIMULATIONS

Flight Simulator 2	£24.95
European Scenery Disk	£12.95
Japan Scenery Disk	£12.95
Hawaiian Scenery Disk	£12.95
Scenery Disk 7	£12.95
Scenery Disk 9	£12.95
Scenery Disk 11	£12.95
Jet	£24.95
F19 Stealth Fighter	£21.95
F15 Strike Eagle 2 (Special)	£24.95
Flight Of Intruder (OFFER)	£24.95

MAIL - CENTA

17 Campbell Street, Belper, Derby DE5 1AP. Tel: 0773 826830

Access

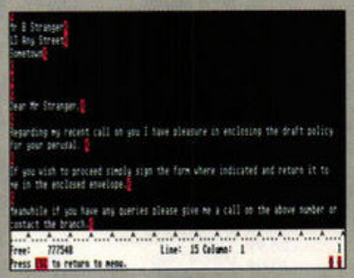
VISA

Prices include VAT at 17.5%. Delivery charges are as follows:- Order value under £10.00, please add 50p. Order value £10.00 to £99.99, delivery free. Order value £100.00 and over, please add £5.00. Personal callers welcome at our retail shop but please bring this advert as some prices will vary. Closed Wednesdays. All items despatched same day if possible. Personal Cheques may require 7 days clearance. Proprietor Martin Bridges.

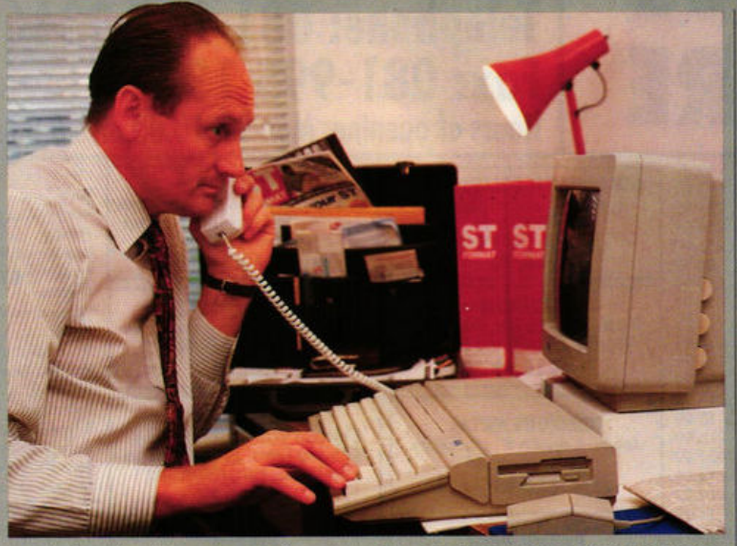
www.stformat.com

OFFICE SERVICES FROM HOME

When Dave Lincoln lost his job he was tempted to sell his ST to raise some cash. So why didn't he? "I reckoned I could probably sell the system for £200–£300 but it was the beginning of summer and nobody was interested. Then by chance I spoke to a local insurance salesman who happened to need letters sent to his clients.



● **Even inexpensive Public Domain programs like *ST Writer* are capable of producing top-quality results with a decent printer. Why pay more if all you need is the basics?**



"I offered to do it for him, so we set up a group of standard letters covering various stages of the job. Then all he needed to do was ring through with names and addresses and the number of the letter he wanted sent. Occasionally he asked me to type other things for him – suggestions for the management and so on. For this he paid me around a pound a page.

"That doesn't sound much – not just for one person. But he recommended me to some of his colleagues, so I soon found I was working for half a dozen of them. At the same time I put an ad in the local paper offering typing services. Although response was slow at first I now find there's quite a demand. Most of the time I find myself typing up manuscripts for aspiring writers or essays for students. It's hard work, but people who use me tend to recommend me to others, so now there's a steady flow of jobs."

Has Dave any ideas for expansion? "I'm considering setting up with some DTP (desktop publishing) software and using it to design and produce leaflets for local businesses. Because I work from home I don't have many overheads, so I can offer an inexpensive service. I'm also experimenting with a database and planning to have local shopkeepers survey their customers to see which goods and services the punters want.

What about getting a "real" job? "No way! There's plenty of demand for my services and I can choose my own hours. It's a pain dealing with tax and stuff, but I've just engaged an accountant to take care of that so I can concentrate on making money and enjoying my ST at the same time. And to think I almost sold the machine!"

rent for the rest of the term. There are many other uses for spreadsheets – in fact, full blown database and accounting systems can be constructed with practice. Think of them as pads of paper with built-in calculators. Their open structure means you can perform just about any task which comes to hand. All you need is a little imagination and some practice.

MISCELLANEOUS UTILITIES

In addition to word processors, databases and spreadsheets, there are heaps of more specialised utilities around which can make life easier. Where the main programs available in each of these categories are deliberately open-ended, enabling you to tailor them to your own needs, other programs (in the Public Domain in particular) may be based on a word processor, database or spreadsheet but pre-configured to perform a specific task.

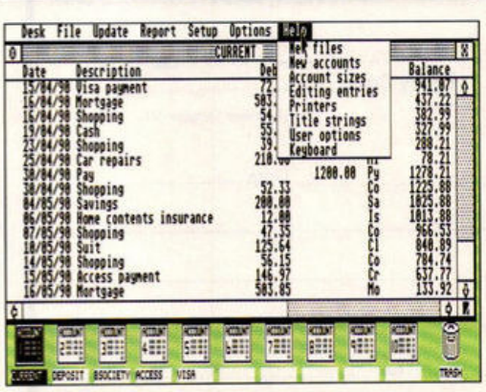
More specialised utilities can make life easier – from label makers and disk-based diaries to complete home accounts programs

A good example is the range of label makers, derived from word processors and databases but set up with the correct margins and printing instructions so that you can create and print out labels to your own design. How about tidying up your disk collection with easy to recognise labels for each category? Or what about neat printed labels for your videos? Much nicer than scribbled notes on a sticker.

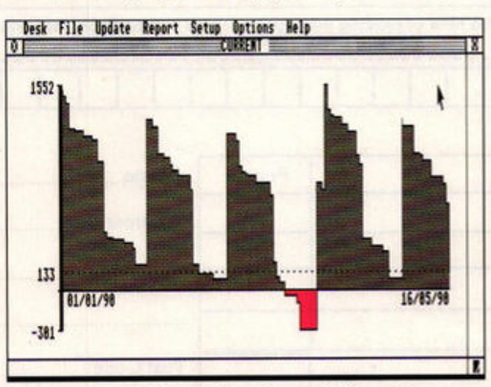
Perhaps you need to organise your time more effectively. If so, have a look at some of the computerised diaries around. These handy utilities can jog your memory about forthcoming events as well as things you have forgotten to do. (One was yours free on Cover Disk 25!) Some programs even enable you to print out sheets to fit personal organisers.

If you have a bank account or a handful of credit cards it's worth looking at a home accounts program. Performing the tasks of both database and spreadsheet, these programs help you keep track of your money – and in the case of credit cards, work out the best time for repayment to avoid charges. Many such programs give plenty of help with reconciliation too, enabling you to mark cheques as cleared and automatically including standing orders month by month. Most also enable you to perform some budgeting work, and some even offer pretty graphs to show just how you managed to go into the red yet again.

Get started and you're bound to discover how useful "serious" software can be. It all just goes to prove that your ST really is the business! ***stf***



● **Among the specialised utilities available for your ST is *Personal Finance Manager*, which helps keep track of your money. I wish I were paid that much!**



● **Among the helpful options is one that enables you to graph the state of your bank balance. Oops! Seems to have ben a bit of a problem in March...**

JARGON BUSTERS

MISCELLANEOUS

PERSONAL ORGANISER – The standard yuppie accessory some years ago, as popularised by Filofax.

PRE-CONFIGURED – A basic program enables many settings to be made to suit your needs. When pre-configured – either by you when you first use the program or ready supplied by the programmer – the settings are ready-made for a particular task.

RECONCILIATION – Matching cheques according to cheque stubs with entries on your bank statement to arrive at the actual state of your account instead of the balance given on the statement.

WHAT YOU NEED

NEXT ISSUE

In part two next month, we lift the lid on the range of business software available for the ST and show you exactly which packages can do what you want. The possibilities are dazzling! You can't afford to miss *ST FORMAT* 28, on sale Thursday 10 October. To make sure of your copy, turn to page 136 for details of how to subscribe.

www.stformat.com

LAZER SOFTWARE

FIRST FLOOR OFFICE, 16 LINDEN GARDENS, CHISWICK, LONDON, W4 2EQ
Telephone: 081-747 9344
Fax: 081-995 1325
Hours of opening: Mon-Sat 10.00am - 6.00pm

Access VISA

3D Construction Kit	£29.99	F19 Stealth Fighter	£19.99
3D Golf*	£23.99	F29 Retaliator	£15.99
4D Sports Boxing*	£16.99	F117A*	£21.99
688 Sub Attack	£16.99	Feudal Lords	£16.99
A10 Tank Killer	£22.99	Final Conflict	£16.99
Adv. Destroyer Sim. (A.D.S.)	£16.99	Final Whistle	£8.99
Adidas Golden Shoe *	£15.99	Flight of the Intruder	£19.99
ATF II	£16.99	Formula One*	£16.99
Afrika Korps*	£16.99	Future Basketball	£16.99
Agony	£18.99	Gauntlet III*	£16.99
Alcatraz*	£16.99	Genghis Khan	£21.99
Alpha Waves	£16.99	Gods	£15.99
Andit King of Ancient China	£21.99	Golden Axe	£15.99
Armalyte	£16.99	Gold of the Aztecs*	£15.99
Armour Geddon	£16.99	Gun Boat	£16.99
Atomic Robo Kid	£15.99	Gunship 2000*	£21.99
A.W.S.O.M.E.	£18.99	Hard Drivin II	£14.99
Back to the Future III	£16.99	Harpoon (1Mb)	£19.99
Barbarian II (Psyg)	£16.99	Heroes Quest (1Mb)	£21.99
Bard Tale III	£16.99	Hill Street Blues	£15.99
B.A.T.	£22.99	I Play 3D Soccer*	£16.99
Battle Bound*	£16.99	Immortals	£15.99
Battle Command	£15.99	Imperium	£16.99
Battle Chess	£16.99	Indianapolis 500	£16.99
Battle Chess II	£16.99	Int. Ice Hockey*	£16.99
Battle Hawk 1942	£16.99	Iron Lord	£15.99
Battle Master	£18.99	Ishido	£18.99
Betrayal	£18.99	Ivanhoe	£14.99
Billy The Kid*	£15.99	James Pond	£14.99
Blade Warrior	£16.99	Jimmy White Snooker*	£18.99
Blue Max	£18.99	Joe Montana Ftball*	£16.99
Bomber Bob	£16.99	Kick Off II (half Mb)	£12.99
Brain Blaster	£16.99	Kick Off II (1Mb)	£15.99
Brat	£15.99	Killing Cloud	£15.99
Buck Rodgers	£18.99	Last Ninja III*	£15.99
Cadaver	£16.99	Leisure Suit Larry III	£26.99
Cadaver Levels Pay Off	£10.99	Lemmings	£15.99
Cadaver Pay Off	£10.99	Line of Fire	£16.99
Captive	£15.99	Loom	£18.99
Carve Up	£14.99	Lost Patrol	£14.99
Carthage	£16.99	Lotus Esprit	£15.99
Celica GT4 Rally	£15.99	M1 Tank Platoon	£19.99
Centurion	£16.99	Mad Prof. Moriarti	£15.99
Chaos Strikes Back	£16.99	Manchester Utd Europe	£15.99
Chase H.Q. II	£15.99	Mega Traveller 1	£19.99
Chuck Rock	£15.99	Metal Master	£15.99
Chuck Yeagers A.T.F.	£16.99	Metal Mutant	£15.99
Colditz	£18.99	Midnight Resistance	£14.99
Corporation	£9.99	Midwinter	£19.99
Crime Wave	£16.99	Mig 29 (Fulcrum)	£21.99
Cruise for the Corpse*	£16.99	Midwinter II	£23.99
Cybercon III	£16.99	Moonstone	£21.99
Cyber Fight	£15.99	Moonbase*	£22.99
Darkman	£15.99	Monkey Island	£16.99
Das Boot	£21.99	M.U.D.S.	£15.99
Dick Tracey	£15.99	Murder	£16.99
Disc*	£15.99	Mystical	£15.99
Double Dragon 3*	£16.99	Myth	£15.99
Dragons Lair	£26.99	Nam 1965-1975	£18.99
Dragons Lair II (Timewarp)	£26.99	Narc	£15.99
Dragon Wars	£16.99	Navey Seals	£15.99
Elf*	£16.99	Nightbreed (Adv.)	£15.99
Elvira Mistress of the Dark	£21.99	Nightbreed (Arcade)	£15.99
Epic*	£15.99	Nightshift	£16.99
Eswat	£16.99	Nitro	£15.99
Eye of the Beholder	£18.99	Obitus	£21.99
F15 Strike Eagle II	£23.99	Operation Stealth	£16.99
F16 Combat Pilot	£16.99	Op. Thunderbolt	£15.99

HOLLYWOOD COLLECTIONS
Robocop, Ghostbusters 2, Indiana Jones, Batman The Movie
£18.99

GRANDSTAND
Gazza Super Soccer, Pro Tennis Tour, World Class Leaderboard, Continental Circus.
£18.99

PLATINUM
Black Tiger, Strider, Forgotten Worlds, Ghouls and Ghosts
£16.99

RAINBOW COLLECTION
New Zealand Story, Rainbow Island, Bubble Bobble.
£12.99

PRECIOUS METAL
Xenon, Captain Blood, Crazy Cars, Arkanoid
£16.99

FULL BLAST
Chicago 90, Rick Dangerous, Highway Patrol 2, P47, Carrier Command, Ferrari Formula 1
£18.99

POWER PACK
Xenon 2, Sports Football, Bloodwych, Lombard Rally
£14.99

FINALE
Paperboy, Ghosts & Goblins, Overlander, Space Harrier
£16.99

CHALLENGERS
Kick Off, Super Ski, Fighter Bomber, Great Courts, Stuntcar Racer
£18.99

MAGNUM 4
Afterburner, Double Dragon, Operation Wolf, Batman Caped Crusader
£17.99

EDITION ONE
Double Dragon, Xenon, Gemini Wing, Silkworm
£17.99

COMPUTER HITS VOL. 2
Tetris, Joe Blade, Golden Path, Black Shadow
£7.99

MAGNUM
RVF Honda, Pro Tennis, Oriental Games, Satan, After the War
£16.99

SEGA MASTER MIX
Super Wonderboy, Turbo Outrun, Dynamite, Dux, Thunderblade, Crackdown
£16.99

FLIGHT COMMAND
Eliminator, Strike Force Harrier, Lancaster, Sky Fox, Sky Chase
£12.99

WHEELS OF FIRE
Hard Drivin', Chase H.Q., Powerdrift, Turbo Outrun
£10.99

SOCCER MANIA
Football Manager 2, Gazza Soccer, Microprose Soccer
£9.99

MIND GAMES
Austerlitz, Waterloo, Conflict in Europe
£14.99

FIST OF FURY
Dynamite Dux, Shinobi, Ninja Warriors, Double Dragon
£17.99

POWER UP
Altered Beast, Rainbow Island, X Out, Chase H.Q., Turrican
£18.99

BIG BOX
Captain Blood, Safari Guns, Teenage Queen, Bubble Plus, Tin Tin on the Moon, Purple Saturn Day, Krypton Egg, Jumping Jackson, Bo Bo, Hostages
£16.99

Outrun Europa*	£16.99	**BUDGET TITLES**	
Pang	£15.99	3-D Pool	£8.99
Panza Kick Boxing	£16.99	3 Stooges	£8.99
Plotting	£15.99	After Burner	£6.99
Populus + Sim City	£21.99	Arkanoid II	£6.99
Powermonger	£18.99	Axel's Magic Hammer	£6.99
Predator II	£15.99	Baal	£8.99
Prince of Persia	£15.99	Barbarian II	£6.99
Puznic	£15.99	Batman Caped Crusader	£6.99
R.B.I. Baseball II	£17.99	Blasteroid	£6.99
Railroad Tycoon	£23.99	Blood Money	£8.99
Robocop	£14.99	Centrefold Squares	£6.99
Robocop II	£15.99	Chuckie Egg 1	£8.99
R-Type II	£16.99	Chuckie Egg 2	£8.99
Savage Empire	£19.99	Colossus Chess	£7.99
Search For The King	£19.99	Continental Circus	£6.99
Shadow of the Beast II	£15.99	Corporation Mission Disk	£9.99
Shadow Dancer	£16.99	Crazy Cars	£6.99
Shadow Warrior	£15.99	D.Dbl Horse Racing	£6.99
Sim Earth*	£16.99	D.Thompson Olym.Chall	£6.99
Simpsons*	£15.99	Def. of the Crown	£8.99
Ski or Die	£16.99	Deluxe Strip Poker	£6.99
Skull & Crossbones	£15.99	Double Dragon	£6.99
Sly Spy	£15.99	Dragon Ninja	£6.99
Space Ace	£26.99	Forgotten Worlds	£6.99
Speedball II	£15.99	Gauntlet II	£6.99
Spirit of Excalibur*	£19.99	Gremlin II	£7.99
Star Control	£16.99	Hard Drivin'	£6.99
Star Trek V*	£16.99	H. H.'s Guide to the Galaxy	£8.99
Strider II	£15.99	Kick Off - Extra Time	£6.99
Super Cars II	£15.99	IK+	£6.99
Super Monaco C.P.	£16.99	Last Ninja II	£6.99
Supremacy	£19.99	Leather Goddess of Phobos	£8.99
Swap	£16.99	Licence to Kill	£6.99
Switch Blade II	£15.99	M. Jackson Moonwalker	£6.99
Swiv	£16.99	North & South	£6.99
Team Suzuki	£15.99	Toobin	£6.99
Team Yankee	£19.99	Operation Wolf	£6.99
Terminator II*	£14.99	Outrun	£6.99
Test Drive III	£15.99	Passing Shot	£8.99
Teenage Mut. Heroes	£16.99	Phantasy World Dizzy	£6.99
Their Finest Hour	£19.99	Predator	£6.99
The Punisher	£16.99	RAC Lombard Rally	£6.99
Toki	£15.99	Rambo 3	£6.99
Torvak The Warrior	£15.99	Road Blaster	£6.99
Total Recall	£15.99	R-Type	£6.99
Tournament Golf	£16.99	Run The Gauntlet	£6.99
Turrican	£9.99	Shadow of the Beast	£8.99
Turrican II	£15.99	Silk Worm	£6.99
Ultimate Ride	£16.99	Speedball	£8.99
Ultimate V	£18.99	Spell Book 4 to 9 yrs	£6.99
UMS II	£19.99	Super Hang On	£6.99
UN Squadron	£15.99	Super Off Rd Racing	£9.99
USS John Young	£16.99	Switchblade	£6.99
Vendetta	£16.99	Sword of Sodam	£8.99
Viz	£16.99	Table Tennis Sim	£6.99
Warlock The Avenger	£14.99	TV Sports Football	£8.99
Wings (half Mb)	£18.99	Thunderblade	£6.99
Wings (1Mb)	£18.99	Treasure Island Dizzy	£4.99
White Death (1Mb)	£18.99	Vigilante	£6.99
Wolf Pack	£18.99	W C Leaderboard	£6.99
Wonderland	£18.99	Wizball	£6.99
World at War*	£16.99	Xenon	£8.99
Wrath of the Demon	£19.99	Xenon 2	£8.99
Xiphos	£16.99		
Ziltrax	£16.99		
Z Out	£16.99		

*** At the time of printing these games were not available, but will be despatched to you on release date.**

Order Form

Please charge my Access/Visa card no: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ Expiry Date:.....

ST Format October 91

Computer Titles	Price
Total	

Name ..... Date .....

Address .....

.....

.....

Post Code ..... Tel: .....

Please make cheques and/or postal orders payable to: Lazer Software
Credit card orders taken. 75p postage and packing. EEC countries add £2.00 per item. Non EEC countries add £3.00 per item.
All items subject to availability. E. & O. E.

www.stformat.com

Games to last 1,000 years

Programming team Millennium reveal the top ten games they play themselves – when they're not hard at work producing hits like *James Pond*, the *FORMAT* Gold winning *Resolution 101* and the forthcoming *Robin Hood*.

LEMMINGS
Released June 1991
£25.99
***STF* 24: 94%**
Psygnosis ☎ 051 709 5755

The sprites are hardly large enough to see, but *Lemmings* has given the word addictive a whole new meaning and taken the game world by storm. It's a puzzler, a platform game and great fun, especially at first. Original and neat.

POPULOUS
Released April 1989
£24.99
***ST Amiga Format* 10: 92%**
Electronic Arts ☎ 0753 49442

Original and brilliant, this god-game is among nearly everyone's favourites, though at its best with two players. Now bundled with *Sim City*, *Populous* is available at a budget price for everyone who hasn't yet experienced it.

RICK DANGEROUS 2
Released September 1990
£24.99
***STF* 15: 86%**
MicroProse☎ 0666 504326

Our kind of platform game! Extremely difficult, but this just makes it even more addictive. The control method is brilliantly conceived, and beautifully clean samples and humorous characters help to make *Rick* a winner.

JAMES POND
Released November 1990
£24.99
***STF* 17: 81%**
Millennium☎ 0223 421526

Okay, it's one of Millennium's own – but with its comical graphics, hidden rooms and weird creatures, an all-round fun game. It's even got one of those annoying ghostie things which follows you wherever you go, just like the cheeky chappie in *Flood*.

SILENT SERVICE
Released July 1989
£24.99
***STF* rating: 79%**
MicroProse☎ 0666 504326

One of the older submarine sims, but still one of the best. Great atmosphere, with just the right mix of sinking ships and tension. But sometimes you do wish you could just do a quick 180 degree turn and unleash 27 torpedoes!

SWIV
Released April 1991
£24.99
***STF* 22: 78%**
Virgin ☎ 071 727 8070

Our favourite shoot-'em-up of all time. Fast graphics and aliens a bit more intelligent than your average Venusian – these guys take it easier if you're not doing so well. Our top score so far is 92% but we'll have it sussed soon.

ELITE
Released November 1989
£24.99
***STF* 5: 75%**
Rainbird ☎ 0666 504326

Elite is one of the classic games which has evolved with the home micro, but the team still prefer the 8-bit versions. If there was ever a game which produced a million and one clones, then this outer space arcade/strategy game is it.

DEFENDER OF THE CROWN
Released June 1987
£24.99
***STF* rating 67%**
Mirrorsoft ☎ 071 928 1454

Particularly noted for its exellent presentation, *Defender of the Crown* is a strategy game based on old England. One of the very first games ever to come out on the ST, but graphically brilliant at the time and still very playable.

SUPER HANG-ON
Released November 1989
£24.99
***ST Amiga Format* 5: 65%**
Activision ☎ 010 33 1 49 10 9995

A simple and superfast racing sim – but it's the simplicity which enables it to look so remarkably smooth at speed. Found in most game-players' collections – partly because it was bundled with the ST Power Pack for so long.

CHUCK ROCK
Released May 1991
£25.54
***STF* 23: 82%**
Core Design ☎ 0332 297797

Another platform game with a twist. This one has everything: a touch of humour, colourful graphics and terrific animation as you belly-bump your way through the nasties – even cavemen with laser pistols. It certainly has that one-more-go appeal.

Honourable mentions: *Tetris, Bubble Bobble* (for two players), *Sim City, Doomdark's Revenge, F-16 Falcon, Robin Hood* (which actually isn't even out yet...)

TEN GAMES THAT WON'T LAST A THOUSAND SECONDS

1 99% OF LICENSED GAMES (FILM OR COIN-OP CONVERSIONS)
Released too often!
It's almost impossible to convert a 50MByte arcade game with 16 million colours onto an ST. Most lose their original playability.

2 DRAGON'S LAIR — ReadySoft
June 1990 £44.95 *STF* 12: 43%
This visually impressive platformer is simply a matter of making about three joystick moves at the right moment. Nice graphics, shame about the non-existent gameplay.

3 OUTRUN — US Gold
August 1989 £19.99 STAmiga1: 71%
This couldn't capture the amazing graphics and feel that made the arcade game special.

4 POWERMONGER — Electronic Arts
January 1991 £29.99 *STF* 19: 93%
Play a god controlling your people's development. Too complex and unplayable with two.

5 LORDS OF THE RISING SUN — Mirrorsoft
March 1989 £29.99 *STF*: 24%
Despite pretty visuals this adventure/RPG game is let down by too many disk accesses.

6 SKIDOO — Tomahawk
January 1990 £19.99 *STF*: 15%
A Jet-ski game with all the realism of a day in a microwave meal. Dire gameplay and graphics.

7 EMLYN HUGHES SOCCER — Audiogenic
May 1990 £19.99 *STF* 11: 75%
This soccer sim is cluttered with tedious "management" options and gameplay is sluggish.

8 DICK TRACY — Titus
February 1991 £24.95 *STF* 20: 25%
This jerky beat-'em-up gives new meaning to the word abysmal. Gameplay is the pits.

9 DAYS OF THUNDER — Mindscape
October 1990 £24.99 *STF* 16: 88%
In this Tom Cruise racing game it takes forever to get anywhere, and there's only one track.

10 There are loads more bad games than brilliant ones – but it's a shame to get bogged down in debating them, especially since most of them probably started out as good ideas and somehow went horribly wrong.

www.stformat.com

Evesham Micros

PRICES INCLUDE DELIVERY AND VAT @ 17.5%

Express Courier Delivery (UK Mainland Only) £6.50 Extra

BUY WITH CONFIDENCE from one of the longest established companies in their field, with a reputation for good service and prices. We have invested heavily in a computer system to enable our Telesales staff to provide up-to-the-minute stock information, coupled with highly efficient order processing. Our fully equipped Workshop enables us to carry out almost any repair on our premises. We feel sure that you won't be disappointed if you choose Evesham Micros.

HOW TO ORDER....

Call us now on

0386 765500

Lines open Monday - Saturday, 9.00am - 5.30pm

Send Cheque, Postal Order or ACCESS/VISA card details to :

Evesham Micros Ltd
Unit 9, St Richards Rd.
Evesham, Worcs
WR11 6XJ

ACCESS / VISA Cards Welcome

Government, Education & PLC orders welcome

Same day despatch whenever possible
Express Courier delivery £6.50 extra

Please note that 5 working days must be allowed for *personal cheque* clearance.

***Mail Order Fax:* 0386-765354**

RETAIL SHOWROOMS

All our Showroom outlets hold large stocks of most items and also supply from a far wider product range than advertised. Please do not hesitate to ring any of our showrooms and discuss your requirements with a member of our highly trained staff.

Unit 9 St Richards Road, Evesham
Worcestershire WR11 6XJ
☎ 0386 765180
fax : 0386 765354
Open Mon-Sat., 9.00 - 5.30

5 Glisson Rd, Cambridge CB1 2HA
☎ 0223 323898
fax : 0223 322883
Open Mon-Fri, 9.30 - 6.00
and Sat., 9.00 - 5.30
Corporate Sales Dept. ● *IBM dealer*

1762 Pershore Road, Cotteridge
Birmingham B30 3BH
☎ 021 458 4564
fax : 021 433 3825
Open Mon-Sat., 9.00 - 5.30

▼ TECHNICAL SUPPORT ▼

☎ 0386-40303
Monday to Friday, 10.00 - 5.30

12 MONTHS WARRANTY ON ALL PRODUCTS
All details correct at time of press
All goods subject to availability, E. & O.E.

Please note: Prices that include On-Site Maintenance (On-Site Warranty) are UK Mainland Only.

3½" EXTERNAL FLOPPY DRIVES

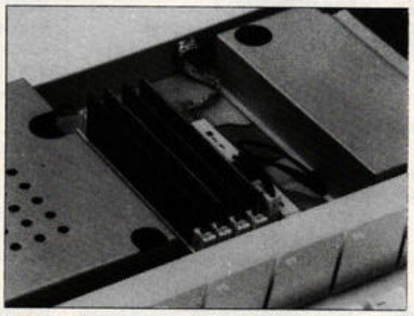
LOWEST EVER PRICE !
£54.95
including VAT & delivery

INCLUDES ITS OWN EXTERNAL PLUG-IN PSU
Beware of other makes of drive that take their power from the joystick port !

- Very quiet
- Slimline design
- Cooling Vents
- Sleek, high quality metal casing
- Suits any Atari ST
- Quality Sony/Citizen Drive Mechanism
- On / Off switch on rear of drive
- Full 720K Formatted Capacity
- Long reach connection cable

Also available:
5.25" External Drive
40/80 Track Switchable
Only £99.00 inc. VAT & delivery

SOLDERLESS MEMORY UPGRADES FOR ST's



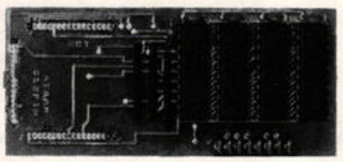
- ✔ Fits STF, STFM and MEGA series computers
- ✔ Uses SIMMS RAM Modules for Effortless Upgradeability
- ✔ Probably the neatest ST RAM Upgrade available!

Upgrade the memory of your ST quickly and easily with our new, fully software compatible RAM upgrade board. Designed for pre-STE machines, the unit accepts SIMMS slot-in memory modules, making RAM fitting simplicity itself. No electronics knowledge needed! Available with or without RAM modules. Allows upgrade in stages of 1Mb, 2 / 2.5Mb and 4Mb, as and when necessary. Straightforward installation - full, comprehensive instructions provided.

RAM Upgrade with board unpopulated	£ 44.95
RAM Upgrade With 512K RAM Installed - upgrades a 520 to a total of 1Mb RAM.....	£ 74.95
RAM Upgrade With 2Mb RAM Installed - upgrades a 520/1040/Mega1 to 2/2.5Mb....	£119.95
RAM Upgrade With 4Mb RAM Installed - upgrades a 520/1040/Mega ST to 4Mb	£199.95

N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

PLUG-IN, SOLDERLESS RAM UPGRADES FOR MOST 520/1040 ST COMPUTERS



With our compact plug-in RAM Upgrades, you can expand the memory of your ST to as much as 2.5Mb, quickly and cheaply!

2 versions allow upgrade to 1Mb, or 2/2.5Mb ● Compact design ● Quick installation procedure ● Simple, fast and effective RAM upgrade path ● Designed to fit almost any 520 or 1040 ST model ● Requires no soldering or technical know-how

Please note: Not suitable for STE machines

512K VERSION : UPGRADES 520 STs TO 1MB RAM	ONLY **£49.95**
2MB VERSION : UPGRADES 520/1040 STs TO 2/2.5MB RAM	ONLY **£99.00**

RAM & DRIVE ACCESSORIES

520 STE 1Mb RAM upgrade (2x256k SIMMS)	£ 30.00
520/1040 STE 2Mb RAM upgrade (2x1Mb SIMMS) ...	£ 80.00
520/1040 STE 4Mb RAM upgrade (4x1Mb SIMMS) ...	£ 160.00
520STFM 1Mb RAM Upgrade kit, requires soldering..	£ 49.00
520STFM 1Mb RAM Upgrade, fitted by ourselves.....	£ 79.00
Mega ST2 4Mb RAM Upgrade, fitted by ourselves.....	£ 149.00
520STFM 1Mb Internal Drive upgrade kit, with full instructions. Requires very slight case modification.....	£ 49.95
Atari Megafile 30Mb Hard Disk.....	£ 439.00
Atari Megafile 60Mb Hard Disk.....	£ 589.00

PROFESSIONAL ST REPAIRS

Our fully equipped service department is ready to handle almost any Atari ST repair.

We can offer fixed price repairs on any ST computer. Our price include return postage and covers any fault occurring in normal use, including drive problems. We reserve the right to refuse any machine that we consider to have been damaged other than in normal use, eg. substandard repair work, lightning and physical damage - these are quoted for separately.

ATARI ST FIXED RATE REPAIR ..... £ 65.00

If in doubt, please contact us on 0386-446441

Atari ST Service Exchange on Power Supplies..... £ 35.00
Atari ST Power Supply Module available separately for... £ 55.00

LYNX Hand-held Games Console

Only £109.99 INCLUDES POWER SUPPLY AND GAMECARD OF YOUR CHOICE !

LYNX GAMECARDS

Electro Cop	£21.95	Xenophobe	£21.95
Slime World	£21.95	Blue Lightning	£21.95
Klaxx	£21.95	Gates of Zendocon	£21.95
Roadblasters	£21.95	Chips Challenge	£21.95
Paperboy	£21.95	Shanghai	£21.95
Rygar Warrior	£21.95	Rampage	£24.95
Zalor Mercenary	£21.95	Gauntlet 3	£24.95
Ms Pacman	£21.95		

NEW! TOP VALUE 400dpi HANDY SCANNER

QUALITY SCANNING - AT THE RIGHT PRICE !

Representing outstanding value for money, this complete package combines *top quality* scanning hardware with the distinctively powerful *DAATASCAN PROFESSIONAL* software.

At a genuine 400dpi scanning resolution, this new scanner produces truly superb quality scans. The scanning head itself is a full 105mm scanning width, featuring variable brightness control and selectable resolutions of 100, 200, 300 and 400dpi. Also supplied is ***DAATASCAN PROFESSIONAL*** scanning *and* editing software which features the special *Real-Time* scanning display, and allows scanning in either line art or in up to 16 halftones. Provides powerful editing features including image crop, rotate, flip and invert as well as pixel touch-up. Saves as IMG, TIFF or DEGAS file formats, giving excellent compatibility with all major Desktop Publishing and Paint packages, eg. Fleet St. Publisher, Timeworks DTP and Touch-Up.

ONLY £129.00 including VAT and Delivery

TRUEMOUSE

WE GUARANTEE that this is the smoothest, most responsive and accurate replacement mouse you can buy for the Atari ST. Excellent performance, amazing low price !

£17.95 SATISFACTION GUARANTEED

GOLDEN IMAGE OPTICAL MOUSE

ST/Amiga compatible - excellent travel & accuracy assured. *NEW LOWER PRICE!* ..... £ 29.00

TRACKBALL

Excellent new high performance trackball, directly compatible to any Amiga or Atari ST. Operates from the mouse or joystick port. Super-smooth, accurate and versatile - you probably won't want to use a mouse again after using this Trackball ! Total one-handed control. Top quality construction and opto-mechanical design, delivering high speed and accuracy every time. No driver software needed !

ONLY £29.95

GOLDEN IMAGE HANDY SCANNER & TOUCH-UP

Outstanding quality, excellent value for money - this package includes a 100-400dpi scanner with dither options, plus the amazingly powerful TOUCH-UP software package which drives the scanner directly. Scanner includes viewing window & backlight for accurate scans every time. Scan either line-art or grey images up to 400dpi. Many image enhancement & special effects available from within Touch-Up. A sensible investment for Desktop Publishing work.

NEW SUPER LOW PRICE!

£145.00 Certified 'FORMAT GOLD' Refer to the Jan.1991 issue of ST FORMAT

PHILIPS 15" TV/MONITOR

With its dedicated monitor input, this model combines the advantages of a high quality medium resolution colour monitor with the convenience of remote control Teletext TV - at an excellent low price ! NEW Version features dark glass screen for improved contrast, plus full range 3-way speaker sound output .

£269.00 Including VAT, delivery & cable

Monitor Switch Box - switch between colour / mono monitors without the need for unplugging. *Great value!* ..... £ 13.95

Philips CM8833 Mk.II (stereo sound) - latest model inc.cable .. £ 239.00
Atari SM124 Monochrome Hi-Res. Monitor ..... £ 129.95
Atari SC1224 Colour Medium Res. Monitor ..... £ 269.00

VIDI-ST with VIDI-Chrome Video Digitiser Package, great value ..... £ 99.95
VIDI-Chrome colour separation VIDI accessory for B&W camera users .. £ 16.95
VIDI-RGB automatic colour separator VIDI add-on for colour input ..... £ 64.95
PC-Speed Hardware PC emulator which fits neatly inside the ST. Please state either STFM or STE version when ordering ..... £ 99.95
AT-Speed Hardware PC emulator (16MHz 80286) with DR-DOS v5.0 and socket for maths co-processor. Supports VGA/EGA (with SM124) and EMS ..... £ 229.95
AT-Once 80286 based hardware emulator with support for extended memory and hard disks ..... £ 149.95
Supercharger External V30 CPU-based multi-tasking PC emulator with 1Mb RAM & MS-DOS 4. Plugs into DMA port. STE compatible ..... £ 289.00
Joystick / Mouse Ports Accessibility Adapter for STF/STFM/STE ..... £ 4.95
Dust Covers - available for any ST ..... £ 4.95 available for any MEGA ... £ 9.95

ST FORMAT GOLD AWARDS 1990

ST Company of the Year 1990 ● 2 to 1 Majority Winner

HIGH SPEED, SUPERIOR QUALITY HARD DISKS FOR ST's

Incorporating new technology NEC SCSI hard disk mechanisms, these units combine excellent performance with quality and high capacity.

