THE WORLD'S BIGGEST SELLING ST MAGAZINE

THE COMPLETE HARDWARE GUIDE

NSDE

OUR

0

0

ulure

The **BEAST**

is back!

See page 30







We reveal the year's best hardware and software

REVIEWED THIS MONTH:

TWIST 3 • HP DESKJET 600 • APEX INTRO • OUTRIDER • STARIO'S CHRISTMAS • GENOCIDE • B/STAT • PLASMA BALL • WORLD LEAGUE SOCCER • CRAGHAVEN • EMPEROR • TAKE500 • MUZAK PLAYER 2 • RIP IT UP • FALCON STOS EXTENSIONS • MAGIC SPELLER • AND MORE

7 GREAT PROGRAMS – SEE BACK COVER FOR DETAILS

0

AGUAR



PD DISKS: • £1.50 each • Budget range PD Disks ONLY £1.00

L.A.P.D

Licenceware Games

Possibly the best licenceware range on the ST

receives a royalty payment from L.A.P.D. This ensures that the

authors receive suitable recompense for their hard work thus

encouraging them to produce even more excellent programs for

the Atari range of computers. It saves you all the fuss and hassle

of shareware payments. Licenceware programs are complete and

ready to run, there are no hidden fees

L.128 BLUDGEON V.2 (1Mb, £3.00): Computer moderated fantasy combat system for

L-129 BLUDGEON ADVENTURES #1 (E3.00): Six additional solo adventures for the

L132 SEA WAR (1Mb, £2.50): Hi-tech version of 'Battleships'. Design and fight your

L105 CONQUEST 2 (1Mb, £3.00): Rule over a medieval kingdom's economy and annies.

WAR OVER THE REICH (£3.00): Plan and execute a campaign of WWII raids

WORLD AT WAR (£3.00): A game of economic and military strategy on a grand

GRAND PRIX MANAGER (E2.50): Simulation game of running a Formula One

DARKLYTE II (1Mb, £3.00): A sci-fi space/strategy game in which you must

destroy the Darklyte forces. Reminiscent of the 'Space Crusade' game.

THE UNMAGNIFICENT 15, a simple wild west shoot 'em up game. CLAN, a

five challenging electronic puzzles. LOGIC PROBLEMS II, more of the same.

L.42 OUTWORLD (E2.50): An arcade/strategy game in which you take control of a

HOT DOG (£2.50): A game of greyhound racing for one to nine players.

L.130 DESERT HAWK (1Mb, £3.00): Control a Black Hawk helicopter through

STORM 94 (1Mb, STFM, £3.00) : As L87 above but for the STFM.

blue fluffy creature in an attempt to rescue his girlfriend.

MUNCHKIN (£2.50): The perpetually popular Parman p

L.116 STREETS (£3.00): Drive your motorcar around the streets collecting

L117 FISH TANK (£3.00): A game for younger players who must find food for

L.70 CHRONIC INVADERS (£2.50): The "Space Invaders' return in this reworking

L.61 3D ASTEROIDS (1Mb, £2.50): Based on the classic 'Asteroids' game - but in 3DI

www.stformat.com

PROJECT PURIFY (£3.00): Attempt to clear twenty sectors of space debris

STORM 94 (1Mb, STE, £3.00): Arcade action clearing aliens from a stricken

FLUFFIES (1Mb, E3.00): A platform game across many levels as you guide a

ARTHUR OF THE BRITONS (1Mb, £3.00): A strategy game with arcade sequences.

CONQUEST (1Mb, E3.00): A 'God' game in which your task is simply to survive

Hamutabi ruling type game. QUEST KNIGHT, A fantasy game. LOGIC PROBLEMS,

L118 THEY SOLD SEVERAL (E3.00): by Ben Weston. The five games on one disk:

one or more players. Includes two free adventure scenarios. EXTRAIL First fifty

strategy games

above BLUDGEON game *NEW*

own fleet. *NEW*

Grand Prix team.

space colony

for one year.

different missions

'Asteroids' style

space-freighte

diamonds and blasting.

their fish without getting eaten.

of the all time classic computer game.

arcade games

against twelve German cities

scale for one to seven players

L104

L.98

1.22

L79

L53

L.59

L60

1.93

L.87

1.91

L.86

orders will receive FREE printed manuals!! *NEW*

L124 THE SANDS OF MARS (E3.00): Govern a Martian mining colony.

re means that for every copy you buy the author

Same day service, quality virus-free disks

Please add 50p P&P on orders under £5.00. Overseas customers (outside Europe) please add 50p per disk

ALL DISKS BELOW ARE ONLY £1.50 UNLESS OTHERWISE STATED

games

- G.417 STAR VOYAGE: Intergalactic action requires 2 joysticks (Ex Star Trek TNG).
- (2 disks/£3.00, 1Mb)
- G.413 COMBAT: Fast action military shoot 'em up in style of Operation Wolf
- G.410 PACMAN ON E. One or two player classic 'PacMan' with sampled music G.405 ULTIMATE ARENA: Beat 'em up in the style of 'Mortal Kombat'
- (STE, 1Mb, S/W). G.403 SQUARE OFF: The ultimate tumbling block 'Tetris' game
- G.HOS Sycholc OVY: The diminate dimining block Terris gain (STE, 1Mb) (2 disks/E3.00).
 G.398 ASTEROIDIA (STE): Classic asteroid blasting action
- order G399 for STFM version (1Mb, S/W).
- G.400 FRANTICK (STE): Superb fast action kinetic combat simulator
- order G401 for STFM (1Mb) (2 disks/E3.00).
- G.247 MEGAPEDE: The classic blast the caterpillar 'Centipede' game (1Mb).
- G.395 DYNABUSTER: Bomb laying and dodging arcade game (STE, 1Mb).
- G.366 DAVE MUNSIE GAMES: 9 games from the master programmer, including
- Frogger (1Mb).
- G.355 WING LORD: Aerial duelling game in the style of the classic 'Joust'
- G.380 STARBALL: Pinball game arguably the best PD game on the STI G.381 MAX: Help Max find his girlfriend, A 'cute' arcade platform game (1Mb).
- G.333 SUPER PSYCHO KART: High speed platform game to rescue pigets (1Mb).
- G.286 ROCKFALL SPECIAL EDITION: Tunnelling/diamond collecting puzzle game.
- G.281 PSYCHO PIG: Platform shoot 'em up with Rambo-esque pig. (2 disks/E3.00).
- G.279 OPERATION GARFIELD: Frantic 'Operation Wolf' type shoot 'em up action. (STE).
- G.80 TETRIS & PILE UP: Two very good versions of the 'Tetris' arcade game.
- G.171 HACMAN II: 1 megabyte version of PacMan, 100 new levels!
- G.110 LLAMATRON: 100 levels of fast arcade action with wicked sound PX.
- G.201 BLATI: 'Tetris' style three in a row, falling blocks with many added features.
- G.425 ANORAKS OF DOOM: First person view fantasy role-playing game. *NEW* (2 disks/E3.00)
- G416 DANGIMERE: Detailed fantasy role-playing game. (1Mb, 2 disks/£3.00)
- G.412 NISHIRAN: Classy sci-fi, first-person view role-playing game. (1Mb) (2 disks/E3.00).
- G.431 REALMS OF REALITY: First-person view dungeon exploration and monster-bash.
- G.351 TOWERS: First-person view role-playing fantasy adventure game (1Mb) (2 disks/£3.00).
- G.308 WALLS OF ILLUSION: The ultimate "Dungeonmaster" clone with English instructions (1Mb).
- G.426 WYRD WAYS: Magical combat in a maze of sliding walls (1Mb, S/W).
- G.5 MORIA: A complex fantasy D&D based role-play game. (1Mb).
- G.370 MINDMELT: Fantasy adventure with an overhead view.
- G.288 DARKLYTE: 'Space Crusade' type droids wargame.
- G.262 ALIENSI: Space Marines v Aliens strategy combat game.
- G.115 MYSTIC WELL: Complete 'Dungeonmaster' style adventure game.
- • PUZZLES • • • • • • • • •
- G.404 MEMORY RECALL: Challenging memory test with digi pics & sound. (1Mb)
- G.387 SPACESWEEPER: A challenging 'Minesweeper' game in three dimensional
- G.315 SKULLS: Addictive up to date reworking of Landmines/Minefield (1Mb STE).
- G.311 JIGSAW: A computerised jigsaw puzzle (1Mb).
- G.269 QUIZMASTER: Multi-choice answer general knowledge quiz (STE).
- • ADVENTURES • • • • • • • • •
- G.411 ROBOT REVOLT: A sci-fi text adventure. *NEW*
- G.394 THE SECRET PARK: A text adventure with graphics for children.
- G.225 CAILYNVORN: DGD type fantasy adventure set on a far earth-like planet.
- G.321 INVESTIGATION: Graphic adventure in the style of Sierra On-Line. (2 disks/£3.00).
- G.200 ANARCHY ACADEMY: 3D graphic adventure to blow up the school!
- G.140 A NIGHT ON THE TOWN: An adventure with the opportunity to meet the girl of your dreams and ...well, the rest is up to you.
- G.222 GRANDAD AND THE QUEST...: 3D graphics adventure by Ian Scott. Shareware (1Mb).
- G.303 GRANDAD AND THE SEARCH FOR THE SANDWICHES: Graphic adventure (1Mb) (2 disks/E3.00). G.91 DUEST FOR THE HOLY GRAIL: Pythonesque madcap humour.
- G.202 UNNKULIAN UNDERWORLD: Highly rated large scale text fantasy adventure.

STRATEGY & OTHERS STRATEGY

- G.131 STAR TREK THE GAME: Defeat the Klingon threat to the galaxy (1Mb). G.427 AIR TRAFFIC CONTROLLER: Control comings and goings at a busy international airport.
- G.386 STAR TREK KLINGON WARS: A Starship Enterprise battle simulation (1Mb).
- G.431 REALMS OF REALITY: 'Dungeonmaster' type exploration and adventure. (1Mb).
- G.421 WAR: A wargame construction kit. (1Mb)
- G.390 INTERNATIONAL MANAGER: European Nations/World Cup management game.
 G.391 ANCIENT GAME OF GO: Two computer versions of the Oriental game (Gnugo, Amigo).
- G.344 CHESS-MATE: A chess/draughts game analysis tool.
- G.332 CAESAR: Strategy game set around the Mediterranean in 2008C (S/W).
- G.330 GNU CHESS: French chess playing program for all levels.
- G.388 STRATAGEM: Two player strategy world war game. (2 disks/E3.00).
- G.329 PEGASUS: Space strategy game. Seek out and colonise planets. (1Mb) (2 disks/£3.00).
- G.287 THE COARSE ANGLER: Angling simulation game (1Mb).
- G.237 CHAOS: Madcap game of battling wizards by Martin Brownlow (1Mb or 0.5Mb).
- G.324 IMPERIAL CONQUEST: Complex ancient Mediterranean game of conquest (S/W).
- G.325 SOCCER MANAGEMENT: A complex simulation of soccer management (S/W)
- G.217 THE MAZE: 3D adventure game loosely based on 'The Crystal Maze'.
- G.173 PENGUINS: Move your penguins around the screen 'Lemming' fashion.
- G.10 VEGAS: Roulette, poker, blackjack and slots... without the Nevada sandl

budgie uk

- BU.119 FOOTBALL TACTICIAN 1: The original £19.95 Premier League version of the soccer management game!
- BU.111 INTERNATIONAL CRICKET II: Animated 3D game (1Mb).
- BU.50 SPACE INVADERS: Classic arcade action by Robert Leong.
- BU.90 MATCH IT: Possibly the most addictive game ever devised.
- BU.89 HORSE RACING SIM: Quality sim from the sale ring to the track
- BU.30 QUEST FOR GALAXIA: The "Galaxians" return to your ST.

BU.70 PACMAN ST: The definitive version by Robert Leong. BU.71 DARK WARS: Role-playing adventure with a 3D view.

<u>ST FORMAT TOP 10 GAMES - ONLY £12.00</u>

A special bargain bundle of the top 10 PD and shareware games as selected by ST Format magazine in issue 75. They are 4-7-11, Colortris, Drachen, Grandad and the Quest for the Holey Vest, Grandad and the Search for the Sandwiches, Llamatron, Ozone, Starball, Stello, Super Breakout and Towers.

dave munsie games

Munsie Games, some of the most playable and fun-filled games on the Atari, can now be registered via LA.P.D.I Send us the code number from your game and we'll send you the pass-code giving access to extra lives, extra levels, etc.

Cost is just £6.00 per title.

Games that can be registered so far are Asteroidia, Frantic and Square Off. All registrations receive a FREE copy of Dave's SEA WOLF game! Pre-registered versions of these incredible games may also be purchased as follows:

L119 ASTEROIDIA: The classic game 'Asteroids' with 3D rendered asteroids. (STE, £6.00).

- L120 ASTEROIDIA: The STFM version of the above. (STFM, £7.00).
- L121 FRANTICK: Fast action kinetic combat simulator Frantick. (STE, £7.50).
- L122 FRANTICK: The STFM version of the above. (STFM, £7.50).
- L123 SQUARE OFF: Falling block puzzle game in the style of the
 - classic 'Tetris', (E7.50).

10

FREE MUNSIE DISK'O'ZINE

For a free copy of Dave Munsie's magazine disk with information and screen shots about his games just send a blank disk and an s.s.a.e to the LA.P.D. at the address above.

PO Box No.2 Heanor Derbyshire DE75 7YP Tel or Fax: 01773 761944 or 01773 605010

e-mail: Clive@lapd.demon.co.uk or Leigh@lapd2.demon.co.uk

24 hour despatch on all orders No waiting around for disks to arrive!!

adventure & role-playing games

- L.131 WANDERING SCIENCE (E2.50): Solve the puzzles on an alien vessel. A graphic adventure.
- L.125 PATHS OF GLORY (£3.00): A sword and sorcery role-playing game.
- L115 DEMON II (1Mb, £3.00): A fantasy adventure game with an overhead view and detailed point and click interface.
- L.114 TIME MACHINE (E3.00): A classy text based adventure with over 100 locations and over 40 graphic screens.
- L.112 CRAGHAVEN (£2.50): High adventure in a fantasy land.
- L.97 STONE COLD SOBER (£4.00): A traditional adventure game but with a point and click interface.
- BIO-HAZARD (1Mb, E3.00): A first person perspective game to clear a 1.69 space freighter of alien creatures.
- DEAD OR ALIVE (£3.00): A large, complex and humorous text L.21 adventure game.
- THE CURSE OF AZRIEL (2 disks, £4.00): A graphic fantasy role-L31 playing/trading game. (Now FALCON compatible!).
- MURDER ON THE ORION EXPRESS (£3.00): A murder mystery game with L41 an almost infinite variety of solutions.
- DEMON (£3.00): Trapped in a stone cell, your first task is to escape before L50 the resident demon gets back. 3D view

puzzles

- L110 QUICK FLIP (£3.00): A mind-bending tile flipping game.
- L 106 CRAZY LETTERS (1Mb, £3.00): A word search game to find a seven letter word hidden behind a grid of squares.
- L102 DCS COMPILATION #4 (£3.00): On this disk are: BRAIN DAMAGE, test your brain to the limit, SHAPES, make shapes from 16 different pieces, LINK, form a chain across the screen. OUIZICAL, multi-choice question and answer game.
- L 101 DCS COMPILATION #3 (E3.00): On this disk are: OUTRAGEOUS FORTUNE, a collection of logic and maths challenges. MATCH MAKER 2, match symbols on hidden cards. FRAME OF MIND, a gambling game. CRYPTOGRAM, based loosely on the TV program 'Countdown
- L100 DCS COMPILATION #2 (E3.00): On this disk are: QUEST FOR KNOWLEDGE (1Mb), seek out 12 hidden icons from mazes, REBOUND, a bat and ball game. GALACTIC FRUITBOWL, a combination of the fruit machine and the trivia quiz. GREY MATTER, a word name
- L.99 DCS COMPILATION #1 (E3.00): On this disk are: ACECHASE, a gambling program. THE WIZ, a fun program comprised of ten tests. MINDLOCK, a quiz program. MATCH MAKER, match up hidden symbols.
- L.96 TILES IN SPACE (£3.00): A computer version of the sliding tile puzzle game.
- L94 GRID MANIA (£3.00): A word search game for 1 or 2 players.
- L.92 BAMBOOZLE (£3.00): A puzzle game where you must turn all the symbols on a 25 square grid to higher scoring ones.
- L.85 ZUFFERS (E3.00): A puzzle game where you must rescue microsocopic creatures. WORD WIZARD (E3.00): A one or two player word guessing game with L84
- different levels of difficulty.
- L83 ZIGGY (£3.00): A puzzle game of turning globes.
- L.75 FREAKED OUT (£3.00): A joystick controlled puzzle game.
- L.74 NICE BYTES MEGA PACK #1 (E3.00): On this disk: ATOMOMIX, place atoms of varying energies onto a grid. PURE LOGIC, a game based on Boolean logic. REGA, a tile flipping game on a 5 x 5 grid. LOGICA, a three phase logic/puzzle game.
- L66 HEARTBREAK (£3.00): An infuriating and highly addictive puzzle game played on a 7 x 7 grid.
- L.11 PI SQUARED (E2.50): A puzzle game. Convert all the symbols to Pi.
- L.14 DICEY (£2.50): A challenging dice game in the style of the classic 'Yahtzee'. L.40 GRIDWORD (£2.50): A word game in which you attempt to make the longest word possible.
- L.52 ENERGETIX (£3.00): A puzzle game that challenges you to find those exact procedures to start a nuclear reactor.
- L.58 NICE BYTES #1 (E2.50): On this disk: GRIDWORD: A word game for up to 4. REGA: A tile-flipping strategy game.

art & graphics

- A.99 MINIPICS II: All resolution picture converter and cataloguer (1Mb)
- L.77 AUTO-STEREOGRAM: Create your own 3D 'Magic Eye' pictures. (1Mb) (E3.00). A.95 VISUAL ILLUSIONS: A collection of 24 'Magic Eye' 3D pictures.
- A.98 STEREOGRAM ANIMATIONS: Now see 'Magic Eye' pictures movel A.36 KOZMIC 4: Complete version of the stunning psychedelic pattern creator.
- ANI ST: Commercial guality animation program (once cost £60.00 to buy!). A.1
- GEMVIEW: Load, view, convert just about any picture format (1Mb). A.84
- A.45 CRACK ART: Demo version of the excellent German art program.
- A.75 POLYFILM by Martin Brownlow. Make films from multiple 3D polygon objects.
- A.44 FANTASY SLIDESHOW: Spectrum 512 pictures on fantasy theme (over 16's only).

.................

...

authors: As a leading P.D. library for the Atari ST and Falcon computers we are always seeking to maintain a catalogue of the very best and newest titles around. If you wish to get maximum distribution for your work either as PD, Shareware or Licenceware then please send us a copy to the address above.

We respond to ALL submissions and enquiries.

clip art

- A.106 CHRISTMAS CLIP ART (3 disks/E4.50): Over 150 images in PCX or IMG. (Please state which format)
- A.103 OFFICE CLIP ART 33: IMG or PCX images of office related items. (Please state which format).
- A.100 ANIMALS CLIP ART (5 disks/£7.50): Over 170 IMG or PCX images of animals. (Please state which format)
- A.101 ASTROLOGY CLIP ART (3 disks/£4.50): 36 IMG or PCX images of zodiac signs. (Please state which format)
- A.102 SPACE CLIP ART: 38 images of the final frontier in PCX or IMG format (please state which format).
- L.26, L.27, L.28 TYPE WRITE CLIP ART: 4 disk sets of quality clip art in IMG format (£10.00 per set).

music

- YAMAHA PSS: Patch editor and facility to print tablature music. 5.4
- EKSEQ 1: A 100 track, 240ppgn sequencer with many features. 5.144
- 5.145 OPTRONIX MUZAK: Rip and play music from other programs.
- NOISETRACKER: Soundtracker .MOD player with eight starter tunes. 5.8
- 5.7 ACCOMPANIAST: 16 Voice Henry Cosh sequencer (full instructions on disk).
- \$.19 ALCHIMIE JR: Impressive Swiss multi-window, multi-task sequencer (1Mb).

ilities

- U.80 ZORG: A 'Disk Doctor' type organiser U.77 THING: Alternative desktop (1Mb).
- L111 SUPER HACKER: Replace a picture in almost any game or demo with your own1 (£3.00).
- U.67 ST TOOLS: An exhaustive collection of Atari ST utilities.
- U.53 TERADESK V1.36: Replacement desktop for the ST/STE (1Mb).
- FASTCOPY 3: Excellent disk copier for cover disks. U.20
- U.48 PREMIER PACKERS: 13 of the best program packers, plus a de-packer.
- PICTURE HUNTER: Rips picture screens from other programs. U.42
- BEFORE DAWN: Animated screen saver that will use your own animations. U.66 PROBE ST: Handy utility. Grabs music/graphics, disk/memory editor, etc. U.47
- VAULT & TURTLE: Fast hard disk back-up utilities. U.52
 - ST FORMAT PRODUCTIVITY PACK (TOP 40 UTILITIES) FOR £25.00

A special bargain pack of the top 40 PD and shareware programs (excluding

games) as selected by ST Format magazine in issue 75. The programs are: Atomik 3.6, Autosort, Cardfile, Chameleon, Compact Office Manager, Crack Art, DB Master, Easy Text, Elf Backup, ESS Code, Everest, Fast Copy 3, GEM Spool, GEM View, Hypergern, Idealist, Kivi Qwk, LHArc, Marcel, Magic Story Book, Mouse-ka-Mania, Movie Master, Octalyser, Opus, POV Ray Trace, ProCalc, Revenge Document Displayer, Sagrotan, Second ST Manual, Selectric, Soundlab, SpiritEd, ST Diary, Superboot, Sweet 16, Teddy Term, Teradesk, Tom Shell, Turbo 407 and X Control

miscellaneous

- M.189 NATIONAL LOTTERY SIMULATOR: The fun way to pick your numbers. (1Mb, 2 disks/£3.00).
- M.177 LOTTERY COMPANION: Valued statistical assistance with your lottery entries. M.183 HOUSE EXPENSE MANAGER: Daily household expense management program. L103 LEXICON: The ideal program for word game fanatics. Solve crosswords, anagrams etc (£3.00)
- L.111 SUPER-HACKER: Put your own picture into demos, games etc. (E3.00)
- AWARD MAKER: Design and print awards certificates.
- M.155 ROUTE FINDER: Route finding program for England, Wales and Scotland.
- M.161 THE GARDENER: A special database for gardening enthusiasts.
- M.175 FISHERMAN'S DATABASE: The ultimate record program for the keen angler.
- M.19 AIR WARRIOR: Flight sim with World War II aircraft.
- L.17 ADDRESS BOOK: Neat and easy to use database for names and addresses (£2.50) CIRCUIT: Easy to use electrical circuit diagram producing program (E2.50). L.18
- M.93 STITCH MATRIX: Pattern making program for knitting machines.
- M.77 THE BIBLE: King James authorised version (3 disks/£4.50).
- FORM-FINDER: Proven horse race analysis and prediction program. M.76
- M.81 NEWSDISK: Construct your own newsletters and magazine disks.
- M.100 GERMAN TRANSLATORS: Three programs to translate German text to English
- GENEALOGY: Two programs for the family historians to trace their forebears. M.26
- YOUR SECOND ATARI ST MANUAL: Text files to supplement the official manual M.5 M.17 WORD PUZZLE: Stuck with word games? Then this disk may help
- M.30 EXTRA WORD LIST: 70,000 extra words to use with disk M17
- M.190 YALE STAR CATALOGUE & STARCHART: Programs for the serious astronomer.
- M.111 NORTHERN & EQUATORIAL STAR ATLAS: Superb serious astronomy program S/W. M.1 PLANETARIUM: Excellent, easy to use, astronomy program.
- ASTRONOMY & SKYWATCH: Programs for the technically minded sky watcher. M.B

M.123 THE BIBLE: Complete King James, old and new testaments. (3 disks/E4.50) M.176 FUSCHIAS DATABASE for the keen specialist gardener (or breeder of anything) L. 89 GOLF: for the golfing sportsperson. (£3.00)

.........

to otaet пош

. By post: list the numbers and names of the disks you require on a sheet of paper and add your name and address. Payment may be by cheque, postal order or credit card.

By telephone: have a list of the disk numbers you require and your credit card to hand. Orders may be left on our answering machines out of hours.

By e-mail: as above BUT existing customers only who have ordered before and whose credit card details we already have may order this way. Do not send your credit card details by e-mail.

ргодгаттіпд

P.53

P.44

1.68

DSP.1

P.24

P.33

P.17

P.19

P16

U.23

U.33

W.3

L.37

G.83

M.95

M.42

M.67

L02

L.04

1.08

L10

L.12

M.20

M 153

M.7

C.22

C.7

8.39

B.20

8.27

B.58

Number Maze

and story.. all on one disk!

adventures.