- ☆ **Latest technology NEC SCSI Mechanisms** with fast Access
- ☆ **Fully Autoparking** Hard Disk
- ☆ Features **ICD Hard Disk Interface and Software**
- ☆ Includes **DMA Throughport** and **Cooling Fan**
- ☆ **High quality** compact grey metal casing
- ☆ Extremely easy installation procedure

ULTRA LOW PRICES!

40MB VERSION ONLY £ 325
100MB VERSION ONLY £ 469

PRICE INCLUDES CABLES & DEDICATED POWER SUPPLY. WE STRONGLY RECOMMEND AGAINST USE OF HARD DISKS ON THE ST WITHOUT INDEPENDENT POWER SOURCE.

ATARI

KICK OFF with GAZZA at Evesham Micros !

FREE! With EVERY ST Pack

- ★ 'GAZZA 2' ..... (RRP: £25.53)
- ★ 'TRACKSUIT MANAGER 90' ..... (RRP: £20.42)
- ★ 'SUBBUTEO' ..... (RRP: £25.53)
- ★ 'THE BALL GAME' ..... (RRP: £24.99)
- ★ 'TREASURE TRAP' ..... (RRP: £25.53)
- ★ 'ASTERIX' ..... (RRP: £24.99)
- ★ 'SKIDOO' ..... (RRP: £7.99)
- ★ 'LEONARDO' ..... (RRP: £7.99)
- ★ TOP QUALITY JOYSTICK ..... (RRP: £9.99)
- ★ 10 X 3.5" DS/DD DISKS ..... (RRP: £9.99)

TOTAL RRP OF EXTRAS: OVER £180.00 !

EVESHAM MICROS PRICE PROMISE - WE WILL *BEAT* ANY GENUINE ATARI ST PACKAGE OFFER ON A LIKE-FOR-LIKE BASIS

ALL OUR ST prices include mouse, user guide, etc. PLUS 5 Double Sided disks full of specially selected Public Domain software including paint program, two wordprocessors, games, graphics & sound demos, desk accessories and utilities.

520 STE DISCOVERY EXTRA PACK

Specially featured package representing top value, including the Atari STE which features 1Mb Drive, 512K RAM, full digital stereo sound, PLUS extra software including:

'Dragon's Breath' ● *'Super Cycle'* ● *'Indiana Jones'* ● *'Anarchy'* ● *'Neochrome'* ● *'FirST BASIC'* ● *'Atari ST Tour'*

£299.99 inc.VAT & delivery
£329.99 WITH 1MB RAM FITTED
£369.99 WITH 2MB RAM FITTED
£439.99 WITH 4MB RAM FITTED

1040 STE FAMILY CURRICULUM PACK

Special pack features five categories of extra software, including :

'Read & Learn' word recognition & sentence construction ● *Quizzes, Spelling & Primary Maths* ● *GCSE Maths, French & Geography revision* ● *Wordprocessor, Database & Spreadsheet (RRP over £100)* ● *Hyper Paint, Music Maker and FirST BASIC*

£369.99 inc.VAT & delivery
£419.99 WITH 2MB RAM FITTED
£499.99 WITH 4MB RAM FITTED

PRINTERS Prices include VAT, delivery and cable

EVESHAM MICROS SPECIAL OFFER !

All STAR Printers include 12 months On-Site Maintenance

Star LC-10 *SPECIAL OFFER* - WHILE STOCKS LAST!	£ 129.95
Star LC 200 9-Pin Colour, 4 fonts, 180/45cps	£ 209.00
NEW! STAR LC20 fast 180/45cps super 9-pin, excellent value	£ 159.99
Star LC 24-10 24-Pin, 4 fonts, 180/60cps	£ 209.00
Star LC 24-200 24-Pin, 5 fonts, 200/67cps	£ 249.00
Star LC 24-200C 7 colour version of above	£ 289.00
Automatic Sheet Feeder for above printers (pls.state model)	£ 64.95
SPECIAL OFFER! STAR XB24-10 WITH COLOUR UPGRADE & AUTOMATIC CUT SHEET FEEDER - *While Stocks Last*	£ 359.00
NEW! Star XB24-200 COLOUR 24-pin, 80 col. power printer	£ 399.99
Hewlett Packard Deskjet 500 Good quality 300dpi Inkjet printer	£ 399.99
Olivetti JP-150 Inkjet 300dpi, first class quality - exceptional value	£ 249.99
Olivetti JP-350 Inkjet Fast 300dpi with superior features to Deskjet	£ 349.99
Panasonic KXP1124i Fast 24-pin with many features	£ 279.00

ST SOFTWARE

First Word Plus	£ 57.95
Write On	£ 49.95
Data Manager Professional	£ 29.95
Cyber Paint 2.0	£ 37.50
Cyber Studio (CAD 2.0)	£ 37.50
Degas Elite	£ 22.50
Deluxe Paint	£ 44.95
Digita Home Accounts	£ 23.95
Personal Finance Manager Pro.	**£ 28.95**
Timeworks DTP	£ 69.95
Replay 8	£ 63.95
GFA BASIC 3.6	£ 37.95
GFA BASIC Compiler	£ 22.50
HiSoft Devpac 2.23	£ 44.95
Lattice C 5.06.02	£ 115.00
Power BASIC	£ 29.95
Atari Fastcom 2	£ 37.00
Atari Archive	£ 22.00
Mavis Beacon Teaches Typing	£ 22.50

NEODESK 3 ..... **£ 29.95**
Simply the best replacement desktop / file management environment for ST's.
NeoCLI ..... ***£ 24.95***

SPECIAL OFFER !!!

We are offering a complete Wordprocessing and Desktop Publishing package complete with graphics import facilities.

Available with any hardware purchase over £75.00.

'FIRST WORD PLUS' & 'TIMEWORKS D.T.P.'

ONLY £49.95

NEW! STAR LC20 9-Pin Printer

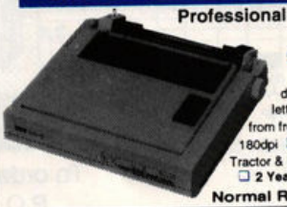
NEW SUCCESSOR TO THE STAR LC-10, WITH MANY FEATURES AND A FASTER PRINT SPEED

Providing superlative paper handling, four excellent NLQ fonts and a new super-fast print speed of 180cps in draft and 44 cps in NLQ, the LC20 appropriately supercedes the phenomenally successful LC10 !

INCLUDES CONNECTION CABLE & 12 MONTHS ON-SITE MAINTENANCE

ONLY £159.95

Citizen PRODOT-24 COLOUR



Professional 24-Pin Colour Printer - at a budget price!

- ❑ Highly versatile letter quality printer ❑ 200 cps output in draft, 66 cps in LQ mode (5 true letter quality fonts) ❑ Full control from front panel ❑ Graphics res.360 x 180dpi ❑ Farallel and Serial Interfaces, Tractor & Single Sheet Feed as standard
- ❑ **2 Year Manufacturers Warranty**

Normal RRP: £ 746.35 inc.VAT

ONLY £269.00 inc.VAT, delivery & cable

Olivetti DM124C COLOUR

Professional 24-Pin Colour Printer with full 12 Months On-Site Warranty Cover !

- ❑ 200 cps in draft, 50 cps in LQ mode
- ❑ 7 Colour output; Graphics res. 360 x 180dpi ❑ Huge 40k buffer ❑ Tractor & Single Sheet Feed
- ❑ **12 MONTHS ON-SITE WARRANTY**

DM124C Normal RRP: £ 389.95 inc.VAT

ONLY £269.00 inc.VAT, delivery & cable

www.stformat.com

3½" DISKS BENCHMARK BRAND DS/DD

25	50	100
£17.00	£29.00	£41.00
200	**500**	**1000**
£75.00	£163.00	£309.00

3½" DISKS UNBRANDED DS/DD

25	50	100
£11.00	£18.50	£33.50
200	**500**	**1000**
£63.50	£153.50	£303.50

SPECIAL OFFER 3½" DS/DD EX-WESTERN DIGITAL VGA DRIVERS ALL BRAND NEW BUT HAVE BEEN FORMATTED & LABELLED. AVAILABLE IN BLACK OR IBM GREY PRICE £25.00 PER 100 INC NEW LABEL. ONLY 10,000 AVAILABLE. DON'T MISS THIS ONE. FIRST COME FIRST SERVED

DISK STORAGE BOXES

3½" 10 capacity (5 boxes).....£4.50
3½" 10 capacity* (5 boxes).....£3.00
3½" 50 capacity lockable.....£3.70
3½" 100 capacity lockable.....£4.70
3½" 240 capacity stackable.....£15.00
*brand new, but labelled "Olympia"

THESE PRICES ONLY IF BOUGHT WITH DISKS

MCS

ALL PRICES INCLUDE VAT & P&P UK ORDERS ONLY

Cheques and Postal Orders to: VISA Access

24 HOUR ORDERLINE 0597 87784

Manor Court Supplies Ltd

Telephone: 0597 87 792 Fax No: 0597 87 416
Dept ST10, Glen Celyn House, Penybont, Llandrindod Wells, Powys, LD1 5SY

EDUCATION AND GOVERNMENT ORDERS WELCOME

ALL DISKS 100% CERTIFIED ERROR FREE

The MIDI Music Dezigner

Vivace Module 1

ATARI 1 meg. for the S.T.

An 81 track MIDI Sequencer that displays midi events as musical symbols. Real time midi input, or type in as sheet music. Continuous Controller Editor. Midi Mixing desk. Re-map window, and lots lots more....

ACTUAL SCREEN SHOT

To order : Send Cheques, Bankers Drafts, Postal Orders to DESERT SOFTWARE, P.O. Box 123, St. Helens, Merseyside, WA9 5LD Tel or Fax 051 430 7400

www.stformat.com

A joy to hold

Is your joystick on its last legs? If so, maybe it's time you went for an upgrade to something a little more "serious." Or, to put it another way, do you want yours to (a) run your ST, (b) impress your friends or (c) get you invited on Wogan? Neil Jackson gets to grips with a new offering from Gravis that promises much and even delivers – but at a price...

Gravis Switch Joystick

MACHINE: ALL STs
PRICE: £39.99
FROM: SPECTRAVIDEO
CONTACT: ☎ 081 900 0024

The arrival of the original Gravis MouseStick (RC Simulations ☎ 0272 550900, £70.50) caused something of a stir in the "serious" joystick market earlier this year. Now it's joined by its less-versatile stablemate, the Gravis Switch Joystick which, although it looks very similar, is a different animal altogether.

The Switch Joystick uses the same casing as the MouseStick and as a result is a very robust and professional-looking piece of equipment. The only real difference is what's inside – and since it comes in either black or clear plastic, you can actually see the insides if you wish!

The Switch Stick features the same panel of buttons and rotary switches alongside a tough, well-padded adjustable stick. The stick sports a thumb-operated micro-switch at the top of the shaft and is covered in the kind of non-slip black padding which skateboarders use. There's little danger of this one slipping out of your hands!

The base-panel is a solid block of plastic containing the Switch Stick's mechanism.

● The Switch Stick is a robust design, offering programmable joystick buttons and adjustable stick tension but is it really worth £40?

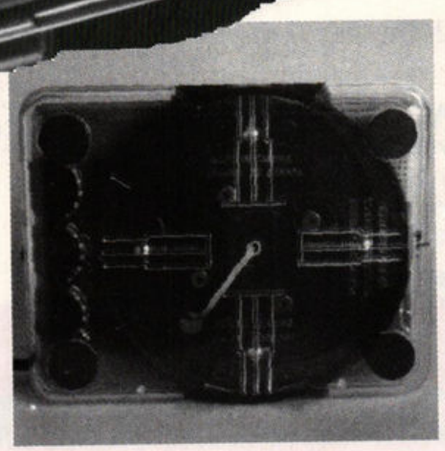
It has foam rubber feet to stop it sliding around the table top instead of the more common sucker-feet and is therefore easier to pick up and use with two hands. The flat nature of the base enables you to use the base as a lever against the stick shaft. (If you're left-handed you may disagree, considering that the panel buttons are both mounted to the left side.) However, the whole assembly is a bit weighty and long sessions with it may be tiring for those with smaller hands.

Just like the MouseStick, the Switch Stick has lots of extra features which make it special. Along the left-hand edge of the base are three rotary switches, set into the panel itself. Each switch controls the setup for one of the three main micro-switches. There are four positions available: normal, forward, backward, and turbo. These enable you to pre-program any of the main switches to duplicate a certain function. You can, for example, set up the Switch Stick up so that the top left button duplicates the forward movement of the stick, the bottom left button duplicates the backward movement and the shaft-mounted switch functions as a normal "Fire" button. This kind of setup is ideal for car-racing games: you no longer need to concentrate on pushing and pulling the stick, just steering. The accelerate/decelerate is now button-operated, more like a real car, and the top "Fire" button changes gear as normal. Alternatively, you can set up all three switches to function as turbo buttons, giving you a shot repeat-rate of around 10 blasts per second on any switch you happen to hit in a tight corner.

The Switch Stick shares another of the MouseStick's useful features: adjustable stick tension. It uses an ingenious system of springs and balls held in place by a stepped ring, so you can turn the stick from a sloppy, porridge-stirring device into a tight, springy controller. There are 11 different settings for the tension wheel, providing enough flexibility to suit virtually anyone, in any application.

Unfortunately the Stick Switch's downfall has to be its price. At nearly 40 quid, only the real "joystick snobs" are going to be attracted to it. While it's a nice design and built to last, the Switch Stick doesn't actually behave any differently to normal joysticks which cost around ten quid. If money's no object and having a plush joystick is what you're after, you'd do better to look at the original MouseStick (see *ST FORMAT* 24 where we the Mousestick in detail – if you missed that issue then turn to page 136) which can do all that the Switch Stick can, and more! ***stf***

While it's a nice design and built to last, the Switch Stick doesn't behave any differently to normal joysticks which cost around ten quid



● No, it's not a pizza or a clock – it's the underside of the Switch Stick. Each of these switches controls the way the micro-switches are set up.

FORMAT RATINGS

Gravis Switch Stick £39.99
Spectravideo
☎ 081 900 0024

FEATURES: 88%
More features than most standard joysticks, including adjustable tension and three configurable buttons

EASE OF USE: 85%
Not as complex as the MouseStick, but still requires a bit of thought when reprogramming buttons.

RESULTS: 90%
Performs as well as a joystick can. It has a professional feel and its movement is slick and smooth.

***FORMAT* VALUE: 85%**
Nice Stick, shame about the price. Why pay four times the normal price for something only twice as good?

THE COMPETITION
There are loads of sticks available from most retailers. Here's a rough idea to shop around with: Quickshot 3 Turbo (around £7.50), Zip Stick (around £11.00), Stingray (around £15), Competition Pro 5000 (£12.99)

www.stformat.com

NEW PACKS FROM ATARI

FREE 16 DAY VOUCHER HOTEL ACCOMMODATION

NEW! 520 STE DISCOVERY EXTRA PACK

New pack from Atari comprising:

- ★ Latest Atari STE computer
- ★ 1Mb drive ★ Digital stereo sound
- ★ Dragons Breath ★ Super Cycle ★ Anarchy
- ★ Indiana Jones
- ★ Neochrome
- ★ First Basic
- ★ Atari ST Tour

All for only **£299.99**

Want it fitted with extra Ram?

1 Mb RAM	£329.99
2 Mb RAM	£369.99
4 Mb RAM	£439.99

NEW! 1040 STE 'FAMILY CURRICULUM PACK'

- ★ Latest Atari STE computer
- ★ 1Mb drive ★ 1Mb RAM ★ Stereo sound
- ★ Five modules of software covering:-

1) Play & Learn
2) Junior School
3) GCSE Revision
4) Business Computing
5) Creative Computing

£349.99

Want it fitted with extra Ram?

2 Mb RAM	£419.99
4 Mb RAM	£499.99

RAM UPGRADES

520 STE 1Mb RAM upgrade (2 x 256K Simms)	£29.99
520 STE 2Mb RAM upgrade (2 x 1Mb Simms)	£79.99
520 STE 4Mb RAM upgrade (4 x 1Mb Simms)	£159.99

DISK DRIVE STARTER KIT

- ★ PC 720 3.5" high quality disk drive (Features built in p.s.u., Sony/Epson mechanism) ..... RRP £89.95
- ★ 20 3.5" DS/DD disks with labels ..... RRP £19.95
- ★ 40 Capacity lockable disk box ..... RRP £9.99
- ★ 3.5" disk drive cleaner Kit ..... RRP £9.95

Total RRP £129.80

Starter Kit Price £69.95

LANGUAGE LEARNING PACK - exclusive to Dow.

With 1992 just around the corner, isn't it time you learned a foreign language that our European counterparts use. Here at Dow we have put together a pack which ensures you learn at least one language in 3 months.

PACK COMPRISES: -

Plus The French Mistress..RRP £19.95
Plus The German Master ..RRP £19.95
Plus The Spanish Tutor.....RRP £19.95
The Italian Tutor.....RRP £19.95

Plus The famous HUGO 3 MONTH CASSETTE LANGUAGE COURSE in either French, German, Spanish or Italian.

The course consists of 4 audio tapes and comprehensive learning book. RRP **£29.95 each**

The total RRP of this pack is usually £109.75.

Our special pack price is **£49.95**

N.B. Remember to state which HUGO course you require when ordering. Additional Hugo courses available at just £24.95

MONITORS

SM124 *High Res mono monitor* **£129.95**

Philips 8833 Mk. II *Stereo colour monitor* **£249.95**

10 Great Games Trivial Pursuit - Squeek - Asterix - Chess Player 2150 - Driving Force - Live and Let Die - Onslaught - Pipemania - Rick Dangerous - Rock and Roll. **£27.95**

AT LAST - THE COMPLETE 5 STAR REPAIR SERVICE.

- ★ We will send our courier to pick up your faulty computer, *all we ask is that you pack it adequately* *
- ★ We will repair and soaktest your Atari ST to the highest standard
- ★ We will guarantee the parts replaced for a full 3 months
- ★ We will extend the guarantee to a period of 12 months for a nominal £25
- ★ We will return your computer speedily via courier.

THE TRULY COMPLETE SERVICE FOR ONLY **£59.95**

N.B. Dow reserve the right to refuse machines in the unlikely event that in our opinion they are beyond reasonable repair.

* UK Mainland only.

COMPLETE VIDI-ST SCOOP

Another Dow exclusive giving you a complete system enabling you to connect your ST to any standard video recorder and star frame grabbing!

Pack includes:-

Vidi - ST (PAL version)	RRP £99.95
Vidi - RGB Splitter	RRP £69.95
Vidi - RGB Power Supply	RRP £9.95
Vidi - Chrome	RRP £19.95
E180 VHS Video Tape	RRP £6.95

Total RRP £206.75

Scoop Price £139.95

THE ULTIMATE CARTRIDGE

IT'S A CRACKER!!

✻ Ultimate Cartridge + 20 3½" Disks 3½" Cleaning Kit

All for **£39.99**

STAR PRINTERS

LC10 Mono 9 Pin Dot Matrix 144/34cps	£149.95
LC200 Colour 9 Pin, 180/45 cps, 16K Buffer	£199.95
LC24-200 Mono 24 Pin Dot Matrix, 200/67cps	£239.95
LC24-200 Colour 24 Pin, 200/67 cps, 30K Buffer	£289.95

CITIZEN PRINTERS

120D+ Mono 9 Pin Dot Matrix 144/30 cps	£139.95
Swift 9 Colour 9 Pin, 192/48cps, 8K Buffer	£189.95
124D Mono 24 Pin Dot Matrix, 144/48cps	£199.95
Swift 24 Colour 24 Pin, 192/64cps, 8K Buffer	£289.95
Swift 24 x Colour 136 column version of above	£389.95

PRINTER ACCESSORY PACK

Only available when purchased with a printer.

- ★ Parallel printer cable - RRP £14.95
- ★ 200 sheets listing paper - RRP £6.95
- ★ Quality tailored dust cover - RRP £12.95

TOTAL RRP £34.85

PACK PRICE £9.95
with printer stand
£14.95

COMPUTERS

UNIT 3, FORGE CLOSE, LITTLE END RD, EATON SOCON, CAMBS, PE19 3TP

www.stformat.com

FROM THE POWER HOUSE

External Drive with PSU	£54.95
RAM Expansion 2Mb (no soldering)	£169.95
RAM Expansion 4Mb (no soldering)	£249.95
Power Mouse (Naksha Mech.)	£16.95
Blitz Turbo	£19.95
Slimline 20Mb (with PSU) Hard Drive	£325.00
Slimline 40Mb (with PSU) Hard Drive	£399.00
External (Joystick Powered) Drive	£44.95

ESSENTIAL COMPUTER ACCESSORY PACK 1

- ★ Competition Pro 5000 joystick.....RRP £14.95
- ★ High quality solid perspex computer dustcover.....RRP £9.95
- ★ 20 3½" DS/DD disks with labels.....RRP £14.95
- ★ 40 capacity lockable disk box.....RRP £4.95
- ★ 3½" disk drive cleaner kit.....RRP £4.95

TOTAL RRP £52.75
PACK PRICE £29.95

ESSENTIAL COMPUTER ACCESSORY PACK 2

- ★ Naksha high quality powermouse .RRP £34.95
- ★ High quality mousepad.....RRP £8.95
- ★ High quality solid perspex computer dust cover.....RRP £14.95
- ★ Twin joystick/mouse extension leads..RRP £9.95

TOTAL RRP £68.80
PACK PRICE £29.95

ESSENTIAL ACCESSORIES

Disks - 100% Certified

Pack of 10 high quality 3.5" DS/DD	£4.99
Box of 10 branded TDK 3.5" DS/DD	£7.99
Box of 50 3.5" DS/DD with labels	£18.99
Box of 100 3.5" DS/DD with labels	£35.99
Box of 250 3.5" DS/DD with labels	£79.99
3.5" disk drive cleaning kit	£3.99
Roll of 1000 labels	£5.99

Disk Boxes

3.5" 10 capacity Ryford box	£1.49
3.5" 40 capacity lockable box	£4.50
3.5" 80 capacity lockable box	£5.95
3.5" 80 capacity Van 3 (slim design)	£7.95

www.stformat.com

Mouse

High quality mousepad	£2.99
Mouse/joystick extension leads	£5.99
Powermouse ST/Amiga	£16.99

Dustcovers

PVC quality covers for computer/printer	£5.99
High quality solid Perspex dustcover	£9.99

MICROSWITCH JOYSTICKS

The only joysticks worth buying, full 1 year guarantee!

QUICKJOY III SUPERCHARGER
Two fire buttons, Auto-fire, Six micro-switches.....£8.99

QUICKSHOT TURBO
Two fire buttons, Auto-fire, six micro-switches..£9.99

QUICKJOY VI JETFIGHTER
Two fire buttons, Autofire with fast/slow mode, 6 m/s.....£12.99

COMPETITION PRO 5000
Two fire buttons, steel shaft, m/s.....£12.99

ZIPSTICK AUTOFIRE
Two fire buttons, steel shaft, Autofire, m/s....£13.99

STINGRAY AUTOFIRE
Direct replacement for Konix Navigator.....£14.99

QUICKJOY V SUPERBOARD
Six fire buttons, Autofire, stopwatch, Ten m/s.....£16.99

QUICKJOY TOPSTAR - *Highly recommended*
Two fire buttons, A/f slow motion, 6 m/s, see through body.....£19.99

QUICKJOY MEGABOARD
Four fire buttons, 8 m/s, A/f slow motion, stop watch, countdown.....£23.99

STAR SCOOP

A "once only" chance. If you are looking for "probably" the ultimate in 24 pin matrix printers then look no further. We have a number of XB24-10 available (but be quick) with colour kit.

At the unbeatable price of

£329.99

XB24-10 Professional Colour Printer

Features include:

- 25 NLQ/LQ resident fonts
- 41k standard buffer
- Colour
- 12 months on site warranty (UK mainland)

Many many more.

TELESALES ORDER LINE (MON-FRI) 0480 403222/(SAT) 0480 403304

DOW

HOW TO ORDER

Access VISA

BY PHONE

Simply call our head office quoting your Access/Visa number on

Mon-Fri 0480 403222
Sat 0480 403304

By personally calling at our St Neots or Hertford Shop

ST NEOTS	HERTFORD
6 Priory Mall, St Neots, Cambs Tel: 0480 403304	49 Railway St. Warren Place Hertford, Herts. Tel: 0992 554469

BY POST

Make cheques, building society drafts or postal orders payable to:

Dow Computers

PLEASE ALLOW TIME FOR CHEQUE CLEARANCE

DELIVERY (UK Mainland, most areas)

Please add £6 courier delivery for orders over £100, add £2 p&p for orders under.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

GOLD CLUB SERVICE

- ★ 7 day money back guarantee if not completely satisfied
- ★ 30 day exchange for new policy should a fault occur
- ★ 1 year guarantee giving FREE collection and delivery service should a fault occur
- ★ Exclusive gold card with personal membership number entitling you to special offers
- ★ All this for a nominal £10 per item over £100

★NEW★ PLATINUM CARD SERVICE ★NEW★

★ All the benefits of the succesful gold card service (above) plus the following

- → Extended 2 year guarantee from date of purchase. *(Peace of mind for 2 years)*
- → Free use of loan machine if required should yours need to be repaired. *(Now you never need be without your expensive purchase*
- → Free collection and delivery service for the full two years should a fault occur. *(Just make one simple phone call and leave the rest to us!)*
- → Exclusive platinum priviledged customer card entitling you to special offers.
- → All of these benefits for the incredible price of just £39.95 per item purchased.

N.B. In the unlikely case of shortages of identical model loan machines a suitable alternative will be offered.

WHY CHOOSE DOW?

★ **ESTABLISHED OVER 5 YEARS**
With a growing reputation for "putting the customer first". We intend to satisfy many more customers for years to come

★ **TECHNICAL SUPPORT/ON-SITE ENGINEERS**
Employing over 20 specialist staff, we are equipped to deal with the majority of queries

★ **FULL TESTING PROCEDURE**
All computer hardware is tested prior to despatch, proving Dows commitment to customer care

Prices correct at going to press, but may change without notice E & OE.

www.stformat.com

WeServe of Hampshire
Best for service

Panasonic

KXP1081	129.00
KXP1180	134.00
KXP1123*	185.00
KXP1124i*	252.63

Prices inc VAT cable & paper
* 24 pin printers

Atari STE's
with discovery xtra software

520	512k	ram	£289.00
520	1M	ram	£309.00
520	2M	ram	£349.00
520	4M	ram	£429.00

Atari SC1224
with ST cable
£265.00 (£225.53 + VAT)

Philips CM8833 Mk2
with cable
£225.00 (£191.49 + VAT)

Atari SM124
with ST cable
£119.00 (£101.28 + VAT)

ST SIMMS

	Inc VAT
0.5 Simm ram upgrade	£22.00
0.5-2M Simm ram upgrade	£79.00
0.5-4M Simm ram upgrade	£149.00

Accessories

	Inc VAT
Joystick/Mouse extension	£4.70
4 Player Adaptor	£5.88
ST Dust Covers	£4.70
ST to ST Serial Lead	£10.95
ST Monitor plug to free end	£9.50
ST Printer Lead	£6.99
Mouse Pocket	£2.95
Mouse Mat (thick soft type)	£4.95

Full range of joysticks £2.99 to £17.95

Naksha Mouse
with house & mat
£21.50 inc. VAT

Squick Mouse
£13.90 inc. VAT

Software etc.

	Inc VAT
ST Basic Tutorial Book	£4.60
Flight Simulator II	£29.95
1st Word Plus	£55.00
Neo Desk 3	£28.00
Timeworks DTP by GST	£69.00
First Basic by Hisoft	£9.95
Flexidump Plus	£37.90

Phone for ST Software catalogue. Many titles inc. Educational.

Star

LC10	149.00
LC200	199.00
LC24 10	188.00
LC24 200	244.40
LC24 200 Col	299.00

prices inc. VAT cable & paper

Printer Dust Covers
Most types in stock
From £4.70 inc VAT

Deskjet 500
H.P. 300dpi Inkjet printer
3 year warrantee
£386.58
(£329.00 + VAT)

Swift 24
2 year warrantee
£245.00 inc VAT
Colour kit with printer £24.00

Citizen 120D+
with cable and paper
£128.00 (£108.94 + VAT)

Canon BJ10e
360dpi ink jet with cable & paper
£233.83 inc VAT

Cumana CSA354
External 1Mb Drive
£69.90 (£59.49 + VAT)

1Mb Drive Internal
£58.75 (£50.00 + VAT)

DISKETTES
SONY branded
(100% certified error free)

	Inc VAT
10 3.5" DS/DD 135 tpi	£7.50
50 3.5" DS/DD 135 tpi	£32.30
100 3.5" DS/DD 135 tpi	£59.93
1K 3.5" DS/DD 135 tpi	£540.50

DISKETTES
SONY bulk
(lifetime warranty)
(100% certified error free)

	Inc VAT
10 3.5" DS/DD 135 tpi	£5.95
50 3.5" DS/DD 135 tpi	£19.80
100 3.5" DS/DD 135 tpi	£37.95
250 3.5" DS/DD 135 tpi	£84.89
1K 3.5" DS/DD 135 tpi	£339.58
50 x 3.5" Disk Box with lock	£5.99
100 x 3.5" Disk Box with lock	£7.50

Phone for our 40 page catalogue
EDUCATIONAL AND GOVERNMENT ORDERS WELCOME
All products have a 30 day money back & 12 month warranty.
Prices subject to variation without prior notification.
Established 6 years. We are closed Saturday afternoons.
Free parking 2 minutes from M27 junction 11.
Postage 94p (80p + VAT) Securicor £6.46 (£5.50 + VAT)

WeServe

Larger items delivered

STF Dept
40-42 West Street,
Portchester, Hants.
PO16 9UW
Tel: 0705 325354

YOU MUST BE CRAZY

NOT TO BUY YOUR DISKS AT THESE PRICES EVERY DISKETTE 100% CERTIFIED 100% ERROR FREE

DISKETTES

50 DSDD 3.5"	£24.00	200 DSDD 3.5"	£64.00
100 DSDD 3.5"	£36.00	500 DSDD 3.5"	£155.00

3.5" High Density	5.25 DSDD	5.25HD
55p each	Only 25p each	Only 40p each

STAR OFFER
200 DSDD 3.5" **£72 .00**
Plus 2
100 capacity boxes

ACCESSORIES

50 capacity lockable box 3.5"	£3.95	Mouse mats	£2.95
80 capacity lockable box 3.5"	£4.50	3.5" head cleaner	£2.95
100 capacity lockable box 3.5"	£5.50	**ONLY IF BOUGHT WITH DISKS**	
Banx Stackable box	£8.95		

TOTAL SATISFACTION OR MONEY BACK

ALL PRICES INCLUDE VAT & DELIVERY

081-309-5556

DIAL A DISC
6 Walsingham Road, St Pauls Cray, Kent BR5 3BW
Personal callers by arrangement.
All offers subject to availability E/OE.

RICHARDS DEVELOPMENTS

★★★★★ **SPECIAL LAUNCH OFFER** ★★★★★
Atari 520 STFM solderless upgrades fully populated includes free memory checker disk and full technical support
ONLY £49.99 inc VAT Upgrades to 1Mb

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

3.5" Disks DD/DS 100% error free	1-49	**35p** each
	49-99	**31p** each
	100+	**28p** each

ALL DISKS INCLUDE FREE LABELS

40 Cap locking disk box 3.5"	**£3.99** each
80 Cap locking disk box 3.5"	**£4.99** each
Null modem leads for back to back communications	**£4.99** each
Atari 4 player adaptor leads	**£4.99** each
Joystick extension leads	**£4.99** each
Atari ST dust covers	**£2.99** each
Mouse mats top quality	**£1.99** each

ALL PRICES INCLUDE VAT, POSTAGE AND PACKING IS EXTRA PLEASE ASK WHEN ORDERING.

CREDIT CARD HOTLINE - 0602 464188

Cheques/Postal Orders to:
RICHARDS DEVELOPMENTS
14 Windmill Way, Kegworth,
Derby DE7 2FA. Please phone first for price of postage.
ALL PRODUCTS CARRY A FULL 5 YEAR WARRANTY
Public Domain also available for the STFM.
All disks only £1.50 plus p+p
For full catalogue send £1.00

www.stformat.com

FROM THE MAKERS OF ST FORMAT COMES...

Stylishly covers games, graphics, music, shareware – everything, in fact, other than the serioso business stuff

Combines the rigour an professionalism of *PC Plus* with th style and editorial philosophy ***Amiga Forma*

Page after fact-packed page full of stunning reviews and authoritative advice solely dedicated to the full panoply of PC leisure activities

Write abou games in a adult bu still excitin manne

Program packed cove disks: one 3.5 inch or tw 5.25-inch showcasin irresistibl games an leisure demo from the leadin publisher

Practical tutorials and reliable buyers' guides written by acknowledged PC experts

...YOUR GUIDE TO A NEW PC WORLD. AT A NEWSAGENT NEAR YOU FROM THURSDAY 26 SEPTEMBER

www.stformat.com

ST Format M

The latest and greatest ST offers at

GET THE MOST OUT OF YOUR ST

ST FORMAT

The official *STF* book, packed with reviews, tips and cheats on all things ST.

DESCRIPTION : *Get the most*

PRICE : £10.40 ORDER Nº : ST101

Get the most with 2 utillity disks

PRICE : £15.40 ORDER Nº : ST202

PLAYBACK & QUARTET

MICRODEAL

***Playback* stereo sound cartridge plus *Quartet* (RRP £49.95) for a tenner!**

DESCRIPTION : *Playback & Quartet*

PRICE : £29.95 ORDER Nº : ST372

DESCRIPTION : *Playback ONLY*

PRICE : £19.95 ORDER Nº : ST379

GRAPHICS COLLECTION

ST FORMAT

Amazing two-disk PD graphics compilation including *Neochrome*, *AniST* and a host of other graphics utilities. Includes eight-page manual.

DESCRIPTION : *Graphics Collection*

PRICE : £4.99 ORDER Nº : ST350

HOTWIRE & MAXIFILE

SYSTEM SOLUTIONS

***Hotwire* runs any GEM program from the Desktop at a keystroke and *Maxifile* organises all your Desk Accessories - dare you miss them?**

DESCRIPTION : *Hotwire*

PRICE : £24.95 ORDER Nº : ST385

DESCRIPTION : *Maxifile*

PRICE : £24.95 ORDER Nº : ST386

3D CONSTRUCTION KIT

DOMARK

A unique 3d game world creator - enables you to build a 3D word, sculpting rooms and houses to your heart's content. Demo on disk 23.

DESCRIPTION : *3D Construction Kit*

PRICE : £29.99 ORDER Nº : ST373

ST FORMAT EVEN BIGGER VALUE

Getyour hands on £25 worth of software and make certain you receive a copy of Britain"s biggest-selling ST magazine each and every month for a whole year. Turn to page 110 *NOW* for our astonishing offer.

www.stformat.com

ail Order

the best possible prices

SAVE £10

GOLDEN IMAGE MOUSE & TRACEY

GOLDEN IMAGE

A high-quality 280 dpi resolution mouse. Comes with a *free* tool (RRP £7.95) which enables you to trace pictures with the aid of your mouse.

DESCRIPTION : *Golden Image Mouse*

PRICE : £29.99 **ORDER Nº : ST381**

SAVE £10

DAATA SOUND

PANDAAL

An exceptional sound sampling / sequencer enabling you to record and play back up to 18 different samples in one continuous sequence.

DESCRIPTION : *Daata Sound*

PRICE : £29.95 **ORDER Nº : ST383**

ANIMASTER

ST FORMAT

***Exclusive!* A unique animation package that enables you to create sprites, load in backdrops, make characters move, merge and edit sequences.**

DESCRIPTION : *Animaster*

PRICE : £14.95 **ORDER Nº : ST367**

STF BINDER

ST FORMAT

Keep your collection of the world's top ST magazine together in this high quality binder with ST FORMAT printed on the spine

DESCRIPTION : *One Binder*

PRICE : £4.95 **ORDER Nº : ST112**

DESCRIPTION : *Two Binders*

PRICE : £9.00 **ORDER Nº : ST1122**

THE STOS COLLECTION

Mandarin Software

The official *STF* book, packed with reviews, tips and cheats on all things STThe official *STF* book, packed with reviews, tips and cheats on all things. The official *STF* book, packed with reviews, tips and cheats on all things STThe official *STF* book, The official *STF* book, packed with reviews, tips and cheats on all things with reviews, tips and cheats on all things STThe official *STF* book, packed with reviews, tips and cheats on all things. The official *STF* book, packed with reviews, tips and cheats on all things STThe official *STF* book, packed with reviews, tips and cheats on all things.

DESCRIPTION : *Get the most*

PRICE : £10.40 **ORDER Nº : ST101**

SAVE £42

HOW TO ORDER

- **Just make a note of the name of the package you want to buy and the order number. Then fill in the coupon below.**
- **If you wish to order by credit card or have any queries, ring the ST FORMAT Mail Order Hotline on :**

0458 72783

ST Format Mail Order

No stamp required if posted in Uk, Channel Islands or the Isle of Man

Name

Address

Postcode

Telephone

Description	Price	Order No
TOTAL ORDER		

- For overseas orders call Trevor Witt for prices on +44 458 72783

Method of payment, please tick appropriate box

☐ **Access** ☐ **Visa** ☐ **Cheque** ☐ **PO**

Credit card No

Expiry date

Please make all cheques payable in pounds sterling to :

Future Publishing Limited.

SEND THIS FORM TO : Trevor Witt, ST FORMAT, The Old Barn, FREEPOST, Somerton, Somerset, TA11 7BR.

OVER
ISK
your ST
ry
ek
he
r!

On the newsstands every Thursday • £1.50

NEW COMPUTER EXPRESS

RST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

NEW COMPUTER EXPRESS

– when *ST Format* isn't enough

ST Format is far and away the biggest and best Atari ST magazine money can buy. No-one in their right mind argues with that. It wouldn't sell more than 70,000 copies every month if it wasn't.

Yet for some people, even 148 pages-plus and an utterly wonderful cover disk isn't enough to last quite a whole month.

that's you, rejoice! *New Computer Express* – created by the same company at brings you *ST Format* every month – is just the job for you.

WHY?

- **BECAUSE IT'S PACKED** with solid news on all the latest ST developments – never miss out on an important ST story again
- **BECAUSE IT'S OUT EVERY THURSDAY** – no more anxious waiting for the next month's issue of *ST Format*
- **BECAUSE NOW IT'S GOT A COVER DISK** on every issue – demos, shareware, public domain, reader contributions, utilities and more

ow much does all this cost? Just £1.50, *including* cover disk every week.

If you've ever found yourself waiting for *ST Format*, we created *New Computer Express* for you!

www.stformat.com

AMAZING OFFERS ON 3.5" DSDD DISKS

25 DSDD 135 tpi 11.95
50 DSDD 135 tpi 21.95
75 DSDD 135 tpi 31.95
100 DSDD 135 tpi 37.95

ALL DISKS SUPPLIED WITH LABELS AND ARE 100% ERROR FREE 2 FOR 1 GUARANTEE

HOW TO ORDER

BY PHONE
0782 208228
BY FAX
0782 281506
BY POST
MEDIA DIRECT
COMPUTER SUPPLIES LTD
DEPT STU UNIT 3
RAILWAY ENT. CENTRE
SHELTON NEW ROAD
STOKE ON TRENT
ST4 7SH.

ALL PRICES INCLUDE VAT

3.35 P & P PER ORDER
£9.00 NEXT DAY
(UK MAINLAND ONLY)

REMEMBER !!!

WE ONLY SELL **HIGH QUALITY** DISKETTES,OUR 3.5" DISKETTES ARE MADE BY **K.A.O** AND OUR 5.25" DISKETTES ARE MADE BY **ATHANA**.WE DO NOT SELL SUB STANDARD DISKETTES FROM THE FAR EAST.

3.5" HIGH DENSITY DISKS

10.....9.95
25.....23.75
50.....39.95
100.....59.95

(ALL DISKS 100% ERROR FREE INCLUDES LABELS)

5.25" DSDD DISKS

30.....9.95
50.....13.95
100.....24.95
200.....46.95

(ALL DISKS 100% ERROR FREE INCLUDES ENV./LABELS)

5.25" DSHD DISKS

30.....18.95
50.....21.95
100.....36.95
200.....68.95

(ALL DISKS 100% ERROR FREE INCLUDES ENV./LABELS)

DISK STORAGE BOXES

3.5" 100 CAPACITY.....5.95
3.5" 80 CAPACITY.....5.45
3.5" 50 CAPACITY.....4.95
3.5" 40 CAPACITY.....4.45
5.25" 100 CAPACITY...5.95
5.25" 50 CAPACITY...4.95

☆☆☆ **OFFER** ☆☆☆

DEDUCT £1.00 FROM THE ABOVE BOX PRICES IF PURCHASING A QUANTITY OF DISKETTES

5.25" OR 3.5" 10 CAP BOXES
5 FOR 4.50
10 FOR 7.50

GENUINE SONY 3.5" DSDD BULK DISKETTES

25.....12.45
50.....22.95
100.....41.95
200.....79.95
500.....179.95
1000.....339.95

(ALL DISKS 100% ERROR FREE AND ARE SUPPLIED WITH LABELS)

RAINBOW DISKS

(RED,GREEN,YELLOW,ORANGE,BLACK,WHITE COLORS AND QTYS OF YOUR CHOICE)

3.5" DSDD DISKS		5.25" DSDD DISKS	
25 DSDD	13.75	25 DSDD	10.45
50 DSDD	26.45	50 DSDD	18.95
100 DSDD	44.95	100 DSDD	34.95
200 DSDD	84.95	200 DSDD	67.95

(ALL DISKS 100% ERROR FREE AND ARE SUPPLIED WITH ENV./LABELS)

THIS MONTHS SPECIALS

☆☆ **OFFER 1** ☆☆
200 DSDD +
2 100 CAP BOXES
~~79.95~~ **67.95**

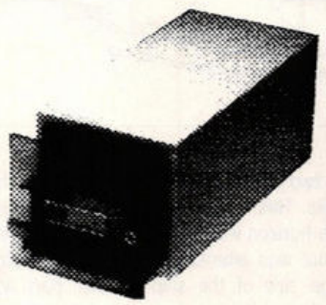
☆☆ **OFFER 2** ☆☆
NAKSHA MOUSE+
MAT AND POCKET
~~34.95~~ **22.95**

☆☆ **OFFER 4** ☆☆
ATARI EXT.DRIVE
PLUS
SYNCRO EXPRESS II
~~94.90~~ **89.95**

☆☆ **OFFER 5** ☆☆
ACCESORY PACK
MOUSE MAT
MOUSE POCKET
DISK CLEANING KIT
DUST COVER
~~9.90~~ **7.99**

GENERAL ACCESSORIES

QUALITY MOUSE MAT.....2.50
MOUSE POCKETS.....1.50
3.5" CLEANING KIT.....1.95
5.25" CLEANING KIT.....1.95
ATARI DUST COVER.....3.95
AMIGA DUST COVER.....3.95
2 PIECE PRINTER STAND.....5.95
MONITOR STAND.....12.95



BANX BOX
HOLDS 90 3.5" DISKS
CAN BE STACKED
HORIZONTALLY AND VERTICALLY

1.....9.00
3+.....8.50
5+.....8.00

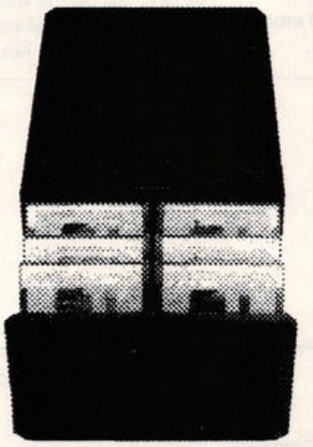
RIBBONS

WE STOCK A
LARGE RANGE FOR
AMSTRAD
BROTHER
CITIZEN
EPSON
NEC
OLIVETTI
MANNESMAN TALLY
SEIKOSHA
PANASONIC
STAR
AND MANY MORE

SWITCHES AND CABLES

WE STOCK A LARGE RANGE OF DATA SWITCHES AND CABLES

PHONE FOR A QUOTE



POSSO BOX
HOLDS 150 3.5" OR 70 5.25" DISKS
CAN BE STACKED
HORIZONTALLY AND VERTICALLY
ONLY **15.95**

TRADE GOVERMENT LOCAL AUTHORITY AND EDUCATIONAL ORDERS WELCOME

www.stformat.com

THE KANDY TANGERINE FLAKE KOLOURED PICTURE STREAMLINED SHOW

Art, you know, comes from the *soul*. It comes from the *spirit*. It comes from the *psyche*. But most of all, it comes from *you* and your STs. Join with Ed Ricketts now as he wibbles uncontrollably over these pages.

This man is driving along a road at night when a rabbit darts out in front of his car. Unable to stop in time, he runs it over. As he stands by the small furry body, struck with guilt and grief, a vicar pulls up alongside and asks if he can help. The man explains what happened. The vicar brings out a small phial of liquid, which he sprinkles over the body. In a second, the rabbit jumps up and runs off. The motorist is amazed but baffled. "What was that liquid?" he asks the vicar. "Holy water?"

"No," the vicar replies, "hare restorer with a permanent wave."

Which in a roundabout way I'm not going to explain now brings us to your pictures for this month. We're greedy beggars here at Kandy – we're never satisfied. Send us more! More! *More!* They can be on any art package with any technique. Just remember to include plenty of intermediate stages and lots of explanation along with the package used and any other interesting bits you can think of. Stick everything onto a virus-free disk (the explanation may be a ASCII text file if you haven't got a printer) and send it to Gallery, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. And remember: you can lead a horse to water, but you can't make it wink. ***stf***

WE'VE RECEIVED DOZENS OF

Peter Halloran of **Dorset** sent in several pictures, and for his sterling efforts wins the slightly stunning £25 prize. Peter always uses *Deluxe Paint* for his pictures.

What is it about cartoons that gets you pulling out your crayon set? Peter's first picture is yet another rendering of Garfield – who, along with the pictures of fighter planes and cars, must be the most popular subject for your art. This one took three hours.

"The subject was chosen because I thought it was fairly simple but appealing. The ST seems particularly well suited to cartoons, because of the solidity of its colours.

1 I started by creating a very rough outline using the draw, line and curve functions, with circles being used for various things such as the eyes. Some colour was added now both to see how the picture would turn out and to check that the palette was okay – not too bright or dark. The head was drawn first so that everything else fell into place.

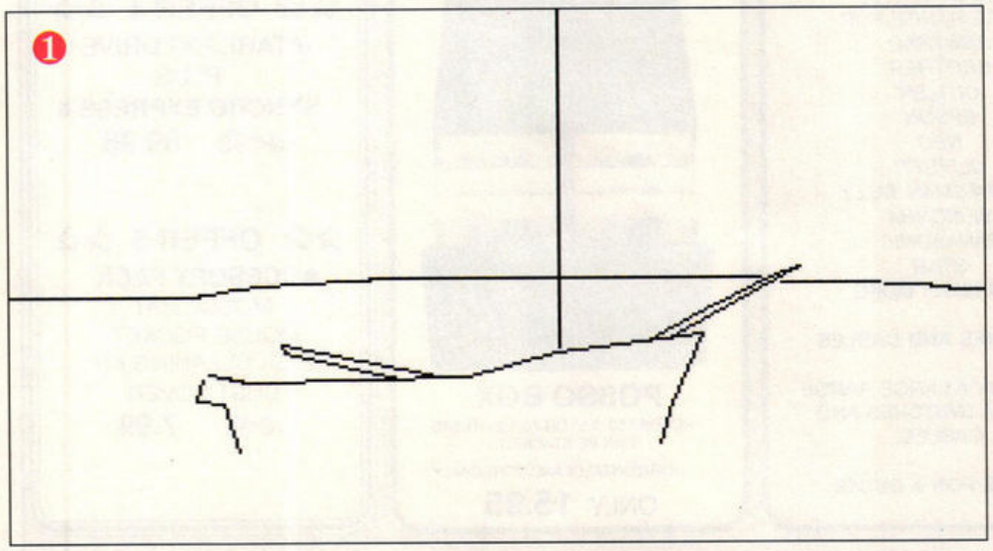
● Rigo is a title page for a game I haven't written yet. This was taken from a front cover of *2000AD* and altered to suit the game.

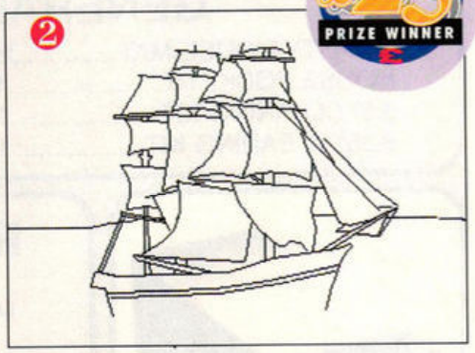
SHIPS THAT PASS IN THE NIGHT

ST FORMAT £25 PRIZE WINNER

This picture is one of a sailing ship, also from Peter Halloran of Dorset. "This took me around 12 hours to produce" – not in one go he hastens to add.

1 This doesn't look much, but it was the picture that defined the palette and the layout of the picture. The palette was chosen to give a full range of greys, a range of blues for both the sky and sea and some other colours like browns, black and white.





2 Picture two shows the base outline of the ship plus sails. This was drawn using freehand, line and curve. The horizon was put in to give the picture some depth, but was altered later on. Unfortunately because of the size of the ship a small part was missed off the top of the main mast, but this doesn't detract from the picture itself. I could have moved it down, but would have lost some of the sea.

3 Here the sails were coloured using gradual tones of grey – this was an attempt to make the sails look as if the wind was behind them. Once the sails were done I felt that they were too dark and by using the stencil feature the colours were lightened to the shades they are now. Various pieces of rigging were placed over the sails and coloured accordingly. These were done by using both the line and curve

www.stformat.com

REQUESTS – BUT IT'S HIM AGAIN

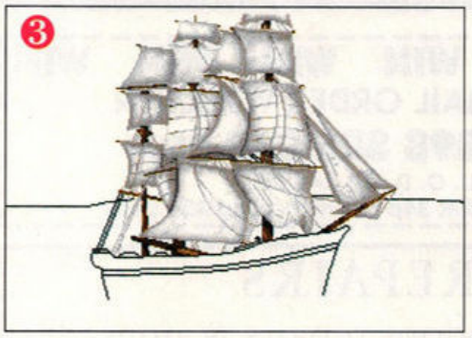
TIPS

2 The outline was completed and rounded off under magnification – x8 is best because it allows a greater deal of accuracy while not being too detailed. Whenever you draw characters you need to sketch out curved lines. Working freehand, it's difficult to get the best possible line but by zooming in you can see how every pixel has been laid down. This enables you to carefully map out a perfect line from your original rough sketch. The scales were put in and all the base colours added. Garfield's orange was the lightest I had in the palette and was used as the base. This freed up an extra colour in the palette so that I could add some effective shading to Garfield. I made up two extra oranges in the palette which I then worked into the darker base colour. It's much easier to work from dark colours to light, adding highlights much later.

3 Here I started the shading and smoothed or antialiased various parts. This was done by hand because I always think *DPaint* seems to smooth too much. The stripes were added, done by hand under magnification, and only certain parts smoothed, leaving the stripes looking rough, which is exactly the effect I wanted. The rest of the body and the scales were smoothed and the speech bubble was added. This was done by first drawing a flattish ellipse (not filled in) and then covering it with lots of other small circles. These were then filled white and the text was added using the line function. All this was smoothed, using the zoom option at x8 magnification again and I also tidied up the weighing machine. After tinkering with the colour palette for a while, that just about finished the picture."

functions. The masts were also coloured and since there were only three browns in the palette, black was used to shadow them.

4 In the fourth picture the main body of the ship was coloured. This was done in blue because of the palette restrictions. This also meant that the sea would have to be lighter around the



base of the boat to make it stand out. The sea was created mainly using the smear feature. Large chunks of colour were placed on a base background with the largest brush and were then smeared with the largest round brush. Some of the lighter colours were also antialiased to produce an attractive smooth wave effect.

The wash coming off the ship was done in a different style, because any smearing would mess up the outline of the ship. First the background was fixed and then the wash was carefully airbrushed on. Once I was happy with it I freed the background and did any smearing that had to be done very carefully.

5 The sea was finished and the horizon was made flat. This gave the impression that the ship was out at sea. The horizon was highlighted by using a stippled effect to give the impression of distance. Finally clouds were added. These were done by drawing dark blue lines and adding white disks of various sizes on top. They were then edited under magnification to appear light and fluffy. A similar approach was used by the *Midwinter 2* artist [Andy Elkerton, who revealed all in *STF* 24 and 25. If you missed those see page 136]. And that's The End."

● Deluxe Paint is £49.99 from Electronic Arts ☎ 0753 549442.

www.stformat.com

Announcing...

POOLSWINNER Gold

THE POOLS PREDICTION PROGRAM

WITH ARTIFICIAL INTELLIGENCE

- THE LEGENDARY POOLS PREDICTION AID, Poolswinner, now has artificial intelligence. The latest version of the program, Poolswinner Gold, has the power to learn from the results of its own predictions, constantly adjusting the prediction formula to improve performance.
- AUTOMATIC FIXTURE GENERATION : Fixtures for English and Scottish League matches are generated automatically by Poolswinner Gold, which now incorporates its sister program FIXGEN 91/92 (yearly updates are available from Selec).
- MASSIVE DATABASE 22000 match database over 10 years.
- PREDICTS SCOREDRAWS, NO-SCORES, AWAYS and HOMES Predictions are based on many factors .. recent form, the massive database, league standing, goal scoring rates, and draw averages. The user can adjust all parameters.
- SUCCESSFUL Selec guarantee that Poolswinner performs significantly better than chance.
- LEAGUE AND NON-LEAGUE matches are covered. Can be used for the non-league and amature matches so often on the coupon now.
- FULL LEAGUE TABLES (home & away) are automatically generated by the program as results come in.
- UPDATED WEEKLY. Poolswinner Gold is supplied fully updated with all league results from the start of the season - its ready for immediate use.
- PACKAGE CONTAINS disc, detailed operating manual and support literature, all you need to start forecasts immediately.

£36.50

Also available from Selec ...

COURSEWINNER V4 £36.50

THE PUNTER'S COMPUTER PROGRAM. Uses artificial intelligence. Uses past form, going, distance, speed ratings, prize money etc. Contains British course statistics - best jockeys, trainers, draw effect etc. Detailed analysis of all runners in a race, with profit. Sophisticated aid to successful betting, with a long pedigree.

POOLS PERM PLUS £32.50

Perm analyser and checker, complete with 5 years of coupon results and popular perms for analysis. Checks your weekly entry for winning lines, or tests your theories on results over the last 5 years. Reveals all the weeks a bet would have won, and the probable dividend.

FOOTBALL FOLLOWER £32.50

Statistical analysis for Football enthusiasts. Tables, fixture lists, sequences etc. Set up for British League football, but can be set up by the user for any league - amature etc. Ideal for all fans, league secretaries etc.

All programs are supplied on disc, packaged with detailed instruction manual, and support literature. Formats available:
IBM (3.5" or 5.25")
AMIGA
ATARI ST
AMSTRAD PCW
Prices are inclusive of VAT & delivery

Send cheque / PO for return of post service to ....

Selec Software (Est. 1984)
62 Altrincham Rd, Gatley, Cheadle, Cheshire SK8 4DP
(send for full list of our software)

Tel 061-428-7425
Phone or FAX 24 hrs

FEED YOUR ST!

MEMORY UPGRADES

STE KITS SIMM OR SIP TYPE	NORMAL PRICE	WITH 512K TRADE IN	WITH 1024K TRADE IN
512K TO 1024K	£22.00	-	-
2 MEGABYTE	£80.00	£70.00	£60.00
4 MEGABYTE	£150.00	£140.00	£130.00

All above kits come c/w an illustrated instruction booklet. 2 and 4 Megabyte kits come c/w Free multitasking software. Free fitting available on all above kits

STF(M) KITS	Price
Solder in 1Mb Upgrade Kit	£30.00
1 Megabyte board Expands to 2.5Mb	£68.00
2.5 Megabyte Plug in Upgrade	£95.00
XTRA-RAM Deluxe	
Populated to 2Mb	£110.00
Populated to 4Mb	£159.00

EMULATORS

PC EMULATORS		
PC SPEED hardware emulator for ST.Runs 4 times faster than standard PC. Full I/O compatibility.	Supplied	£90.00
	Fitted	£120.00
AT Speed 16Mhz 286 Processor Norton 8.3.	Supplied	£220.00
	Fitted	£245.00
AT Speed STE adaptor		£25.00
Spectre GCR MAC Emulator (including ROMs)	Supplied	£320.00

CHIPS Etc.

16x256Kx1 Dram Chips	£24.00
16x1Mbx1 Dram Chips for upgrading TCT and Frontier Boards	£70.00

Disk Drives

Internal double sided drive upgrade with spacers	Supplied	£47.00
40Mb Hard Drive with DMA Out, Internal PSU, 17mS access time, Quiet running		£320.00

All goods carry a 14 day returned-as-new money back guarantee.
All memory upgrades carry a 2 year warranty against faulty manufacture.

HOW TO ORDER

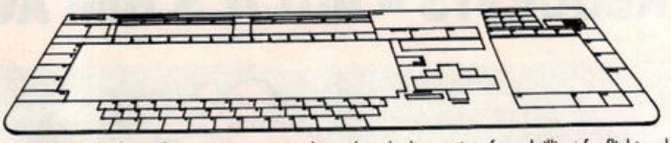
Prices Include VAT.

Telephone orders and enquiries welcome on: 081-777 0751
Please make cheques/postal orders payable to: **HCS**
35 HARTLAND WAY, SHIRLEY, CROYDON, CR0 8RJ.
Goods normally despatched within 2 days of receipt. Trade-in paid as a refund

AMIGA KEYBOARD OVERLAYS

...now you can write the keyboard commands on the keyboard!

...no more referring to the manual for which key does what



Get one for each of your favourite programs and speed up the human interface - brilliant for flight and other simulators, and for games, music, graphics, DTP, word processors, programmers & all.

Silverbird computing

Cheques and money orders only to Silverbird, 47 Barton Road, Harlington, Bedfordshire, LU5 6LG, England.

For all ST's including the TT

Sold only in packs of five for £5.20 PLUS post and packing: UK £0.80, Europe £1.50, Rest of the World £2.50.

STOP PRESS

3½" DSDD 135 TPI DISKS

ONLY

QUALITY ONLY!

32p

MADE IN JAPAN

HIGH QUALITY TYPE, 100% GUARANTEED ERROR FREE

40 cap disk box	£3.25	80 cap box	£3.95
Mouse mats	£1.95	Dust Covers	£3.95

PLEASE ADD POSTAGE AND PACKING £3.50

Tel: 0228 818500
ABS DISK SUPPLIES
193 Brampton Road,
Carlisle, Cumbria CA3 9AX

Access VISA

WIN WIN WIN WIN WIN WIN

A £50 MAIL ORDER VOUCHER

DIAL 0898 886 200 NOW

U. O. D. Ltd CA2 5BB

Calls charged at 34p per min cheap/45p peak

REPAIRS

Atari/Commodore repairs & upgrades
Competitive rates, no fixed charge.

Special Offer

F.M. MELODY MAKER

cartridge allows Atari to be used as stereo synth with midi

only £35 + £2 p&p (rrp £69.99)

44 Malden Rd, London NW5 3HG

Tel:- 071 284 4030 (Camden Town)

www.stformat.com

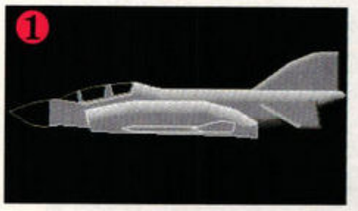
PLANE TO SEE – 1

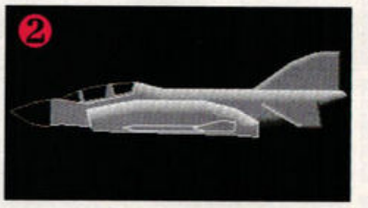
I don't know, kids these days, eh? Grow up much too fast. Take **Alastair Douglas** of **West Glamorgan** in Wales. Only 10 years old and he's sending in pictures like these. He'll be driving before he's 12.

"This picture was done with *Canvas*.

1 I did a line drawing using the K-Line option and touched it up with Zoom, before choosing a palette with lots of greys, greens and two shades each of red and blue. The outline was shaded, stippling to make it look as if there are more shades than there really are.

2 The shading was finished and camouflage was added, as were other details, using Zoom. At this point I swapped screens and using the Text function I typed in all the necessary text. Using Zoom I then gave this text a smooth 3D effect, and a horizon added to it to make it look shiny. Finally a sparkle was added to the corners of each letter.



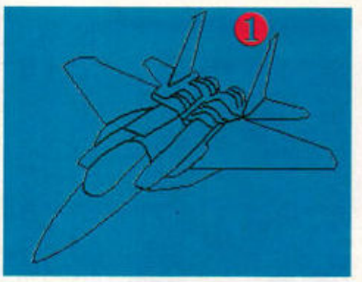


3 The last thing for me to do was to use the Block function in *Canvas* to cut and paste the text into the correct position over the plane. The picture took me around seven hours to do on and off and I think it's the best I've ever done."

● Canvas is £14.95 from Microdeal ☎ 0726 68020.

PLANE TO SEE – 2

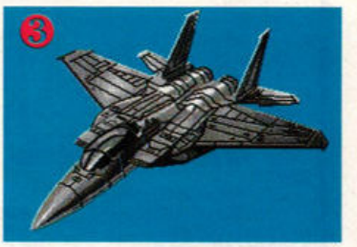
Mohamed Parker of **Middlesex** says he used *Degas Elite* for his picture of an F-15 Strike Eagle, "mainly because it was the first art package I bought (I had *NeoChrome* but I didn't like it much) and it is very intuitive to use, with plenty of keyboard short-cuts.



1 First of all I set up a rough palette. The plane is metallic so I included all the grey-scales (shades of grey) in the palette. Next I used the K-Line function to draw a basic outline of the plane. At this stage there's no need to worry about getting the shape exactly right – but it does help if the general proportions are correct. I then used the Zoom function to tidy up the outline and add some details. I usually use six times magnification because this gives a good balance between the level of detail and the amount of area you can see.

2 Once most of the larger details have been added I use the Fill function to fill in areas of the plane with the colour that is likely to be prominent in that area in the finished picture. The colours don't need to be precisely chosen – they are just there to give a rough indication of how the final picture should look.

3 After that I used the Zoom function again to shade the plane more carefully. I use close shades next to each other to give a smoother appearance. This is especially apparent on the nose of the plane, which looks far more rounded and solid than it did before. I found at this stage that the eight shades of grey (including black and white) were not enough to give really smooth shading, so I used stippling (using two close colours in a chequered pattern to fool the eye into seeing the colour in-between) to get some extra shades. The plane still looked a little flat, so next I added highlights to straight edges such as the wings and tail fins. I also added a diffused highlight (not as bright as on the straight edges) to the nose of the plane to make it even more rounded.



4 For the background, I attempted several times to draw a landscape as seen from 10,000 feet in the air, but none of them looked particularly realistic (or even remotely good for that matter) so I used a fractal landscape drawing program to create the background. The palette used by the program was different from that of my picture, so I used the Load Image function, which gives an option to alter the palette of the loaded picture to fit in with the palette being used.

5 The plane was then cut out and pasted onto the background. Finally the titles were added to the picture and at last it's finished."

● Degas Elite is £24.95 from EA ☎ 0753 49442.

www.stformat.com

ANALOGIC
ANALOGIC
ANALOGIC

ANALOGIC COMPUTERS (UK) LTD

152 Latchmere Road, Kingston-upon-Thames
Surrey KT2 5TU

Telephone Mon - Sat. 9am to 9pm
TEL: 081 546 9575
FAX/TEL: 081-541-4671

520 STE DISCOVERY EXTRA PACK

512K £299.00
1 Meg £329.00

SPECIAL OFFER 2 Year warranty for only £14.95 extra

Includes 1 Meg Drive and ● DragonsBreath ● Super Cycle ● Indiana Jones ● Anarchy ● Neochrome ● First Basic ● ST Tour ● CX40 Joystick.

1040 STE FAMILY CURRICULUM PACK

1 Meg £349.00

Includes an Atari 1040STE Personal Computer and five different level application modules:
MODULE 1 is designed for Pre-School aged children.
MODULE 2 targets the junior school children.
MODULE 3 is designed to assist those taking GCSE Exams.
MODULE 4 contains Hyperpaint, Music Maker 2 and ST First Basic
MODULE 5 is a business computing compilation: Wordprocessor Package, Database, Spreadsheet.

PHILIPS 15" TV/MONITOR

MODEL 2231 High quality medium resolution colour monitor with remote control teletext TV & Scart cable £269.00
MODEL 3332 High quality medium resolution colour monitor with remote control TV & Scart cable.....£239.00

DISK DRIVES

1 Meg 3½" Internal SONY Drive £49.95
1 Meg 3½" External Drive with its own PSU.....£59.95

REPAIRS WITHOUT DIAGNOSTIC FEES

520/1040 (STFM/STE) ● FIXED CHARGES
● FAST TURNAROUND £59.95

★ We pick up faulty computer from your premises for only £5.00 + VAT

POWER SUPPLIES WITH ONE YEAR GUARANTEE

STFM/STE Power Supplies (Service Exchange).....£44.95

MEMORY UPGRADES WHILE YOU WAIT!

1. 520 ST/STM/STF/STFM to 1 Meg £59.95
2. 520 ST/STM/STF/STFM to 2.5 Meg £159.95
3. 520 STE to 1 Meg £29.95
4. 520 STE to 2 Meg £89.95
5. 520 STE to 4 Meg £169.95

FREE FITTING

★ We specialise in Surface Mount Chips
★ WE PROVIDE PICKUP SERVICE FROM YOUR PREMISES FOR ONLY £5.00 + VAT

MEMORY CHIPS AT LOW, LOW PRICES

16 x 256K x 1 Bit DRAM.....£29.95
16 x 1 Meg x 1 Bit DRAM £89.95

EMULATORS

PC SPEED & fitting £99.95
AT SPEED C16 including fitting.....£249.95
● 16 MHz Clock Speed

PROGATE HARD DISKS for your ST

Progate 20 .....£279.00
Progate 30 .....£319.00
Progate 40 .....£339.00
Progate 40DC £419.00
Progate 60 .....£429.00
Progate 80 .....£479.00
Progate 80DC £559.00

Access

★ All prices include VAT and Next Day Delivery
★ Please call for special deals on printers and other Atari Products

VISA

RAMARA HOUSE SOFTWARE

ATARI ST BOOKLIST

3D Graphics Programming.....Abacus 18.45
6800 Assembly Lang. Prog.....Mcgraw 21.45
Atari ST Explored.....Kuma 9.75
Applications Guide in C.....Compute 19.45
ST Basic Sourcebook & Tutorial.....Atari 9.50
Disk Drives Inside and Out.....Abacus 18.45
From ST Basic to C.....Abacus 17.95
Game Makers Manual.....Sigma 12.45
GFA Basic v3 Development + disk...Glen 17.95
Guide To Calamus DTP.....19.95
Introducing Cprog Graphics.....Compute 16.45
Midi & Sound Book.....M&T 16.25
Programming the 6800.....Sybex 23.95
Get The Most From Your ST.....Fut.Pub 9.95
ST Machine Language.....Abacus 16.10
Tech' Reference Guide vol 1...Compute 19.45
Tech' Reference Guide vol 2...Compute 19.45
Tech' Reference Guide vol 3...Compute 22.45
Tricks & Tips on the ST.....Abacus 16.40
Your FirST BASIC.....Bookmark 14.45
Your Second Manual to the ST.....14.95

MISC ITEMS

DAATAscan Pro. AT25 3 Dither - Modes 100-400 dpi 64 grey scales.....**179.95**
Cameron Handy Scanner 3 scan - modes 200-400 dpi 16 grey tones.....**137.95**
Golden Image Hand Scanner 3 grey - modes 200-400dpi Touch Up s/w.....**194.99**
VidST video frame Grabber-Rombo.....86.95
Vidi Chrome Colour Upgrade.....19.50
ATonce PC286 Emulator V5.....**179.95**
AT SPEED C16 16 Mhz PC Emulator - DR DOS 5.0 Included.....**249.95**
External SM2400 Modem.....**244.95**
Twin joystick/mouse lead.....**5.95**
Naksha mouse 280 dpi.....**27.95**
That's a mouse 290 dpi Compo.....**21.95**
Optical Mouse Golden image.....**31.95**

ATARI ST PROGRAMS

Accountant v3	Sage	127.95
Accountant Plus	Sage	224.95
Astrology Program	Antic	9.99
Adimens plus v3 Database	Kuma	98.99
Autoroute	Next Base	41.95
Bookkeeper v3.2	Sage	85.95
Canvas		12.99
Cashbook Combo	Digita	63.95
Cyber Control		36.95
Cyber Dev Design	Disks	16.95
Cyber Paint		44.45
Cyber Sculpt		46.95
Cyber Studio		46.95
Cyber Texture		46.95
Data Manager Prof		**34.55**
Degas Elite		21.95
Deluxe Paint		45.95
Devpac v2	Hisoft	45.99
DGCalc Spreadsheet	Digita	31.95
Easy Draw 2		38.95
Easy Text DTP	ZZSoft	19.95
First Word + New v3.2		**57.45**
First Word V3.2 Special Offer- with Golden Image Mouse, C W Mouse Pad & Holder Only		**63.95**
Fun School 3 all ages		18.95
GFA Basic V3.6 Int		Phone
GFA Compiler v3.6		Phone
GFA Draft Plus v3.13		**83.95**
GFA Gem Utility		23.95
GFA G Shell		16.95
GFA Mission Control		23.95
Harlekin	Hisoft	36.95
Hisoft C Interpreter		38.95
Hisoft Forth		31.99
Home Accounts	Digita	23.95
IMPrint 9 24 Pin Mono		10.95
IMPrint 9 24 Pin Colour		15.95
K-Data	Kuma	42.95
K-Resource 2	Kuma	33.95
K-Roget Thesaurus		36.75
K-Spread 3	Kuma	64.45
K-Spread 4	Kuma	88.95
K-Spread 4T		128.00
Knife ST	Hisoft	23.75
Lattice C v5	Hisoft	119.99
Masterplan Spreadsheet	Special	56.56
Master Sound 2		33.95
Megapaint II		81.95
NeoDesk 3		**28.55**
Pagestream New Version 2		Phone
Personal Finance Man Plus		31.96
High Speed Pascal	Hisoft	79.96
Prodata	Arnor	**60.18**
Proflight	Hisoft	31.96
Protext v5	Arnor	108.95
Quartet Microdeal		39.95
Replay 8 Microdeal		65.95
Sequencer 1 Gajits		72.95

ATARI ST PROGRAMS

Sequencer 1 Gajits		72.95
Spectrum 512		27.95
Superbase Personal Database		19.95
Superbase Personal 2 Database		69.95
Superbase Professional Database		172.95
System 3 Small Bus Accounts		47.45
System 3 Extended	Digita	63.95
Tempus 2	Hisoft	29.95
Thats Write	Compro	84.95
Timeworks DTP	***	**69.75**
Timeworks DTP Special Offer - with Golden Image Mouse, Mouse Pad & Mouse Holder		**75.95**
Werks	Hisoft	21.45
Virus Killer CRL		9.95
Wordfair	Hisoft	New 65.25
Word Perfect		179.95
Word Writer	Timeworks	39.95
Write On	Compro	44.95

MOST ITEMS ARE DESPATCHED WITHIN 24 HRS FOLLOWING RECEIPT OF ORDER.

ATARI ST MACHINES

520STE Turbo Pack	338.95
520 STFM Discovery Pack	275.99
1040 STE Family Curric	369.95
Atari Lynx + Power Supply + Game - Electrocop (limited Offer)	99.95
Portfolio Pocket PC	178.95
Mega 1ST Pro 24 Pack	439.95
Mega 2 ST Pro 24 Pack	625.00
Mega 4 ST Pro 24 Pack	789.00

MONITORS

Atari SC1224 Colour Monitor	273.95
Atari SM 124 Mono	Phone
Philips CM8833 II Colour + Lead	254.95
Monitor cable ST to scart	9.99

PRINTERS & ACC

Citizen 120D Plus inc lead	149.95
Citizen 124D inc lead	199.95
Citizen Swift 9 Pin inc lead	204.95
Citizen Swift 24 Pin inc lead	306.95
Colour Upgrade Swift 9 24	38.95
Ribbon for LC10 (min 2)	2.99

DRIVES

Cumana 3.5 1 Meg CSA354	79.95
Zydec 3.5 1 Meg Inc. P.S.U.	64.95
Golden Image 3.5 1 Meg	75.95
Megafile 30 Hard Drive Atari	349.00
Megafile 60 Hard Drive Atari	465.00

3.5 DISKS

Sony branded 2DD box (10)	9.95
Sony branded 2HD box (10)	15.95
Sony Memorex unbranded (10)	6.50
Sony Unbranded box (50)	28.50

RECREATION SOFTWARE

20% OFF ANY GAME SOFTWARE PLUS QUICK FREE DELIVERY UK:

PRICES SUBJECT TO CHANGE

All prices include VAT. Carriage FREE UK & BFPO: EEC Add £6 Air Mail

Please send Cheque/PO made payable to:

RHS, Ramara House, 22 Grange Road
Staincliffe, Nr. Batley, West Yorkshire. WF17 7AT
Telephone Sales 0924 473556
Hours of business 10am-7pm Monday-Saturday

VISA Access

RUTLAND COMPUTER SUPPLIES LTD

30 Buckminster Close, Melton Mowbray, Leics, LE13 1ET

TOP QUALITY UNBRANDED DISKS AT DISCOUNT PRICES

3.5" DSDD disks inc. labels.....39p each
3.5" DSDD coloured disks inc. labels45p each
3.5" DSHD disks inc. labels.....99p each
5.25" DSDD disks.....25p each
5.25" DSDD coloured disks.....39p each
5.25" DSHD disks.....49p each

All disks are guaranteed 100% error free, packed with sleeves, labels + W/P tabs.