(2 disks/£7.00)

DUSINESS

transactionsl

M.182 ST DIARY: A computer diary for the busy executive

M.13 OPUS 2000: A superb spreadsheet program (1Mb). M.83 INVENTORY PRO: A stock control system.

FAST BASE: A powerful and flexible database

educational

W.24 GDOS FONTS: A large assortment of fonts. (2 disks/£3.00)

M. 188 G.C.S.E MATHS & CHEMISTRY TUTOR: Two study aid programs

L.20 SUPER SPELL: Teaching games for the 4 to 9 year old (E2.50).

WITCHES, MICE & FAIRY TALES: Games for younger users.

M 28 KIDZ EDUCATIONAL: Alphabet, Maths Test, Numerical-Go-Round &

M.37 KIDZ DISK #1: Colouring Book, Spell Pic, Word Pic and Flash Card.

M. 104 SOLAR SYSTEM GEOGRAPHY: Effects of the sun & moon on tides, seasons, etc.

M.16 KIDZ COMPILATION: Kid Graph, Grid, Music, Notes, Piano, Publisher, sketch

KIDZ DISK #2: Dot to Dot, Keyboard Capers & Matching.

BODY SHOP: Graphic quiz-type human anatomy tutor

PRO.27 EARLY LEARNING MATHS 2: by Philip Rankin for 9-12 years.

LO1 ROBOT MATHS: Maths tutor for children aged 6+ (£2.95).

MOON LETTERS: Spelling game for ages 5+ (£2.95)

MATHS FUN: Maths for children 4 to 7 years (£2.95).

M.114 FRANGLAIS 3 & 4: French language tutor programs

W.22 HOMEWORK: A word processor for the younger user.

communications

ROBOT WORDS: Hangman in a modern format (£2.95).

ALL BLOCKED UP: Mathematical puzzles for the young (£2.95).

DROP DOWN WORDS: Spelling/memory game for youngsters (£2.95).

G.C.S.E. STUDY AIDS: Help with Algebra, Trigonometry and Geometry.

M.123 C.I.A. WORLD FACTBOOK: Facts and figures on countries (4 disks/E6.00).

INTERNET ACCESS PACK: WWW access for the Atari. *NEW*

TEDDYTERM: A superb multi-function communications program.

VANTERM V4: Excellent multi-function communications program.

budget price disks - only £1.00 each!

8.45 FIGHTING SAIL: Navai battles 8.51 COLOSSAL CAVE: The original adventure

ASTEROIDS: A loving restoration 8.15 ROLL 'N' NUDGE: Fruit machine

TREE Catalogue: 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 selection of quality PD. Alternatively, send us

E1.00 and we'll send you the same catalogue and free programs on one of our disks

PRINTED CATALOGUE now available, listing hundreds of PD/ Shareware/Licenceware titles. Only £1.00 including PGP or 50p if ordered with disks. Please state if you have a Falcon.

Please make all cheques/postal orders payable to LA.P.D.

8.36 8 BALL POOL: Bar game simulation

B.50 STAR TREK: Save the Federation

B.44 FLT ROBIN: Cute children's game

VISA

................

L113 BBS DIRECTORY: Money saving directory of UK BBS's (£5.00).

M.138 MORSE CODE TUTOR: Practice and perfect your skills.

C.24 OFF-LINE READERS: Four off-line reader programs.

HACMAN: Pacman action

GALAXIANS: Swooping,

diving Invaders

Credit cards welcomed.

FROGGY: The arcade classic

WORLD WAR II: Home front study pack for Sec. school work (3 disks/E4.50).

DEATH OF A PRESIDENT: Investigate the Kennedy assassination (3 disks/E4.50).

HISTORY FILE: Investigate a historical murder in Scotland (3 disks/£4.50).

SUPER FUN: More teaching games for the 4 to 9 year old (£2.50).

NOAH'S ARK: Collect the animals, two by two - addictive for adults tool

ABOUT THE HOUSE: Excellent collection of programs for young children.

M.187 TYPING TUTOR: Several courses to improve your skills.

W.21 MARCEL: Super word processor with built in spell checker

STOSTESTERONE: A magazine disk devoted to programming STOS on the £53 STE (issues 1 & 2 available). *NEW* IMAGINARY WORLD: Easy to use language to write your own role-play

(N.B this disk is not PD - L.A.P.D. have permission to distribute it.)

SPRITE WORKS: New commands for games writers using GFA V3+

MENU-MAKER: Make your own menus with music, sprite and scrolling message.

2X SPECTRUM EMULATOR: Emulate the old Speccy on your ST/STE (1Mb).

68000 PROGRAMMING COURSE: 10 'How to do it' document files.

C ADVENTURE TOOL KIT: Write professional quality adventures in C.

GFA EXPERT: Massive text file and help routines for GFA-Basic 3.0.

M.106 ACCOUNT-ABILITY: Fully featured accounts program. 10 accounts, 2,000

DOUBLE SENTRY: Impressive accounts package for the small company (no WAT).

FIRST WORD: Word processor that set the standard for others to follow

M.148 INVOICE MASTER: Excellent invoicing system for small businesses.

GFA V.2: Full version of language with tutorial & compiler!

SOZOBON C: A complete C compiler with documentation.







REVIEWS

TWIST 3 24

After what seems like an eternity, Twist 3 is finally here, but was it worth the wait?

26 HEWLETT PACKARD DESKJET 600

HP's new baby gives superb printouts, and for a few quid more you can output your pages in colour.



Could APEX Intro turn out to be an even better buy than APEX Media? Turn to page 27 to find out.

27 APEX INTRO

At just under £40, this new cut-down version of APEX Media is now within everyone's budget.

28 OUTRIDER

Take on three evil empires in this space-bound strategy game for up to three players.

29 STARIO'S CHRISTMAS

Prepare to take a running jump as we catch up with STario in this seasonal platformer.



STario leaps and bounds his way through a winter wonderland in this latest release from the boys at Top Byte.

THE ST FORMAT MISTLETOE DREAMS 30 Monmouth St. Bath, Avon BA1 2BW # 01225 442244 Internet: klevell@futurenet.co.uk

ST FORMAT is also online on the Internet at http://www.futurenet.co.uk/

Jan – Jun

of the Audit

1995

ABC

Music and MIDI Editor Andy 'Karen Level' Curtis

everything away in Killing Time and groan at the cheesy picture of your host, Nick Peers.

COVER DISK

6



REGULARS

Get to grips with the WWW Access Pack, blow

Find out about the sequel to the fabulous French Falcon game Moon Speeder in this month's news section.

11 NEWS

Ease 4 is on its way, and Virtuality pulls out of the Jaguar Virtual Reality headset deal - read all about it in this month's news section.

PD & SHAREWARE 44

The best things in life are free, or nearly free. Andy Curtis checks out the latest low-cost software.

ST ANSWERS 48

Frank Charlton steps into Clive Parker's shoes to bring succour and relief to suffering ST owners everywhere. What a guy!





You'll be over the moon with our selection of PD and shareware.



Well, that's six more chords than Status Quo ever used. This month The Score reveals how to get natural-sounding guitar chords on your synth.

- READER ADS 66
- ST DIRECTORY 67
- 68 MAIL ORDER
- BACK ISSUES 69
- GAMESBUSTERS 70 Realms of Reality maps, The Ultimate Arena special moves, Alien Thing's level codes and more.

FEEDBACK 72 Laughter and tears in the company of editor Karen Levell, plus the results of all the recent competitions.

74 NEXT MONTH

Judd' Crush, Paul 'The Wife' Hills, Andrew 'Nicole Kidman

Gisby, Dug 'Phobe Cates' Armstrong, Dave 'Carrie Fisher Barrington, Steve 'Stelfi Graf' Dent, Paula 'Tom Cruise'

ADVERTISING

Welcome to the prediction zone.

Contributors: Mac "Cindy Crawford" Marsden, Peter 'Lesley DISTRIBUTION

Overseas licenses: Mark Williams = 0171 331 3920

Future Publishing Ltd # 01225 442244

SUBSCRIPTIONS/MAIL ORDER Subscriptions # 01225 822511 Customer Services # 01225 822510 **PRODUCTION** fax 01225 337530

THE COMPLETE HARDWARE GUIDE

NSIDE YOUR ST

15 Explore the secret world of your ST's innards with this fully illustrated, ninepage guide to internal hardware.

FEATURES

- 9 SPECIAL OFFER Now you can get the spectacular Loom and The Secret of Monkey Island for just £9.99 each.
- 15 INSIDE YOUR ST We take you through your ST's internal hardware with this fully illustrated, nine-page guide.
- 30 THE JAGUAR PAST PRESENT AND FUTURE After a landslide vote in favour of Jag coverage, we take a look at the console's performance so far.







36 1995 AND ALL THAT... We take a look at the best software and hardware of the last 12 months, and reveal the winners of the 1995 Reader Awards.

56 HTML CODING MADE EASY The first part of a new series in which we show you how to create your own World Wide Web pages.

63 PROJECT DSP This month: the penultimate part of Paul Hill's comprehensive coding series.



future

landslide vote in favour of Jag coverage, we take a look at the top ten games released so far, and ask what's in store for '96.

COVER DISK 78

THIS MONTH ...

WWW ACCESS PACK: This compilation of programs contains all the software you need to access the World Wide Web, and the Internet generally. Uncompressed size: 507K



KILLING TIME: Travel through time blowing away anything that gets in your way. Fast, furious and ultra violent. Great stuff. Uncompressed size: 270K

MENUINFO 2.41: This discreet application enables you to keep an eye on your system data. Uncompressed size: 65K

ST TOOLS: Make sure your floppy and hard disks stay in tip-top condition with this powerful utility. Uncompressed size: 273K

PEN PAL 1.2: This demo of Mountain Software's text editor is both powerful and easy to use. Uncompressed size: 51K

BLINK 3.0: Now you can redecorate your desktop with this superb suite of utilities. Uncompressed size: 67K

GOOFFY: Used as an Accessory, Gooffy enables you to print in the background while you get on with something else. Uncompressed size: 30K

DSP FILES: Example files and utilities to accompany the latest installment of our DSP series. Uncompressed size: 23K



Group prod'n manager Judith 'Keanu Reeves' Middleton Production coordinator Cavan 'Teri Hatcher' Scott Print Service Co-ordinator Janet 'Roger Moore' Anderson Paper controllor Fiona Will Carling' Deane The Lino Lads 'The Nolan Sisters' Mark Glover, Simon Windsor, Jon Moore, Chris Stocker, Jason Titley, Olie Gbbs Printed by TPL, in: Kidderminster, Worcestershire Circulation Manager Pete Walker # 01225 442244 Assistant Publisher Alison 'Kevin Costner' Morton Publisher Simon 'Young Audrey Hepburn' Stansfield Managing Director Greg 'The Missus' Ingham Chairman Nick 'The Company' Alexander COPYRIGHT NOTICE ST FORMAT recognises all copyrights in this issue. Where possible we have acknowledged the copyright holder. Please contact us if we have

failed to credit your copying/ht - we'll be happy to correct oversights. We assume all submissions are for publication unless otherwise stated, and ST FORMAT reserves the right to edit contributions. If you contribute, full copyright comes to Future Publishing.

We cannot reply to any letters personally, even if you include an SAE.
 ST FORMAT © 1995 Future Publishing.

ST FORMAT © 1995 Future Publishing.
No part of ST FORMAT may be reproduced or resold without the

permission of our publisher. ST FORMAT cannot be held responsible for any mistakes/misprints

Your guarantee of value



This magazine comes from Future Publishing, a company founded just nine years ago but now selling more computer magazines than any other publisher in Britani. We offer: BETTER ADVICE. Our titles are packed with tips, suggestions and explanatory features, written by the very best in the business. STRUNGER REVEWS, We have a castion policy of editorial independence and our reviews give clear recommendations. CLEARER DESIGN. You need solid information fast. So our designers highlight key elements by using charts, diagrams, summary boxes, annotated photographs, and so on... DEPERTER DECIMANTS

At Future, editors operate under two golden rules: Understand your readers' needs # Satisfy them

MORE READER INTERACTION. We draw on readers' contributions, resulting in the liveliest letters pages and the best reader tips. Buying one of our magazines is like joining a nationwide user group. More pages, more intelligent staff, better quality – magazines you can trust.

COVER DISK GUIDES

START



Assuming you have a single-drive system, insert your Cover Disk back-up into drive A. Double-click on the drive A icon to access it. Next, doubleclick on the drive B icon.



When prompted, remove the Cover 2 Disk and insert your blank disk into drive A. Click on OK and a separate window should appear with the contents of the disk within it.