STORAGE BOXES

Lockable anti-static with dividers & keys

3.5" BOXES	£
40 capacity	4.60
80 capacity	5.10
100 capacity	6.10
120 capacity	7.10
Banx boxes to hold 80 3.5" disks	9.95
Posso boxes to hold 150 3.5" disks	14.95
Posso boxes to hold 70 5.25" disks	14.95

5.25" BOXES	
50 capacity	4.60
110 capacity	5.20
120 capacity	6.50

CABLES

IBM PC cables 1.8m long	6.15
Centronics to Centronics cable 1.8m	9.50
2 metre joystick extension cable	4.95
RS232 Male-male, female-female, male-female	8.50
Joystick/mouse extension cable	3.95

COMPUTER STATIONERY LISTING PAPER

11 x 9.5" 60gsm 2000 sheets	17.00
11 x 9.5" 80gsm 2000 sheets	20.00
A4 70gsm 2000 sheets	19.00
A4 90gsm 1500 sheets	20.00

QUALITY COMPATIBLE RIBBONS

		1+	5+
Amstrad LQ3500/8256	2741FN	3.15	2.50
Amstrad 9512	2746FN	2.90	2.35
DMP2000/3000	2482FN	2.66	2.10
Brother M1009	2412FN	3.60	2.85
Brother M1509	2479FN	5.00	3.95
Canon 1156	2223FN	3.55	2.80
Citizen 120	2488FN	3.10	2.45
Citizen Swift 24	2939FN	3.90	3.10
Swift 24 colour	Original	17.00	16.00
Epson EX800	2774FN	3.35	2.95
FX800/LX800/MX/FX80	7273FN	2.95	2.35
MX100	2320FN	3.30	2.60
LX80/LX85	2454FN	2.15	1.70
LQ800	2477FN	3.10	2.75
LQ1000/1050	2478DN	3.70	2.90
LQ2500	2795DN	4.05	3.20
LQ2550	2877DN	4.05	3.20
NEC P2200 (+)	2844FN	3.30	2.60
Olivetti DM1/200	2843FN	3.65	3.25
Olivetti DM105	2863FN	4.75	4.35
Panasonic KXP110	2228FN	2.95	2.35
KXP1124, KXP1081	2904FN		
Star LC10	2864FN	2.65	2.30
LC10 colour	2861col	5.00	4.60
LC24-10	2868FN	4.10	3.25
LC24-10 colour	original	12.50	11.60
LC200	original	6.40	6.00
LC24-200	original	9.00	8.00
LC24-200 colour	original	12.50	11.80
LC200 colour	original	12.00	11.00

This is just a small selection of ribbons. If your printer is not listed please ring for a price. Originals available on request.

All prices include 17.5% VAT. Post and packing £3.50.
3 day courier £6.50. Overnight £8.50.
All orders are despatched within 24 hours subject to stock availability.

INK JET AND LASER TONER CARTRIDGES AVAILABLE

OFFICE HOURS
9.00am to 7.00pm Monday to Friday
10.00am to 12 noon Saturdays.
PHONE & FAX: (0664) 500878

VISA Access

www.stformat.com

Bigger, better, more!

For the last six months, *ST FORMAT* has brought you an exclusive step-by-step guide to programming in assembly, courtesy of hit programming team Bullfrog, who are currently in the middle of writing *Populous 2*. Now, in the final part of the series, ST programmer Glenn Corpes reveals how to add those professional touches to the games you write yourself.

ALL YOU NEED

The files you need to follow this tutorial were yours on last month's Cover Disk. To follow the development of this game go back to the very start of this series in *STF* 21. If you missed any of the issues, turn to page 136 for the *FORMAT* back issue service.

This is the last article in our assembly programming series, and since the demo could almost be considered a "proper" game, this month we concentrate on enhancements – some simple, some not so simple.

SOME VERY SIMPLE CHANGES

There are already 21 equates at the top of the file that can be changed, giving millions of possible tunings – although I admit most of them would make the game too easy or difficult. This one is fun for five minutes at least.

1. Remove the semicolon from `RAPID_FIRE` to turn rapid fire on.
2. Change `MAX_SHOTS` to 128,
3. Change `NO_NASTYS` to 32,
4. Change `MORE_NASTYS` to 4.
5. Make the change detailed below to make the balls bounce off the edges of the play area.
6. If possible it would be a good idea to add a faster sprite routine – this really slows down!

SOME SIMPLE(ISH) ENHANCEMENTS

All of the following changes are very small, but should give you some idea of how and where you can tweak your program.

At the moment the game just keeps throwing wave after wave of nasties at you relentlessly. This continues until play becomes impossible or you make a mistake and die, which makes the whole game seem even more pointless than it was already.

You can make the game slightly more professional by displaying a message which tells you that a new wave of nasties is starting. The following code should replace the `rts` at line 301. If you are going to type it in you can leave out the comments on the right hand side (after the semi-colon).

```
    move.w vnum_nastys,d0     ;The number of
                              ;nasties
                              ;minus the initial
    sub.w  #NUM_NASTYS,d0     ;number of nasties
                              ;shows current wave
    lea    wave_num(pc),a0    ;as there is no
                              ;variable for wave
                              ;number.
    bsr    _bin2dec           ;Convert it to a
                              ;string for printing
    move.l _d_screen,a1       ;in the text box.
    moveq  #4,d0              ;Initial x coord
                              ;of box.
    moveq  #0,d1              ;Initial y coord
                              ;of box.
    moveq  #22-1,d2           ;Draw box 22 times.
waveloop
    bsr    _wait_vbi          ;Wait for one 50th
                              ;of a second
    sf     _vbi_done          ;wait for another
                              ;50th of a second,
    bsr    _wait_vbi          ;so the wait is for
                              ;a 25th of a second
    movem.wd0/d1/d2,-(sp)
    lea    wave_box(pc),a0
    bsr    _do_box            ;Draw the box
    movem.w(sp)+,d0/d1/d2
    sf     _vbi_done          ;Flag vertical
                              ;blank, ready for
                              ;first wait above
    addq.w #1,d0              ;Move left
    addq.w #1,d1              ;Move down
    dbra   d2,waveloop        ;Loop
    rts
wave_box
    dc.b   ';<<<<<<<<<<=',0
    dc.b   '>WAVE@'
wave_num
    dc.b   '00000?',0
    dc.b   '[\\\\\\\\\\]',0,0
    even
```

The only problem with this program code is that the game stops while the text is printed. It would be a very useful exercise to see if you could get the "wave box" to move while the game is running. This is a fairly simple change to make, but the new instructions would need to be spread throughout the entire program, which makes it a bit too messy to start explaining here. You can develop this idea yourself as an exercise, if you feel up to it!

There is another problem in the above code. The wave number is calculated as being the number of nasties which are active on the current level minus the original number. This works perfectly if `MORE_NASTYS` is set to 1, but if you change `MORE_NASTYS` to 2 for instance, then the levels go 1, 3, 5, 7 and so on. The solution to this problem is to add another variable at the bottom of the code called `WAVE` or something. This needs resetting at the beginning of each game and incrementing each time the routine `_init_all_nastys` is called. It's a very simple change to make but again it would be in three places, so you are going to have to work it out for yourself.

ADDING SOME PUNISHING PENALTIES

The following simple change subtracts three points from your score every time you fire a shot. This effectively gives you a bonus for not hitting the "Fire" button too often so no one's going to leave the joystick auto-fire permanently switched on. Just insert the following code at line 696:

```
    move.w      score,d0
    subq.w      #3,d0
    bmi.s       cant_go_minus
    move.w      d0,score
cant_go_minus
```

For a really professional (and easy-to-debug) program, the `subq.w #3,d0` should really read:

```
    subq.w      #FIRE_PENALTY,d0
```

● In *Powermonger*, Bullfrog managed to combine their passion for isometric 3D with some very fast sprite and movement routines.

● Here's the finished game. Now play with the variables and you can make it even more playable and challenging. On course for a *FORMAT* Gold?

● *Flood* was the Bullfrogs' first cutesy game. Many of the routines used in this tutorial have come from *Flood*. Who knows what we'll be seeing in *Flood 2*.

www.stformat.com

Matrix Software Club

BUY YOUR SOFTWARE FROM US AND WE'LL BUY IT BACK!

*** Top Titles * Latest Releases**
*** Free draws & Competitions**
*** Members review panel * Superfast Service**

Hundreds of tested and guaranteed used original titles for Atari ST/STE, Amiga and PC, including latest releases, business and utilities, with the unique Matrix "Buy back - without question" guarantee. Plus HUGE member discounts on brand new titles - sorry, no PD or Shareware.

The Matrix Club - established 1981 - over 2: thousand registered members. It will pay you to find out more today!

For membership information pack, send large s.a.e. stating your machine - and while you're at it, why not join in this months Matrix competition by calling our cashline -

Call 0836 403807* NOW!
- you could win £100 cash

You'll need a pen & paper to answer the 3 multiple choice questions and send to the address below.

Matrix Leisure Services, Dept STF10, Unit 4 Mill Studio Business Centre, Crane Mead, Ware, Herts, SG12 9PY Customer Service: 0920 444224.

* "Cashline" calls cost 36p/min cheap, 48p/min all other times, please ask the phone owner.

MATRIX - WORKING FOR MEMBERS

ST UPGRADES AND REPAIRS!

★ STE MEMORY MODULES (Simm and Sip)
512K-£40
2 Meg - £175

★ CHIPS TO UPGRADE ST MEMORY
512K-£40
2 Meg - £175

★ REPAIRS - Phone for details

COURIER SERVICE AVAILABLE PLEASE PHONE

TERMS: Please specify exact requirements when ordering memory. Strictly payment with order. All products fitted by us guaranteed for 3 months against defective parts or workmanship.
All cheques payable to BREVCO thank you.

PENGE TV AND VIDEO SERVICES
49 Parish Lane, Penge, London, SE20 7LJ
☎ 081-659 2851

Supra Atari MODEMS

Supra Modems are guaranteed for 4 years and are auto-dial, auto-answer and fully Hayes compatible.

Supra 2400 £115
(2400 baud)
Supra MNP 2400 £150
(2400 baud error correcting)
Supra 2400 Plus £175
(The ultimate 2400 baud modem, 9600 baud throughput)

NEW!
Supra 9600 Plus £495
(V32 9600 baud)

FREE computer cable with every modem

Supra approved distributor
Open till 7pm
081-566 3639
SUPPLY SOLUTIONS, PO BOX 2136, LONDON, W13 8QJ

Swift Microcomputers Ltd

84 High Street North, Dunstable, Bedfordshire, LU6 3HP
Tel: 0582 476257 Fax: 0582 476258

3.5" DS/DD DISKS

50	£21
100	£33
250	£75
500	£135
1000	£265

INCLUDING LABELS

3.5" DS/HD DISKS

50	£28
100	£54
250	£130

XMAS ATARI DEALS!

520 STE DISCOVERY PACK **£295**

FAMILY CURRICULUM PACK **£345**

520 STE TURBO PACK **£315**

PRINTERS

STAR

LC10	£145
LC 24-10	£210
LC 200	£209
LC 24-200	£289

CANON

Bj10e	£239

BITS 'N' BOBS

External Drive	£65
Mouse	£14
Monitor Stand	£12
Dust Covers	£6
LC10 Ribbon	£3
Colour	£6
10 3.5" Branded	£6
10 3.5" Coloured	£7
Mouse Mat	£3

11 x 9.5 Paper 50 gsm 500 Sheets £9

3.5" DS/DD & BOXES

50 Disks + 80 Box **£24**
100 Disks + 80 Box **£36**
200 disks + 2 x 80 Boxes **£65**
400 Disks + 4 x 80 Boxes **£135**

SONY DS/DD BULK

50	£21
100	£38
250	£95
500	£180

DISKS HAVE A NO QUIBBLE LIFETIME GUARANTEE!

PHILIPS CM8833 Mk2 £219

HOW TO ORDER:
Visit our showroom with easy parking or send cheque or postal order to the above address.
Visa & Access accepted

ALL PRICES INCLUDE VAT AND DELIVERY.
ADD £9 FOR NEXT DAY DELIVERY.

ATARI 520/1024 + MEGA ST

UPGRADES and REPAIRS

ATARI 520 ST FM/M ½ Mb

512K UPGRADE (fits all models) £49.99

ATARI 520 ST 2Mb/4Mb

ATARI 520 ST to 2.5Mb £99.99
ATARI 520 ST to 4Mb £169.99

ATARI 520 STE SIMMS

512K to	1Mb	2.5Mb	4Mb
	£29.99	£74.99	139.99

PC EMULATORS (ST)

PC Speed £99.99
AT Speed £209.99

FLOPPY UPGRADE

1 Mb Internal £49.99

MEGA ST 1 and 2

MEGA 1 2mb £99.99
MEGA 1 4Mb £169.99
MEGA 2 4Mb £99.99

ATARI REPAIRS

Fast guaranteed repairs
low prices
PLEASE CALL

ALL PRICES INCLUDE VAT AND FITTING.
P&P £3 ON ORDERS UNDER £99.99.

ABEVILLE COMPUTERS LTD.
Imperial House, St Nicholas Circle,
Leicester, LE1 4LF
Tel: (0533) 628182
Fax: (0533) 626636

VISA Access

For computers & accessories.... ...where you CAN buy more for less

Disks, high quality, with labels

3.5" DSDD, blue	33p
3.5" Sony, branded	68p
3.5" 3M, branded	75p

Disk Storage Boxes

3.5" 40 capacity, locks	£4.45
3.5" 80 capacity, locks	£5.45
3.5" 100 capacity, locks	£5.95

Accessories

Roctec external drive	£64.95
Universal printer stand	£5.95
Tilt/Turn monitor stand	£10.95
Fastrack disk swap box	£2.95
Naksha upgrade mouse	£23.95
Mouse/Joystick extension	£4.95
4-player extension lead	£4.95
Joystick splitter lead	£4.95
Mouse mat, 6mm	£1.95
Disk head cleaning kit	£1.95
3.5" 100 disk label pack	£1.50
Atari dust cover	£2.95
Zipstick autofire joystick	£10.95
Quickjoy Turbo II m/switch	£7.95
Quickjoy Supercharger III	£8.95
Quickjoy Jetfighter VI, ms	£12.95
Quickjoy Superboard V, ms	£16.95
Quickjoy Topstar, THE stick!	£19.95

Ask for computers & joysticks list

Cheques/PO's to; Redlaw Resources, STF Offer
74 Durban Road, Patchway, Bristol BS12 5HQ.
Please add £3.50 for P&P Tel: (0272) 760600 (24 hour)

www.stformat.com

and `FIRE_PENALTY equ 3` should be added to the equates at the top of the file. You can then make the game easier or harder simply by changing the value of this equate.

Another change is to make the balls bounce off the side of the playing area. Insert this code after the label `still_positive` at line 742:

```
    tst.w   d0          ;Has x gone negative?
bpl.s msxpos            ;No
    neg.w   d3          ;Reverse velocity
    add.w   d3,d0       ;Move it back into the
                        ;playing area
msxpos
    cmp.w   #320*4,d0 ;Is x past left of
                        ;the playing area?
    bmi.s   mxless      ;No
    neg.w   d3          ;Reverse velocity
    add.w   d3,d0       ;Move it back into the
                        ;playing area
mxless
    tst.w   d1          ;Has y gone negative?
    bpl.s   msypos      ;No
    neg.w   d4          ;Reverse velocity
    add.w   d4,d1       ;Move it back into the
                        ;playing area
msypos
    cmp.w   #192*8,d1 ;Is y past bottom
                        ;of playing area?
    bmi.s   myless      ;No
    neg.w   d4          ;Reverse velocity
    add.w   d4,d1       ;Move it back into the
                        ;playing area
myless
```

The above change is most impressive if `MAX_SHOTS` is set to a large number, like 128.

SOME MORE SUBSTANTIAL CHANGES

These are not simple "type in and there you go" changes but they are ideas which should be fairly straightforward if you understand 68000 programming techniques – or you've gleaned enough information from this series of articles.

1. Shot-collection bonus

How about a bonus for picking up shots that are still bouncing around the screen? You would need to check the collision (compare the coordinates) of the player against all of the active shots. If they collide you then need to kill the shot off (by clearing its mode) and add something to the player's score – probably `FIRE_PENALTY` multiplied by two. As well as adding a small feature to the game, it would also help make more shots available when `MAX_SHOTS` is set to a small value.

2. High score table

How about a high score table? Although not very exciting to write, this routine would be useful – it needs to sort the scores, insert new high scores into the table, and read the keyboard for the player's name.

3. Load screen

Adding a load or title screen to a game is very simple indeed. All you need to do is load a .NEO format file. NEO files are 32,128 bytes long, of which the first 128 bytes form the header and the remaining 32,000 (160x200) are the raw screen data. You can decipher NEO format as follows:

- Ignore the first four bytes.
- The next 32 bytes are the 16 words of the palette. Copy these into the palette's hardware registers (defined as `H_PAL` in the program).
- Ignore the next 96 bytes, which are for colour cycling and speed of cycle.
- The remaining 32,000 bytes are the raw screen data which needs to be copied to `_w_screen`. When you've done this, call `_swap_screens` and the load screen is displayed.

4. Record Buffer

Every game turn, a byte is read from the joystick and the player's movement and firing is calculated from this. If you store these bytes in an array you have a recording of all of the movements in the game. To play back the recorded game, change the joystick routine so that it takes the bytes from the array instead of from the stick. The replay is exactly the same except for the random numbers which change every time. To solve this, store the variable "seed" somewhere safe before recording and put it back where you found it before playback. Because the numbers are only pseudo-random the same sequence occurs the next time and the playback is exactly the same as the gameplay.

The memory needed for the record buffer varies according to the speed of the game. If the game ran at 50 frames a second (which it does very occasionally) you would need 50 bytes per second or 3,000 bytes a minute, or 15,000 bytes for five minutes. Because the game slows down so much, you could store at least 10 to 15 minutes' playing in 15K.

This sort of recording system is often used in rolling game-demos. I did it this way when I wrote the rolling demo for *Fusion*, and I use this kind of buffer in *Populous 2* (previewed this issue on page 40).

5. Speeding up the sprite routine

Ah, the sprite routine! This sprite routine is about two years old and is not supposed to be lightning fast. The main reason for the sprite routine being so slow is the speed of the shift instruction on the 68000 processor. The further you shift a word along, the longer it takes. A sprite shifted by 15 pixels takes about twice as long to draw as one shifted by 0 pixels. On some processors (even some of the others in the 68000 family) the shifts are handled by a barrel shifter and all take the same amount of time.

This series should at any rate get you started in 68000 programming – the rest is up to you!

Of course changing your processor is a little drastic but there are some other ways. Try changing a right shift of 9 to a left shift of 7, a right of 10 to a left of 6, and so on. This means you need two kinds of sprite routine, but they speed things up quite considerably. It is also possible to pick up two planes of the data at once with a move.l and shift with a long shift. This takes about the same time as a word shift but does twice the work. To use it, the code would need further rewriting.

6. Organised palette

Having the palette in a specific order has some advantages. For instance, the shadows are drawn only on top of the background, which is only in the first two planes. The shadow is the dark green colour which is also in the first two planes. The shadows could therefore be drawn with a special routine that only touches two planes. This would almost double the speed of drawing the shadows. Incidentally, this is how the shadows on the ST version of *Fusion* were drawn.

● Glenn Corpes is one of the original Bullfrog programming team and he's an ardent ST fan.

The shots were originally bubbles (about three issues ago). If the palette was organised so that the last four colours were the blues and white, you could draw the shots by simply setting the last two planes on. Again the routine would be faster and the shots would be transparent. This method was used for the floodwater on *Flood*.

7. Pre-shifted Graphics.

Another way of getting rid of the shifts is to store 16 copies of all of the graphics, one at each possible shift position. These pre-shifted sprites are very quick to draw but take up over 16 times as much memory. Even with the limited graphics of this demo it would be impossible to pre-shift all of the sprites on a standard 520ST, but it would be well worth shifting the nasties and the shots. If the shots were also drawn in fewer planes (see 6 above) then their pre-shifted data would take up less memory space. This is how most fast scrolls and sprite routines are achieved in popular PD demos.

There are of course heaps of other little tricks that I'm not going to tell you about, because (a) we have to have *some* trade secrets and (b) they're mostly little fixes and shortcuts we discovered when trying to solve particular problems. This series should at any rate get you started in 68000 programming – the rest is up to you! ***stf***

GOT IT SUSSED?

Think you've learned enough from *FORMAT's* exclusive assembly programming series to write your own game? Not just one that tweaks the Bullfrog programs we've given you on the Cover Disks, mind you, but something with a real touch of originality and inventiveness? Tell you what we'll do. Send us a copy of your game, making sure you use a virus-free disk (test it using *UVK* from Cover Disk 26 – and if you haven't got that, see page 138). We'll put it through its paces. If we think it's really good we'll consider putting it on a future Cover Disk and paying you an appropriate royalty. So if you've dreamed about becoming a famous and well-paid programmer (well, it never hurts to dream), send your game to: All my own work, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. But remember: you must not simply copy code from this series or from other games – that's called plagiarism, and it's cheating. Not to mention illegal.

www.stformat.com

Discover the Am

Amiga Format presents the greatest computer show this ye

Just look at what there is!

Christmas hits Ocean, Psygnosis, Mindscape, Electronic Arts, Virgin, Microprose, Gremlin, Mirrorsoft: all the leading software houses will be at the Show, with massive stands. This'll be your chance to see and **play the year's biggest games** – exclusive to the Show.

CDTV City Just what is CDTV? What can you do with it? What software can you buy? Discover exactly what **the future of Amiga computing** holds in the Show's unique CDTV City.

Christmas Shopping Mall All the best Amiga bargains are here! Packed to the very rafters with incredible deals. You won't find **cheaper games** anywhere. Load up with the very best for your Amiga – and at the best possible prices!

Multimedia Theatre Commodore has attracted some of the biggest names in computing to **demonstrate their stuff**. See what the Amiga is *really* capable of!

Games Arcade Set your **eyes on boggle mode**: you won't believe how many incredible games you'll be able to play.

The game makers Imagine hearing direct from the leading games' programmers: just how do they do what they do? Imagine no more: these seminars will tell you **all you need to know**. Plus: ***Amiga Format*** will be running Question and Answer sessions throughout the Show.

Free Guide ***Amiga Format*** will be producing a **damn fine free read** of a show guide.

Massive Stands Experience the excitement and **live the dream** at Britain's biggest leisure computer show.

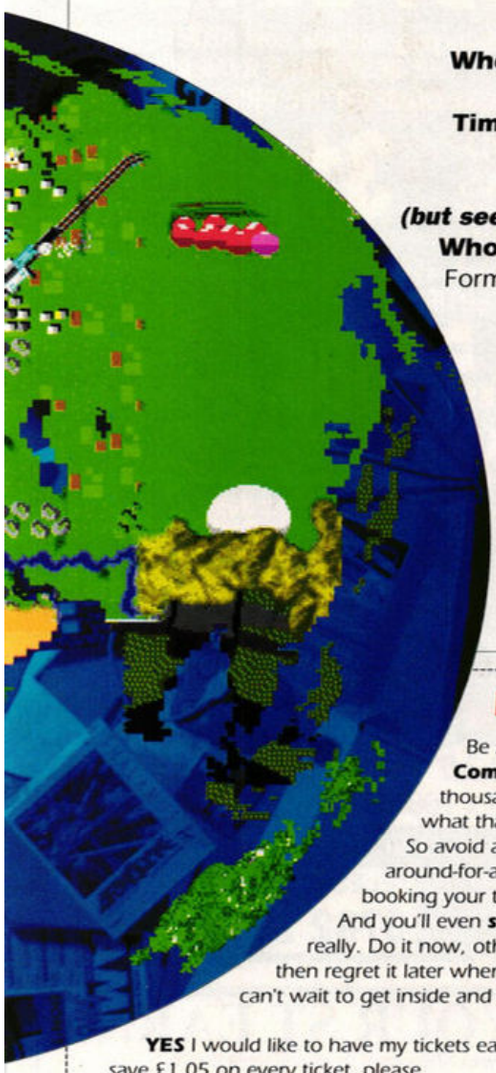
And also... Fistfuls of competitions. Hosts of celebrities and experts. Jaw-droppingly wonderful big screen video. Virtual Reality (virtually certain). Creche. And a **lot of noise**, that's for certain...

You'll think Christmas has come early!

ga at its Best!

. Earl's Court II, November 15-17 1991: be there!

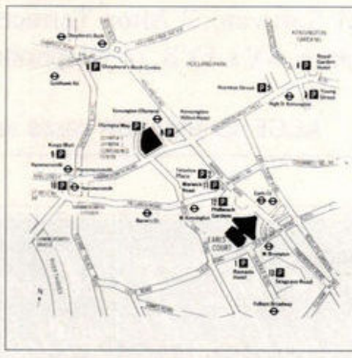
AMIGA presents
World of Commodore
15 - 17 November 1991
Commodore



Faxbox

Where Earl's Court II, heart of London
When November 15-17 1991
Times 9am-5.30pm November 15-16; 9am-4pm November 17
Cost Adults £6, under 14s £4
(but see the special Early Booker Offer)
Who'll be there? Commodore, Amiga Format, Amiga Power, Amiga Shopper, all the major games producers, a myriad of serious publishers, loads of bargain-offerers, lots of hardware developers and everyone into the world of Amiga.

You want to get the best games for your Amiga? Get along to Earl's Court on November 15-17!



Nearest tube: Earl's Court

EARLY BOOKER OFFER: SAVE TIME, SAVE MONEY

Be smart. You know this **World of Commodore** will attract tens of thousands of people. And you know what that means: queue City.

So avoid all the foot-shuffling, hanging-around-for-ages start to the Show by booking your tickets early.

And you'll even **save money**! Bit of a barg, really. Do it now, otherwise you'll only forget and then regret it later when you're really cold and you can't wait to get inside and – (Snip! - Ed)

YES I would like to have my tickets early, avoid all the queues and save £1.05 on every ticket, please.

Name .....

Address .....

.....

.....

Postcode .....

Number of tickets .....Adult (at £4.95 each)
.....Under 14s (at £2.95 each)

Total payment

Method of Payment (please circle) Access Visa Cheque PO

Credit Card number .....Expiry date.....

CREDIT CARD HOTLINE 051 356 5085

Please make all cheques payable to **WORLD OF COMMODORE**

Send this form to

World of Commodore
PO BOX 2
Ellesmere Port
South Wirral
L65 3EA

WARNING: This offer closes on 8.11.91
If you don't want to cut up this magazine, photocopies are accepted.

AMP9

HAT Software

Buy Two Get One Free!

Yes, that's right. Buy any two HAT Software educational packages, and get one absolutely free. Now the highest quality educational software is now amongst the cheapest.

Creativity & Productivity Packs

4-8years	8-Adult
Jigspell	Learning to Type
Nought to Nine	Stage II
First Paint	Sprinter
£27.95 save £15	£29.95 save £30

Send SAE for full catalogue.

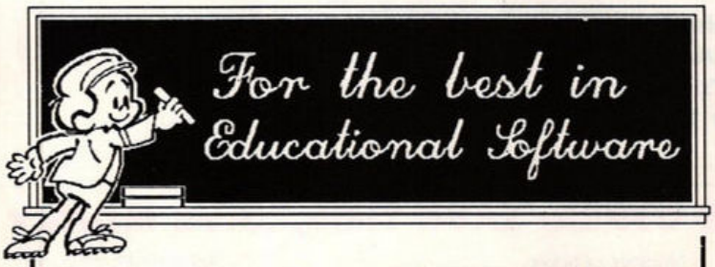
Name _____

Address _____

Telephone _____

Please return to HAT Software, 3 Alton Terrace, Shrewsbury, Shropshire, SY1 1XB, or telephone (0743) 231763

ACCESS and VISA cards accepted



Subjects
French, Spanish
German, Italian
Science, History
Geography
English Words
Spelling
Arithmetic
Football, Sport
First Aid
General Knowledge
England, Scotland
Natural History

Kosmos are specialist producers of Educational Software designed to help you enjoy learning from your computer. Versions are available for most popular home & business computers. Many of our programs even allow you to add your own lesson material.

⇓

Write or telephone for a FREE 20-page BROCHURE of our Educational & Leisure software

Please state your computer type

Kosmos Software Ltd, FREEPOST (no stamp needed in UK)
DUNSTABLE, Beds. LU5 6BR
Telephone 05255 3942 or 5406

Access — KOSMOS SOFTWARE — VISA

Educational Programmes

Tel 0626 779695

Written by experienced teachers.

Tel: 0626 779695 **88% in ST Format June 91**
Day or evening

Do you want to see your children use the computer for something other than shoot-em-ups?
Would you like them to use more than four keys and a joystick?
Do they get fed up with being killed off while trying to work out which button does what?

MasterCard VISA

Coombe Valley Software may have what you are looking for

Send SAE for information or disc/50p for demos, state (SS/DS)

To:- C.V.S. 18 Nelson Close, Teignmouth, Devon. TQ 14 9NH

WE MUST BE MAD

Due to massive bulk buying and low cost ADVERTISING we can offer you THE BEST DISKS AVAILABLE AT THE MOST COMPETITIVE PRICES.

3.5" DSDD DISKS FROM 31p INC VAT + LABELS For Qty's of 100+

Qty's below 100 @ 33p each; 250 + @ 30p each; 500 + @ 29p each

ALL DISKS CERTIFIED 100% ERROR FREE

SONY 3.5" 38p DSDD BULK

3.5" DSHD.....65p
5.25" DSDD.....21p
5.25" DSHD.....36p

100 Capacity Disk Box.....4.25	50 Capacity Box.....3.50
Mouse Pockets.....1.75	Mouse Mat.....2.25
Printer Stand.....4.25	Amiga/Atari Dust Cover.....2.95
Posso Box.....15.96	3.5"/5.25" Cleaning Kit.....1.95

Amiga 512K RAM Expansion with clock.....24.95
Amiga/Atari External Drive (ZYDEC).....54.95

THIS MONTHS SPECIAL OFFER 200 3.5" DSDD DISKS + 2 x 100 CAP BOXES **66.95**

Please add £3.35 p&p/next day £8.50. Cheques/POs to
PLC COMPUTER SUPPLIES (Dept STA)
11 Meakin Avenue, Clayton,
Newcastle, Staffs ST5 4EY.

TELESALES HOTLINE 0782 212970

Access VISA

MAKE YOUR ST EARN!

Yes making money with your ST becomes incidental when you know how!

Your ST 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, King and Queen Street, STF27
Walworth, London, SE17 1DR.

www.stformat.com

A set of matching games

You're never too young to start learning what an ST can do. *STF's* education specialist Terry Freedman checks out a variety of software for the pre-school age group and gives you the lowdown on how the ST faces up to the challenge laid down by the National Curriculum

Whether or not it's because Christmas is approaching, suddenly there's a new batch of software for the very young on the market. There are a couple of nice looking programs from Ablac, reviewed here, and by the time you read this there could be another *Fun School* package out. (The last, released almost exactly a year ago, was reviewed in *STF* 15 and proved good enough to earn *FORMAT* Gold.)

What does a "good" piece of education software look like? Well, it ought to grab the attention first of all, and then it has to retain it. The learning should be fun, and I think most teachers would agree that the child shouldn't think of it as "work." There should be plenty of positive feedback – that is, rewards if you do well, and not being called an idiot if you don't. But children won't be patronised. The problem has to be within their grasp, but they want to be challenged. This means that a *really* good piece of edsoft should have the provision for an adult to move the goalposts as the child progresses.

SAY HELLO TO TERRY

● **Terry Freedman is Head of Information Technology at William de Ferrers School, a secondary school in Essex, and also writes for the Times Educational Supplement**

Memory Lane

AGE RANGE: 2-6
MACHINE: ALL COLOUR STs
PRICE: £24.99
FROM: ABLAC COMPUTEC LTD
CONTACT: 0626 332233

This package aims to help children hone their powers of discrimination. The ability to recognise shapes and make some sense out of them is obviously an important prerequisite for learning how to read and manipulate numbers, and this program helps children learn these skills by offering them five different types of matching game: exact matching, matching related objects, matching words and pictures, matching from memory and remembering the order in which items are presented.

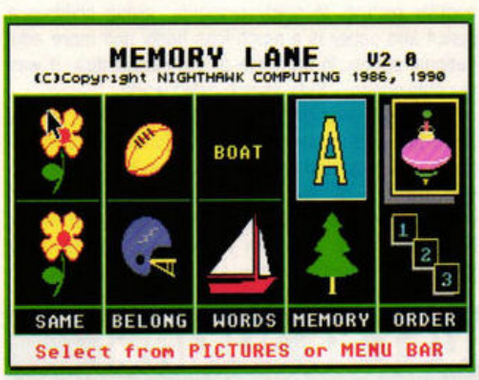
All of these skills are essential, and *Memory Lane* tackles them in a lively and stimulating way. Apart from the variety of activities, there are amusing animated graphics. Every time you get the correct answer, something interesting happens – for instance, a dog wags its tail – and this acts as a reward or incentive. I like the way your ST even reminds you to get started if you don't press anything for a few minutes once you've started up!

In terms of variety and presentation, *Memory Lane* is better than similar programs like *Mix and Match* (£24.99 from Scetlander ☎ 041 357 1659; reviewed last issue – if you missed that, see page 138 for the *FORMAT* back issues service).

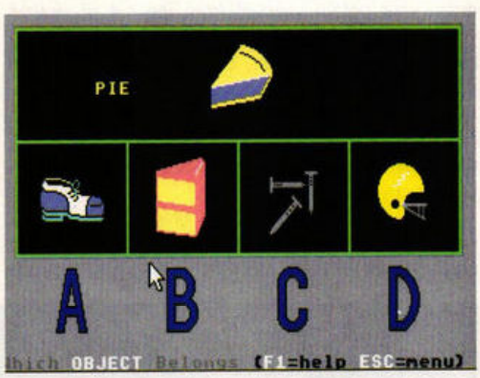
However, both this package and *My Letters, Numbers and Words* (below) suffer from a few drawbacks. First, there is very little parental involvement. Apart from being able to decide how much help the child gets or how difficult the puzzles are, the parent can do very little. By comparison, the help for parents in Scetlander's *Mix and Match* is impressive. Press <Control>-T at the start of that program and you are presented with a whole range of options, such as controlling the timing of the "tests," deciding whether the results are recorded or not, and getting a printout of the results themselves. This last one means you can pinpoint the areas where your child is having problems. Here, however, the results aren't recorded at all, so they can't be analysed afterwards.

Memory Lane's manual gives little food for thought, being for the most part concerned with technical matters. Another drawback, which can be important at this age, is the fact that the program originated in the US and it shows. I haven't come across any American spellings yet, but there are potentially confusing cultural oddities such as baseball bats and football helmets.

There are certainly some very good aspects to this program, but its drawbacks, particularly in the area of parental help, mean it probably needs to be supplemented by something else.



● **In Ablac's *Memory Lane* you can choose from five recognition/matching activities, from exact matching to recalling the order in which items were presented**



● **This game in *Memory Lane* demands understanding as well as memory: you have to choose the item which belongs to the same group as the one on top**

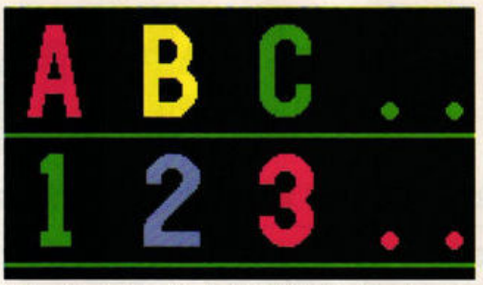
Contents: 1 SS Disk; 15pp Manual; Boxed

PRESENTATION	7
EDUCATIONAL VALUE	7
EASE OF USE	7
LONG-TERM INTEREST	4
VALUE FOR MONEY	7
OVERALL	**64%**

www.stformat.com

MY LETTERS, NUMBERS & WORDS

AGE RANGE: 2-6
MACHINE: ALL COLOUR STs
PRICE: £24.99
FROM: ABLAC COMPUTEC LTD
CONTACT: 0626 332233



● There's plenty of choice in *My Letters, Numbers and Words* – but in fact not very much variety.

● Once you've managed to complete the word "lion," there are some interesting graphic effects!

From the same stable as *Memory Lane* comes this shape recognition tutor, which you could see as a complementary program to it. Trouble is, you'd be wrong, because even though *My Letters, Numbers and Words* has a slightly different aim it has the same strengths and the same weaknesses.

The purpose of this program is to teach youngsters to recognise letters, numbers and objects. An interesting feature is the option to have a pair of hands on the screen showing you which finger to use to type a letter. Thus the child can start to learn keyboard skills from the word go.

Like *Memory Lane*, this has some attractive graphic effects, but not quite the same variety. What *Memory Lane* lacked in parental control it made up in the degree of variety it offered. This package doesn't have that compensation. Still, it does do the job it sets out to do, and it does it reasonably well – probably better than many other programs. I suppose the real problem is whether you want to buy a package which is so narrow in scope compared to other edsoft

PRESENTATION	7
EDUCATIONAL VALUE	7
EASE OF USE	7
LONG-TERM INTEREST	4
VALUE FOR MONEY	7
OVERALL	**67%**

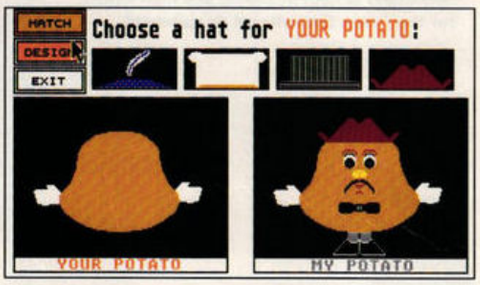
CH001/E

AGE RANGE: VERY YOUNG
MACHINE: ALL COLOUR STs
PRICE: £1.50
FROM: C.HACK'S PDL
CONTACT: 0268 416888

This inexpensive disk contains four of the "Kids" programs: *Kids Potato, Kids ABC, Kids Sketch* and *Kids Story*. The first of these consists of two options: you can either match the way your potato is dressed to the one on the screen, or dress your potato yourself from the set of clothes you're given. A bit limited in scope, and not likely to keep you riveted for ever, but a good bit of fun and educational too!

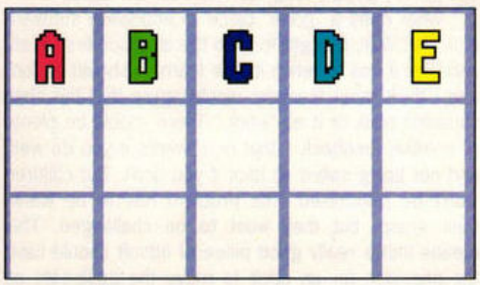
Kids ABC is another matching/recognition exercise. You have to type in the alphabet in the correct order, with or without on-screen help. Type the letters in correctly and a tune is played.

Kids Sketch is an unusual drawing program: it simulates one of those hand-held plastic drawing machines where you twiddle the knobs to get a rather angular picture. In many respects, giving children a pencil and paper is a much less fiddly and more educational option. In the case of our review disk, it was the only option – *Kids Sketch* didn't work!



● You have the choice of matching your potato to the one on the screen – or designing your own outfit!

The final program on this disk, *Kids Story*, is very good fun, and is bound to appeal to children's imagination – it appealed to mine! You have to choose various objects at the outset, and these are then incorporated into a story based on Little Red Riding Hood which the program makes up. The resulting story makes sense in the same way that "Alice in Wonderland" makes sense. This program will keep you going for hours!



● *KidsABC* is simple if you know your alphabet, but you know when you've got it right – a tune is played!

Contents : 1 SS Disk

PRESENTATION	7
EDUCATIONAL VALUE	7
EASE OF USE	6
LONG-TERM INTEREST	6
VALUE FOR MONEY	8
OVERALL	**67%**

● Kid Potato, Kids ABC, Kids Sketch and Kids Story, as well as other programs in the "Kids" series, are available from many other PD libraries – try BSoft (☎ 0734 416492), Floppyshop (☎ 0224 312756), ST Club (☎ 0602 410241) or your local PD library – see FORMAT's directory, page 50.

INFERIOR? YOU MUST BE JOKING!

I've read a couple of articles in other journals recently expressing the opinion that the Atari ST could not be put to serious use. Well, let's look at the facts as they relate to education.

The "National Curriculum" introduced by the Government lays down that pupils must be able to use a computer in a number of ways or "strands" by the time they leave school. How does the ST measure up in terms of these "strands"?

- **Communicating Information**

The ST does admirably here, with some excellent word processors, databases and other applications available. Included in this is presentation of work, so art and DTP packages are also relevant.

- **Handling Information**

This section is all about manipulating information. The ST's friendly GEM environment makes it easy for children to get into computing, and there are some great spreadsheets, graph programs and so on for the ST – and they quite often "talk" to each other too!

- **Measurement and Control**

There are some very cost-effective ST data-logging devices for the collection and measurement of data. And when it comes to control, you need look no further than the MIDI music scene – where the ST excels, with its built-in MIDI ports and unrivalled range of software.

- **Modelling**

Not "modelling" in the everyday artistic sense, but in the academic sense of representing a process or an event. Well, even some of the games around these days do that! And of course there are the CAD (computer aided design) packages, plus common or garden spreadsheets.

So there you have it. The plain truth of the matter is that the ST with the right software is more than capable of delivering the goods as far as education is concerned. To prove this, in a couple of months' time I'll be giving you an in-depth insider's report on how one school in particular is using Ataris to provide children with the computer experience they need.

WAIT FOR A SPELL

Next month we take a close look at spelling programs, including the new "Henrietta" offering from Scetlander and a couple of Public Domain programs. In future issues, we'll be looking at multi-lingual word processors and some excellent information-handling and modelling packages. To make sure you don't miss out on these or any other forthcoming features in *ST FORMAT*, turn to page 136 for information on how to subscribe.

www.stformat.com

ST/STe VIDEO TITLER

Produce professional looking titles for your videos using our titling software.
Combined software & video package explains how to achieve the effect you want.
Supports the use of a Genlock.
Suitable for use with all video formats.
Create dynamic title sequences.

STUNNING VALUE ONLY £24.95

LASER DISTRIBUTION LTD
PO BOX 1, CALLINGTON, PL17 7YZ
(0579) 82426 - 24 HOURS

Access VISA

ATARI REPAIRS AND UPGRADES

- *Fast efficient service.*
- *Average turnaround 24hrs.*
- *Experienced, qualified engineers.*
- *Fee includes complete diagnostic inspection.*
- *All repairs carried out covered by free 90 day warranty.*
- *Free registered carrier pickup and return dispatch, for ultimate peace of mind*

Just send us your Atari together with a fault description, and £15 diagnostic fee and we will provide you with an itemised written quote, most repairs do not exceed £40. For upgrades, phone for part prices, typically at trade prices, and we will fit any upgrade for just £15 + parts.

ACS electronics

Access VISA

Business Enterprise Centre, Eldon Street,
South Shields, Tyne & Wear, NE33 5JE.
Telephone: 091-455 4300

Atari ST PD. From £1.00 Per Disk

POWER PD.

Atari ST PD. From £1.00 Per Disk

DEMOS:

DEM017 Delirious Demo II
DEM049 & DEM050 European Demos
DEM054 Walker II Demo
DEM073 Cyberscape Demo
DEM079 Teenage Mutant Hero Turtles
DEM086 Dark Side Of The Spoon
DEM091 The NEW Snowman Demo
DEM095 Ripped off 65
DEM096 Tallon Sound Demo
DEM098 Electra Reset Demo
DEM099 TAG DNA Demo
DEM102 Robocop 2
DEM106 Predator Demo
DEM108 Back To The Future

GAMES:

GAM012 The Elven Crystals I From T.A.G.
GAM013 The Elven Crystals II
GAM017 Strip Breakout!
GAM020 Space War. Tunnel Vision

PICTURES:

PIC007 Ghost Busters Slide Show
PIC009 The Empire Strikes Back Slide Show

APPLICATIONS:

APP014 Opus Spreadsheet
APP015 ST Writer Elite

1-5 DISKS :	£1.50 EACH
6-10 DISKS:	£1.25 EACH
11+ DISKS:	£1.00 EACH

For your FREE printed catalogue please send an S.A.E. to:
POWER PD. 25 WINDMILL WAY, REIGATE, SURREY, RH2 0JB

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.

Full UK and European Cup itinary 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 Play-offs 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 an 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 updated very quickly and displayed in a pleasant format, which is easy to use and comfortable to read. High quality 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.

ST USER Review May 1990 Ratings (Out of 10)
Playability 8, Value For Money 9 & Overall 8

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.

Available for the Amiga & All Atari ST's. PC Version Coming Soon.

MAIL ORDERS

Send £19.95, Guaranteed Cheque / Postal Order / Credit Card Details to:

ESP SOFTWARE

ESP Software.
32B Southchurch Road,
Southend-on-Sea,
Essex SS1 2ND.

AVAILABLE FOR IMMEDIATE DISPATCH
Cleared Funds ONLY

PLEASE ALLOW 10 DAYS TO CLEAR UNGUARANTEED CHEQUES
NON-UK SURFACE DELIVERY PLEASE ADD £1.00. AIRMAIL ADD £2.00

TELEPHONE ORDERS

Access **(0702) 600557** FAX (0702) 613747 Out of hours Answer Phone VISA

www.stformat.com

ISSUE 11
Disk: *Resolution 101* playable demo; mouse tools; plus great comms software!
Inside: piracy special; how to "do" comms; how your ST can spy on satellites

ISSUE 12
Disk: Mega music special, MIDI sequencer, *Starblade* space-trading demo
Inside: Mad about Music; *Harlekin;* beginner's guide to brilliant graphics
Plus! *Free* tape!

ISSUE 13
Disk: *Battlemaster* playable demo; *GFA Draft* useable demo; reset proof RAM disk
Inside: 15 pages of gamebusters and technical tips; *Magic Fly* preview; *Proxima,* the DTP newcomer

ISSUE 14
Disk: Together for the first time: fully useable demos of *Yolanda* and *Rick Dangerous*
Inside: Why do games cost so much? *Megapaint 2* – an instant ST art classic?

ISSUE 15
Disk: *DPaint, Manix* and *Days of Thunder,* – not one but three fully useable demos!
Inside: Full, definitive review of *DPaint 2,* plus tutorial on getting the most from the Cover Disk demo

ISSUE 16
Disk: *Atomic Robokid* and *TCB Tracker* – two fully useable demos
Inside: Ten pages of ideas on getting more from your ST – making money or just having fun!

ISSUE 17
– 220 pages!
Disk: Fully useable demo of *Captive,* the *FORMAT* Gold winner! *Plus* five more complete utilities
Inside: 50 games on review; hard drive and printer round-ups

ISSUE 18
– 220 pages!
Two Disks: Complete £30 game and fully useable demos of *Puzznic, Golden Axe* and more besides!
Inside: 50 top games of 1990; report on the future for Atari

ISSUE 19
Disk: *Champion of the Raj;* full version of *GFA Basic 2,* a complete database and more besides!
Inside: Get to know your ST; the STF gold awards 1990; classic games and software

ISSUE 20
Disk: *31* programs, including *Turrican 2, Mastersound 2* and 13 AUTO programs.
Inside: Complete guide to plug-ins; DIY hardware projects; *Sim Earth* preview; 14 pages of top tips

ISSUE 21
Disk: Huge animation package *plus Gods & Moonshine Racers*
Inside: 21 pages of animation; music tips from Neil Palmer; program in assembly
Plus: *free* 32-page buyer's guide extra

ISSUE 22
Disk: *Stormball, Devpac 1* programming package, *exclusive* music files by Neil Palmer, 5 disk utilities
Inside: DTP made easy; recovering lost files; complete WP roundup; RPG top ten

ISSUE 23
Disk: 15 programs – *3D Construction Kit, RezRender,* American Football game, seven invaluable utilities
Inside: 3D secrets; top ten 3D games; complete guide to ST communications

ISSUE 24
Disk: *Atomino* demo, *Llamatron* complete game, a better file-selector and more
Inside: Complete ST video guide; digitisers roundup; *exclusive* details of Atari's new portable "STs"

ISSUE 25
Disk: *Mega lo mania* demo, *Flexidump* printing program, a diary utility and more
Inside: 20 printers scrutinised; memory upgrades guide; emulators roundup; Soul II Soul interview

ISSUE 26
Disk: *Ultimate Virus Killer, Magic Pockets* demo, TOS 1.4 fixes and a swag of utilities
Inside: Protecting your ST from viruses; STs produce TV ads and business cards; *Calligrapher* tested

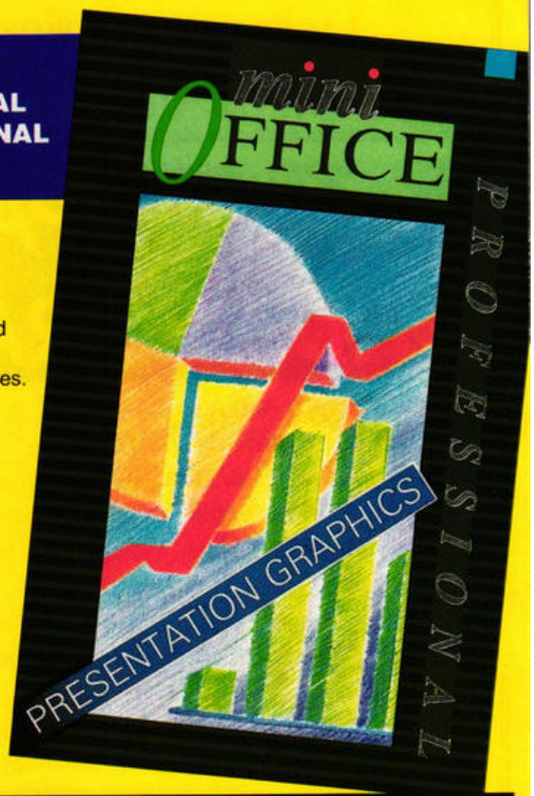
SORRY! ISSUES 1– 10 ARE SOLD OUT

ORDERING Please use the subscription coupon opposite.
Prices per issue include Cover Disk, packing and postage. Please note that issue 18 is a little more – but you do get two disks
UK-£3.75 (#18-£4.75) EUROPE-£5.20 (#18-£6.20) ROW £7.25 (#18-£8.25)

Receive one when you

MINI OFFICE PROFFESSIONAL PRESENTATIONAL GRAPHICS

Bring your data to life with this flexible package. It's ideal for creating graphs, charts and presentations, makes full use of GEM and comes with a host of invaluable Desk Accessories.



GFA DRAFT 2

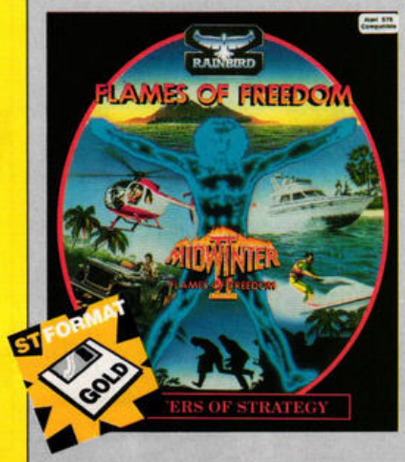
GFA's acclaimed Computer Aided Design package, featured in demo form on Cover Disk 13, is the best available for your ST.

GFA Draft 2
Program for the ATARI ST

Subscribers' Club

SAVE £9

You not only receive an excellent gift when you subscribe – you can also take advantage of our exclusive subscriber offers! An extra bonus or what?
Just take a look! This month's special offer to subscribers is...



MIDWINTER 2: FLAMES OF FREEDOM
SUBS CLUB PRICE £25.99 (RRP OF £34.99)

You can't afford to miss this *FORMAT* Gold-winning original strategy game. Storm your way across 42 different islands in a desperate bid to build up an army of Resistance fighters.
"*Midwinter 2* is definitely a classic. There's so much depth in the game that you'll be playing it five years from now."
– *ST FORMAT* 26

www.stformat.com

# of these superb gifts subscribe to *ST FORMAT*

MAGIC POCKETS

This is the Bitmaps' latest horizontally-scrolling arcade game and it's certain to keep you hooked for hours.

Charge through one level after another, collecting essential pick-ups in your unfeasibly large pockets. Then, when danger strikes, use your wits and collectables to get yourself out of trouble.

MEGA-LO-MANIA

The epic new god-game from Imageworks, in which you take the role of one of four demigods and vie for total supremacy over the planet. Set your people to mine for resources, research defensive or offensive weapons, send your troops into battle and spread your influence over technology levels from caveman to the far future!

Just look at all the benefits you gain when you subscribe

- You save time
- You save trouble
- You guarantee your copy
- You get it delivered
- You receive one of these superb software packages – as a gift!
- You get first crack at all special offers – normally at exclusive prices

All this for just £39.95 for 12 issues!

COMPLETE THE COUPON BELOW AND RETURN IT TO US STRAIGHT AWAY. CAN'T WAIT? THEN PHONE OUR CREDIT CARD HOTLINE ON 0458 74011 FOR FAST AND FRIENDLY SERVICE

YES! PLEASE ENTER/RENEW MY SUBSCRIPTION TO *ST FORMAT* *(TICK AS APPROPRIATE)*

12 ISSUES ☐ UK £39.95 ☐ EUROPE £66.45 ☐ REST OF WORLD £91.20 6 ISSUES ☐ UK ONLY £19.95

To ensure you receive your magazine and disk quickly and undamaged, all overseas subscriptions are sent Air Mail

MY CHOSEN GIFT IS *applies only to 12 issues – tick one only* ☐ MEGA-LO-MANIA ☐ MAGIC POCKETS ☐ PRESENTATION GRAPHICS ☐ GFA DRAFT 2

PLEASE ALSO SEND ME BACK ISSUES 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 *PLEASE CIRCLE*

☐ SUBS CLUB OFFER – *FLAMES OF FREEDOM* – £25.99 *Existing subscribers please quote your reference number from your address label* _____

TOTAL PAYMENT £ _____ *please remember to include all items that you have ticked above*

MY METHOD OF PAYMENT IS *tick your choice*

☐ VISA ☐ ACCESS Exp ☐☐☐☐ Card No ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

☐ CHEQUE make payable to Future Publishing Ltd and enclose with this coupon in an envelope and send to: *ST FORMAT* Subscriptions, FREEPOST, Somerton, TA11 7BR

NAME _____ SIGNATURE _____

ADDRESS _____

_____ POSTCODE _____

PLEASE NOTE! THIS COUPON IS VALID UNTIL 31 OCTOBER 1991 ST/MAG/0991

www.stformat.com

JET ONLY £7.99

SHINOBI £7.99

TURBOSOFT

ROCKET RANGER AMAZING VALUE ONLY £4.99

LEMMINGS ONLY £17.99

FORTHCOMING ATTRACTIONS

AH-73M Thunderhawk	£17.99
Alcatraz	£17.99
Awesome	£20.99
Barbarian 2 (Psygnosis)	£17.99
Battlebound	£17.99
Beast Busters	£17.99
Betrayal	£20.99
Billy The Kid	£17.99
Blade Warrior	£17.99
Blue Max	£20.99
Bomber Bob	£17.99
Brain Blasters	£14.99
Cadaver Levels	£12.99
Carthage	£17.99
Champions of the Raj	£17.99
Chessmaster 2100	£20.99
Codename Iceman	£24.99
Cruise for A Corpse	£17.99
Crystals of Arborea	£17.99
Darius +	£17.99
Darkman	£17.99
Das Boot	£20.99
Death Trap	£17.99
Demoniak	£20.99
Deuteros	£17.99
Elf	£17.99
Epic	£14.99
Extreme	£17.99
Final Command	£17.99
Flight of the Intruder	£20.99
Gauntlet 3	£17.99
Hunter	£20.99
It Came From The Desert	£17.99
Jupiters Masterdrive	£17.99
Last Ninja 3	£17.99
Life and Death	£17.99
Masterblazer	£17.99
Murder	£17.99
Obitus	£17.99
Pick 'n' Pile	£14.99
Prophecy	£17.99
Railroad Tycoon (1 Meg)	£24.99
Secret Weapons of the Luftwaffa	£20.99
Silent Service 2 (1 Meg)	£24.99
Spirit of Excalibur (1 Meg)	£20.99
Storm Across Europe (SSI)	£20.99
Swap	£17.99
Terminator 2	£17.99
The Keep	£17.99
Thunder Jaws	£17.99
Warzone	£17.99
Wolfpack	£20.99

Please note that the majority of the forthcoming attractions are not released at time of going to press. These will be despatched within 24hrs of release subject to availability

ACCESSORIES

40 Lockable Disk Box	£5.99
80 Lockable Disk Box	£7.99
Atari ST 520/1040 Dust Cover	£4.99
Atari ST 4 Player Adaptor	£7.99
Cheetah 125+	£7.99
Disk Cleaning Kit	£2.99
Maverick Game Controller	£14.99
Mouse Mat 6mm	£3.99
Pro 5000 Black	£10.99
Pro 5000 Clear Extra	£12.99
Quickjoy Topstar	£19.99
Quickjoy Mega Board	£19.99
Quickshot Python	£8.99
Quickshot Python (Microswitch)	£10.99
Stingray Handheld Joystick	£13.99
2M Joystick Ext.	£6.99
Twin Joystick Ext.	£6.99

TOP 50 CHART

3D Construction Kit	£27.99
Advanced Destroyer Sim	£17.99
Armour Geddon	£17.99
Atomino	£17.99
B.A.T.	£24.99
Battle Command	£17.99
Bubble Bobble	£12.99
Captive	£17.99
Chase H.Q. 2	£17.99
Chuck Rock	£17.99
Chuck Yeagers A.F.T. V2	£17.99
Cybercon 3	£17.99
European Superleague	£17.99
F-19 Stealth Fighter	£18.99
G.O.D.S.	£17.99
Hero's Quest (Gremlin)	£17.99
Jahangir Khan's Squash	£17.99
Kick Off 2	£12.99
Killing Cloud	£17.99
Killing Game Show	£17.99
Lemmings	£17.99
Logical	£17.99
Lords of Chaos	£17.99
Man Utd Europe	£17.99
Mega Traveller 1	£20.99
Mercs	£17.99
Metal Masters	£17.99
Metal Mutant	£17.99
Midwinter 2	£24.99
N.A.R.C.	£17.99
Navy Seals	£17.99
Powermonger	£20.99
Prehistorik	£17.99
Pro Tennis Tour 2	£17.99
R.B.I 2 Baseball	£20.99
Robocop 2	£17.99
R-Type 2	£17.99
Secret of Monkey Island	£17.99
Shadow Dancers	£17.99
Sim City + Populous	£19.99
Speedball 2	£17.99
Super Cars 2	£17.99
Super Monaco Grand Prix	£17.99
Switchblade 2	£17.99
S.W.I.V.	£17.99
Toki Goes Wild	£17.99
Turrican 2	£17.99
Viz	£14.99
Wonderland	£20.99

WHEELS OF FIRE - ONLY £9.99
Hard Drivin, Chase HQ, Powerdrift, Turbo Outrun

PLATINUM COLLECTION ONLY £17.99
Ghouls N Ghosts, Strider, Forgotten Worlds, Black Tiger

COMPUTER HITS II - ONLY £7.99
Tetris, Tau Ceti, Tracker, Joe Blade

HEROES - ONLY £9.99
Running Man, Barbarian 2, Licence to Kill, Star Wars

SUPREME CHALLENGE FLIGHT COMMANDO - ONLY £12.99
Eliminator, Skychase Strike Force Harrier, Lancaster, Skyfox II

POWER PACK ONLY £14.99
Xenon 2, Bloodwych, TV Sports Football, Lombard Rally

HOLLYWOOD COLLECTION ONLY £20.99
Batman the Movie, Indiana Jones Last Crusade, Robocop, Ghostbusters 2

SEGA MASTER MIX - ONLY £17.99
Super Wonderboy, Crackdown, Turbo Outrun, Thunderblade, Dynamite Dux

WORLD CUP COMPILATION '90 ONLY £7.99
Tracksuit Manager, Kick Off, International Soccer

CHALLENGERS - ONLY £19.99
Pro Tennis Tour, Kick Off, Fighter Bomber, Super Ski, Stunt Car Racer

SOCCER MANIA ONLY £9.99
Football Manager 2, Microprose Soccer, Gazzas Soccer, Football Manager World Cup Edition

TRIAD 3 - ONLY £9.99
Rocket Ranger, Speedball, Blood Money

MIND GAMES ONLY £14.99
Waterloo, Austerlitz, Conflict in Europe

VIRTUAL REALITY VOL.1 - ONLY £20.99
Midwinter, Carrier Command, Int. Soccer Challenge, Starglider 2, Stunt Car Racer

● SPECIAL OFFERS ● SPECIAL OFFERS ●

Airborne Ranger	£9.99
Atomic Robokid	£7.99
Barbarian 2	£7.99
Boulderdash Const. Kit	£4.99
Brian Cloughs Football	£6.99
California Games	£7.99
Castle Master	£9.99
Centrefold Squares	£7.99
C.J.'s Elephant Antics	£6.99
Colorado	£4.99
Cosmic Pirate	£4.99
Deluxe Strip Poker	£7.99
Double Dragon	£7.99
Drakken	£8.99
Fantasy World Dizzy	£6.99
Fast Food	£6.99
Fish	£7.99
Flood	£8.99
Fools Errand	£7.99
Football Manager II + Exp Kit	£9.99
Forgotten Worlds	£7.99
Hammerfist	£6.99
Indy Jones the Adven.	£9.99
Infestation	£5.99
Iron Lord	£9.99
Kid Gloves	£4.99
Kult	£4.99
Laser Squad	£7.99
Little Puff	£6.99
Lombard Rally	£7.99
Loom	£9.99
Maya	£4.99
Mayday Squad	£4.99
Monty Python	£7.99
Night Hunter	£7.99
Ninja Rabbits	£6.99
Ninja Warriors	£7.99
Oil Imperium	£7.99
On Safari	£4.99
Operation Wolf	£7.99
Pacland	£7.99
Pacmania	£6.99
Projectyle	£8.99
Pro Tennis Tour	£9.99
Quest For Time Bird	£4.99
Rick Dangerous	£9.99
Roadwar 2000	£4.99
R-Type	£7.99
Shadowgate	£5.99
Sherman M4	£7.99
Shinobi	£7.99
Silent Service	£9.99
Silkworm	£7.99
Spindizzy Worlds	£7.99
Spy Vs Spy I	£4.99
Spy Vs Spy II	£4.99
Spy Vs Spy III	£4.99
Starflight	£8.99
Steve Davis Snooker	£9.99
Stunt Car Racer	£9.99
Summer Olypiad	£4.99
Super Cars (Gremlin)	£7.99
Super Gridrunner	£4.99
Superstar Ice Hockey	£7.99
Tennis Cup	£6.99
Time Machine	£7.99
Times of Lore	£7.99
Toyotees	£4.99
Turrican	£9.99
Tusker	£6.99
TV Sports Football	£9.99
Twin World	£7.99
UMS Scenario Civil War	£3.99
Uninvited	£7.99
Violator	£7.99
Warhead	£7.99
Winter Olypiad	£4.99
Xenon 2	£9.99
X-Out	£6.99
Zak McKracken	£9.99
Zombi	£9.99

CLASSIC COLLECTION

3D Pool	£7.99
Batman the Movie	£14.99
Battle Chess	£17.99
Battle Master	£9.99
Brat	£17.99
Bridge Player 2150	£20.99
Cadaver	£17.99
Chaos Strikes Back	£14.99
Chase H.Q.	£14.99
Chess Champion 2175	£20.99
Colditz	£17.99
Colossus Chess X	£12.99
Daily Double Racing	£7.99
Dragon's Lair	£27.99
Dragon's Lair 2 - Timewarp	£28.99
Dungeon Master	£14.99
Dungeon Master Editor	£7.99
Elite	£12.99
Emlyn Hughes Soccer	£17.99
F-16 Combat Pilot	£17.99
F-16 Falcon	£14.99
F-29 Retaliator	£17.99
Ferrari Formula One	£8.99
Fire Brigade	£20.99
Flight Simulator 2	£24.99
Football Director 2	£14.99
Frontline	£17.99
Gauntlet II	£7.99
Gettysburg	£20.99
Golden Axe	£17.99
Hard Drivin 2	£17.99
Heroes of the Lance	£17.99
Heroes Quest	£26.99
Hillsfar	£17.99
Hound of Shadow	£8.99
Immortal (1 Meg)	£17.99
Int. Rugby Simulator	£4.99
Ironman Off Rd Racer	£17.99
Jack Nicklaus Golf	£16.99
Jumping Jackson	£7.99
Kings Quest IV	£27.99
Leaderboard	£7.99
Leisuresuit Larry	£20.99
Leisuresuit Larry 2	£26.99
Leisuresuit Larry 3	£27.99
Lost Patrol	£17.99
Lotus Turbo Challenge	£17.99
M1 Tank Platoon	£20.99
Maniac Mansion	£17.99
Mavis Beacons Typing	£20.99
Midnight Resistance	£17.99
Midwinter	£20.99
Mig 29 - Fulcrum	£24.99
NAM	£20.99
New Zealand Story	£14.99
Nightshift	£17.99
Operation Stealth	£17.99
Overlord	£14.99
Pang	£17.99
Pirates	£17.99
Player Manager	£12.99
Populous	£17.99
Powerdrome	£8.99
Promised Lands	£7.99
Puzznic	£17.99
Rainbow Islands	£14.99
Red Lightning	£20.99
Red Storm Rising	£17.99
Rick Dangerous 2	£17.99
Robocop	£14.99
Saint Dragon	£17.99
Shadow Warrior	£17.99
Skull & Crossbones	£17.99
Space Ace	£27.99
Space Quest III	£27.99
Supremacy	£20.99
Stormball	£17.99
Tank Attack	£7.99
Team Suzuki	£17.99
Team Yankee	£20.99
Test Drive 2	£17.99
Their Finest Hour	£20.99
Total Recall	£17.99
Toyota Celica	£17.99
Treasure Island Dizzy	£4.99
Ultima V	£20.99
Ultima IV	£17.99
Ultimate Golf	£17.99
UMS 2 (1 Meg)	£20.99
War in Middle Earth	£14.99
Wrath of the Demon	£20.99
Zany Golf	£8.99
Z-Out	£17.99

Turbosoft, Unit 6 & 7, Acacia Close, Cherrycourt Way Industrial Estate, Stanbridge Road, Leighton Buzzard, Beds LU7 8QE
Telephone: (0525) 377974, Fax: (0525) 852278

Please charge my Access/Visa No: ..... **Expiry date:** .....

ORDER FORM

Access · EUROCARD · MasterCard · VISA

Customer Number:

Please supply me with the following for

Computer .....

Titles	Price

DATE: .....

NAME: .....

ADDRESS: .....

.....

.....

.....Post Code.....

TEL: .....

ST FORMAT OCT. '91

Please make cheques & PO payable to ***Turbosoft***

Credit card orders taken payment cashed only on despatch. Orders under £5 add 75p P&P per item. For First Class add 75p P&P per item UK only. EEC countries add £2.00 per item. Non EEC countries add £3.00 per item. Express airmail £4.00 per item. All items subject to availability. All prices subject to change without notice. E. & O. E. Please note: Mail Order companies may take up to 28 days to deliver goods from receipt of order. Please

www.stformat.com

Desktop TIPS

Take a closer look inside your ST this month. Find out what's what and learn its secret thoughts. Neil Jackson is your interpreter.

CUT TO THE QUICK

£30 STF PRIZE WINNER

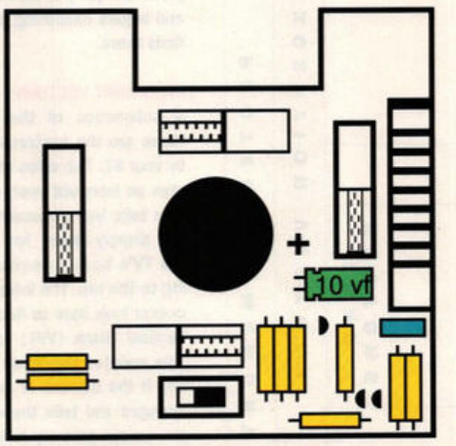
Do you own a Quickshot or Quickshot 2 Turbo joystick? Yes? Then why not get your own back on the programmers and boost the autofire rate? This modification from **CJ Carden** of **Brighton** can turn your slothful shots into high speed hellfires. There's a bit of soldering involved on one component, but that's it.

To carry out the mods, you first need to get the circuit board out from inside the joystick. There are four philips-head (cross-head) screws on the underside of the joystick's base. Remove these carefully and then gently open the casing. Sitting in the bottom half of the casing is the printed circuit board (PCB). This might be screwed down or just resting on some notches. Either way, remove it carefully. You shouldn't have to remove any of the wires which connect to the joystick's handle: there's generally enough slack to remove the PCB and work on it. If you have to disconnect anything, remember where it connected and make sure to re-join when you've finished.

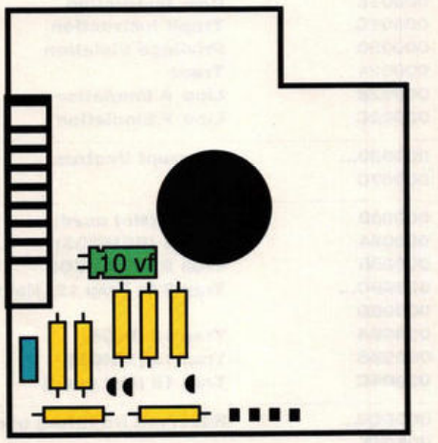
Using the diagrams on the right, track down the green capacitor. There are only two capacitors on the Quickshot 1, and three on the Quickshot 2, so locating it shouldn't be too hard. There's a slim chance that your model has a different coloured capacitor, in which case you should look at the written info on the side of the capacitor. It should say 104K100 – which translates as 100,000 picoFarads (pF) capacitance, with a tolerance level of up to 100 Volts. It's possible it may say instead 100nF (nanoFarads), or 0.1 µF (microFarads) instead, but these both mean the same. You need to change to a 10,000 pF (or 10nF or 0.01µF) capacitor. The 100V tolerance is not important: there are no more than 5 volts floating around inside your joystick. If you're ordering from Maplins (☎ 0702 554161) the correct stock number is WX03D, Mica 10pF and it costs around 28p.

Remove the old capacitor by desoldering it carefully, and replace it with the new one. It doesn't matter which way round you place it, because it is not polarised. When you've finished, re-assemble the casing and away you go. Your fire-rate should be about ten times faster than it was before.

QUICK-SHOT 2



QUICK-SHOT 1



= switches

= resistors

10 vf = 10vf capacitor

= transistors

= 104K100 (0.1vf) polyester capacitor; change to 103K100 (0.01vf) capacitor

GOT ROOM FOR YOUR ROM?

£20 STF PRIZE WINNER

If you, like **Mike Haselup** from **Brentford,** are thinking of upgrading from TOS 1.2 (or TOS 1.0) to TOS 1.4 (the Rainbow TOS), it's as well to check this out before you order your new chips. The early operating systems came in two arrangements: a two chip set and a six chip set. If you're swapping a six chip set for a six chip set then everything's cool – you can just plug them straight in and you immediately have an upgraded ST. But if you're changing from two chips to six chips you need to alter a few other things inside your machine.

There are three groups of solder jumpers (semi-circular silver pads which are separated by a small gap) with markings A17, A16 and CE nearby. Each marking has two jumpers, one marked 1M and one marked 256K. When using the six chip set, the gap on each 256K jumper must be connected, and the solder blob removed from the pads marked 1M.

Sadly, you can't upgrade any TOS 1.0, 1.2 or 1.4 STs to TOS 1.6. This version is designed for the STE, and the additional STE routines won't work on the older models, because the new hardware is missing. Likewise, you can't downgrade an STE to run older TOS versions in order to regain compatibility.

You can order TOS upgrade kits through a variety of sources including Silica Shop (☎ 081 309 1111), Ladbroke Computing (☎ 0772 203166) and other ST specialists for around £40.

20 THINGS WHICH GO THROUGH YOUR ST'S MIND WHEN IT WAKES UP

1. Turn on Supervisor Mode and set Interrupt Level 7.
2. Is there a Diagnostic Cartridge plugged in? Jump to it if there is.
3. Is the memory setup valid? If so, leave it alone.
4. What about the RESET vector? If it's valid (that is, a warm start) then jump to it.
5. Initialise the floppy drive(s), the RS232 and the printer port.
6. Check to see if the TOS is the PAL or NTSC version and set the correct display sync mode.
7. Set up the default colour palette and the default video RAM address.
8. Find out how much RAM exists and set up the memory configuration. I could be a 520, 1040, 2MByte or 4MByte machine.
9. Clear the screen.
10. Set up the system variables and vectors in the Protected RAM area.
11. Check for a high resolution monitor plugged in and set up accordingly.
12. Set Interrupt level 3.
13. Check for a User cartridge plugged in. If there's a program there, run it.
14. Wake up GEMDOS
15. Find the default date in the ROM and set up the system date with it.
16. Can I boot from the floppy by executable boot-sector? If so, do it.
17. Can I boot from a hard drive? If so, do it instead.
18. Run any reset-resident programs.
19. Run any AUTO folder programs.
20. Go to GEMDOS and prepare the Desktop display and any Accessories and then loop until the user does something...

www.stformat.com

YOUR GUIDE TO YOUR ST'S INSIDES

HEXADECIMAL ADDRESSES	FUNCTION/USE		
000000... 000007	Initial Supervisor Stack Pointer Initial Program Counter	EXCEPTION VECTORS	PROTECTED MEMORY
000008 00000C 000010 000014 000018 00001C 000020 000024 000028 00002C	Bus Error Address Error Illegal Instruction Divide by Zero CHK Instruction TrapV Instruction Privilege Violation Trace Line_A Emulation Line_F Emulation	EXCEPTION VECTORS	PROTECTED MEMORY
000030... 00007C	Interrupt Vectors	EXCEPTION VECTORS	PROTECTED MEMORY
000080 000084 000088 00008C... 0000B0 0000B4 0000B8 0000BC	Trap 0 (Not used) Trap 1 (GEMDOS) Trap 2 (AES &VDI) Trap 3 to Trap 12 (Not used) Trap 13 (BIOS) Trap 14 (XBIOS) Trap 15 (Not used)	TRAP VECTORS / EXCEPTION VECTORS	PROTECTED MEMORY
0000C0... 0000FF	Reserved for future use	EXCEPTION VECTORS	PROTECTED MEMORY
000100... 0003FF	Additional MFP interrupt vectors	EXCEPTION VECTORS	PROTECTED MEMORY
000400... 000515	System Variables		PROTECTED MEMORY
000516... 0007FF	Empty RAM, all STs		PROTECTED MEMORY
000800... 07FFFF	RAM space 520ST		RAM
080000... 0FFFFF	RAM space 1040ST		RAM
100000... 1FFFFF	RAM space MEGA ST2		RAM
1FFFFF... 3FFFFF	RAM space MEGA ST4		RAM
FA0000... FBFFFF	Cartridge memory space		ROM
FC0000... FF7FFF	ROM area		ROM
FF8004	MMU register		DEVICES
FF8201... FF8260	Video Shifter registers		DEVICES
FF8400	Reserved for future use		DEVICES
FF8600... FF860D	DMA registers		DEVICES
FF8800... FF8802	PSG registers		DEVICES
FF8A00... FF8A3D	Blitter registers		DEVICES
FFFA01... FFFA2F	MFP registers		DEVICES
FFFC00... FFFC06	ACIA registers		DEVICES

EXCEPTION VECTORS

Each "vector" is a group of four bytes (in programming terms this is known as a longword). These can be used as memory addresses. Many of the vectors contain the address locations of error handlers or interrupt routines which are stored in the ST's ROM. When an exception occurs (caused by an address error, for example) the address is transferred into the processor's PC (or program counter). This makes the processor jump immediately to the address and begins executing the program which it finds there.