Next, click and hold down the left 3 mouse button on the file or folder you wish to copy across to your blank disk. Drag the file over to the drive B window before releasing the button.



An alert box will tell you to insert disk 4 A (your Cover Disk). Do so, click on OK and follow the on-screen instructions. You may have to swap disks several times during this process.



Just follow the instructions on the 5 screen until the file or folder you wished to copy has been transferred - it'll be displayed in drive B's window.

6



WWW ACCESS PACK

By: Alexander Clauss (CAB), Steve Adam (STIK), Tim Newsome (overlay program) **Machines: All Ataris** Resolution: 640x200 (ST medium) or greater Memory required: 512K (1MByte recommended) Uncompressed size: 507K

Now you can discover what all that Internet fuss is about. This splendid connection pack contains everything you need to access the World Wide Web - apart from a modem and an Internet account, that is. Alternatively, CAB can be used as a document reader for HTML documents.

Getting started

Copy WWW1.TOS to a freshly formatted blank disk and double-click on it to dearchive the contents. Delete WW1.TOS from your disk and copy WWW2.TOS across, then double-click to dearchive it. You can then delete WWW2.TOS as well.

Falcon owners can experience HTML in glorious technicolour. Here's the Birmingham City

home page, for example.



REGISTER NOW

Instructions for registering the various elements of the WWW Access Pack can be found in the documentation that accompanies the programs. Joe Connor handles UK support for CAB; Denesh Bhabuta is dealing with UK registrations for the other two parts of the pack. The SUPPORT.UK and SUPPORT.TXT documents outline the benefits of registering.

When you've finished carol singing, try out the latest Cover Disk. Nick Peers shakes the snow from his boots, takes off his pink fluffy earmuffs and shows you how.

Alternatively, copy both TOS files into a WWW folder on your hard drive and double-click on each in turn to dearchive their contents.

Surf the net

Remember HTML Browser, the first graphical Web browser? Since we featured it in issue 76, it has since gained a shiny new name - CAB, short for Crystal Atari Browser - and now the latest version is on the Cover Disk. Together with STIK and the overlay, it enables you to access the World Wide Web from your ST. You still need a modem and an Internet account to actually connect to the Net, of course (see STF 65).

To go on-line, you need to open up the STIK folder and copy STIK.ACC and the STIK_CFG folder to the root directory of your boot disk or drive. CAB, on the other hand, can be run directly from your disk or hard drive - just double-click on CAB.APP to boot it. You can also install



On a medium res ST you'll see your HTML documents in four shades of grey. If you've got SpeedoGDOS, you can change the fonts to improve the display.

CAB as an Accessory.

The README file in the STIK folder explains how to set up STIK to suit your personal needs (we'll also be covering this in more detail over the next couple of issues). Getting to grips with CAB is much easier - just load it up and go through the example HTML documents to discover how it works.

What, no modem?

You don't actually need access to the Internet to read or create HTML documents - CAB was originally designed to read HTML documents off-line. HTML makes it easy to create multimedia hypertext documents, and several user groups already use it for disk magazines and support files.

You can spruce up your display any number of ways. For example, if you have GDOS or SpeedoGDOS installed, you can select different fonts to add variety to the text. However, to view documents in all their colourful glory, you'll need a Falcon or ST with graphics card.

All you need to create your own HTML documents is a text editor that saves documents as ASCII text - Pen Pal from this month's disk will do nicely. Turn to page 56 to find out how it's done.

ST FORMAT JANUARY ISSUE 78

KILLING TIME

By: John Wangler and Jason Huerta Machines: All STs (TOS 2.06 and Falcon with STOSFix) Resolution: ST low Memory required: 512K Uncompressed size: 270K

Killing Time is a furious arcade game packed with gratuitous violence. Plotless, fast-moving and well-armed, it will certainly appeal to adrenaline freaks.

Getting started

Copy KILLTIME.TOS to a blank disk and double-click on it to dearchive the KILLTIME



The Wild West is your second destination. You'll need a fast but steady trigger finger.

MENUINFO 2.41

By: Dirk Hagedorn Machines: All Ataris Resolution: Any Memory required: 512K Size: 65K

Keep a permanent eye on your system's date, time, Caps Lock status and free memory with this discreet application.

Getting started

Just copy MENUNINFO.ACC to the root directory of your boot disk or hard drive partition. If you have ST Guide installed, you can place the HYP and REF files in the GUIDES folder on your boot drive. MenuInfo can be run as a program in any multitasking environment except MultiTOS – see MENUINFO.TXT for full instructions.

Data overload

MenuInfo enables you to display system information on the menu bar. With a little help from the configuration program, you can set it up to display exactly what you want, how and where you want it. Your ST's vital statistics can appear in the top right corner of the screen in large or small text, or in a special folder. TOS 2.06 and Falcon owners need to unpack the main KILLTIME.PRG and run STOSFix to make it compatible with your machines. Falcon owners, be warned: the game is more difficult on your machine because it runs faster.

Hello cowboys

The great thing about *Killing Impact* is that there isn't much plot – all you need to know is that you're travelling through time, killing anything that gets in your way.

From neanderthals through to commandoes, punks and aliens, everyone you meet is fair game – just wipe them out using whatever is to hand. Play takes place from a firstperson perspective, so all you can see is the area around your sights. As soon as an enemy pops up, press the left button to blast him (or stone him, on the neanderthal's level). Hit your enemy and you score points; miss and he retaliates, claiming one of your precious lives.

Each level is split into three stages, each of which features bonus targets and innocent bystanders. For

example, in the second stage of the first level, fish leap out of the water, and you can gain points by stoning them. On the cowboy levels you're up against rats, and some of your enemies take women hostage. Kill the wrong target, however, and you lose points. The

bonuses may accelerate your score, but they also distract you from the main enemy.

Killing Time is fun, fast – especially on the Falcon – and furious. Read KILL.DOC for full details, and don't disappoint us, soldier.

and time can be displayed in several formats. The 'every second counts' brigade can display the whole works, while those of you with less frenentic lifestyles can make do with an informal '10 to 1'. *MenuInfo* also enables you to display all kinds of system information, including the



Watch out for the hole in the tree. We didn't, and it all went corpse-shaped very quickly (grumble, gripe).

REMEMBER

Write-protect your Cover Disk. Slide the black tab so you can see through the hole.

Make a backup using the Back Up program on the Disk. Never ever run anything except Back Up directly from the Cover Disk.

Many Cover Disk programs are compressed to fit them on the Disk. Follow the instructions in the Getting started sections to decompress them.

Read the instructions in these pages and in any document file that is on the disk. They're there for a reason.

If you have problems with your ST, consult your manual. If you're still stuck write to: ST Answers, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, BA1 2BW.

amount of free memory available, the mouse co-ordinates and the current version of TOS. You can even add your own text to clarify it all.

What else?

Clicking on the Caps Lock and OFLS (open files) LEDs gives you access to other functions. Click on either LED with the right mouse button to bring up a small dialog box enabling you to insert characters that aren't accessible from the keyboard. Alternatively, hold down [Shift] and click on the LEDs with the left mouse button to open the file selector, or Hold down [Control] and click with the right mouse button to quit.

MenuInfo is configured by a special dialog box which is accessed by selecting MenuInfo from the Desk menu or clicking on the LEDs. See the screen grab for more information about the various options.

Full details can be found in MENUINFO.TXT, and ST Guide users will be pleased to know that hypertext documentation is also provided.

window bar of their own. In addition, two LED-style

icons can be installed in the top left corner of the screen to monitor the status of your Caps Lock key and, if you have *Kobold* installed, to indicate whether any files have been opened.

The current system date

Desk File View Options @17143 Hed,22.11. 34 MenuInfo 2.41 8 1994-1995 by Dirk Hagedorn @ MK2 Refresh 2 . Asec 3 Offset: 8_ 1 XtXH:XM 2 APP: #a(#A) ACC: #c(#C) SYS: #y(#Y)____ 4 small font II use window 5 3 ZtZH: ,Zd.Zo. \$Skb top windows 6 🗆 NVDI &n, &H_ 4 11 8 VSCR-support CapsLock-LE XA, XB Xdth XY_ 5 9 6 OFLS-LED Alarm: 88:8 10 Load III Save OK Cancel NCERTC.PRG BOUNDLAB.TOS EVEREST.PRG DEGELITE.PRG CALANUS.PRG PCOPY_3.PRG ST21P.PRG ENIPEST.PRG 能 MIDI 0 i ARC FICSHIBI.PRO THIST.PRG THOINCHE.PRG ATOHIK.PRO

1 The formula boxes for inserting and editing the information you want MenuInfo to display. Up to six configurations can be stored in memory at once.

2 Determine how quickly MenuInfo updates, both internally and on the screen. 3 Push MenuInfo's display further left to fit other accessories on to the menu bar.

4 Display the information in a small font.

5 Display the information in a GEM window bar instead of at the top of the screen. 6 Bring the window the mouse pointer is in to the top.

7 Blacks out the screen (except the menu bar).

8 Enables MenuInfo to support screen expanders (such as Screenblaster).

9 Show either the Caps Lock and/or OFLS LED. OFLS only works in conjunction with Kobold and indicates that files have been opened.

10 Activate and set an alarm, which is activated in an alert box.

11 Load or save the default configuration.

ST TOOLS

By: Stephen Cornio Machines: All Ataris Resolution: Medium/high Memory required: 1MByte Uncompressed size: 273K

ST Tools is the Atari equivalent of PC Tools on the PC. It's a powerful utility for keeping a close eye on your hard and floppy disk drives.

Getting started

Copy ST_TOOLS.TOS to a blank disk or your hard drive and double-click on it to dearchive the STTOOLS1.93 folder. Once that's done, run STTOOLS.PRG. You'll find complete instructions in STTOOLS.DOC, and you



Getting around your disk drive has never been easier than with ST Tools. The directory tree takes the hassle out of wading through endless folders.



Make sure you back up your data before delving deeply with ST Tools. If you lose a valuable file, its nobody's fault but your own.

WE WANT YOUR PROGRAMS

We pay for your software – so if you have anything that's good, original and preferably short that you think really deserves to go on *ST FORMAT*'s Cover Disk, send it with this form and full documentation to Nick Peers, *ST FORMAT*, Cover Disk, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW

ΛI	2	r	v	٦	\mathbf{a}	
1	а		E	ı	c	

Address.

Daytime phone ____

_Total size in K __

__Program title

On a separate sheet, explain concisely what the program does and why it's so brilliant. Remember 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, contributions are non-returnable ■ Enclose an attractive bribe. A set of Tazmania videos would be nice... ■ Not that it makes a difference.

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

Signed _

_Date _

should study them carefully before using the program.

Disk toolboxes

ST Tools is a powerful disk and file analyser. It enables you to search through entire drives and folders for specific files and modify them in various ways - you can touch them with the current system time and date, for example, or search for a specific string of text. If you've been a bit careless, ST Tools will even attempt to retrieve recently deleted files. Its most powerful function, however, is its ability to scan your disks or drive partitions for errors and fragmentation and remedy any problems.

When you load it, you'll be presented with two windows and a row of drive icons along the bottom of the screen. The left-hand window contains a directory tree, while the right-hand one lists all the files in the highlighted directory. These windows, along with the row of drive icons at the bottom of the screen, make it easy to get to your files.

ST Tools works on many different levels, enabling you

to get a feel for the basics before you attempt the really dirty jobs. The built-in failsafes help prevent accidental data loss, but as you progress deeper into the program, make sure you back up the data you're working on. The program is shareware, so if you find it useful you should make a contribution.

PEN PAL 1.2

By: Mountain Software Machines: All Ataris Resolution: Medium/high Memory required: 512K Size: 51K

This demo of Mountain Software's powerful text editor limits you to 100 lines of text.

Getting started

Open the PENPAL folder and double-click on PENPAL.PRG to run the program. Falcon owners need to unpack PENPAL.PRG first.

DSP TUTORIAL

Those of you following Paul Hills' excellent DSP tutorials (see page 63) will want to copy DSPFILES.TOS across to your hard drive. The archive contains various utilities and example files for you to experiment with.

BLINK 3.0

By: Bill Aycock Machines: All Ataris Resolution: Any ST resolution Memory required: 512K Uncompressed size: 67K

Select and edit your desktop's colours with this suite of utility programs.

Getting started

Copy BLINK.TOS to a blank disk or hard drive partition and double-click on it to dearchive the BLINK30 folder. All of the PRG files can be installed as Accessories – see BLINK30.DOC for details.

Eyecatching

Fancy turning your desktop a nice shade of carrot? *Blink* enables you to select one of 33 desktop configurations at the click of a button, or design your own backdrop. Falcon owners should note that *Blink* only works properly in ST medium or high resolution.