INTERRUPT VECTORS

A subsection of the exception vectors, these are the vectors most regularly used by your ST. The video display system generates an interrupt every fiftieth of a second. This tells the processor that the bottom of the display frame has been reached and the TV's beam is switching off and returning to the top. The interrupt makes the processor look here to find the address of the Vertical Blank (VBL) routine in the ROM. This updates the frame counter, checks to see if the colours or resolution have been changed and tells the video system where the screen memory is located for the next frame.

Depending on the interrupt signal the processor receives, different vectors are used. They are prioritised, so that some interrupt signals can be ignored. The first level interrupt is the Horizontal Blank (HBL) vector, and this is usually disabled. The highest interrupt level is 7, the Non Maskable Interrupt (NMI) and this cannot be ignored by the processor. The normal interrupt level is 3, which allows VBLs and anything higher to work, but stops HBLs and lower level interrupts.

TRAP VECTORS

These also form a subsection of the exception vectors, but differ from the interrupt vectors in that they are caused by a machine code instruction rather than a hard-wired interrupt signal. The instruction TRAP, followed by the Trap number (0 to 15) causes the processor to copy the corresponding Trap vector's contents to the PC (just like all the other automatic exceptions). The processor then executes the program stored there.

The ST makes extensive use of just four trap vectors:

Trap 1 – the GEMDOS (Graphic Environment Manager and Disk Operating System) program, which handles the interfacing between you and the ST's hardware drivers;

Trap 2 – the AES (Applications Environment Services) and the VDI (Virtual Device Interface). The AES handles the ST's GEM inputs (things like window updating, menu selections and dialogue boxes). The VDI, by contrast, deals with the GEM's outputs, like pixel-plotting, fill patterns and colours;

Trap 13 – the BIOS (Basic Input/Output System), which handles tasks requiring input from or output to the devices connected to your ST. The BIOS handles 11 main functions, which include reading and writing to any device, keeping a map of the memory currently in use by the ST, and checking to see if the disk has been changed;

Trap 14 – the XBIOS (Extended BIOS) which handles the actual hardware devices like the drives, the keyboard processor and all the ports. It can set up each device and monitor it for input and output which it receives from (or sends back to) GEMDOS, via the BIOS. Why? GEMDOS is part of a transportable operating system (you can also find it on IBM PCs which makes it easy to swap code between both machines), as is the BIOS. The XBIOS is the only bit which "knows" how the ST is wired up differently to the IBM, and deals with it directly.

PROTECTED MEMORY

This entire area of memory can only be written to when the processor is in Supervisor mode. Any attempt to write to it in User mode causes a Privilege Violation exception to be generated. This is because the whole area is the ST's main scratchpad, used for keeping track of important system details.

RAM

Depending on the particular ST model you have, RAM may or may not be available at these addresses. The uppermost number in each band is the top of physical RAM, and the addresses in between this and the start of the ROM are unavailable. If you try to write directly to a nonexistent address in this area a Bus Error exception is always generated.

CARTRIDGE MEMORY SPACE

If you have a cartridge inserted into your ST, then there is ROM available at these addresses. The program in this ROM depends entirely on the cartridge used.

ROM

This is the very heart of your ST. The ROM contains all the programs required to keep you and your system talking happily to each other. The BIOS, XBIOS, AES, VDI and GEMDOS programs and functions are all stored right here.

When you power up your ST, the processor is guided straight here by the first eight bytes of memory to begin the main operating system initialisation.

HARDWARE DEVICE REGISTERS

This area of memory enables the processor to communicate with the internal devices. At certain addresses the processor is directly connected to other powerful chips instead of RAM or ROM. Each device has a number of control and data registers which may need setting up prior to their operation. The processor simply writes to or reads from these memory addresses, and the device connected to each address interprets, sends or processes the data at its end of the connection.

www.stformat.com

ATARI ST
520ST-E DISCOVERY XTRA PACK

RETURN THE COUPON FOR A FREE! COLOUR CATALOGUE

HARDWARE:	
512K 520ST-E + MOUSE	£329.99
ENTERTAINMENT SOFTWARE:	
ANARCHY - *Arcade Game*	£19.99
DRAGONS BREATH - *Adventure*	£29.95
INDIANA JONES - *Arcade Adv*	£19.95
SUPER CYCLE - *Racing Game*	£19.95
PRODUCTIVITY SOFTWARE:	
CONTROL.ACC - *Utility Software*	FREE
EMULATOR.ACC - *Utility Software*	FREE
FIRST BASIC - *Programming*	£49.99
NEOCHROME - *Art Package*	£29.99
ST TOUR - *Tutorial*	£4.99
JOYSTICK CONTROLLER:	
ATARI CX40 JOYSTICK	£4.99
PLUS! FREE FROM SILICA:	
TENSTAR GAMES PACK	£219.78
PRODUCTIVITY PACK	£104.97
TOTAL VALUE:	£834.54
YOU SAVE:	-£505.54
SILICA:	£329

PLUS! FREE HOLIDAY ACCOMMODATION

£329

1040ST-E FAMILY CURRICULUM PACK

The Family Curriculum Pack comes with a 1040ST-E computer and mouse plus 5 software modules (3 titles in each), one for every age range. The combination of education, creative and business software from Atari, plus the FREE entertainment and productivity packs from Silica, makes for a package the whole family can enjoy!

PLUS! *FREE* HOLIDAY ACCOM

1Mb 1040ST-E + MOUSE	£399.99
1. PLAY & LEARN	£76.59
2. JUNIOR SCHOOL	£58.54
3. GCSE REVISION	£55.54
4. BUSINESS COMPUTING	£159.85
5. CREATIVE COMPUTING	£134.97
PLUS! *FREE FROM SILICA*	
TENSTAR PACK	£219.78
PRODUCTIVITY PACK	£104.97
TOTAL VALUE:	£1210.23
YOU SAVE:	£811.23

£399

SILICA PRICE - INC VAT + FREE DELIVERY

ATARI 520ST-FM DISCOVERY PACK

£279

INC VAT + FREE DELIVERY + FREE TENSTAR & PRODUCTIVITY PACKS

ATARI ST - *MORE THAN JUST GREAT GAMES!*

FREE! FROM SILICA WITH EVERY ATARI ST

TENSTAR GAMES PACK

The TenStar Games Pack is THE software compendium for Atari ST owners, featuring ten top titles with a variety of different types of games for you to enjoy. Each title is packaged in its own plastic case, with a colour sleeve and full instructions. The TenStar Games Pack is FREE! when you buy your ST from Silica Systems.

FREE! WORTH: **£219.78**

FREE! SILICA SYSTEMS ST PRODUCTIVITY PACK

Every Atari ST from Silica comes with a FREE Silica ST Productivity Pack, worth over £100. This pack has been specially put together by Silica to help you to get to grips with the productive side of computing from day one. Each title has been tried and tested by tens of thousands of Atari ST owners, who have begun word processing with 1st Word and programming with Atari ST Basic.

1st WORD - from GST	£59.99
SPELL IT! - for use with 1st WORD	£19.99
ST BASIC - with tutorial	£24.99
TOTAL RRP:	£104.97

FREE! 16 NIGHTS HOLIDAY HOTEL ACCOMMODATION

Every Atari ST from Silica comes with a FREE 72 page, full colour brochure with accommodation vouchers. These vouchers entitle 2 people to stay up to 16 nights in one hotel (or any number of hotels to a total of 16 nights) with accommodation FREE (you could take up to six nights for four people, or other options). Choose from the 250 hotels featured in the catalogue. All you have to pay for are your meals (prices are listed in the brochure). Reduced rates in top London hotels and hotels in France are also featured.

TOTAL FREE PACKAGE

TENSTAR GAMES PACK - £219.78:	
Asterix - *By Coktel Vision*	£24.99
Chess Player 2150 - *By CP Software*	£24.95
Drivin' Force - *By Digital Magic*	£19.95
Live & Let Die - *By Elite*	£19.99
Onslaught - *By Hewson*	£19.99
Pipe Mania - *By Empire Software*	£24.99
Rick Dangerous - *By Firebird*	£24.99
Rock 'n' Roll - *By Rainbow Arts*	£19.99
Skweek - *By US Gold*	£19.99
Trivial Pursuit - *By Domark*	£19.95
PRODUCTIVITY PACK - £104.97:	
1st Word - *Word Processor*	£59.99
Spell It! - *Spell Checker*	£19.99
ST Basic - *Programming Language*	£24.99
TOTAL RRP:	£324.75

FREE! WORTH NEARLY: £325

PLUS! *FREE* HOLIDAY ACCOMMODATION

SILICA SYSTEMS OFFER YOU

- ***FREE OVERNIGHT COURIER DELIVERY:*** On all hardware orders shipped in the UK.
- ***TECHNICAL SUPPORT HELPLINE:*** Team of Atari technical experts at your service.
- ***PRICE MATCH:*** We normally match competitors on a "Same product - Same price" basis.
- ***ESTABLISHED 12 YEARS:*** Proven track record in professional computer sales.
- ***BUSINESS + EDUCATION + GOVERNMENT:*** Volume discounts available for large orders.
- ***SHOWROOMS:*** Demonstration and training facilities at our London & Sidcup branches.
- ***THE FULL STOCK RANGE:*** All of your Atari requirements from one supplier.
- ***FREE CATALOGUES:*** Will be mailed to you with offers and software/peripheral details.
- ***PAYMENT:*** By cash, cheque and all major credit cards.

Before you decide when to buy your new Atari ST computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your ST, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for over 12 years and, with our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Systems Service".

MAIL ORDER HOTLINE 081-309 1111

SILICA SYSTEMS

MAIL ORDER:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	**Tel: 081-309 1111**	
Order Lines Open: Mon-Sat 9.00am-6.00pm	No Late Night Opening	Fax No: 081-308 0608	
LONDON SHOP:	52 Tottenham Court Road, London, W1P 0BA	**Tel: 071-580 4000**	
Opening Hours: Mon-Sat 9.30am-6.00pm	Late Night: Thursday until 8pm	Fax No: 071-323 4737	
LONDON (SELFRIDGES):	1st Floor, 369 Oxford Street, London, W1A 1AB	**Tel: 071-629 1234**	
Opening Hours: Mon-Sat 9.30am-6.00pm	Late Night: Thursday until 8pm	Ask for extension 3914	
SIDCUP SHOP:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	**Tel: 081-302 8811**	
Opening Hours: Mon-Sat 9.00am-5.30pm	Late Night: Friday until 7pm	Fax No: 081-309 0017	

To: Silica Systems, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND FREE ATARI COLOUR CATALOGUE

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

.....

.....

Postcode: ..... Tel: .....

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

E&OE - Advertised prices and specifications may change - please return the coupon for the latest information.

www.stformat.com

GFA BASIC PROGRAMMER'S SURGERY

One of *GFA Basic's* strong points is its disk accessing functions – but making the most of them can be tricky. Barrie Capel explains all.

As I mentioned last month, a lot of letters we receive are about reading and writing files to disk. Since there are so many ways to do it with *GFA Basic*, this month's Surgery is dedicated to the subject.

DISK ACCESS

Most programs either load data from disk or save data to disk at some point – but with the various methods *GFA* offers, which do you choose and why should it matter?

GFA Basic v2 provides the following I/O (Input/Output) commands associated with reading from or writing to disk files: `BLOAD`, `BSAVE`, `BGET #n`, `BPUT #n`, `CLOSE #n`, `GET #n`, `INP(#n)`, `INPUT #n`, `LINE INPUT #n`, `OPEN #n`, `OUT #n`, `PRINT #n`, `PUT #n`, and `WRITE #n`. Then there are the following additional disk-related commands: `CHDIR`, `CHDRIVE`, `DFREE()`, `DIR$()`, `DIR`, `LOF(#n)`, `EOF(#n)`, `EXEC`, `EXIST`, `FIELD`, `FILES`, `FILESELECT`, `KILL`, `MKDIR`, `NAME`, `RELSEEK #n`, `RMDIR`, and `SEEK #n`. *GFA Basic* v3 has even more...

One difference between the various I/O commands is speed – some are much faster than others. Another is that some commands only deal with one block of data at a time (but very quickly), where others require you to open a "pipeline" to the disk file, after which everything sent down the "pipe" goes into the file until the "pipeline" is closed.

So, in effect, all file access commands are one of two types:

1. Block Input/Output commands – filename is included as a parameter.
2. Pipeline commands – a channel is opened before the command is used and closed again afterwards.

Note that Block input/output commands produce Sequential files only, while Pipeline commands can be used to produce Sequential or Random Access files.

1. Block Input/Output

– `BLOAD/BSAVE`

Syntax: `BSAVE "filename",a,n`

`BLOAD "filename",a`

where `a` = the address of the block to save/load, and `n` = the number of bytes to save/load.

Notice that `BLOAD` does not need the block length parameter, because the command just loads the lot into the destination specified by `a`.

A problem frequently encountered is the ST locking up during a `BLOAD`. 99 times out of 100, this is due to the specified destination not existing. If you want to `BLOAD` data from disk into a string, then the string *must* exist, and it must be the length required to store the data being loaded. The string can be created with the `SPACE$` command, and if the data is of unknown size you can find out what it is with *GFA's* `LOF(#n)` function.

If you are saving and specify a filename that already exists then the existing file is completely overwritten without warning, so any existing data must be loaded first, added to or amended in the ST's memory, then saved back to disk.

The *GFA* command `EXIST(filename)` is used to check if a given filename is on the disk already, returning –1 if it is and 0 if it isn't. If it doesn't already exist then `BSAVE` creates a new file.

Using these commands, data can only be loaded from the start of the file to the end. Partial loading of files is not possible, although once the data is loaded you can cut it up to your heart's content! These commands are useful for saving/loading blocks of memory, such as the current colour palette or string data. There are separate commands for loading and saving, and they're fast. Consider these examples:

(a) BSAVE

Let's assume you have something in memory you want to store on disk. It could be the 32K screen area or the contents of a variable – it doesn't matter. All you need to know is where the data is and how much you want to save.

`BSAVE "A:TEST1.DAT",XBIOS(2),32000` creates a file called `TEST1.DAT` on drive A: containing 32,000 bytes of the ST's memory (the screen) starting at `XBIOS(2)` – the start of screen memory.

`BSAVE "A:TEST2.DAT",VARPTR(A$),LEN(A$)` creates a file called `TEST2.DAT` on drive A: containing whatever was in the variable `A$`. In this command `VARPTR(A$)` returns the address in memory of `A$`, and `LEN(A$)` supplies the current length of `A$` in bytes.

`BSAVE "B:TEST3.DAT",0,1024` creates a file called `TEST3.DAT` on drive B: containing the first 1,024 bytes (1K) of the ST's memory.

(b) BLOAD

To load an unknown sized block off disk into `A$`, you would use:

```
OPEN "I", #1, "A:TEST2.DAT"      !Open the file
L=LOF(#1)                        !How many bytes
                                 !long is it?
CLOSE (#1)                       !Close the file
A$=SPACE$(L)                     !Create empty
                                 !string L bytes
                                 !long
BLOAD "filename",Varptr(A$),L    !Zap it into
                                 !memory!
```

2. Pipeline commands

These are used when more than one piece of data has to be saved to the same file. A channel has to be opened first with the `OPEN` command, and all output to that channel is written onto the disk in the filename specified until you use the `CLOSE` command. Each block of data is tagged on at the end of the file.

This means that you can send to the same disk file the contents of string variables `A$`, `B$`, `C$` and then the numeric variable `"score"` before closing the file, and they all remain separate entities within the file. String data can be read back into any named string variable, so you could save the contents of the variable `partnumber$` but load it back into `pn$`.

String and numeric variables can also be freely mixed when outputting to the file as long as the data is read back in using the correct variable types, and in the same order as when saved. This is useful because you can make the first data item in a disk file the value corresponding to the number of string data items to follow. When loading back in, this number is read first and used to calculate how many items have to be loaded.

The order in which you save data determines what your program is compatible with. If you use the same format as other programs, then your programs are more likely to be used, since people can use their existing files with your programs. If you don't, then you create yet another format.

For example, an ST screen is always 32K, but if you want to write a paint program that can load *all* other paint programs' pictures, just think about how many different picture load routines you need to include! On machines like the Apple Mac, this problem rarely occurs because programmers tend to stick to standard formats. Bear this in mind...

Data is normally loaded in from the start of the file to the end, but special commands like `SEEK` can also be used to load and save data from any point in the file. Since the same `OPEN` command is used whether you are loading or saving, you need a way to state which you want, so part of the `OPEN` command is a "flow" parameter, which can be "O" for output, "I" for input, "A" for Append, "U" for reading and writing (Universal?) or "R" for Random Access. Normally, you only ever use I and O.

- Using "O" creates a new file, or overwrite from the start of the old file if it already exists – it's your responsibility to check if it does or not!
- Using "I" opens an existing file for input only – otherwise a "file not found" error occurs.
- Using "A" opens an existing file for appending where the data being saved is to be written starting at the end of the file. Otherwise, a "file not found" error.
- Using "U" opens an existing file for reading and writing. Data can be loaded or saved by using the relevant command without closing and issuing another `OPEN` command. Not used very often.
- "R" is used to create a new Random Access file – see panel.

The `OPEN` commands give you more flexibility when loading data, but in most cases the price to pay is speed, since the process tends to rely heavily on the use of loops in your programs to read/write the data when the file has been opened.

`BGET #n`, `BPUT #n`, `GET#`, `INP(#n)`, `INPUT #n`, `LINE INPUT #n`, `OUT #n`, `PRINT #n`, `PUT #n`, and `WRITE #n` all need a file opened before use. The `#` sign means "channel" and `n` can be 0-99.

Once a channel has been opened with `"O"` for output, it just sits there bothering no-one, just waiting for data (when you issue a command which uses `#n)`, so your program can go about doing what it needs to. If the `"n"` corresponds to the channel currently open, it takes the data and puts it on the end of the file on disk. All files must be closed after they are finished with and re-opened with the "flow" parameter to "I" to input the data.

- `BPUT` is in effect the same as `BSAVE`, only it

GET INTO IT!

Data files on disk can be either sequential or random access, but what's the difference?

- **Sequential When you save data on disk, it is normally saved sequentially as a continuous block. Commands such as `SEEK` and `RELSEEK` can be made to point to any part of the file before loading or saving, but when saving to an existing file the new data overwrites everything after the declared start position.**
- **Random Access With Random Access files, each block of data (`RECORD`) to be loaded or saved is treated as a separate entity with a layout consisting of a number of fields, defined by you with the `FIELD` command. Using an index, *GFA Basic* knows exactly where each record starts on the disk and how long it is, so records can be saved to and loaded from anywhere inside the file at random – you can even save records between other records! The drawback is that searching on disk can be slower than in memory. Maybe an article on Random Access in the Surgery at a later date if enough of you want one?**

www.stformat.com

needs the **OPEN** command used with **"O"** first. More than one **BPUT** can be carried out with the same file before closing. **BGET** is the reverse and loads back in provided you open the channel with "I".

- **GET #n** and **PUT #n** are used with Random Access files to load individual records and are not used for general purpose data I/O.
- **PRINT #n** is the same as **PRINT**, only the output is to the disk file. You must have already used the **OPEN** command and opened the channel you want to use by specifying an **"O"**. If you want to send lists of items to the disk then make sure you separate them using commas. Numeric values or strings in either variable form or quotes can be saved, and each item is saved with a carriage return on the end of the data. To load the information back in again, just use the **INPUT #n** command.
- **WRITE #n** is the same as **PRINT #n** and the channel must have been opened with **"O"**. Loading back in is also by the use of **INPUT #n.**
- **OUT #n** writes a single byte of information out to the disk file opened with **"O"**. That is, it sends an ASCII character value or number between the limits of 0 and 255.
- **INPUT #n** enables you to get string and numeric data saved with **PRINT #n** and **WRITE #n** back into the ST. The channel must have been opened with "I".
- **LINE INPUT #n** is the same as **INPUT #n,** but can only load string data and *not* numeric data.
- **INP(#n)** enables you to get the byte of data saved with **OUT #n** back into the ST. The channel must have been opened with "I".

An example "Pipeline" listings:

```
' Listing 1 - CREATE 'N SAVE
CLS
INPUT "Type a title for the database ";title$
INPUT "How many names ";names
DIM data$(names)
FOR n%=1 to names
PRINT "Data Item ";n%;" Of ";names;":";:INPUT
data$(n%)
NEXT n%
FOR n%=1 to 50
PCIRCLE INT(RND(0)*300),INT(RND(0)*190),20
NEXT n%
GET 100,100,150,150,cut$
L=LEN(cut$)
'
OPEN "O", #1, "A:\SURGERY.DAT"
WRITE #1,names
FOR n%=1 TO names
PRINT #1,data$(n%)
NEXT n%
WRITE #1,L
BPUT #1,cut$
CLOSE #1
'

' LOAD 'N SHOW
CLS
OPEN "I", #1, "A:\SURGERY.DAT"
INPUT #1,names
FOR n%=1 TO names
INPUT #1,data$(n%)
NEXT n%
INPUT #1,L
cut$=SPACE$(L)
BGET #1,VARPTR(cut$),L
CLOSE #1

FOR n%=1 TO names
PRINT data$(n%)
NEXT n%
PUT 100,100,cut$
DO
LOOP
```

SEEK AND RELSEEK

When you use OPEN and load data in, the system needs to know where in the file the last byte was read from – otherwise, the next default input command wouldn't know where to start reading from. So something called a "Data Pointer" is used. The Data Pointer always points at the next byte to be loaded, but with **SEEK** and **RELSEEK** you can have full control over this pointer and in effect tell the Data Pointer where to point. For example, **SEEK #1, 240** causes the pointer to move to the 240th byte in the open file. The next time you read a byte using any of the data input commands, you start at the 240th byte regardless of where the last command left the Data Pointer.

On the other hand, **RELSEEK** or RELative SEEK moves the Data Pointer *relative to its current position.* For instance, **RELSEEK #1, 240** causes the next input command to start loading from the file 240 bytes on from the current position.

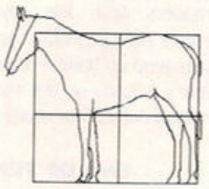
There is a small but important difference: **SEEK #1,x** moves to position **"x"** in the file, and **RELSEEK #1,x** moves the pointer along **"x"** bytes.

To summarise: if you want to save a single block of data – say, graphics – and you know the block's size, then just use **BSAVE** and **BLOAD.** If you want to save more than one piece of data in the same file or need to load/save the contents of arrays, then you have to **OPEN** a file and use loops to read the information in.

● Well, that's Input/Output as simply as I can explain it. If you have any specific I/O problems not covered clearly enough here, write to me at GFA Programmer's Surgery, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. Remember, I can't reply to you personally, and please be patient if your query isn't answered here immediately. It's impossible to cover everything at once – but be here next issue: your letter may have reached the top of the pile!

ART TUTOR

Bought an expensive Paint package?
Fed up with using all the gimmicky tools?
Want to be able to produce good artwork?
Then **LEARN TO DRAW** with **ART TUTOR.**



See review on opposite page.
TWELVE tutorials take you through:
ANATOMY, ANIMALS, DESIGN, CARTOON,
COLOUR FANTASY, LANDSCAPE, ETC.

'An ingenious package at a very reasonable price'
ST FORMAT (April issue)

On-screen, Interactive demonstrations with stage-by-stage explanations.

3 disk Tutorials and 3 Picture Libraries
Plus Comprehensive Manual.
ONLY £19.95 inc P&P

CALLERS WELCOME
(Please phone first)

SPECIAL OFFER
CANNOT BE BEATEN!!!

Atari STE: mouse, 1 Meg disk drive
Stereo sound: PLUS BASIC PACK:
First Basic, ST Tour, Neochrome, Dragon's Breath,
Super Cycle, Anarchy, Indiana Jones.

Plus 11 Titles: Driving Force, Asterix, Trivial Pursuit 2,
StarWrek, Live and Let Die, Rick Dangerous, Pipe Mania,
Onslaught, Squeak, Rock and Roll, Chess Player.

OVER 200 POUNDS OF SOFTWARE
Plus **ART TUTOR**
Plus 16 nights hotel accommodation
for only **£329!!** (try beating that!)

or **STE** and **BASIC PACK**, Plus
ART TUTOR for only **£299**

CASTLESOFT,
Levenmouth Business Centre,
Riverside Road, Leven, FIFE. KY8 4LT
Tel: 0333 21243 Fax: 0333 29244

Name .....
Address.....
.....Postcode.....
Access/Visa number .....
Exp. Date .....Signed.....

www.stformat.com

Feedback

Write to: Feedback, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW

SHORT BUT SWEET

If you can fit all you want to say on a postcard, just send it in

■ Please could you tell me which leads I need to connect my STE to my Hi-fi for stereo output.
Adam Farrell
Lancashire

– Check out this month's special offers on page 118 for the Stereo Soundblaster. This device amplifies the output from either an ST or STE and pumps it out through two speakers. Alternatively, speak to your local Atari dealer for a lead or call Silica Shop on ☎ 081 309 1111.

■ Does *Timeworks DTP* work with a Panasonic KXP-1123 printer? If it doesn't, where can I get a suitable printer driver for *Timeworks?* Is there a driver for the KXP 1123 to be used with *ST Writer Elite* in PD?
Dermott Flynn
Co Antrim

– Timeworks DTP certainly supports the Panasonic KXP-1123. The Panasonic is an Epson compatible printer, so it works with ST Writer without trouble. (The latest version of that excellent word processor is on this issue's Cover Disk, by the way, so you can try it out straight away! See the Cover Disk pages, beginning page 22, for how to get going.) If you have difficulty obtaining a suitable printer driver, get in contact with the SouthWest Software Library, who should be able to supply you with an appropriate driver. You can write to them at PO Box 562, Wimborne, Dorset BH21 2YD. Many other PD libraries sell printer drivers for a wide range of unusual printers – just scour our PD directory, page 50.

■ I bought Novagen's *Damocles* about three months ago and my friend said that a *Damocles 2* is coming out. Please could you tell me when it is due?
Martin Paton
Manchester

– We've spoken to Novagen and they assure us that Damocles 2 (or Mercenary 3, as it's also being known) is due to be released towards the end of October.

■ I am considering buying a Canon BJ-10e Bubblejet printer and I would be grateful if you could help me with a couple of questions. First, is there a GDOS driver for the printer available yet? And second, when printing from such programs as *Timeworks* will the bubblejet give true 360 dpi text or will it just give better quality chunky text?
James R Scott
Oxon

– Inkjet printers are a relatively new addition to the affordable printer range. The method they use to print means they aren't compatible with the standard Epson control codes, so specific printer drivers are essential if you intend to do any kind of graphics work. Timeworks DTP as yet doesn't support the Canon Bubblejet but Atari are known to be worknig on a driver, expected for release before Christmas. Give them a call on ☎ 0753 533344 if you want further details. Additionally, The SouthWest Software PD library takes a great interest in printer drivers and they may write one specifically for you if you explain your problem. Write to PO Box 562, Wimborne, Dorset BH21 2YD.

■ I would like to know if there's a cheap package which would enable me to print out music scores from the ST. I know there are scoring features in packages like *Cubase* but this is wildly out of my price range and it's bursting with features I'm not particularly keen on using.
Richard Caudell
Yorkshire

– We have a special music scoring feature lined up for our December issue. This will reveal all the packages available for your ST and look at how to use them to get the effect you need. Several of the larger companies are working on updated versions of their packages and these will all be covered in the feature.

BETTER LATE THAN WRONG

Why do you review games months after other magazines? You've been complaining about how long *Midwinter 2* has taken to be released but other magazines reviewed it months ago.
Jim Stockton
Warlingham, Surrey

stf *Take a look through other magazines, Jim, and you can find reviews of Midwinter 2 which date back as far as March. It is our policy to review only completely finished games. Since programming team Maelstrom only completed Midwinter 2 days before we received it here in the office, it makes you wonder what these other magazines reviewed.*

Software publishers inevitably want the magazine reviews to hit the streets at the same time as their game. Unfortunately, because magazines must be written several weeks before they appear on the shelves, this often means publishers want us to review unfinished games. It's not uncommon to find that a game doesn't have any sound, or is still on hard drive only or certain key events are missing. To review a game under these circumstances is unfair on you so we always insist on seeing a completed version. If lesser magazines choose to review games before they're finished then that's up to them, but we put our readers first. We never forget that you're the ones who buy the games and you need an honest opinion of the game that's actually on the shelves before you splash out £25 or more.

END OF TERMS?

A series of articles to introduce beginners to the serious side of the ST would mean that there was no need for the endless boxes explaining such elementary terms as MIDI, GEM, TOS and the like, leaving more room for in-depth articles on serious subjects such as Mac emulation, etc.
Jon Nott
Devon

stf *Our reviews must appeal to ST owners at all levels, beginner and experienced alike. Every month a host of new owners buy ST FORMAT for the first time – our rising circulation figures reflect that. If we run a series of articles for beginners in, say, October, then what about all the newcomers who get their STs at Christmas? Are they to suffer a year's worth of techno-babble until they get a beginners' series? Surely not.*

At the same time, why should an experienced ST owner who's forgotten what a specific term means have to refer back through countless issues to find an explanation? ST FORMAT wants to give you the full picture, whenever and wherever it's relevant. And as you must have noticed from our virus feature last month and the emulators feature in issue 25, we're managing to squeeze in the in-depth features as well – and as you'd expect, we'll explain the jargon in those too.

THE MONKEY PUZZLE

I am writing to complain about a very nasty bug which has appeared in *The Secret Of Monkey Island*. It appears when you have completed all the tasks set by the important looking pirates on Melée Island. After you talk to the Swordmaster and Meathook and free the prisoner this bug appears.

You are told to get a crew together and buy a boat. You have to go to Stan's Previously Owned Vessel Emporium to buy the boat. You walk all the way there, only to find that you are dead, or 41 Heap Full – Game Over. Why? How could Lucasfilm's testers miss out something as important as that and also you who reviewed the game? I have tried all sorts of combinations suggested on US Gold's help line to complete the task of getting the ship, but the suggestions do not work.

What is the point of doing *The Secret Of Monkey Island 2* when the first is full of bugs?
Declan Fitzpatrick
Bath

stf *We phoned US Gold and spoke to Danielle Woodyatt, their Marketing Manager. She explained that the very earliest versions of Monkey Island did indeed have a programming fault. "Lucasfilm are very concerned about this," she explained, "and we've been asked to do everything we can to make amends." Danielle then went on to explain that if you've been affected by this fault, just return your copy of Monkey Island to US Gold, Units 2/3 Holford Way, Holford, Birmingham B6 7AX.*

They'll send you a corrected version, plus another Lucasfilm game absolutely free to make up for your

www.stformat.com

inconvenience. Can't say f-ff-fairer than that, can you?

DROP THE DISK?

Why do you insist on providing so called "free" Cover Disks? Besides the fact we are charged an extra pound for this unwanted item, the contents are mainly out of date Public Domain or Shareware titles (later versions of which are available from one of the many good Shareware services). At least when I purchase a disk from one of these it is by choice.

When the Disk does contain current titles, you inevitably review them in the PD column, but what's the use in recommending a PD library if you are supplying it anyway?

I am gradually coming to the conclusion that you haven't the confidence to publish a magazine on its own, that will sell for the content of the mag and not the Disk. You are purely jumping on the "free" software bandwagon, and if ever there was commercial exploitation of PD and Shareware, then you are by far the biggest culprits.

Why don't you just drop the idea of the Disk (or offer it as a mail order extra), leave the software to the people who know about these things and get back to being what you purport to be: "professional journalists," producing a magazine that informs and entertains. Previous replies to this question have stated that surveys show a certain number of readers want the disk, but as professionals doesn't this stick in your gut, to know that people are buying "your" magazine for other people's work?

Robert Simms
Salisbury

stf *Phew! You've covered a lot of ground and levelled some heavy accusations there, Robert. Let's take them one by one.*

First, the only time we ever charge a quid is when we have to negotiate with a software company to put an extra full game on the cover, as we did in issue 18. Mind you, a pound for a game like Interphase *still isn't bad, is it? Normally, your £2.95 covers the cost of the magazine and the disk. The two are integral and inseparable items.*

The titles chosen are ones we feel are the most useful or interesting for the widest range of readers. Sometimes they are updated and made available to PD libraries before we can use them. This stops us from treading on the toes of the PD libraries, but still acts as a taster for people who otherwise might not even know what a certain program was like. How many times has your choice of PD been influenced by a version you've seen on the Cover Disk? Often the Cover Disk programs are the latest versions. Take XCONTROL, *for example: we were the first to bring it into the UK!*

As for your accusation of bandwagon jumping, ST FORMAT's *publishers, Future Publishing, actually pioneered the Cover Disk concept. Remember those horrible, endless type-in listings you used to see? They're a thing of the past now, thank goodness.*

The suggestion that we exploit PD or Shareware authors is ridiculous. Authors of PD release their programs for the good of the ST-owning population and we put them on the Disk for the same reason. When we interviewed Paul Glover from the ST Club in issue 25, he said that ST FORMAT *introduced new ST owners to the concept of PD and he'd found more customers as a result of our Cover Disk. Shareware owners also want their programs to be spread to as many people as possible. The onus lies with the end users to pay for Shareware programs they like – a philosophy that we remind people of whenever we run Shareware titles.*

As for the "professionalism" aspect, consider this. If people enjoy our editorial material, that's great. If they gain something from the Disk, then that's great, too. If they get both, then that's fantastic, and we really can feel that we've done our job as professional, computer-age journalists. The Disk and the written content of the magazine can work hand-in-hand: because of the Disk we are in a position to do much more with our features and tutorials. Take a look at the Bullfrog programming series, where listings were provided on Disk, freeing up editorial space to discuss the way the program was constructed. We were also able to give away Devpac 1 *so that all our readers could make the most of the series.*

You see, Robert, the times, they are a-changing.

SHARE AND SHARE ALIKE

I would like to congratulate the Yak (AKA Jeff Minter) for releasing *Llamatron* as Shareware. It is a brave move, and I wish him luck.

For as long as I can remember, ST owners have complained about the inflated price of software, justified by marketing, advertising, distribution, production and protection costs, and at last someone is doing something about it. Now it is up to us, the players, to make it worthwhile.

Shareware has several advantages over the normal commercial method of distribution. It is easier to distribute, piracy drops out of the equation, and it is cheaper to the end-user. A major advantage is that unlike protected games, Shareware can be easily installed on a hard drive – which solves what has long been a bugbear among hard drive users.

The major downside of Shareware is that a lot of people use the programs without sending the programmer any money. It is an easy thing to do – especially if the author is Stateside – but if Shareware is going to become commonplace we must all do our bit to make it work.

If we are honest, the Yak will get lots of fivers, and will be encouraged to do something even more wonderful – and other programmers will follow. Treat it as free software and a starving Yak will not do any more Shareware, and it will all end here. So don't look a gift Yak in the mouth. If you like *Llamatron*, send him a fiver, and change the face of ST software as we know it.

Stephen Murgan
London E11

stf *We phoned Jeff soon after* Llamatron *went on the Cover Disk and we were amazed at what we found. Apparently, around 20 to 30 fivers were rolling in to Llamasoft, every day, as a result of the wide circulation the game received.*

Jeff went on to say that he'd had some very touching letters from ST FORMAT's *readers, including a pensioner couple who said it was the first game they'd ever wanted to play, and a happy father who sent a fiver in for each member of his family who'd enjoyed the game. What a refreshingly honest bunch you are! Software companies take note.*

Suffice to say that Jeff's happy, and he's even considering re-releasing Trip-a-Tron *as Shareware very soon. Needless to say, we'd like to help Jeff with*

WANTED!

Your honest opinion of *ST FORMAT*

■ **To help us keep improving your favourite magazine, please fill in and return this form each month**

1. Rate *ST FORMAT* in terms of value for money:
❒ Excellent! ❒ Good
❒ Reasonable ❒ Poor ❒ Ripoff!

2. How did you buy this issue?
❒ I subscribe
❒ Asked newsagent to reserve copy
❒ Had it delivered to my home
❒ Just went in and bought it

3. Out of ten, how much did this month's cover make youwant to look inside?...../10

4. How much does this issue appeal to you overall?...../10

5. How does it compare with previous issues you've seen?
❒ Much better! ❒ Slightly better
❒ About the same standard
❒ Slightly worse ❒ Much worse!

6. Rate out of ten this and any other computer magazines you read regularly:
ST FORMAT...../10
...../10
...../10
...../10
...../10

7. Out of ten, how useful did you find this month's Graphics feature?
...../10

8. What do you like *most* and then *least* about this issue?
I *most* like.....
.....
.....
.....
And I *least* like.....
.....
.....
.....
.....

Your name and address:*
.....
.....
.....
.....
.....

* Leave blank if you wish – but we may want to send you details of exclusive special offers

■ No stamp needed if posted in UK.

Return to:
October Reader Survey, *ST FORMAT*, Future Publishing, Freepost, Bath, Avon BA1 2XF

www.stformat.com

POST HASTE

ALL PRICES INCLUDE VAT & DELIVERY TO YOUR DOOR!!!

BOFEWARE

The following games titles are limited offers at the time of going to press. Please order early to avoid disappointment

We stock all the latest and currently available titles which we offer at 30% off of recommended retail prices!

3D Pool	9.99
Airborne Ranger	6.99
Anarchy (Defender Type Game)	6.99
Barbarian (Palace)	6.99
Black Tiger	6.99
Blood Money	7.99
Cape 'n' Carnage	6.99
Carrier Command	7.99
Centrefold Squares	7.99
Chambers of Shaolin	4.99
Chuckie Egg II	7.99
Classic 4	5.99
Colossus Chess X	7.99
Daily Double	7.99
Dan Dare III	6.99
Defender of the Crown	7.99
Deluxe Strip Poker	7.99
Demons Tomb	6.99
Double Dragon	6.99
Double Dragon 2	7.99
Dragon Breed	7.99
Dragons Breath	6.99
Dragonscape	4.99
E-Motion	7.99
Enchanter	7.99
Escape from Planet Robot Monsters	7.99
European Super League	12.99
Falcon Mission Disk 1	6.99
Fantasy World Dizzy	5.99
Fast Food Dizzy	5.99
Ferrari Formula One	7.99
Fiendish Freddy	7.99
Football Manager World Cup	7.99
Galdregons Domain	6.99
Gremlins 2	7.99
Guardian Angel	5.99
Hammerfist	7.99
Hard Drivin'	6.99
Hard Drivin' II	7.99
Hitchhikers Guide to the Galaxy	7.99
Hong Kong Phooey	6.99
Hostages	6.99
Hot Rod	4.99
Impossible Mission II	6.99
James Pond	7.99
Joan of arc	6.99
Kick off & Extra Time	6.99
Kid Gloves	7.99
Klax	7.99
Last Ninja 2	6.99
Leather Goddesses of Phobos	7.99
Little Puff the Dragon	5.99
Lombard RAC Rally	6.99
Mr. Heli	7.99
New Zealand Story	6.99
Ninja Rabbits	5.99
North & South	6.99
Pacmania	7.99
Planetfall	7.99
Postman Pat	7.99
Powerdrome	7.99
Predator	6.99
Pro Boxing Simulator	6.99
Pub Trivia	4.99
R-Type	6.99
Roadblasters	6.99
Robocop	7.99
Rocket Ranger	7.99
Ruff 'N' Ready	6.99
Shadow of the Beast	9.99
Shadowgate	7.99
Shinobi	6.99
Silent Service	7.99
Silkworm	6.99
Spindizzy Worlds	7.99
Steve Davis Snooker	7.99
Subbuteo	6.99
Super League Soccer	6.99
Targhan	4.99
Teenage M.H.Turtles	12.99
Tennis Cup	6.99
Thunderblade	6.99
Tower of Babel	7.99
Treasure Island Dizzy	4.99
Turrican	7.99
Turrican II	12.99
Vigilante	6.99
Warhead	7.99
Wheels of Fire Compilation	12.99
Wishbringer	7.99
Xenon	6.99
Xenon II	7.99
Yogi's Great Escape	6.99
Zork, Zork II or Zork III	7.99
EDUCATIONAL	
Three Bears	16.49
Better Maths (12-16)	16.49
Better Spelling (8+)	16.49
Donald's Alphabet	17.49
First Letters & Words	14.49
First Shapes	14.49
Fun School II (2-6)	14.49
Fun School II (6-8)	14.49
Fun School II (Over 8s)	14.49
Fun School III (Under 5s)	17.49
Fun School III (5-7)	17.49
Fun School III (Over 7s)	17.49
Goofy's Railway	17.49
Henrietta's Book Spell	17.49
Hooray for Henrietta	17.49
Junior Typist	12.99
Kid Talk	14.49
Lets Spell at Home	14.49
Lets Spell at the Shops	14.49
Magic Maths (4-8)	16.49
Maths Mania (8-12)	16.49
Mickey's Runaway Zoo	17.49
Math Talk Fractions	20.42
Prof Hunts for Words	17.99
Prof Looks Words	17.99
Prof Makes Sentences	17.99
Prof Plays a New Game	17.99
Puzzle Book	14.49
Puzzle Book II	14.49
Sesame St. Number Count	14.49
Sesame Street Letters	14.49
Smoothtalker	14.49
Spellbook	14.49
Things to do with Numbers	14.49
Things to do with Words	14.49
SERIOUS	
Big Band	121.99
Bookkeeper	81.49
Canvas	10.99
Cash Trader Sterling	81.49
Cashbook Controller	35.99
Cashbook/Final Accounts	49.99
Deluxe Paint	41.99
Devpac 2	42.99
Digibase	35.99
Digicalc	28.99
Easy Draw 2	35.99
Equinox Organiser	40.99
EZ Track Plus	46.49
Final Accounts	21.49
First Word Plus	57.49
FM Melody Maker	57.49
Hi-Soft Power Basic	35.99
Home Accounts	17.99
K-Data	35.99
K-Graph-3	35.99
K-Minstrel 2	21.49
K-Spread 4	92.99
K-Word 2	28.99
Mailshot plus	35.99
Mastersound 2	29.99
Mavis Beacon Teaches Typing	21.49
Neo Desk 3	30.99
Personal Accounts Plus	24.99
Personal Finance Plus	28.99
Personal Tax Planner	28.99
Playback	21.49
Prodigy	92.49
Prodata	57.49
Protext V5	107.49
Quartet	35.99
Replay Professional	92.94
Small Business Accounts Cash	57.99
Small Business Accounts Xtra	82.49
STOS	21.42
STOS 600 Sprites	10.99
STOS Compiler	14.49
Studio 24	109.99
Superbase Personal	13.99
Superbase Personal 2	71.49
System 3	35.99
Timeworks	71.49
HARDWARE	
520 ST Discovery Pack	259
520 STE Discovery Pack Extra	279
" 520 STE with 2Mb Ram "	369
" 520 STE with 4Mb Ram "	459
1040 STE (Family Pack)	359
512k Plug in Upgrade for 520STE	29
512k RAM Expansion for 520STFM	49
1Mb External Drive	54
1Mb Internal Drive	79
Philips CM8833-mk2 Colour Monitor	239
Star LC200 colour Printer incl. Lead	209
Star LC24-200 colour incl. Lead	299
Citizen Swift 9 colour incl. Lead	199
Citizen Swift 24 colour incl. Lead	299
Zydec Microswitched Mouse	17

You name it... We do it... Just phone and we'll quote...

We are faster and cheaper!

POST HASTE, 11a Burgate Lane, Canterbury, Kent. CT1 2HH

TELEPHONE HOTLINE **0227-764204** 9.30am to 7.00pm

Visa, Mastercard, Eurocard and PO Orders are despatched same day!

Please allow up to 4 working days for cheques to clear.

MAIL&TELEPHONE ORDERS ONLY. NO PERSONAL CALLERS PLEASE!

LIVE IN LEEDS?

See local press for details!

Unlike the majority of advertisers in this magazine, we are dedicated to serving the needs of our local customers.

They know we offer great advice, service and deals on all things Atari. Our city centre showroom is packed with the latest software and hardware covering DTP, GRAPHICS, VIDEO, MIDI & BUSINESS applications plus those 'hard to find' items like PC Emulators, Scanners, DIGITIZERS, GENLOCKS, REPLACEMENT DRIVES & MEMORY UPGRADES.

Our local 'Price Match' means you won't have to sacrifice service to save a few pounds and we often have special offers available only to personal callers or through our adverts in the Y.E.P. - Hence 'See local press for details'!

So even if you normally shop somewhere else, or prefer mail order, come in to see us. We think you'll be surprised at what we can offer!

www.stformat.com

MIDITECH

54, The Balcony, The Merrion Centre, Leeds LS2 8NG Tel (0532) 446520

We are open 9-30 to 6.00 Mon-Fri 9.00-5.30 Sat

Est. 1988

ALL Prices Include Postage & V.A.T.

Prices Effective until October 4th 1991

Double Sided Double Density

3½"

100% ERROR FREE

WITH LABELS

Quantity	Price	Quantity	Price
10	£4.30	80	£27.60
20	£7.80	100	£32.90
25	£9.95	120	£39.40
30	£11.50	150	£48.95
35	£12.95	200	£61.95
40	£14.25	300	£91.90
45	£16.00	400	£119.90
50	£18.25	500	£149.75

Full No Quibble Replacement Guarantee

BOXES (with keys, labels & dividers)

10	40	50	80	100	120
0.94	4.95	5.60	6.30	6.80	8.75

CUMANA CSA354 3½" External Drive £64.95

Armour-Geddon	15.75	Lemmings	15.75
Chuck Rock	15.96	Monkey Island	15.96
F19 Stealth	18.95	Speedball 2	15.96
Gods	15.96	Supercars 2	15.96
Killing Cloud	15.96	Viz	15.96

Credit Card Orders: (9am - 10pm 7 days)

071 608 0624

Cheque/Postal Orders to:
DataGEM Limited
Dept STF 23 Pitfield St.
LONDON N1 6HB

Showroom OPEN
10 am - 6 pm
Monday - Friday
Exit 2 Old St Tube

ATARI REPAIRS

FAST TURNAROUND
COMPETITIVE PRICES

★ Over 10 years experience with Atari computers
★ 20 qualified technician engineers at your disposal
★ Most computers will be turned around in just 24 hours!
★ Prices include full service check, overhaul and soak-test
★ All repairs covered by a 90 day warranty

★ ★ Simply send your machine along with a £15 diagnostic fee ★ ★
and we will send you a written quote for the cost of repairing your machine, typically £45.00

How to take advantage of this exceptional offer:

Simply send or hand deliver your machine to the workshop address detailed below, enclosing payment and this advert and we will do the rest. (If possible, please include a daytime telephone number and fault description).

WTS ELECTRONICS LTD

Studio Master House, Chaul End Lane, Luton, Beds, LU4 8EZ.

Telephone (0582) 491949 (4 lines)

www.stformat.com

this too. Watch this space... Oh! But a final note. If you're still playing an unpaid-for version of Llamatron, *you're a complete skinflint!*

PEACEFUL DEMONSTRATION?

I am writing to complain about the attitude you take towards demos and their creators. You seem to criticise demos quite a lot, and considering the demo crews who make them don't get paid for it, I don't think you have any right to criticise them. Okay, constructive criticism I don't mind – after all, it can only help the coders to do better next time – but when you complain about greetings, balls and demos all using the same music over and over again then I don't think that's fair.

I don't see anything wrong with saying hello to your friends, and I for one like balls (the bitmapped kind!). I doubt that any of the *ST FORMAT* demo reviewers could do a ball demo at all, so who are they to criticise? And as for the same music, come on, demo coders aren't making any money from demos so how can they afford to hire a musician to do the music? I also think that you see demo coders as amateurs.

Demo coders are getting better, achieving the impossible time after time while game coders are producing shit which some companies call "games." More and more demo coders are starting to code games now – *Enchanted Lands*, for example. This is certainly the best platform game on the ST, and not surprisingly, written by The Carebears, the best demo crew on the ST. I rest my case.

Anon

stf *No unbiased reader could ever accuse* ST FORMAT *of not supporting demo writers. We've reviewed countless demos and only some of them have been brilliant. We refuse to tar all demo creators with the same brush, but it has to be said that some are more adventurous/creative/humorous/exciting than others. What's the attraction in paying three quid for a PD disk which contains cruddy music, boring graphics and a screenful of abusive or illiterate messages to people you've never heard of? Okay, so the coders get paid zilch, but that's usually because they're learning their art and developing it as they go. You wouldn't expect to be paid for the essays you wrote at school, would you?*

As for the qualifications required to review demos, what do you expect? Could Barry Norman make a film? Could Mike Read make a record (a good one)? As it happens, most of the FORMAT *crew are quite capable of holding their own in the bouncing ball department. Our Tech Ed, Neil Jackson, previously produced software for Activision, where he actually employed some demo-writers to create full-price games on the strength of the humour and attention to detail of one of their demos. Kinda blows a hole in your case really, doesn't it? You wouldn't perchance be a disgruntled ball-bouncer who's had a less-than-rave review, would you?*

IDENTITY CRISIS

I have seen *DPaint* advertised as *DPaint, DPaint 2, DPaint v2* and *DPaint v3*, all for the Atari STE. Please help me. What is the difference? I thought there was only one *DPaint*.

Secondly, where can I get a printer driver for an HP Deskjet 500?

The Imperial Aardvark
Hereford

stf DPaint, *or* DeluxePaint *to give it its full name, is currently only available in one guise for the ST and STE (£49.99, Electronic Arts ☎ 0753 549442). However, there are four versions available for the Commodore Amiga games machine and the PC word processor. This is probably what's caused the confusion. We contacted Electronic Arts and they said that they are working on version 2 for the ST, which we should see in 1992.*

As for the printer driver, it largely depends on what software you want to use the driver with. Try the Public Sector Library (who are, like you, based in Hereford) on 0438 364722 or 361324 and tell 'em we sent ya!

TINTS, HIPS, TEATS AND CHIPS

I have been buying *ST FORMAT* for over a year and a half. I have collected hundreds of different hints and tips from your Gamebusters section. But when I come to use one of these cheats it takes me quite a while searching through all my old *ST FORMATs* to find the cheat I want to use. I was wondering if you have any plans to produce an Encyclopaedia of all the hints, tips and cheats ever published in your great magazine?

But, I do have one complaint about your great magazine. It is that over the last couple of months you have been giving people £50 for sending in loads of cheats, when most of them have already been published in *ST FORMAT*. I don't think it's fair that someone has got £50 just for copying out old cheats from old magazines.

Chris Preston
West Midlands

stf *Yes, there are plans to print a Gamebusters mammoth tome, we hope before Christmas. Watch for details in future issues.*

We admit it is sometimes difficult to decide on the Gamebusters prizewinner. We often give the dosh to people who come up with some hot tips on really new games or extensive playing guides to a single game, but short tips are the backbone of the section and we want you to keep them rolling in. A great many tips are for old games and it would be unfeasible to cross reference every single issue to see if they appeared earlier. If we do sometimes let a few repeat tips slip through, we hope you'll take pity on our workload and think of it as a special bonus for newer ST game-players than you. If you think you've got one we haven't seen before, send it in! Now there's a challenge for you.

FASTER THAN A SPEEDING BULLET

After finishing your excellent demo of *Gods* and reading the extensive review in the May issue, I eagerly rushed out to my nearest stockist and bought a copy of the game.

Since I am only 15 and don't have a steady flow of ready cash, I choose my games carefully. I totally agree with your interpretation of *Gods* – it is worth a *FORMAT* Gold award. But within a week's play of *Gods* I had completed the game. Surely at £25.95 this can't be value for money.

This isn't my only experience. Two other games of mine were also easily finished. The first, *Robocop*, was completed within a week and the other, *Batman*, was completed within two weeks. Now I've only had my ST since Christmas and I wouldn't consider myself a hardened gamester.

On these particular results I have decided to go for more lengthy, extensive games such as *Midwinter*. Why can't games have a high level of gameplay and lastability?

Eamon Hartan
Derry, Northern Ireland

stf *Crikey, you've been busy, haven't you? While it's possible that some inherently able people like yourself can complete tough games in record time, most of us get stuck for ages. Gods especially was one which gave the* FORMAT *crew hours of frustration and self-torture before we finally all went completely mad. Give yourself a big pat on the back and make yourself a badge which says "I've got the metabolic rate of a cheetah!" to wear with pride. Seriously, though, why don't you write to the software houses concerned and let them know just how quickly you finished their games? Most companies would be glad to have a bit of constructive feedback, especially on the subject of gameplay, which is often the hardest part of a game to judge. Perhaps your comments could help get the balance right for future releases.*

PRINTER OUT

I was pleased to see you taking an interest in colour printing, but surprised to see no mention of the Integrex 132 in your review, a printer now well established in schools. Being an inkjet, it offers many advantages over colour dot matrix printers, but is admittedly rather poor when it comes to text output. The →

LET'S GET TOGETHER...

Assembler tutorial 1

It's not often I have a moan about your mag, but once I get going it's hard to stop me. My gripe is your assembler tutorial. Since I bought my oh-so-wonderful ST I've had *STOS* and over the months I've put a few routines and games together. Recently, I've decided I need something more powerful, so I turned to your assembler tutorial.

Unfortunately, apart from providing me with an assembler, it was no use to me. All it proved was that the Bullfrogs could program in assembler. The game was theirs, not mine. I have got a book from my local library to help me learn the comments, but I am stuck when it comes to writing games.

Ben Pritchard
Hertfordshire

Assembler tutorial 2

Congratulations on the best series of programming articles I've seen in a computer magazine – namely Bullfrog's assembler series. Rather than just giving basic assembler coding, it also gives an insight into the production of fast coding techniques needed for a budding games programmer. It also provides some very useful code to get you started without resorting to lengthy explanations.

Now (after the sweet talk), how about following up this series in the only real way possible, namely getting someone like Paul *Damocles* Woakes to provide a similar series on producing fast 3D graphics which at least approach commercial quality? After all, let's face it, current publications for the ST give a great deal of 3D theory but the coding is rather slow and not too useful for a quality game.

Even if you can't manage this, at least try to keep up the good work by producing further similar series which provide an insight to good coding techniques and you'll have at least one lifelong reader.

Dave Woollen
Sheffield

stf You can't please all the readers all the time. Now that the Bullfrog programming series has come to an end I intend to start running regular tips pages to answer your queries about assembly language. That way, readers who have taken up assembly programming – and people like you, Ben – can ask for precisely the facts you need.

It's certainly my aim to get more professional programmers writing a regular series for the magazine, but I'm not convinced that games programmers are necessarily the ones to opt for. Programmers of databases, word processors or DTP packages have enlightening things to say. If anyone has any strong ideas on who should be writing the next STF programming tutorial, or the coding language we should be looking at, then drop us a line.

www.stformat.com

colour output of the Integrex is brighter and more even than that of a dot matrix, handling large flat areas of colour very well and eliminating the need to avoid dark backgrounds. Hardcopy is also produced in a fraction of the time, something which is much appreciated if more than an occasional copy is required.

I should, perhaps, declare an interest, having produced software for this printer over several years.

John Phillips
London SW4

stf *There are a handful of printers that we deliberately left out of the round-up either because they weren't compatible with the ST or because we didn't consider them to be popular or of a competitive standard to warrant a review. By your own admission the Integrex 132 is poor at handling text output, which is certainly the most important specification for any printer.*

If you're interested in finding out more about the Integrex 132, give Integrex a call on ☎ 0283 551551. The 132 currently has a price tag of £636.

BUYER SEEKS GUIDANCE

I currently have access to an Atari 520ST. I'm looking to add a printer and, if necessary, a hard drive and whatever else may be necessary – such as a wordprocessor, disk management, mailmerge, database, spelling checker – to enable me to print a newsletter for between 300 and 500 people and to retain information other than purely a name and address. I want to allow for expansion later (possibly to 10,000 newsletters!) and possibly to include the printing of posters.

Obviously my budget is not endless but your advice and suggestions within a limit of, say, £1,000 initially (but preferably less) and with the possibility of expanding the system in the future, as needs arise, would be very greatly appreciated.

G F Hoskin
Essex

stf *To run a newsletter which looks half way professional you need to get your hands on a DTP package.* Timeworks DTP *is a cheap but sophisticated package (£90, Electric ☎ 0480 496789). Next on your shopping list should be a quality printer. Ideally you need a laser such as the Atari SLM605 because these are the fastest way to print DTP pages, though an inkjet like the Hewlett Packard Deskjet 500 (reviewed in issue 25) would be your best bet.if you're tight on cash. The Hewlett Packard Deskjet is very well supported by ST software, so you wouldn't have any trouble printing out DTP pages. Later you could upgrade to* Pagestream 2 *(£200, SoftLogik, 5 Chancery Lane, Clifford's Lane, London, EC4 1BU) and still use the same printer.*

A hard drive certainly isn't essential, but once you start using one you'll wonder how you ever managed without it. DTP files can become very big and if you're looking to store several issues on hard drive you need a higher capacity. Go through this month's hard drive roundup beginning on page 54 to find the one which best suits your needs. One option might be to go for a removeable hard drive, enabling you to extend your storage space by using extra storage cartridges.

As for software: ST FORMAT *seems to have it all – next month we're running part two of our business software series (part one begins this month on page 102). Here we'll detail the available databases which can keep track of the information you mention.*

In issue 22 we ran a desktop publishing special in which we spoke to people who built up their own fanzines – turn to page 136 to get your hands on that issue if you missed it. Most start off using a simple photocopier to reproduce their mags, but others now use full colour covers and are even professionally printed. Companies like SoftLogik are even pitting the ST against high-end publishing machines like the Apple Mac, so you're onto a winner with the ST. It can be an expensive process but the end result is always rewarding.

Keep us informed if you get the system up and running and don't forget to send us the first issue of your magazine for any future DTP articles we've got lined up.

IS THE PRICE RIGHT?

I feel that now the Atari ST range has established itself as a major force in the home micro/games marketplace, software houses should abandon their ridiculous IBM pricing policies and come back down to earth, for their sakes as well as their customers.

Certainly game design and complexity have evolved tremendously to take advantage of the capabilities of the Atari, and we all appreciate the hard work and dedication of the programmers who spend months working on their masterpieces. But, to be blunt, to expect someone to pay upwards of £25 for one game is ridiculous, especially in such a competitive marketplace, and when people just haven't got money to throw around any more. There is only one result of such high software prices – rampant piracy.

Software houses should take a leaf out of the video companies' books – they used to try and sell videos for between £40 and £75, so everyone went out and pirated copies. However, now that video companies sell titles for only a few pounds more than the price of a decent blank cassette, people mostly buy the originals, knowing that the recording will be better, the neat cover will look good in their collection, and they can take it back if it doesn't work. Pretty as full-colour maps and manuals are, black and white pictures can be just as informative, but at the same time would help to bring the software cost down. If software houses would bring their prices down to, say, £10, they would sell a far greater volume, and have far less problem trying to combat piracy.

They would be happy – and we would be happy.

Simon Clarke
Cornwall

stf *For a long time the software publishers have argued that by reducing the costs of a game they could not expect to achieve a noticeably higher proportion of sales. In addition, they maintain that the perceived value of a game plays an important role. If* Midwinter 2 *were to sell for just £10 it would have to be cramped into a small plastic case and the manual would need to be scaled down. Imagine seeing this on the shelves at Smith's amid games like* MiG-29 *in a massive cardboard box with bulky manuals and selling for £30. Which would you pick up first?*

Recently, however, the ST charts have proved that games released at budget prices are selling vastly more than the full-price games. Now that all the major software publishers have established a budget label you can expect to see the vast majority of full-price games (certainly arcade and puzzle type games) appearing at a reduced rate later. There is now no excuse for pirating games – wait for them to be released on budget a couple of months later. Your film analogy, Simon, can be extended equally well to this. When Terminator 2 *was released, I'm sure you raced off to the cinema to see it, paying upwards of £3.50 for the pleasure. However, you had the option to wait a couple of months for it to come out on video where you could see it for just £1. There's no excuse to go and get a pirated version in the meantime.*

ANY START-UP PROGRAMS?

I'm thinking of starting a PD library later this year, but I'm unsure about several points. I'm hoping to start off the library in the evenings (then possibly go full-time), gradually starting up a specialist MIDI section (programs, sequences, demos of programs, etc), and in a year or two when I've got some capital and reputation behind me I would like to begin selling hardware. This would all be run from home for as long as possible. I would also like to offer other services such as scanning and MIDI sequencing, at some point.

I would like to know what the tax position is on a PD library. Do you have to charge tax on all your sales? If so would you have to keep a full financial system or would a program such as *Double Sentry* be sufficient to keep the VAT man happy? How is it worked out? How do you register as a taxable outfit? Could I claim back VAT on any purchases for the Company? I know I would have to have a separate Business Account. Do you have to pay the Business Rates on a PD library run from home? I know I would if I was running a computer shop, but what if it was run from home?

I know you will say that there isn't a lot of money to be make in PD libraries, and those like Goodmans have been going for years, but since the PD-MIDI market is taking off now I think I could open up quite a good niche with my own personal enthusiasm in that area. I know it would be slow to start with, but I would start to get enquiries after advertising in magazines such as yours. I do not want to commit my entire life to PD (at least not yet), but I think that being enthusiastic about what you are actually doing gives you a much better reputation than anything else when running your own business.

Andrew Down
Somerset

stf *Enthusiasm will certainly get you started, but what happens when you only get a couple of enquiries a month dropping on your doormat? Enthusiasm quickly wanes when no-one else shares your passion for PD. I'm not trying to deter you from running your own PD library, but you need to realise that there is intense competition in the PD world and unless you can offer something different and make people aware of what you're up to, you can't expect to get anywhere. If you can get your hands on original MIDI software – remember there are already many libraries selling MIDI files and related software – or offer some special MIDI services (perhaps you could offer to write drivers for any sequencer) then you would have a hook to make people come to you.*

Take a look at our interview with Paul Glover from the ST Club in issue 25 (if you haven't got a copy, turn to page 136 now). He explains how he went about establishing his library and discusses the problems he encountered in the process. If you still want to go ahead, the best place to begin to find answers to your tax questions and similar matters is your own bank. Most High Street banks have a Small Business Advisor or something similar, who can at least direct you to the best place to ask next. ***stf***

IT'S NOT GOOD ENOUGH

If you have any complaints about your dealings with advertisers in this magazine, we would be happy to listen. Address your complaints to Advertising Worries, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

Keep your complaints brief. We can't promise to get your problem sorted out but we'll contact the company concerned and do our best to help.

www.stformat.com

ATARI ST
520ST-E DISCOVERY XTRA PACK

RETURN THE COUPON FOR A FREE! COLOUR CATALOGUE

HARDWARE:	
512K 520ST-E + MOUSE	£329.99
ENTERTAINMENT SOFTWARE:	
ANARCHY - *Arcade Game*	£19.99
DRAGONS BREATH - *Adventure*	£29.95
INDIANA JONES - *Arcade Adv*	£19.95
SUPER CYCLE - *Racing Game*	£19.95
PRODUCTIVITY SOFTWARE:	
CONTROL.ACC - *Utility Software*	FREE
EMULATOR.ACC - *Utility Software*	FREE
FIRST BASIC - *Programming*	£49.99
NEOCHROME - *Art Package*	£29.99
ST TOUR - *Tutorial*	£4.99
JOYSTICK CONTROLLER:	
ATARI CX40 JOYSTICK	£4.99
PLUS! FREE FROM SILICA:	
TENSTAR GAMES PACK	£219.78
PRODUCTIVITY PACK	£104.97
TOTAL VALUE:	£834.54
YOU SAVE:	-£505.54
SILICA:	£329

PLUS! FREE HOLIDAY ACCOMMODATION

£329

1040ST-E FAMILY CURRICULUM PACK

The Family Curriculum Pack comes with a 1040ST-E computer and mouse plus 5 software modules (3 titles in each), one for every age range. The combination of education, creative and business software from Atari, plus the FREE entertainment and productivity packs from Silica, makes for a package the whole family can enjoy!

PLUS! *FREE* HOLIDAY ACCOM

1Mb 1040ST-E + MOUSE	£399.99
1. PLAY & LEARN	£76.59
2. JUNIOR SCHOOL	£58.54
3. GCSE REVISION	£55.54
4. BUSINESS COMPUTING	£159.85
5. CREATIVE COMPUTING	£134.97
PLUS! *FREE FROM SILICA*	
TENSTAR PACK	£219.78
PRODUCTIVITY PACK	£104.97
TOTAL VALUE:	£1210.23
YOU SAVE:	£811.23

£399

SILICA PRICE - INC VAT + FREE DELIVERY

ATARI 520ST-FM DISCOVERY PACK

£279

INC VAT + FREE DELIVERY + FREE TENSTAR & PRODUCTIVITY PACKS

ATARI ST - MORE THAN JUST GREAT GAMES!

FREE! FROM SILICA WITH EVERY ATARI ST

TENSTAR GAMES PACK

The TenStar Games Pack is THE software compendium for Atari ST owners, featuring ten top titles with a variety of different types of games for you to enjoy. Each title is packaged in its own plastic case, with a colour sleeve and full instructions. The TenStar Games Pack is FREE! when you buy your ST from Silica Systems.

FREE! WORTH: **£219.78**

FREE! SILICA SYSTEMS ST PRODUCTIVITY PACK

Every Atari ST from Silica comes with a FREE Silica ST Productivity Pack, worth over £100. This pack has been specially put together by Silica to help you to get to grips with the productive side of computing from day one. Each title has been tried and tested by tens of thousands of Atari ST owners, who have begun word processing with 1st Word and programming with Atari ST Basic.

1st WORD - from GST	£59.99
SPELL IT! - for use with 1st WORD	£19.99
ST BASIC - with tutorial	£24.99
TOTAL RRP:	£104.97

FREE! 16 NIGHTS HOLIDAY HOTEL ACCOMMODATION

Every Atari ST from Silica comes with a FREE 72 page, full colour brochure with accommodation vouchers. These vouchers entitle 2 people to stay up to 16 nights in one hotel (or any number of hotels to a total of 16 nights) with accommodation FREE (you could take up to six nights for four people, or other options). Choose from the 250 hotels featured in the catalogue. All you have to pay for are your meals (prices are listed in the brochure). Reduced rates in top London hotels and hotels in France are also featured.

TOTAL FREE PACKAGE

TENSTAR GAMES PACK - £219.78:	
Asterix - *By Coktel Vision*	£24.99
Chess Player 2150 - *By CP Software*	£24.95
Drivin' Force - *By Digital Magic*	£19.95
Live & Let Die - *By Elite*	£19.99
Onslaught - *By Hewson*	£19.99
Pipe Mania - *By Empire Software*	£24.99
Rick Dangerous - *By Firebird*	£24.99
Rock 'n' Roll - *By Rainbow Arts*	£19.99
Skweek - *By US Gold*	£19.99
Trivial Pursuit - *By Domark*	£19.95
PRODUCTIVITY PACK - £104.97:	
1st Word - *Word Processor*	£59.99
Spell It! - *Spell Checker*	£19.99
ST Basic - *Programming Language*	£24.99
TOTAL RRP:	£324.75

FREE! WORTH NEARLY: £325

PLUS! *FREE* HOLIDAY ACCOMMODATION

SILICA SYSTEMS OFFER YOU

- ***FREE OVERNIGHT COURIER DELIVERY:*** On all hardware orders shipped in the UK.
- ***TECHNICAL SUPPORT HELPLINE:*** Team of Atari technical experts at your service.
- ***PRICE MATCH:*** We normally match competitors on a "Same product - Same price" basis.
- ***ESTABLISHED 12 YEARS:*** Proven track record in professional computer sales.
- ***BUSINESS + EDUCATION + GOVERNMENT:*** Volume discounts available for large orders.
- ***SHOWROOMS:*** Demonstration and training facilities at our London & Sidcup branches.
- ***THE FULL STOCK RANGE:*** All of your Atari requirements from one supplier.
- ***FREE CATALOGUES:*** Will be mailed to you with offers and software/peripheral details.
- ***PAYMENT:*** By cash, cheque and all major credit cards.

Before you decide when to buy your new Atari ST computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your ST, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for over 12 years and, with our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Systems Service".

MAIL ORDER HOTLINE 081-309 1111

SILICA SYSTEMS

MAIL ORDER:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Order Lines Open: Mon-Sat 9.00am-6.00pm No Late Night Opening	**Tel: 081-309 1111** Fax No: 081-308 0608
LONDON SHOP:	52 Tottenham Court Road, London, W1P 0BA Opening Hours: Mon-Sat 9.30am-6.00pm Late Night: Thursday until 8pm	**Tel: 071-580 4000** Fax No: 071-323 4737
LONDON (SELFRIDGES):	1st Floor, 369 Oxford Street, London, W1A 1AB Opening Hours: Mon-Sat 9.30am-6.00pm Late Night: Thursday until 8pm	**Tel: 071-629 1234** Ask for extension 3914
SIDCUP SHOP:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday until 7pm	**Tel: 081-302 8811** Fax No: 081-309 0017

To: Silica Systems, Dept STFOR-1091-63, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND FREE ATARI COLOUR CATALOGUE

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

.....

.....

Postcode: ..... Tel: .....

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

E&OE - Advertised prices and specifications may change - please return the coupon for the latest information.

www.stformat.com

The great ST FORMAT October quiz

Come with me if you want to live. No, sorry. That should be "come with me if you want to win loads of smashing prizes and take part in the most exciting competition this month has ever seen." Doesn't quite have the same ring to it, does it?

Quickly, we haven't got much time. There's only three pages before the mag terminates and you'll be on the outside. You need to know the answers to the questions below, just in case a tall metallic policeman should ask you them in the street. Get them right and you might just win one of the fabulous prizes opposite. But get them wrong and you'll be – well, wrong. The silliest, most half-witted postcard wins a bag of piping hot iron filings and dip in our combined steel smelter and jacuzzi.

1 Which famous film star popped his clogs during the making of the world's most terrible movie, *Plan 9 from Outer Space?*

2 Name the author of the novel which was made into a computer game and video, both released this month.

3 What's the name of the technique for customising a standard letter by inserting names and addresses from a database?

4 Revenge is sweet, but naming this brand new games company is more likely to get you a correct answer.

5 On how many courses can you belt your dimpled balls in Microprose's excitingly named golf game, *Microprose Golf?*

6 What is FOD?

7 Which supposedly sensible artist is in fact as mad as a jackrabbit?

8 Which get executed first, the AUTO folder programs or the Desk Accessories?

9 Which items make you invulnerable, rather than very sick, in *Rolling Ronny?*

10 What Public Domain demo features a guest appearance by the new, middle-aged and old Avenger, John Steed (AKA Patrick McNee)?

11 What's the highest score you (or more likely Steve Davis) can make in a single break of snooker?

12 Which two hot and sexy processors are Atari going to use in their future machines?

13 What are the two types of data file used in BASIC?

14 What heart condition is atropine used for in *Life & Death?*

15 Which doctor wrote the amazing PD word processor, *ST Writer Elite*, on the Cover Disk?

16 Which German city hosts a top Atari show each autumn?

17 If you wanted to keep track of all the scores in an amateur football league, what kind of program would you use?

18 Which hat got chosen for my potato? Was it the feather cap, chef's hat, boater or trilby?

19 What film featured the clever but illegal use of a small, Atari-built personal organiser type-thingy? (Real toughie this 'un, I don't think)

20 If Sam Tramiel is the name of Atari US's Canadian head geezer, what's the name of Atari UK's Geordie boss?

Write your answers on the back of a massive gentleman by the name of Arnie, a postcard or envelope. Then send it to October Quizzlings, *ST FORMAT*, 29 Monmouth Street, Bath. Avon BA1 2DL. All entries must arrive at our HQ before Friday 4 October – late arrivals will be melted down and used for scrap.

THE RULES BOX

1. All entries to this, the quiz of October, must verily arrive at our establishment before it is indeed too late. That is Friday, 4 October, no less.

2. Employees of Cyberdine Systems, Future Publishing and Protar are all possessed of fast-access internal RAM databanks and are too smart to enter. Any relatives, genetic clones, or bio-mechanical cyborgs are also banned.

3. Sending one sentry *(surely that's "entry")* through time and space is cool. Sending two or more is really a bit on the rude side. Do it and we'll show you what it's like to have an Uzi 9mm go off up your soft bits!