PROBLEMS?

If you can't load, copy or back up your Cover Disk, it may be faulty. If you think it is, send the disk and a padded self-addressed envelope to: *ST FORMAT* January Disk Returns, PO Box 21, Daventry, NN1 5BU. We pay the return postage.

 Please don't send faulty disks to our Bath or Somerton offices. We don't keep stocks of Cover Disks.
 If you are having problems with a Cover Disk program, re-read the

Write on!

Pen Pal is a quick and powerful text editor with Mac-like editing tools. All of its functions can be accessed easily from the row of buttons at the top of the screen.

As with all text editors, Pen Pal doesn't provide fancy fonts or loads of display options; instead it concentrates on straightforward text editing. This makes it perfect for creating HTML documents – see page 56 for more details.

Follow the instructions on the start-up screen to register, or read PENPAL.TXT.

GOOFFY

Machines: All Ataris

Resolution: Any

the background.

Size: 30K

By: Patrice Bensoussan

Memory required: 512K

Gooffy enables you to print

large ASCII documents in

Getting started If you have a multi-tasking operating system, just run GOOFFY.APP. Otherwise, rename it GOOFFY.ACC and install it as an Accessory. No more waiting Once you have installed it as

Once you have installed it as a Desk Accessory, Gooffy can be

Desk Accessory, *Gooffy* can be called up from within any GEM program to print an ASCII file, enabling you to go back to whatever you were doing while it prints. Just run the program, or select it from the Desk menu, then select the file you wish to print using the file selector.

instructions and any DOC files. If you still have problems, call the ST FORMAT Cover Disk Hotline on = 01225 442244 on Wednesdays between 2pm and 6pm only.

Cover Disks are double-sided. If you have an old STFM and can't read the Cover Disk then you need to upgrade your ST to a doublesided drive.

If you have other hardware or software queries, contact the manufacturer or publisher.

8

Special 5 FORMAT

Now everyone can afford to go adventure crazy, as we offer you the excellent Loom and Monkey Island for just £9.99 each.

es, you heard that right. You can now get two of the best point 'n' click adventures ever to hit the ST for £9.99 each, or just £17.99 for the pair.

Loom, the great grandaddy of Lucas Arts' adventure games, scored 81% when it was reviewed in issue 16, while the legendary Secret of Monkey Island walked away with a FORMAT Gold, a score of 94%, and a network of fans around the globe.

Loom contains some outstanding animation sequences, a host of infuriating problems for you to solve, and more twists and turns than a chewed up copy of the X-Files.

"Buy Monkey Island now. Your life will be empty without it!"

Ed Ricketts, ST FORMAT SPECIAL '92

Please send me...

(Tick appropriate box)

Loom (STFLM) for £9.99

Yes, I want to wave my Jolly Roger ...

The Secret of Monkey Island (STFMI) for £9.99

Loom and The Secret of Monkey Island (STFLMMI) for £17.99

Name:

Address:

.....

Postcode: Tel:

The Secret of Monkey Island is even better. You play wouldbe pirate Guybrush Threepwood as he attempts to get on the wrong side of the law, destroy the evil ghost LeChuck and, of course, uncover the secret of Monkey Island.

Both games are breathtakingly beautiful with a treasure trove of puzzles that'd make your average Vulcan sweat.

So, what are you waiting for? Fill out the form below, send it in to the address shown, then prepare to buckle your swash in the adventure of a lifetime.



Method of payment - please tick appropriate box Access □ Visa Cheque

Postal Order

Buy now while

stocks last!

Credit card

number Expiry date

Please make all cheques payable to Future Publishing Limited. Customers outside the UK please add £4 for overseas delivery. Send this form (or a photocopy) to: ST FORMAT Mail Order, Future Publishing, FREEPOST (BS4900), Somerton, Somerset YA11 6BR. Or, if you prefer, you can call # 01225 822511 and order it directly.

Please tick the box if you do not wish to receive direct mail from other companies

W	17		RD) G /	Δ	M	Es
			JGH, NORTH YO	ORKSHIRE YO12 7EY			01723 503299 VISA
A PREHISTORIC TALE ACTION SERVICE ADDAWS FAMILY ADVANCE RUGBY SIM ALIEN WORLD ASTERIX ATOMIX BEAST LORD BIG NOSE	ENCHANTED LAND FIREHAWK HANNA BARBERA COLLECTION HERO OUEST HOOVERSPRINT HUCKLEBERRY HOUND IMMORTAL JAMES POND	PDVIE & DDVIE PRO BOXING RICK DANGEROUS ROBIN HOOD LEGEND QUEST ROBOCOD JAMES POND 2 ROCK 'N ROLL SAVAGE SCRAMBLED SPIRTS	SUPER MONACO GRAND PRX SUPERCARS SWITCHBLADE SWITCHBLADE 2 TEAM SUZUKI TENNIS CUP 2 TIMES CROSWORDS	BITMAP £8.99 Speedball 2, Cadaver, Xenon THE GREATEST (not boxed) Jimmy White's Snooker, Lure of the Temptress, Shuttle FALCON CLASSIC COLLECTION Falcon & Missions 1 and 2		OUATTRO SPC Advance Ski, Pro BMX Simulator HIGH ENERGY North & South, Fire & Forget, Te Hostage	Tennis, Italia 1990, (£10.99 Tin Tin,
BIG RUN BLUE MAX	KAMIKAZE KWIK SNAX DIZZY	SEYMOUR SAVES THE PLANET	TOKI TREASURE ISLAND DIZZY	BART VS THE WORL	D £6.00	ST	RIKE FLEET £6.99
BMX SIM BSS JANE SEYMOUR BUBBLE DIZZY CAPTAIN PLANET CARRIER COMMAND CHESS PLAYER 2150 CITS ELEPHANT ANTICS COOL WORLD CREATURES CYBERBALL DE JA VU 1 DE JA VU 2	LETHAL WEAPON LIVE AND LET DIE LOTUS ESPRIT MANIX MEAN MACHINE MICROPROSE SOCCER MINDBENDER ONE STEP BEYOND ONSLAUGHT OPERATION HORMUZ OUTRUN PACLAND	SHADOW DANCER SHADOWGATE SIMPSONS SKWEEK SKY HIGH STUNTMAN SPEEDBALL 2 SPELLFIRE THE SORCERER SPIKE IN TRANSILVANIA ST DRAGON STEG THE SLUIG STORMBALL STREET FIGHTER	TRIVAL PURSUIT TUSKER ULTIMATE GOLF UNINVITED VIOLATOR WWF WWF 2 WARLOCK WARP WILLOW (NOT STE) WIZ KID	STEINBERG PRO 24 III £20.0 24 track music system/Record, pl any MIDI keyboard/Display and p notation/Real time performance mouse-driven/Supports standard DATABASE SUPERBASE PERS Up to 6 million records per file/11 precision	ayback and edit orint out music control/Totally MIDI files ONAL £7.50 3 Digit numeric	Publication grap DISCOVERY X 1st Word – Word Neochrome/ST 1 Escape from the MASTER PLAN Financial spread	ions/35mm slide making/ hics IRA £10.00 I Processing/First Basic/ our/9 Lives/Final Fight/Sim City/ Planet of the Robot Monsters £10.00 sheet
DIZZY PANIC DRAGON SPIRIT	PANZA KICK BOXING PETER BEARDSLEY (NOT STE)	STRIDER STRIDER 2	WORLD CHAMP BOXING MANAGER	BATTLEHAWKS	ING 3 FOR D		POLICE QUEST 2
DRIVIN FORCE WINNING TEAM - APB/CYBE	PIPE MANIA INDIANA JONES & FATE OF ERBALL/KLAX/VINDICATORS/E (UNBOXED) SC	ESCAPE FROM THE PLANET OF	XENON 2 • THE ROBOT MONSTERS -	CANNON FODDER CARTOON COLLECTION CHAMP MANAGER 94 DATA DISK	KIDS RULE OK KINGS QUEST 1 KINGS QUEST 2	in Since	PREMIER MANAGER 2 (UNBOXED) SPACE QUEST 1 SPACE QUEST 2
SPECIAI	R.R.P. OUR PRI	CE	RE 3.5" DISKS	COLONEL'S BEQUEST CRUISE FOR A CORPSE CRYSTAL KINGDOM DIZZY	KINGS QUEST 3 LEISURE SUIT LAR LOTUS TRILOGY -		SPACE QUEST 3 STREET FIGHTER 2 SUPER ALLSTARS
OOT PEDAL REEWHEEL (DIGITAL) OPSTAR JOYSTICK MEGAGRIP II JOYSTICK CHEETAH 125+ JOYSTIC	E19.99 E10.0 E29.99 E10.0 E24.99 E14.9 E14.99 E10.0 CK E4.0	00 DSHD £1 79 DSHD £1 00 Please	2.00 PER 50 6.00 PER 50 phone for amounts	CYBERCON 3 DIZZY COLLECTION GUNSHIP HOYLES BOOK OF GAMES 1 HOYLES BOOK OF GAMES 2 INDIANA JONES LAST CRUSADE	MANHUNTER NE MANHUNTER SAI MONKEY ISLAND NIGEL MANSELL PIRATES POLICE QUEST 1	W YORK N FRANCISCO	ZAK MCKRACKEN BATTLE OF BRITAIN + MISSION DISK E10.00 KNIGHTS OF THE SKY E10.00 MI TANK PLATOON E10.00 MIDWINTER 2 E10.00

Please Send Cheques/PO's (made out to Premier Mail Order) or Access/Visa/(Switch + Issue No) & Expiry Date to: Dept: STF01 9-10 THE CAPRICORN CENTRE, CRANES FARM ROAD, BASILDON, ESSEX SS14 3JJ. Telephone orders: 01268-271172 Fax your order on: 01268-271173 Mon-Fri 9am-7pm Sat&Sun 10am-4pm. P&P and VAT included for all UK orders. Please add per item 52 P&P for Europe and \$3.50 for the rest of the world. Next day service available UK only @ \$4.00 per item.

Please note: Some titles may not be released at the time of going to press. Most titles are despatched same day. but can take up to 28 days. E&OE

Action Service				Platoon		Superski 2		3.5* Blank Disks	
Addams Family		Graham Gooch 94/95 Data Disk		Police Quest 1 or 2		Supremacy		5.5 Dialik Disks	
Addictaball	6.99	Gunship		Pop Up		Switchblade 2			
Alpha Waves	5.99	Hard Drivin	8 00	POPULOUS 2		Swiv		Verbatim Precision Unbranded I	Recycled
Altered Beast		Hard Drivin 2 Hard Nova Hardball	8.99	Populous and Promised Lands		Terminator 2	6.99		
Another World		Hard Nova	8.99	Powerdrome		Test Drive 2	6.99	10 5.99 3.99 3.50	2.99
Badiands	6.00	Hardball		Powermonger + WW1 Data Disk Predator 2		Tetris		20 11.50 7.50 6.50	5.50
Battle of Britain	12.99	Heroquest	7.99	Predator 2		The Adventures of Robin Hood	12.99	50 27.50 17.50 16.25	12.50
Battlehawks 1942	10.99	Hook	8 99	PREMIER MANAGER 2	17.99	The Games		100 52.50 32.50 29.99	22.50
Beach Volley	6.99	Heroquest Hook Hoyles Book of Games 1 or 2	12.99	Prince of Persia	6.99	The Games	8.99	the second	
Bhis Annels	8.90	Hudson Hawk	60.3	Pro Tennis Tour	6.99	The Patrician	.19.99	JOYSTICKS &	
Blue Angels Board Genius	12 00	N/A	6 00 8	Putty's Sana	6.99	The Sports Collection		ACCERCODIEC	
Bonanza Bros	0.00	IK+ Immortal Impossible Mission 2	10.90	Puffy's Saga	8 99	The Toyottes		ACCESSORIES	
Booly	6.00	Impageible Micelen 2	6.00	R-Type	00 3	Their Einest Hour	12 00		
Bubble Bobble	6.00	Indiana Jones & Fate Of Atlantis	8 00	Rainbow Islands	6 00 3	Their Finest Hour. Their Finest Missions	9.99	10 Capacity 3.5" Disk Box	
Bubble Booble		Indiana Jones & Last Crusade Action		Rambo 3	6.00	Thunderstrike	7 00	40 Capacity 3.5" Disk Box	
Cabal		Indiana Jones & Last Crusade Action	10.99	RBI Two Baseball	7.00	Timeblaster		50 Capacity 3.5" Disk Box	
Cadaver	12.99	Indiana Jones & Last Crusade Adventure	12.99	Reach for the Skies	10.00	Time Race	4.99	80 Capacity 3.5* Disk Box	6.99
California Games CANNON FODDER	6.99	Ishar 1 or 2 or 3	9.99	Heach for the Skies	12.99	TNT Combat Mission		100 Capacity 3.5* Disk Box	7 99
CANNON FODDER		ISHAR TRILOGY		Renegade		INI Compat Mission	10.00	Cheetah 125+	7.00
Castle Master	6.99	ISHAR TRILOGY Ivanhoe James Pond	6.99	Hick Dangerous		Tom & The Ghost	12.99	Cheetah Data	11.00
Carl Lewis Challenge	12.99	James Pond Jimmy White's Whithwind Snooker John Barnes Football Kick off 2 Winning Tactics Kick off 2 Winning Tactics Kick off 2 Final Whistle Kick off 2 Return to Europe King of Chicago Kings Quest 1 or 2 or 3 or 4 Kinghs of the Sky Last Ninja 2 Legend Leisure Suit Larry 1 or 2 or 3 Lemmings Double Pack Lemmings Double Pack Lethal Weapon Line of Fire Lombard RAC Raily. Lure of the Temptress M1 Tank Platoon' Maniac Mansion	6.99	Rick Dangerous 2. Robinsons Requiem	8.99	Toki		Cheetah Bug	
Championship Manager 93	16.99	Jimmy White's Whirlwind Snooker	12.99	Robinsons Requiem		Total Hecall	6.99	Competition Pro Extra	
Championship Manager 94		John Barnes Football	6.99	Rocket Ranger		Toyo Tee		Disk Drive Cleaning Kit 3.5"	1.99
Champ Manager End of Season		Kick off 2 Winning Tactics		Robocod		Transarctica		Freewheel Steering Wheel	
Chaos Engine		Kick off 2 Final Whistle		Robocop		Tracksuit Manager		Gravis Advanced Switch Joystick	22.99
Chase HO		Kick off 2 Return to Europe	7.99	Robocop 2 Robocop 3		Trauma Trivial Pursuit Turtles		Gravis Advanced Switch Joystick Gravis Gamepad Joystick Y Splitter	15.00
Chicago 90	5.99	King of Chicago	7.99	Robocop 3		Trivial Pursuit.	6.99	Gravis Gamepad	4.00
Cluedo/Risk/Scrabble	12.99	Kings Quest 1 or 2 or 3 or 4	12.99	RUGBY LEAGUE COACH		Turtles		Joystick Y Splitter	
Cohort 2	19.99	Knights of the Sky	12.99	RUGBY LEAGUE COACH		Turtles World Tour	9.99	Joystick Extension Cable	
Colonals Baguast	12 00	Last Ninia 2	6.00	Run the Gauntlet	6.99	Tusker	6.99	Logic 3 Delta-Ray Autofire - JT156	
Carles for a Comes	12.00	Loopod	0.00	SARRE TEAM	999	Ultimate Golf	8.99	Logic 3 Quatro GT Autofire - IT155	10.99
Cruise for a Corpse	10.00	Legens Suit Large 1 or 2 or 2	12 00	SABRE TEAM	6.99	UN Squadron		Logic 3 Quatro - IT154	8.99
Cybercon III	£ 00	LEISURE SUIL LAITY I OF 2 OF S	17 00	Scrambled Spirits	6 00	Litonia	8.99	Logic 3 Logicad - IT160	11 00
Daly Thompson Olympic Challenge		LEMMINGS 2 - THE TRIDES	10.00	SECRET OF MONKEY ISLAND	12.00	Victory Boad	7 90	Logic 3 Quatro - JT154 Logic 3 Logipad - JT160 Mouse	10.00
D Day - Dare You Helive It		Lemmings Double Pack	19.89	SECRET OF MURKET ISLAND	12.00	Victory Road	6 00	Mouse	
Dragon Ninja		Lethal weapon	0.99	Sensible Soccer 92/93		Woyager	12 00	Mousehouse	
EI	7.99	Line of Fire	9.99	Shadowlands		Wizball	6.00	Mousemat	
Epic		Lombard RAC Rally	6.99	Shinobi		Wizball		Quickjoy Topstar Quickjoy Jetfighter	17.99
Escape From Planet of Robot Monsters	6.99	Lure of the Temptress		Shufflepuck Cafe	6.99	World Class Leaderboard		Ouickiew lettichter	10.99
European Championship 92		M1 Tank Platoon'		Shuttle		World Class Bugby		Quickjoy Pedals	17.00
European Football Championship		Maniac Mansion	10.99	Simpsons		WRECKERS		Oucopy Pedals	10.00
European Super League		Merchant Colony	8.99	Sleepwalker		WWF		Saitek Megagrip II Autofire - MX220	
EXILE	19.99	Metal Mutant		Smash TV		WWF - European Rampage		Screenbeat 3 Speakers - SB203	
Exterminator	17 00	Microprose Soccer	6 99	Snace 1889		WWF - European Rampage Xenon II		Screenheat 4 Speakers - SR204	11.99
E15 Stelke Facia II	14 99	Michwinter	10.99	Snace Crusade	8.99	X-Out	6.99	Screenbeat 5 Speakers - SB205	
Ető Staalibliobler	12.00	Midwinter	14 99	Space Crusade	12.99	Zak McKraken		Screenbeat 5 Speakers - SB205 Screenbeat Mains Adapter Suncom Tac 2	7 99
E20	10.00	MIG 29	10.99	Spelbound Dizzy	6.99			Cupsom Tag 2	7 00
F29 Fallen Angel Final Assault	6.00	Moonwalker	00 3	SPEEDBALL 2	8 99	EDUCATIONAL		Suncom Slik Stick	5.99
Fallen Angel	12.00	Narco Police	5 00	SPEEDBALL 2	5.00			Suncom Silk Stick	
Final Assault	12.99	Narco Police	0.89	OTADOUICT (CTE)	17 00	Better Maths (12-16)	13.00	Wico "Q" Stick	
Final Fight		New Zealand Story		STARDUST (STE)		Better Spelling (8+)	13.00		Sector States
Fire Force		Nigel Mansell's World Championship	19.99	Storm Master	0.99	Cave Maze (8-12)	0.00	FALCON	
Flight Sim 2 Great Britain Scenery		Nightbreed Operation Harrier	6.99	Streetfighter		E de les a les antes	0.00	FALCON	
Flight Sim 2 Hawaii Scenery	13.99	Operation Harrier	8.99	Streetfighter 2		Fraction Gobins (8-13)			1. 1. C.
Flight Sim 2 Japan Scenery Flight Sim 2 USA No 7 Washington		Operation Stealth	11.99	Strider		Fun School 2 (-6) or (6-8) or (8+)		Evolution Dino Dudes	10.00
Flight Sim 2 USA No 7 Washington		Operation Thunderbolt	6.99	Strider 2		Junior Typist (5-10)		Evolution Dino Dudes	
Flight Sim 2 USA No 9 Chicago		Operation Thunderbolt Operation Wolf Oriental Games	6.99	Striker		Magic Maths (4-8)	13.99	Ishar 1 or 2 or 3	
Flight Sim 2 USA No 11 Detroit		Oriental Games	8.99	Strikefleet		Maths Dragons (6-13)		Ishar Trilogy Llamazap	19.99
Flight Sim 2 USA No 12 New York		Outcast	5.99	Stun Hunner		Maths Mania (8-12)		Lingeneration	10.00
Frenetic	12.99	Outrun Europa	8.99	Stunt Car Racer		Fraction Goolins (8-13). Fun School 2 (-6) or (6-8) or (8+) Junior Typist (5-10). Maths Dragons (6-13). Maths Mania (8-12). NODY'S PLAYTIME (3-7). Picture Fractions (7-10). Picture Fractions (7-10). Playadays.		Liamazap	
Fusion		Parasol Stars	8.99	Subbuteo	.6.99	Picture Fractions (7-10)		Pinhall Dreams	19 99
Gazza 2	6.00	Dictionany	6.99	Subbuteo Super Hangon	6.99	Playdays	16.99	Pablacana Paquiam	10.00
	0.00	DINDALL MACIC		Supercars	8.00	Reasoning with Trolls (5-12)	10.99	hoomsons nequiem	
G-Loc	9.99		10.00	Supercells	10.00	Reasoning with Trolls (5-12) The Three Bears (5-10) Tidy the House (6-10)	13.99	Robinsons Requiem Stardust	
Gomoku		Prates	10.99		0.00	Tide the Moure (6-10)	0.00	Steel Talons	19.90
Graham Gooch Cricket	0.00	Principler		SUPPER MODICO LICENCE PTUR	C. 100		Contraction of the second second		



SNIPPETS

STF News...

Nick Peers flashes his press card as he brings you bang up to date with life in the Atari scene.

Ease update

Titan Designs has just announced version 3 of APEX Media. Details of its new features are not yet available, but a provisional price tag of £149 has been set. Existing users will be able to a upgrade for as little as £39, and Titan can be contacted on = 0121 6936669.

System Solutions is distributing two more Epson Stylus printers. Both are colour inkjets and can print in resolutions of up to 720x720 dpi. The Pro A4 model costs £569, while the Pro A3 model is £1,595. System Solutions can be contacted on # 0181 6933355.

Lexicor Software Corporation has moved. The US-based company, whose products are distributed in the UK by 16/32 Systems, has re-located to the following address: Suite (H), 3rd Floor, 108 Peterborough Street, Boston, MA 02215, USA. The company's Web page is still at:

The Association of Atari User

http://world.std.com/-Lexicor.

Groups, for a long time a source of help for beleaguered Atari owners, has closed. S ystem Solutions has just released a major update of its replacement desktop package Ease. New features include a more intelligent system for wading through folders looking for the files you're after, a memo icon for keeping notes on your Atari's desktop, and support for GDOS printing via the desktop. Ease 4 will cost £49.95, but existing users can upgrade for £19.95, which includes the price of the new re-vamped manual.

The Panther graphics card is designed for STFM and STE



owners and enables your ST to display 24-bit colour graphics via a multisync monitor. The cards include 1MByte of on-board RAM to speed things up (a 2MByte version is also planned) and can be fitted inside the original ST casing. This makes them more flexible than previous graphics cards, which required a Tower or Desktopper case. The Panther will cost £259 for STFMs and £299 for STEs.

> Finally, System Solutions has produced a free database on disk for customers wishing to browse its extensive CD-ROM catalogue. The database

> > System Solutions' packed CD-ROM database was constructed using HiSoft's Twist 3 database.



A replacement desktop is one software upgrade no serious Atari user should be without, and Ease is the Rolls Royce of desktop upgrades.

features an overview of each CD-ROM, a graphic of its cover and a full file listing. There are two versions available, for ST and TT/Falcon owners respectively.

The ST version is monochrome and ready to run – customers should send a double-sided floppy disk. TT and Falcon owners get a colour version, but need to send a high-density disk instead. This version is archived, and should be decompacted on to a hard disk with 5MByte of free space. Alternatively, both versions can be downloaded from the ssolutions conference on CIX. For more details, call

■ 0181 6933355.

aguar VR not 2B?

The long-awaited Virtual Reality headset for the Atari Jaguar is "on hold", at least for a while. A recent story in the industry publication *Computer Trade Weekly* announced that Atari's deal with UK company Virtuality is off.

Virtuality was originally contracted to develop the Jag VR hardware, originally slated for a Christmas 1995 release. In its November 6 issue, *CTW* said: "Atari last week reacted angrily to a report that it is turning its back on the Jaguar.

Last week's Sunday Times claimed that poor sales of the 64-bit wonder console had left



The Jag's VR headset is now "on hold".

the firm considering a move out of the hardware sector altogether". *CTW* quoted an "Atari insider" as saying "Unfortunately our reasons for pulling out of the headset deal don't tally with what it [Virtuality] want us to say".

We contacted Atari UK's Marketing Manager Darryl Still, who was happy to speak about the future of the Jag VR headset, and the Jaguar range generally. He told us: "The Virtuality contract is cancelled. It does not mean the end of VR on the Jag and it certainly does not mean the end of Jaguar or its successors. This rumour seems to have emanated from Virtuality and is probably more connected with its theories than the facts." Watch for the hot scoop next month when we chat to both Still and Atari President Sam Tramiel. **Frank Charlton**



We'll be talking to Sam Tramiel in next month's ST FORMAT.

Moon Games

Mon Speeder (STF 73, 79%). Many new features have been added, making it more than just an update of the original. Thanks to a split-screen, the game now supports two-player battles on a single Falcon (four players can battle it out over two Falcons in this way), and the number of tracks has been increased from 30 to 45.