4. Just what you see, pal! You don't like our prizes? Don't enter! We can't give you cash instead – and that's assuming you win, already!

5. The decision of the judge, Mr LB Bach, is *the* decision. It is more final than the final fadeout, the end credits, or even the little bit of film that flaps about when the reel's run out, okay?

DON'T MISS THE ADDICTIVE *MiG-29 SUPERFULCRUM* ON NEXT MONTH'S COVER DISK

www.stformat.com

WIN! WIN! WIN!

After this month's mammoth hard drive round-up on page 54 we thought you might like to win this month's *FORMAT* Gold winner. As a result, we're giving away three Protar 30Mbyte hard drives worth almost £1000 – now what could be better than that?

Hard drives are one of the most useful hardware add-ons you can get your hands on – once you've used one you'll wonder how you ever managed without it. All serious software packages and an increasing number of games (including the forthcoming *Populous 2* previewed on page 40) can be installed on a hard drive so there's no need to go searching through your floppy disk collection for that missing package again.

The Protar hard-drive comes from Germany, where they pride themselves on producing top-notch hardware designed to last. Believe it or not, Protar actually test one in five of their components to make certain the drives are up to scratch. An excellent manual and an easy installation process make the Protar one of the simplest hard drives to set up. Plus, this drive comes with superb utilities which enable you to add passwords and write-protection to different partitions on the drive.

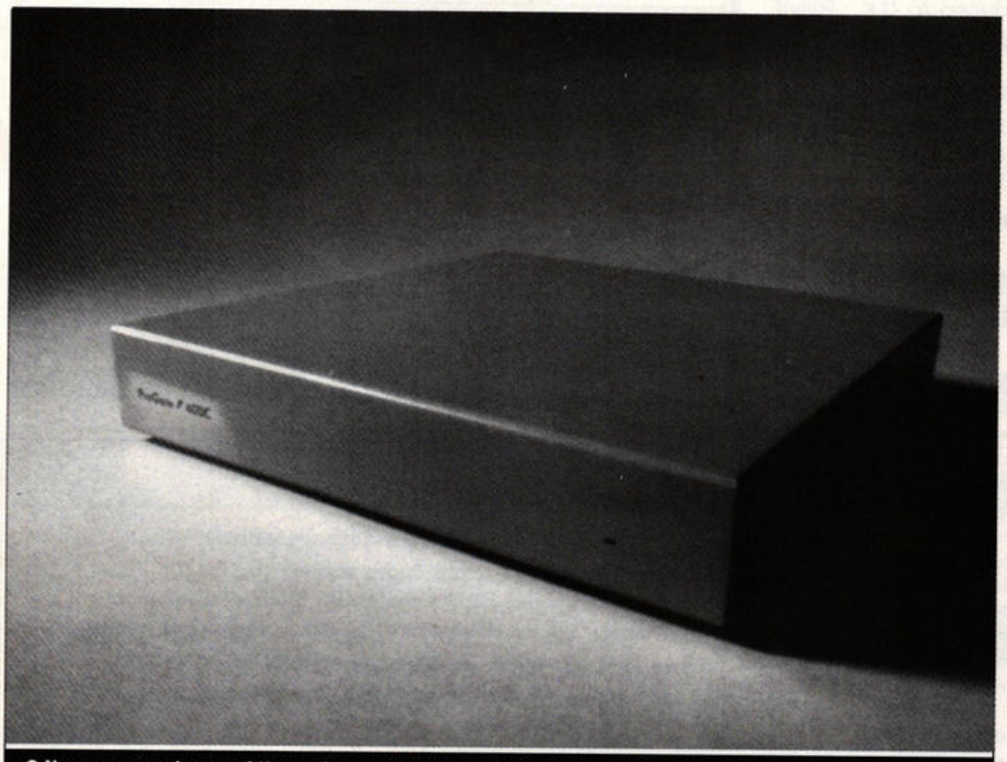
Up to 12 partitions can be created on the Protar drive. Using a daisy-chaining port at the back of the drive you can also attach further hard drives to your ST (either from Protar or other manufacturers), giving you access to even more storage space. With a 64K RAM cache built into the Protar drive, it's capable of achieving some astounding speeds.

In addition, you don't need to worry too much about hard drive crashes. The Protar is an auto-booting and auto-parking drive, so you don't need to park your heads whenever you want to move the drive around. Also, you can save all your partition data onto a floppy in the event that you need to recover information. If you're still concerned about the safety of your data, the drive comes with full de-bugging software to help you track down and then eliminate any potential problems.

Recently we've been hearing about hard drives which aren't compatible with certain types of STEs. However, the Protar drive is perfectly in tune with all STs, enabling you to get the maximum possible benefit from this stylish drive.

What's more, although we're giving away the 30MByte version, the Protar drive comes in various sizes – from 20MBytes right up to 160MBytes – so no matter what your storage demands, there's a Protar hard drive to suit your needs.

To get your hands on one of these drives, just answer the 20 taxing questions on the opposite page.



● Now you can win one of three of these *FORMAT* Gold winning hard drives from Protar.

THE SEPTEMBER QUIZ

The prizes for last month's colossal quiz were a Supercharger PC emulator and a pack of *Chronos* and *Prism* graphics software. Did you win any of it? Find out next month. For now, read the answers and weep or whoop accordingly.

1 Bullfrog
2 *Calligrapher*
3 Just For Money
4 Cheetah light gun
5 *Hunter*
6 Bootsector
7 Ghost
8 Silica Shop
9 18K
10 Express Card
11 Graphics Device Operating System
12 *Life and Death*
13 *CyberPaint*
14 60%
15 *Future Wars*
16 *Cadaver*
17 Write-protect the disk
18 Infinitely
19 *Saxon Publisher*
20 Cinemaware

AUGUST WINNERS

The four superb *FORMAT* Gold Panasonic printers have been won by:

GEORGE MUNDAY from N. HUMBERSIDE
MR AP RUSSELL from WEST YORKSHIRE
MARK JACKSON from CLEVELAND and
WILLIAM T. GOODALL from HUNTLY

PLUS WE EXAMINE CHAOS AND REVIEW THE BEST FLOPPY DRIVES – OUT 10TH OCTOBER

www.stformat.com

PROFESSIONAL DESIGNER

Calamus Fonts

Only £2.94 each!

As a very special limited period offer we are introducing into the U.K. the new Quillfonts pro range of Calamus designer typefaces at this amazing price! Min. order 4 fonts, with FURTHER discounts for quantity. Send your business card now for a free catalogue!

Write to:

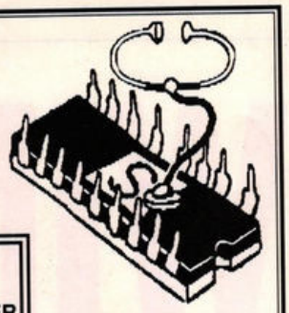
V.I.P. Services
1 Hillcrest Court Shoot-Up-Hill
London NW2 3PG

Sole U.K. Distributor For
Quillfonts LIBRARY

TROUBLESOME FAULTY ST?!!

Quality ST Repairs

From only £23.50 inc. return



FOR SPEED, FREE POSTAGE
+ PEACE OF MIND
CALL FOR OUR FIXED PRICE OFFER
ANYWHERE IN THE UK!

Unit 25,
Bridge Park,
Harrow Rd,
Brentfield,
London
NW10 0RG

Ring Repairs Hotline
STAR ASSOC. Computers
Wembley 081 961 5366

ST
Memory
Upgrades
Fitted

MIDI SEQUENCES

Get your "Hands On" the Midi sequences the Professionals use!

Why spend hours sequencing your favourite songs when you can get complete songs pre-programmed by professional programmers.

The quality of our sequence data is rapidly becoming the "Industry Standard"
But **Don't take our word for it!**

The **Music Industry** : *We provide sequences for Roland & Casio*
The **Music Press** : *"Remarkably close to the originals..."* David Hughes - Sound On Sound November 1990
The **Computer Press** : *"Hands On" were extremely accurate and faithful to the original..."* Jon Bates - ST Format - April 1991
The **Computer Industry** : We supply sequence data to **Commodore**

The **PRICE:** Each Song **ONLY £5.25** (Min Order 4)
Phone or write for our **FREE** catalogue.
"Hands On" Midi Software Ltd
14 Lodge Road, Bedhampton, Havant, Hants PO9 3LL
Tel/Fax (0705) 452628

SUPER SUMMER SAVERS FROM BCS

AMAZING DEALS | **3 1/2" DS/DD** | **LOWEST PRICES**

Bulk Buyers 2 for 1 disk guarantee

50 3.5" DS/DD	£21.75
100 3.5" DS/DD	£33.00
150 3.5" DS/DD	£49.00
200 3.5" DS/DD	£62.00
400 3.5" DS/DD	£122.00
500 3.5" DS/DD	£139.00

1000+ call for latest prices
Price includes VAT & P&P

Free labels

Posso 150 cap stackable box **£14.95**

5 1/4

50 cap box	£5.10
100 cap box	£5.90

Disks & boxes 2 for 1 disk guarantee

50 3.5" DS/DD + 80 box	£24.00
100 3.5" DS/DD + 80 box	£36.00
150 3.5" DS/DD + 80 box	£51.00
200 3.5" DS/DD + 2 x 80 boxes	£65.00
400 3.5" DS/DD + 4 x 80 boxes	£136.00
500 3.5" DS/DD + 5 x 80 boxes	£155.00

Price includes VAT & P&P

3 1/2

40 cap box	£4.10
80 cap box	£4.50

100 3.5" DS/HD **£58** inc. VAT & p&p

5.25" DS/DD...21p
5.25" DS/HD ..39p

3.5" DS/HD **60p**

SONY BULK **37p** each

Philips CM8833 MKII monitor **£205**

Star LC-200 colour printer **£205**

100 Sony bulk inc. VAT & p&p **£40**

Datascan Professional **£149**

ATARIS

Discovery Pack	£265
Turbo	£349
Family Curriculum Pack	£365
Ext. drive	£75
Tenstar Games Pack	£30

ACCESSORIES

1000 Tractor Labels	£9.00
Cleaning Kit	£2.00
Quickshot Turbo III joystick	£7.50
Zipstick	£11.00
Jetfighter	£12.50
Mouse mat	£2.75
Printer lead	£8.00
1000 labels	£8.00
Joystick ext. lead	£5.00
Port ext. lead	£5.00
LC-10 Ribbon	£3.85
Colour	£6.00

Trade/Government/Education orders welcome
Add £3.65 p&p, add £4.00 for 3 day delivery, add £10.00 next day
Cheques will be held for clearance.
Call or send cheques/postal orders to

BCS Ltd,
349 Ditchling Road,
Brighton,
E. Sussex, BN1 6JJ
Tel: (0273) 506269
or (0831) 279084

BUDGET CARNEGIE HARD DRIVES

Amazing low prices for new drive just introduced to U.K. Fully featured Carnegie Drives include ICD utilities, DMA input/output, auto boot, Battery Backed Clock, Auto park.
All drives are supplied fully formatted and ready to use.

70 Mb	(19ms)	**£349.00**
110 Mb	(12ms)	**£399.00**
210Mb	(9ms)	**£649.00**

All above drives include internal PSU and fan and double as a monitor stand.

HUNTER BUSINESS SYSTEMS
3 Fowlis Village, By Liff
DUNDEE DD2 5LS
TEL: 0382 581 035

VISA

Access

Moriarty Software Presents

An Atari high res monitor for £19.95!

Well not quite. But the Moriarty Monulator will turn **any** colour TV or monitor into a genuine monochrome monitor capable of displaying **all** 256,000 high resolution pixels!

More than just a monochrome emulator

The Monulator is packed with useful features:

- Special screen modes for 640 x 400 pixel accuracy
- Extremely fast operation with crisper text display
- Desk accessory control with too many options to list!
- STE compatible • Fully illustrated user manual

Don't buy a high resolution monitor until you've seen the Monulator!

SAE for more details

Moriarty SOFTWARE

MORIARTY SOFTWARE, 1 CEDAR PLACE, LANGLEY GREEN, CRAWLEY, WEST SUSSEX RH11 7SB. TEL: (0293) 539215

FOOTBALL FANS

Dr. Fox's Football Annual

Contains last season's results + this season's fixtures for Barclay's League, B&Q League, GM Vauxhall Conference, Diadora, Beazer Homes and HFS Loans Premier Divisions.

Select any team, fixture or date for statistical analysis.
Predicts results via user's own formula based on past form.
Full league tables produced for any date.
Easy entry of results via GEM interface.
Contains all results up to the date of dispatch.

ONLY £5.99

Needs Atari 520ST (or larger) + TV/med.res.monitor + mouse.
Just send a cheque/postal order for £5.99 made payable to Dr. Fox to DR.FOX, DEPT. FM, 29 TURENNE CLOSE, LONDON SW18 1JN.

www.stformat.com

Twilight zone

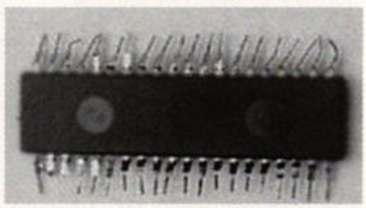
Out-takes, double-takes, pi – er, dairy flakes and home bakes

Silicon murder

It's with a weary heart and a sweaty eyebrow that we bring you some worrying news. An outbreak of silicon murder, so heinous that Ed "Ed" Ricketts fainted, has been perpetrated against an unsuspecting ST chip.

Remember the STE's infamous faulty DMA chip – the one which, as we first reported way back in issue 16, made some STEs incompatible with some hard drives? *STF* reader Justin Joanknecht has revealed that he got so frustrated with his STE's DMA chip that he ripped the poor little chap out of his socket and "twisted every one of his 40 little legs until he squealed and then I stamped him out of existence."

Er, that's all very well, Justin, but we have some news which might well bring a tear to your eye. The chip you've so efficently destroyed is actually a video shifter chip, not a DMA chip. So while you might feel a lot better for explaining (in pretty graphic terms) to your ST just who the boss is, your ST will be having the last laugh. Oh dear.



● **Innocent video shifter, mistaken for a DMA chip, will never shift data again.**

BIZARRE ATARI

STs pop up the strangest places, don't they? All manner of famous people are using them to keep their street cred. This month saw no less than three appearances of Uncle Sam's finest, in curious but obvious places.

First prize, for the weirdest known public use of an ST, goes to Jean-Michel Jarre, music technician extraordinaire. In his show, he performs a jolly number by the name of "Waiting for Cousteau." Ambient it may be, but simple it isn't! The whole piece is the work of a Mega ST, allowed to run free with JMJ's favourite notes. The Mega combines musical notes using the fractal theory, in a program called *AMI*. It can be set up to provide hours of continous music. Needless to say, we're trying to borrow a copy from him – strictly for research purposes, of course, you understand.

Second prize goes to Edward Furlong (the young John Connor of *Terminator 2* fame), for using the ST's little sister for nefarious purposes. You see him crack into cash dispensers and security systems armed with nothing more than a Portfolio, Atari's hand-held "personal organiser." But it only happens in the movies, right?

FInally, did anyone else notice the ST in *American Roulette*, starring Andy Garcia? Nope? It was there, in an office, but it was switched off. Anybody else spotted a celeb-ST recently? If so, try to get a photo and send it to Celeb-STs, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. →

TEN EXCUSES TO USE ON YOUR MATES WHEN YOU DON'T GET YOUR NAME ON THE HIGH SCORE TABLE

1. You thought you'd be really cool and not read the manual until you'd completed at least three levels of the game.

2. You tried to eat a cheeseburger and play the shoot-'em-up at the same time, with the result that a huge stream of fat ran down the joystick, greasing it up so badly that it flew out of your hand at a really crucial moment.

3. Your tea was ready and going cold on the table.

4. A lemon meringue climbed out of the ventilation ports on your ST and introduced himself as Harold from the planet Plink. (Note: use this excuse only when your friend's a hippie who enjoyed the '60s a bit too much.)

5. Sarah/Marie/Lottie/Brian/Trevor/-Zaphod, your girl/boyfriend, threatened to leave and take the cat with him/her unless you emerged from the bedroom for at least two hours. (Note: you'll also have to bluff your friends into thinking that you actually have a girl/boyfriend.)

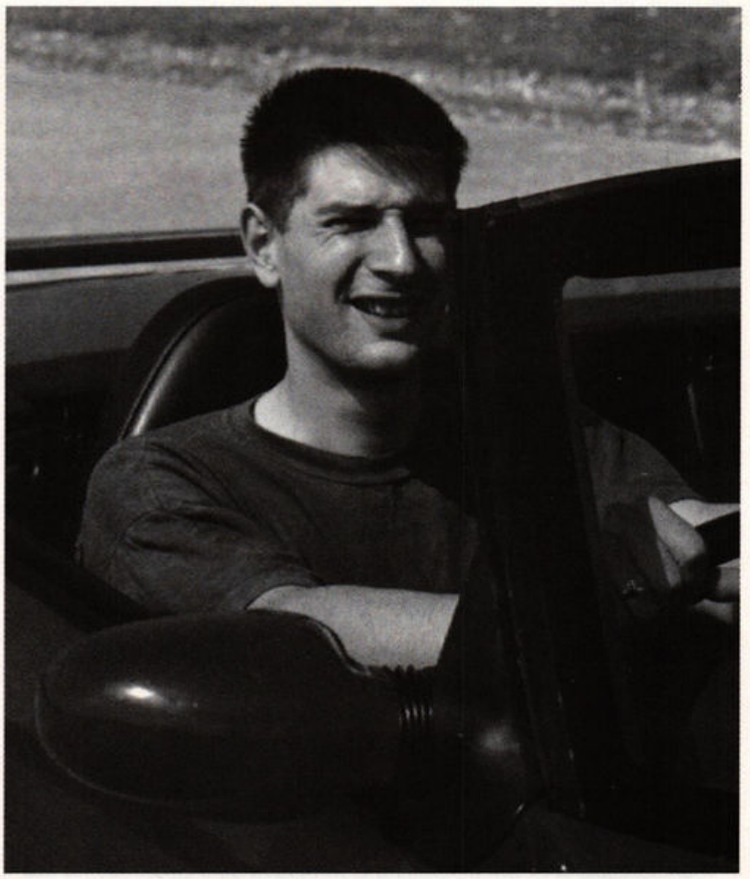
6. The four page novella which came with the game made far more interesting reading than you'd first expected and you didn't actually get round to playing the game yet, honest.

7. Halfway through the first level, a subliminal message flashed onto the screen ordering you to travel to farthest Asia and discover yourself by living in a collective of root-eating nomadic herdsmen, and by a remarkable coincidence you just got back mere moments ago, er, effendi.

8. You didn't realise there was a high score table.

9. The score counter clocked itself and your resultant score, though actually in the millions, was listed as 25, which didn't qualify for the high score table.

10. You've been playing *The Secret of Monkey Island* so much that your shoot-'em-up reflexes have all but disappeared. You have however completed the wicked Lucasfilm adventure more quickly than all your friends.



● **Daring desperado Neil Jackson takes his life in his hands for *ST FORMAT* by test driving the Lotus Elan. Gremlin's sequel to *Lotus Thingummy Turbo Challenge wossname* promises to be less damaging on the face though.**

www.stformat.com

What, you mean there's another issue next month?

Yes, that's right, we've had such a good response from all you *ST FORMAT* readers (all 70,000-plus of you) over the last two years that we've decided to carry on producing the best ST magazine ever. No, don't thank us, just rush out and buy the November issue which (in keeping with that strange practice of all magazines everywhere) hits the shops on Thursday 10 October.

Inside you'll find lots of words, some screengrabs, the odd picture and the occasional digit – oh yes, and this other stuff. Barring accidents and acts of a particularly perverse god, that is.

● Four and a half jelly babies to anyone who can tell us what Chaos Theory is. We'd really like to know because there's loads of chaos-related features in the next issue (as distinct from the usual chaos related to the issue). We're covering fractal music and the whole wibbly wobbly wonderful world of Mandlebrots and psychedelic patterns.

● We're continuing our two part investigation into what *you* can do with "serious" software with a look at the most powerful and versatile spreadsheets, word processors and databases you can use to do much more than simply improve business productivity.

● You've heard of living in a box, but have you heard of *Band-in-a-Box?* This MIDI improvisation package can fill in the bits of tunes you can't cope with, such as the drums or the bass-line. If the MIDI-muse has been ignoring you, check out our feature next issue.

● *STOS* is the ever-so-easy game-programming package which avoids being too technical and enables you to create games and demos with only a basic knowledge of the BASIC language, if you see what I mean. But there's more to it than meets the untrained eye, and next issue we begin a three part course in getting the most out of *STOS*.

● We're also interviewing the programmer of *Magic Storybook*, a new animation package about to appear on *Rolf Harris's Cartoon Club*.

Plus there's all the usual stuff. Neil Jackson will be bringing his amazing technical knowledge to bear on the Desktop pages, as well as producing the best Cover Disk you could ever bung in your ST's disk drive, Ed Ricketts will be busting the usual array of games and Andy Hutchinson will be seeing who he can annoy at Atari next month with his latest exclusive news story. We'll have loads of new games on review and probably lots of wibbly bits slipped in after a session at the pub.

To make sure you don't miss it, either snip out the coupon on this page and present it to your newsagent or – better still – turn to page 136 for news of how you can subscribe and get yourself a superb complimentary gift free and for no extra charge. ***stf***

Why you can't find your *ST FORMAT*

Still having trouble getting hold of *ST FORMAT?* It's like this, you see. Because of our incredible efficiency, Britain's best and most popular ST magazine has actually been going on sale earlier than the advertised date in some places – which means it's even more likely than before to disappear off the shelves before you even get in the newsagent's door.

What can you do? If your newsagent doesn't have a copy on the shelf, try asking the person standing behind the counter. They might have some more in the back room. If that doesn't work, check one of the bigger newsagents, like John Menzies or WH Smith. If you don't want to subscribe – and see page 136 for some good reasons why you should – fill in the form below and hand it to your newsagent. Every newsagent in the country will be delighted to reserve you a copy each month – or even deliver it to your door.

Still no luck? Then call the extremely helpful Kate Hodges in Future's circulation department on ☎ 0225 442244 and tell her which of Future's magazines you're after and where you've tried to get hold of it. She can sort out your problems in no time at all!

Complete this form and hand it to your newsagent

Please reserve me .....copy/copies of *ST FORMAT* every month, beginning with the November issue, out Thursday 10 October.

Name.....

Address.....

Postcode.....**Phone** .....

To the newsagent: *ST FORMAT* is published by Future Publishing and is available from your local wholesaler. Send back all your Future shop save coupons for entry in a free draw to: Kate Hodges, Future Publishing, 30 Monmouth Street, Bath BA1 2BW

TEN REASONS WHY THE LATEST MEGAGAME IS TWO YEARS LATE

1. The programmer was hit on the head by a freak meteorite, forgot everything he knew about programming in assembly language and had to relearn it all in the two weeks before the game was released

2. The film of the best-selling novel has been made, the star's been on Wogan, the video's been released, the T-shirts are on sale, the game tie-in deal has been clinched and the ad campaign has been running in *ST FORMAT* for six months before anyone realises that no-one's actually commissioned anybody to write the program

3. The programmer, thinking the Product Manager had said "conversion to a tree" on the phone when he actually said "conversion to ST," now has a six-foot elm in his living room consisting of thousands of bits of listing paper with code on it

4. Paul Woakes is the author

5. Someone made the unfortunate mistake of actually playing it before it hit the shops

6. The owner of the original arcade coin-op source code is a close relative of the Dalai Lama and lives on a mountain in Tibet, he won't use the phone because he believes it to be an instrument of the Devil and he will only give the rights away on personal receipt of seven Austrian goats and a packet of authentic 1970s Spangles

7. It's got the word *"Midwinter"* somewhere in the title

8. One or two other ST magazines *(what other ST magazines?)* reviewed it four months ago

9. Some friends of the programmer casually remarked that perhaps he shouldn't include those intro screens depicting 700 screaming children being beheaded by a naked female psychopathic warrior dwarf

10. The programming brief explicitly stated that there has to be some form of gameplay present in the arcade conversion, and furthermore that people should expect to enjoy it for at least 20 minutes

ADVERTISERS INDEX

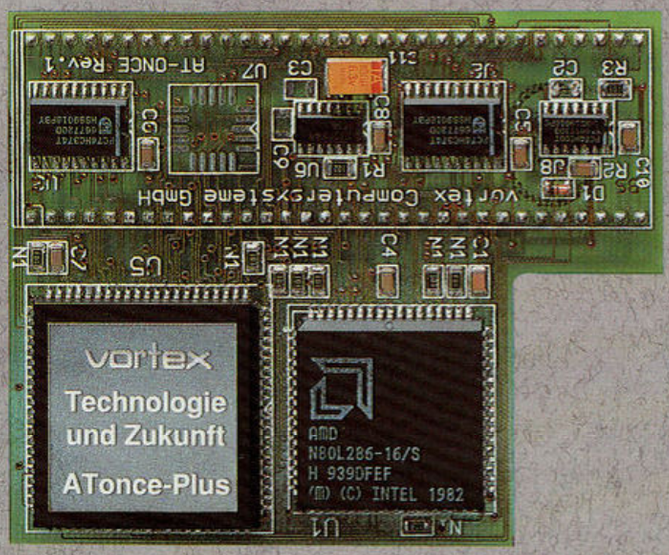
ABS 141
Abeville Computers 128
Active Distribution....57
Analogic Compuuters .126
Atari 18, 19
BCS 144
Best Prices 53
Byteback....92
Caledonia PD 51
Cambridge Business ..105
Castlesoft 143
Coombe Valley 132
Datagem Ltd....124
Dataplex 94
Datel Electronics 34
Deltronics 94
Desert Software....112
Dial A Disk....116
Digita 14
Dow Computers ..114, 115
Dr Fox's Football Annual 144
Eagle Software....65
Entertainment International....27, 87
ESP Software....135
Evesham Micros..110, 111
Frontier Software....45
G.F.A. Data Media....106
Goodman PDL....49
Greenwich Comp....141
H.A.T. Software 132
Hands On Midi Software 144
HCS....141
Home Based Bus 132
Hunter Business Sys ..144
Intermediates....9
Intraset 52
Kosmos Software 132
LA PD 51
Lazer Distribution Ltd .135
Lazer Software 108
Mail Centa 106
Manor Court Supplies .112
Matrix Leisure....128
MD Office Supplies....62
Media Direct 121
Memory Express 105
Microdeal....29
Microprose....74, 84, 175
Miditech 124
Mindscape 13
Mirrorsoft 89
MJC Supplies 80
MT Software 46
Ocean ....IFC, 3, OBC
Office Choice....51
Original Media 42
Penge TV & Video....128
PLC Computer Supplies....132
Post Haste....124
Power Computing Ltd 39, 59
Power PD 135
Premier Mail Order 100
Qualsoft 94
Ramara House 126
Redlaw Resources 128
Renegade....10
Richards Devel. 116
Rutland Computers 126
Selec Software 141
Shopper Show....17
Sidewise 60
Silica Shop 125, 149
Silverbird Computing ..141
Soft Exchange 104
Softmachine 28
Soft-Logic 59
Sound Technology....61
Special Reserve 9
Spectra Video....25
ST Club 49
Star Associates 144
Supply Solutions....128
Swift Micros 128
The PD Software House 51
Trojan 20
Turbosoft 143
Universal Overnight Distribution 66
US Gold....73, 91
VR Limited....144
Virgin Games....71
Vortex ....IBC
We Serve 116
Westex 12
Wizard PD 49
WTS Electronics....124

www.stformat.com

VORTEX ATONCE-PLUS

16 MHZ AT-EMULATOR FOR ATARI ST/ MEGA ST

£199,-
Manufacturer´s
Suggested Retail Price



VORTEX GATE ARRAY

The vortex CMOS Gate Array, the ATonce Chip-Level Emulation and ATonce AT-BIOS give the emulator a very high degree of AT compatibility.

16 MHZ 80286 CPU

vortex ATonce-Plus is based on the standard AT microprocessor.

VORTEX ATONCE POWER ON BOARD

vortex ATonce-Plus converts your Atari ST or Mega ST computer into a powerful 16 MHz 80286 AT system.
It is developed and produced in Germany by vortex Computersysteme GmbH.

vortex ATonce-Plus gives your Atari ST or Mega ST computer a complete AT emulation, that includes hard disk support and integration of RAM, emulation of the parallel and serial ports as well as EGA-/ VGA monochrome graphics and others in colour. Thanks to the highly integrated vortex CMOS Gate Array and the vortex AT-BIOS the world of DOS with thousands of programs becomes accessible (e.g. dBase, Excel, Lotus, Windows, Word).

vortex ATonce-Plus does not affect the normal operation of your Atari and is totally transparent when not in use. You can work under DOS as well as with your Atari software under TOS.
The ATonce-Plus board plugs directly into the Atari. When using the optional plug-in-adapters for the 1040 STE and the Mega ST no soldering of the socket is needed. This makes installation much easier.

SPEED AND COMPATIBILITY THE PLUS OF EMULATION

- 16 MHz 80286-16 Bit CPU
- SMT (Surface Mount Technology) compact circuit board with low power comsumption and highly integrated CMOS Gate-Array
- Norton SI rating: 8.0
  MIPS Test: 108%
- Full 704 KB of DOS base memory are available with 1 MB RAM. All memory above 1 MB can be used as Extended/ Expanded Memory, e.g. as program memory under Windows 3.0. ATonce-Plus runs unrestrictedly in the Real and in the Protected Mode
- With ATonce-Plus the following video emulations are available: EGA- (640x350) and VGA- (640x480) monochrome graphics (as far as this is possible with an Atari ST/ Mega ST), CGA, Hercules, Olivetti and Toshiba T3100
- ATonce-Plus will work with hard disks that use an AHDI3.X compatible partition scheme
- Installation of up to eight logical STs on one physically existing ST with the accessory vortex HyperSwitch that enables direct and fast switching between Atari/ TOS and ATonce/ DOS
- Creation of individual DOS-screen-fonts with the font-editor vortex FontMaster
- Complete integration of HD floppy drives. 3.5"/ 5.25" disk drives with 720KB/ 360KB are fully supported
- ATonce-Plus supports the Atari laser printer SLM 804, sound, RTC and the CMOS RAM
- The Atari mouse can be used as a serial Microsoft mouse. It can operate at COM1 as well as COM2
- The parallel interface can be used as LPT1 under DOS
- All MSDOS versions from 3.2 up to 4.01 and DR-DOS 5.0 have been tested successfully
- ATonce-Plus is delivered with a detailed user manual. A 3.5" Atari disk that contains the installation and emulation software is included. DOS is not included
- ATonce-Plus can be fitted in the 1040 STE and Mega ST without soldering the socket by using the optional vortex plug-in-adapters
- For further information or the update-service, please contact your local Atari dealer or call Compuserve Box # 100015,330

vortex Computersysteme GmbH - Falterstraße 51-53 - D-7101 Flein - Tel +49-7131-59720 - Fax +49-7131-55063
SDL - Unit 10, Ruxley Corner Ind. Estate - Sidcup, Kent, DA14 5SS - GB - Tel 081-309 5000 - Fax 081-300 5440

All company or product names are trademarks or registered trademarks of their respective holders. ATonce is the registered German trademark of vortex Computersysteme GmbH.

PLAY THE GAME MAN!

ello

fellow humans!
holomew J. Simpson here, with
y important secret:

PACE MUTANTS
ARE INVADING
SPRINGFIELD

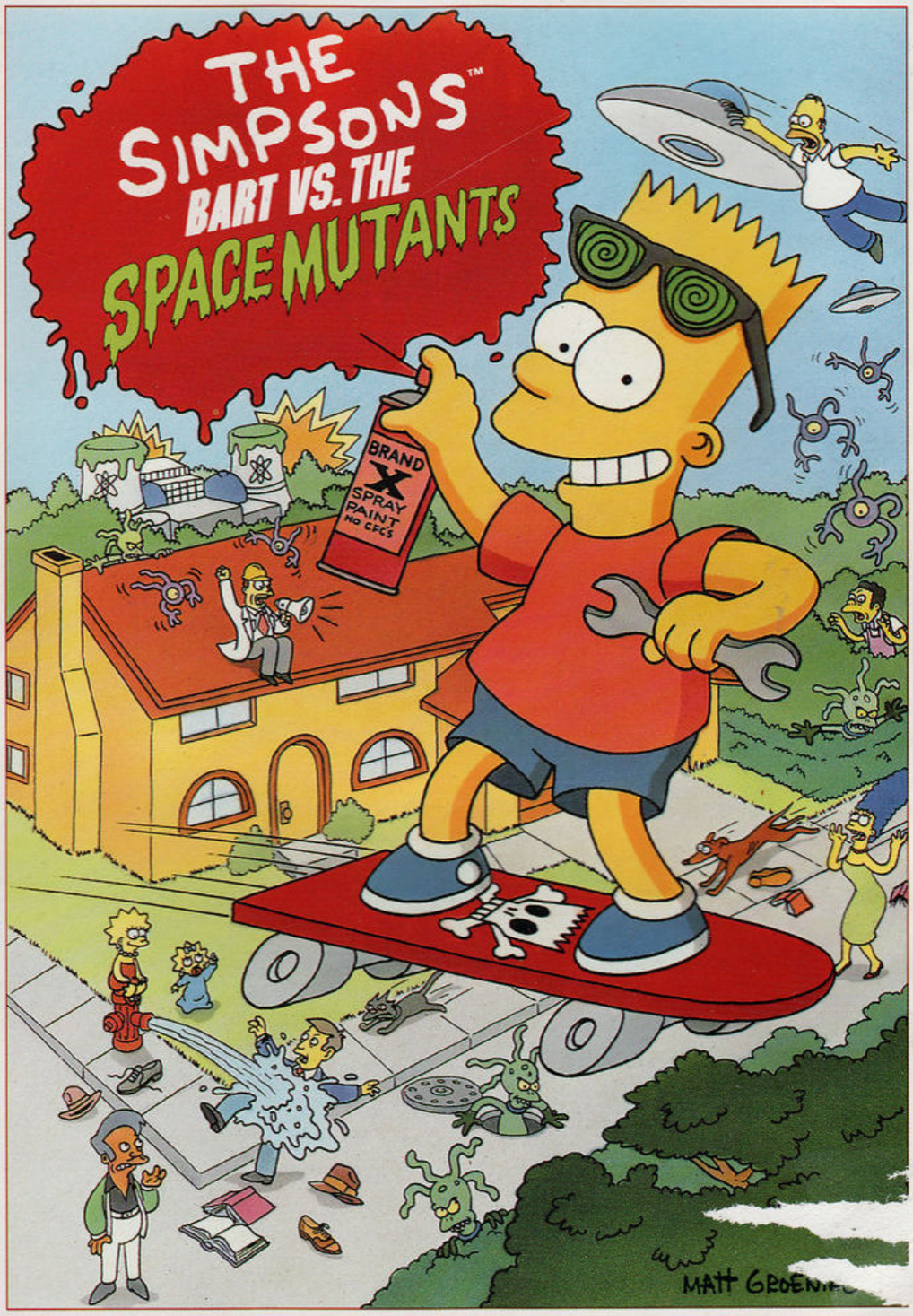
t's right man! A buncha slimy,
ible, totally gross and putrid
sters are taking over the
es of the people who live here
they wanna build a weapon
s gonna take over the entire
et!

PRETTY COOL, HUh?
way, yours truly is the only one
can see 'em! I've gotta spray-
t things, get radical on my
eboard, use my trusty slingshot,
in general behave like a
ance, man.
with evil dudes like Nelson
ully and Sideshow Bob getting
way, it's a good thing I've got
est of the Simpsons to help me

you're a decent person a
iot, and somebody who cares
ut this sorry planet, you'll do the
thing.

VE THE EARTH

THIS GAME!
ks man.



CBM AMIGA
ATARI ST
SPECTRUM
COMMODORE
AMSTRAD

Acclaim™ entertainment inc.

ocean®

ACCLAIM™ AND MASTERS OF THE GAME™ ARE TRADEMARKS OF ACCLAIM ENTERTAINMENT INC.
THE SIMPSONS™ TM & © 1990 TWENTIETH CENTURY FOX FILM CORP. ALL RIGHTS RESERVED.

OCEAN SOFTWARE LIMITED
6 CENTRAL STREET · MANCHESTER · M2 5NS
TELEPHONE: 061 832 6633 · FAX: 061 834 0650

www.stformat.com

ST FORMAT

It's outrageous! It's nothing less than shameless pornography. And you call it art?

Leap into the well spring of light, kiss the god-foot. My eye is a toe. To know karma, reach deep into your aura and swim in it. My ambient hut is your oneness. Save yourselves before Sunday.

Rock on down to your newsagent's on Thursday 10 October for next month's jam-packed issue. We're checking out Chaos theory, bunging a MiG 29 on the Cover Disk, interviewing Rolf Harris's head programmer (can you tell what it is yet?) and revealing in full technical detail how to get all that jam off your fingers. Be here or be – er, someplace else probably.

What does the jocular phrase triskaidekaphobia mean and where is it used in this issue? Answers on a postcard to The Head Postmistress, Box 1151, Wannabe, New Zealand.