Unlike the original release, you don't jostle for your original position in a qualifying lap. Instead, you must drive a ball around a labyrinth, searching for the exit. The quicker you find it, the better placed on the



Moon Games' split-screen option lets two players race on a single Falcon.

grid you'll be. Also, three bonus events have been added, enabling you to amass extra credits. They include breakout and pinball sequences, and take place from the perspective of the ball, lending a novel twist to classic game ideas.

The game requires a 4MByte Falcon and hard drive. Price and availability are, as yet, unconfirmed.



The quicker you get out of this labyrinth, the better your position on the starting grid.

PD AND SHAREWARE

Denesh Bhabuta is now handling registrations for Kari Heinman's databases Music Box (Cover Disk 71), Movie Box (Wonder Disk 72) and Disk Box. A registration fee of just £10 covers all three of these fabulous programs.

PD versions of these titles are available from Goodmans (# 01782 335650) and Floppyshop (# 01224 312756).

ST+ is the new disk magazine

from Dave Hollis, who helped produce the Panther Owners Group (1995 Award winners – see page 42) disk magazine for Frontier: Elite II users. For a copy of issue one, all you need to do is send a disk plus SAE to: ST+, 17 Oaklands, Green Lane, Malvern Wells, Worcs, WR14 4JE. Dave is also interested in receiving submissions for the magazine – call him on = 01604 416933 for more details.

Chaos PD has acquired AGPD's catalogue of 750 disks and is incorporating them into its own range. Prices remain at 90p a disk, with a special offer of six disks for the price of five. Contact Chaos on \pm 01296 89059 for a new catalogue.

Users of Ad.Lib PD should be aware that Andy Curtis can now only provide those programs listed specifically as originating from Ad.Lib PD. Each disk costs £1, regardless of how many programs fit on to it. You don't need to send a disk with your order, but it should be accompanied with an SAE.

French Atari Show

OXO Concept is organising a massive Atari show in Paris for the weekend of the 16 and 17 December. Hot on the heels of ProTOS '95 (held at the end of November in Germany), the existence of this show proves that both France and Germany remain real hotbeds of Atari development.

The show, which is being organised in conjunction with Composcan France, will feature many French exhibitors, including Lexicor Software, Medusa Computer Systems, C-Lab and Steinberg. It will be held at the Porte de Versailles in Paris and more details can be gleaned by accessing OXO's homepage at:

http://www.oxo.ch/ or by e-mailing the company at: oxo@iprolink.ch. We'll be featuring a show report in issue 79 or 80.

NET NEWS

STOS users will be glad to hear that the Mark Smith's Atari Web pages now feature all 24 issues of the STOSser disk magazine in the rapidly expanding STOS section. Access the site at http://www.mcc.ac.uk/-dlms/ata ri.html.

We may yet see a shareware version of *Doom* for the ST, if recent Internet newsgroup discussions are anything to go by. Although the main thrust of any conversion would naturally centre around the Falcon because of its advanced machinery, there was also talk of a limited ST version. Whether this is utter rubbish or a valid prediction only time will tell. In the meantime, we'll keep an eye out for any further developments and, remember, you heard it here first.

A library of clip-art

The Clipart Library has replaced GL-PD as Gareth Lovering's main business interest on the Atari. After three years in the PD business, Gareth has decided to try something a little more specialised, and now sells shareware and CD-ROM clip-art in IMG, PCX, GIF and TIFF formats. All shareware disks will cost £1.50 (or £1.75 with a printed thumbnail sheet of the contents). For a catalogue, send an A5 SAE to: The Clipart Library, 62 Colwyn Avenue, Winch Wen, Swansea, SA1 7EJ.

GL-PD is still trading, although it now concentrates on printing labels and stationary to customers' specifications. Its remaining stock of Atari PD is still available for just 70p a disk. You can contact The Clipart Library or GL-PD at **=** 01792 799762.

FREE BODK!

THIS MONTH'S SFX COMES WITH A FREE 200 PAGE PAPERBACK, FEATURING SHORT STORIES AND EXTRACTS FROM ROBERT RANKIN, ANNE MCCAFFREY, KEVIN J ANDERSON, DAVID GEMMELL, SAMAY KILWORTH, GEORGE LUCUS & CHRIS CLAREMENT, RAND & ROBIN MILLEM, AND TERRY PRATCHETT...



ulure Films, TV, Books, Comics, Video, Models and more...

Village full of games

H ot on the heels of Outrider, reviewed on page 28, comes news of two more releases from Village Software. War Cry is the sequel to Outrider and will be available early in the New Year. It's described as a competitor for Civilization, so could well prove popular with fans of that top-selling game. Also underway is work on

a role-playing game set in Japan. Dark Ritual promises to be historically accurate and, like War Cry, runs on all STs. Falcon-enhanced versions, including Outrider, are set to follow each game's ST release. Meanwhile, Village can be contacted on **=** 01275 843241 before 11am, or you can email: futureshocks@ village.demon.co.uk.



TOP BYTE NEWS

Owing to a 'glitch' of Apollo 13 proportions, last month's Top Byte story got horribly mangled. Consequently, we feel it's only fair to re-run the parts of the story on Aronath, that marvellous swords and sorcery epic that's promised in the New Year.

Aronath is an overhead cross between Gauntlet, Cannon Fodder and Nethack. The bit that got mangled concerned the game's multi-player option, which makes it possible for up to four STs to be linked together for a single game with players able to co-operate

and betray each other at the drop of a hat. Other Top-Byte

games currently under production include Space Ace STario, Cyber Knight, Pothole and Solar War 2. The

Aronath will enable your team to use cover from opposing fire, just as in real life last two are being released in conjunction with 999 Software, which is also working on a

'director's cut' of Alien Thing. Top Byte is also offering limited numbers of major ST games at low prices. These include Cannon Fodder (£18.99), Lotus Trilogy (£11.99), Robocod (£7.99), Bart vs the Space Mutants (£11.99) and Cool World for £8.99. All prices include postage and the titles are selling fast. So, if you're after some lastgasp Christmas presents give Top Byte a call on = 01622 763056.

New Falcon products

Compo has acquired exclusive UK distribution rights for a Falcon accelerator based around a 68040 processor (the next step up from the Falcon's 68030 processor). Although the accelerator runs at 32MHz, the clock-doubled processor runs at twice this speed. You will need to house your Falcon in a new case (such as the Desktopper), but once the

board is fitted, you can add up to 128MByte of RAM to your machine.

OPC

Prices start at £499 for the board, although you have to pay extra for the processor. Also due for release in early 1996 is *Neon 3D* (see *STF* 73) and Compo promises many more "exciting releases" in the year ahead. Compo can be contacted on = 01487 773582.

LOWEST PRICED TOP QUALITY RIBBONS, INKJETS, TONERS & DISKS

Printer Ribbons

	ATTACT	MIDDOILS	
BLACK Amstrad DMP 2000/3000 Amstrad DMP 4000 Amstrad PCW 8256/8512/LQ3500 Brother M1009/1024/1109/1209 Citizen 120D/LSP10/Swift 24/9 Commodore MPS1220/1230 Epson LQ100 Epson LQ400/500/800/850 Epson FX/MX/RX100/FX/MX 1000 Epson FX/MX/RX100/FX/MX 1000 Epson LX80/86/90 Mannesmann Tally 80/81 NEC Pinwriter P2200 OKI ML182/183/192/193/195	1 off 2± 5± 10± 2.80 2.65 2.45 2.25 3.66 3.51 3.31 3.11 2.85 2.70 2.50 2.30 3.90 3.75 3.55 3.35 2.85 2.70 2.50 2.30 4.50 4.35 4.15 3.95 4.10 3.95 3.75 3.55 3.45 3.30 3.10 2.90 2.90 2.75 2.55 2.35 3.36 3.21 3.01 2.81 2.12 1.97 1.77 1.67 3.90 3.75 3.55 3.35 3.03 2.88 2.68 2.48 3.17 3.02 2.82 2.62	BLACK Panasonic KXP1123/1124/1140 Panasonic KXP1080/1180/90/1592 Panasonic KXP2123/2180 Seikosha SL90/92/95 Star LC10/20/100 Star LC24-10/200 Taxan Kaga KP810/815/910/915 COLOUR Citizen Swift 24 Panasonic KXP2123/2180 Star LC10/20/100 Star LC240 Star LC200 Star LC24-10/200	1 off 2± 5± 10± 3.46 3.31 3.11 2.91 2.89 2.74 2.54 2.34 4.95 4.80 4.60 4.40 5.70 5.55 5.35 5.15 2.29 2.14 1.94 1.84 3.00 2.85 2.65 2.45 2.86 2.71 2.51 2.31 3.14 2.99 2.79 2.59 1 off 2± 5± 10± 11.95 11.80 11.60 11.20 10.63 10.48 11.60 9.88 6.00 5.85 5.65 5.25 9.78 9.63 9.43 9.03 9.63 9.48 9.28 8.88
	Ring For Ribb	ons Not Listed.	
Dimensional I	UE MUTTI DE	AT all athen Dibl	CONTRACTORS IN
King us and v	VE WILL BE	AT all other Ribb	bon prices
31/2" Disks & D	isk Boxes	Inkjets, Ink Refi	ills & Toners
DS/DD DS/H 10 Disks \$5 \$6 25 Disks \$10 \$11 50 Disks \$16 \$18	100 Cap. Lockable Disk Box \$5.99	Canon BJ-10/20 Cartridge Commodore MPS1270 Cartridge HP Deskjet Cartridge (Double Cap) HP Deskjet Thi-Colour Cartridge HP Thinkjet/Quietjet Cartridge	17.54 each 12.13 each 22.00 each 26.00 each 12.13 each
100 Disks £29 £33 250 Disks £65 £76 500 Disks £125 £148	with orders of £10+	HP Deskjet Tri-Colour Cartridge Inkjet Refills (Twin Packs) for G Deskjet. Available in Black, Oya Blue, Brown, Light Green, Dark 1 Pack \$11.00, 2+Packs \$10.60 e	non BJ-10/20, BJ300, HP n, Magenta, Yellow, Red, Green and Gold.
Preformatted (MS-DOS) disks av All Disks Certified 10 and INCLUDE FR	0% Error Free	HP Laserjet II/III Toner Cartrid HP Laserjet IIP/IIIP Toner Cart Ring For Inkjets & To	lge 40.00 each ridge 45.00 each
Miscellaneou Roll 1000 31/2" Disk Labels 31/2" Disk Cleaning Kit Parallel Printer Cable (1.8m) Mouse Mat	<u>s Items</u> 8.99 2.99 3.99 2.99	CPU & Monitor Dust Cover Monitor Dust Cover 80 Column Printer Dust Cover Amiga 500 Dust Cover Amiga 600 Dust Cover Amiga 1200 Dust Cover	6.49 4.99 3.99 3.99 3.99 3.99
All Prices INC	LUDE VAT (@ 171/2%) & UK I	DELIVERY
01543 250377 Owl Ass 5 The Br	Ring us or se sociates Ltd, ambles, Lich	and the same large to	01543 250377 Duse, 4 9SE





3 Salisbury Road, Maidstone, Kent ME14 2TY Tel: (01622) 763056





The 2 games of the true to the right are having their finishing touches added to them now. To avoid disappointment of stocks running out, buy your copy now and be sent a copy as soon as it's released. The ultimate platform game, highly rated by all that play it. "Stario comes with an ST Format recommendation". Please state 1/2 meg or

R STARIO LA

Price: £19.99

1 meg + version.

STARIO'S CHRISTMAS

A seasonal new adventure for Stario bringing Christmas baddies, bonuses and fun galore! A great Christmas present! (1 meg only)

Price: £14.99

OUTRIDER (1 meg only)

(1 meg only) A strategic war game with extremely absorbing gameplay, great graphics and lots of features. A great Sci-Fi mega-weaponary game.



ALSO AVAILABLE:

STOS EXTRA 3: 58 brand new commands for the STOS language, plus the source code! £4.99

GRAFIX: The ultimate art tutor with built-in art package. £19.99

★ ★ ★ ★ Look out for many forthcoming releases from us to!

To continue our support to the ST, we have bought stocks in the following superb ST games:

Robocod, James Pond 2 £7.99 Monkey Island: Superb adventure game £15.99 Lotus Trilogy: 3 highly rated racing games £16.99 Simpsons: Platform fun £11.99 Cannon Fodder: Great! £18.99 Cool World: Superb action game £8.99

ALIEN THING

(1 meg only) A manic Gauntlet-style shoot 'em up where you are faced with many missions, from blasting aliens to fixing machine guns, lasers and flame-throwers – can you escape in time though?!

Price: £19.99

We would just like to wish all our loyal and supportive customers of the past, present and future...

A VERY MERRY CHRISTMAS AND A HAPPY NEW YEAR!

To order any product(s) shown just quote the name(s) of the item(s) required. All prices include UK P&P (please add £1.49 outside UK). Make cheques payable to **'TOP BYTE'**

ARNORATH (1 meg only) A role-playing game improving on the likes of Nethack and Gauntlet. All very colourful, smooth and realistic. Not to be missed.

Price: £19.99

Price: £16.99

THE COMPLETE HARDWARE GUIDE

NSDE

Come with us as we voyage inside your ST to a world full of chips, ports and circuit boards. Discover how your ST works, and what to do when it all goes wrong. Frank Charlton and Andy Curtis are your guides...

> ith hundreds of components and a circuit board that resembles a map of London's Underground gone mad, your ST's innards are a vast and confusing place for the uninitiated. Don't worry, though – over the next few pages we'll be lifting the lid on that unassuming grey box, and stripping away the mystery surrounding its components.

By arming yourself with a little understanding of what goes on under the hood, you'll get a much clearer picture of what the various upgrades do, and how they can benefit you. You wouldn't fit a turbocharger to your car without at least knowing where the engine is, so why bolt pieces on to your ST without learning the basics? You don't need a propeller head to follow what goes on inside your machine, either. We'll start with a simple tour of the main circuit board and gradually delve deeper, covering all of the major parts of your ST in detail. So, grab yourself a huge cuppa and join us on a voyage of discovery inside your ST...

11

FEATURE HARDWARE

Lifting the lid

It's time to take a closer look at your ST's motherboard and see what really goes on inside that unassuming grey box.

READY BY FRIDAY, GUV

It happens to us all eventually: you switch on your ST one day, and nothing happens. Time to send for the repair man. While it may be tempting to fiddle with the components yourself, please don't treat this guide as an aid to DIY repairs – there's a lot of complex stuff inside your ST, not to mention some lifethreatening electric shocks if you're not very careful.

A professional repair is always best when something as intricate as a computer breaks down, so on page 22 we'll be showing you exactly what to do and where to go if the unthinkable does happen.

INSIDE YOUR STE







1 See point 1 from the Inside Your STFM panel.

2 The Video Shifter chip on an STE is not shielded like the STFM's. Instead of the big silver box, the STE uses Atari's custom chip to generate the video signals you need for your screen display.

3 The memory on an STE is organised very differently from that on the STFM. Gone are the surface-mounted DRAM chips, which are replaced by four Single Inline Memory Modules (SIMMs) slots. These SIMMs are easy to fit because they simply snap into place, so upgrading your STE's memory is simplicity itself if you are experienced with electronics.

- 4 See point 3 from the Inside Your STFM panel.
- 5 See point 5 from the Inside Your STFM panel.
- 6 See point 4 from the Inside Your STFM panel.
- 7 See point 7 from the Inside Your STFM panel.
- 8 See point 6 from the Inside Your STFM panel.
- 9 See point 14 from the Inside Your STFM panel.
- 10 See point 8 from the Inside Your STFM panel.

11 The 68000 is the single most important chip on your ST's circuit board. The Central Processing Unit (CPU) is a massive number cruncher, capable of performing thousands of calculations each second. Ultimately, it is these calculations which govern the screen display and functionality of a program. Think of it as the big boss, telling all the other parts what to do.

12 The combined Blitter, Glue and MMU chip is a custom chip made by Atari in order to save space on the STE's motherboard. The MMU section handles data storage and retrieval, the Glue section acts as a foreman, holding the whole system together, while the Blitter quickly shifts graphics around the screen without the need for direct CPU processing.

13 The System Crystal runs at 32MHz and is used as a reference to keep the computer in sync with itself. For software where the timing is critical, such as MIDI sequencing, accuracy is vital and this is where the System Crystal comes into play.

14 The analogue joystick ports, which are unique to the STE, have been sadly under used by software developers, although some new games now use the Jag's Powerpad in these sockets.

15 See point 15 from the Inside Your STFM panel.

INSIDE YOUR STFM

1 The MIDI ports are mainly used for connecting synthesisers and sound modules. These serial ports can also be used to network two or more ST's together if you have the right software, such as the PD utility Little Net.

2 This is the memory for a 1040 STFM, which is mounted directly on to the circuit board. The STFM uses Dynamic Random Access Memory (DRAM) chips, which have to be soldered into place. The power supply sits directly over the memory.

3 The modulator enables you to use a standard television set with your ST. It converts the direct video signals, which are suitable for a proper colour monitor, and converts them into RF signals, which are similar to actual TV broadcasts.

4 This is the Yamaha Sound Chip, which is responsible for the various clicks and squawks of which your ST is capable. It also helps to control the printer port, disk drive and serial port.

5 The WD1772 chip controls access to the floppy disk drives.

6 The Direct Memory Access (DMA) chip controls access to your hard drive, enabling your ST to receive data at around 1Mbyte per second, without using the CPU. Naturally, this relies on your hard drive being able to deliver data at this kind of speed.

7 The Multi-Function Peripheral (MFP) chip is mainly used to drive the serial port for modem access. It also helps out with printer port control.

8: The Asynchronous Communications Interface Adaptor (ACIA) chips are

used to process data sent from and to the MIDI ports and keyboard. The keyboard processor and MIDI ports deal with data in serial form and this needs to be converted by the ACIA chips into a parallel format before it can be processed by the CPU.

9 This silver box contains the Video Shifter chip which generates your screen display.

10 These four chips are memory buffers that help to speed up the system's performance.

11 The Glue chip co-ordinates the interaction between many of your ST's components. Think of it as the chief foreman who keeps all the other systems in check.

12 This is the main Central Processing Unit (CPU). It handles the binary calculations necessary to run all computer programs.

13 The MMU works hand in hand with the CPU to pass data to and from the Random Access Memory (RAM). The MMU is crucial in governing how much memory your ST can handle and how fast it can access it.

14 The TOS chips are the Read Only Memory (ROM) chips that store the basic system software. When you see the standard Atari desktop, it is loaded from the TOS ROMs.

15 The cartridge port was designed as a quick way to input data into your ST. Although little software was supplied on cartridge, a wealth of other uses have been found for this port. FEATURE HARDWARE



Okay, so you know your way around the ST's motherboard, but what do all the different components do? Frank Charlton explains all.

our ST is a complex beast, full of integrated circuits, resistors, capacitors and other components. While you don't need to know what every part on your ST's motherboard does, it helps to understand the basics. Over the next four pages, we'll delve deep into your ST's innards, and explain just what everything does...

ACIA chips

All Atari computers, from the STFM up to the Falcon, use two Motorola 6850 ACIA



These are the two ACIA chips.

chips. Since the ST's CPU deals with data in a parallel format, data coming from devices or ports in serial format – such as that from the MIDI port – needs to be converted.

One of these chips deals with the operation of the ST's MIDI interfaces, while the other talks to the Keyboard Controller chip to handle the data from the keyboard, mouse and joysticks.

Blitter

An acronym for Bit Block Transfer Processor, the Blitter is an Atari custom-designed chip that moves chunks of graphics data about the screen without using the processing power of the main CPU. A 68pin chip, the Blitter takes 16 data and 23 address lines, and has its own separate memory. Essentially, it's a hardware implementation of Atari's orig-

JARGON BUSTERS

Serial data: data is sent as a long string, one piece at a time; data that is waiting to be transmitted is queued up until it can be sent. Serial data is used for modem transmissions and some old printers.

Parallel data: unlike the single-byte serial format, parallel data is sent eight bytes at a time across separate lines. Parallel connections are used by printers, and work much faster than serial connections.

Data lines: these are hardware connections between one device (or component) and another along which data can be both transmitted and received.

Address lines: these are hardware connections that enable devices to access the CPU's address registers, areas where addressing information is stored.

System bus the ST's main path for data transmission, the system bus handles most of the data within the ST.

Dougles a hardware device used for copy protection. The software querys the relevant port to see if the dongle is attached, refusing to run if it's not present.



This is a side-on view of the cartridge port.

inal BitBLT code. The Blitter chip shares the system bus with the CPU though, so isn't 100 per cent independent. The Blitter was fitted on the original Mega ST models, as well as all STE and Falcons. The TT doesn't have a Blitter chip.

K K C M M A S A

Cartridge port

The cartridge port was originally designed to accept plug-

INSIDE YOUR FALCON

As the Falcon is housed in a slightly modified ST case, you'd be forgiven for thinking that its innards are essentially the same as its predecessors. The Falcon is much more than an upgraded ST or STE, though – it's a completely new computer in its own right. Atari dispensed with, and changed, a number of design elements featured in the Falcon's predecessors, some of which brought the Falcon into line with industry standards, while others ironically moved it in the opposite direction. Here we'll concentrate on the major changes that appeared in the last Atari computer produced to date.

1 The Floating Point Unit (FPU) socket. This is a standard chip socket designed to house the Motorola MC68882 FPU, or maths co-processor, chip. The 68882 improves the Falcon's speed by quite a thwack when dealing with complex calculations, but only if the software, like 16/32's *Xenomorf*, is designed to make use of it. The FPU isn't fitted as standard, but is easily installed.

2 The RS232 port. Unlike the ST's older 25-pin connector, the Falcon uses a modern 9-pin socket for connecting serial devices like modems. You can buy a 25- to 9-pin adaptor to hook up standard modems from any good electrical store.

3 The internal hard drive connector. This row of pins is how the Falcon communicates with its internally fitted IDE hard drive. Some Falcons are supplied without the drive, but if you have a drive bracket and a standard IDE cable, you can easily fit one.

4 The monitor port. In order to cope with the Falcon's massively enhanced graphics, Atari fitted a 19-pin analog monitor port that enables you to connect your Falcon to a PC-standard VGA monitor. You can still use older ST colour or mono monitors, but you'll need one of Atari's adaptors.

5 The SCSI-2 port. Finally dispensing with the non-standard DMA port, Atari fitted a full SCSI-2 interface to the Falcon. This is where you attach SCSI hard drives, CD-ROMs and scanners, using a special 50-way cable.

6 The stereo sound in/out sockets. Two mini-jack sockets provide access to the Falcon's superb sound system. One provides stereo output at up to 48KHz, while the other accepts stereo audio at microphone level – that is, an unamplified, quiet signal.

7 The DSP interface. This 26-pin connector gives you direct access to the DSP chip, and is used by devices like the FDI interface provided with Cubase Audio.

HARDWARE FEATURE



Meet the disk controller chip, or the WD1772, as its known to its friends.

in cartridges containing programs and data of up to 128K in size, much like the game cartridges on Atari's 8-bit machines. Little software was released like this, though, mainly due to high prices and the limited storage space (notable exceptions are Fast BASIC and BackPack, both from Computer Concepts). The port is now mainly used to connect external devices, such as sound samplers, video digitisers and hand scanners, as well as security 'dongles' for programs like Cubase. It's also



The DMA chip (above the TOS chips) handles intensive data transfers.

used to connect diagnostic cartridges to find faults prior to repair.

Disk controller

This is the WD1772 chip, manufactured by Western Digital, which is used to control all floppy disk processes. It accepts calls from TOS to read, write and access a disk, and converts those calls to the electrical impulses required to move the drive's stepper motors and disk heads.

The WD1772 was replaced by Atari's AJAX chip in the Mega STE, TT and Falcon computers. AJAX is essentially an enhanced WD1772 chip with clock-speed modifications, which are necessary to handle the rare enhanced highdensity and enhanced-density disk formats.

DMA chip

The DMA chip is an Ataridesigned custom chip made to handle intensive data transfer without overloading the ST's CPU. For obvious reasons, speed-critical tasks – such as accessing a disk or transferring data from a hard drive – need to be very fast and free from errors. The DMA assists with these tasks, as the CPU couldn't cope alone.

The DMA chip also interfaces with hard drives and some printers (like the original Atari laser printers) via the DMA port. In addition, it provides enhanced sound capabil-



The Glue chip on the STE is hidden away in thi MCU chip, along with the MMU and Blitter.

ities in the STE, TT and Falcon models, and enables processorintensive activities, such as playing sound samples, to be carried out without straining the CPU.

Glue chip

The Glue chip is only present as a separate device in the original STFM design. A sort of 'housekeeping' chip, it gets its name from the fact that it supposedly 'glues' other components together, helping to integrate and manage them. In later Atari machines, such as

8 The DSP chip. The Motorola MC56001 Digital Signal Processor provides a major portion of the Falcon's power. It's a chip designed to work with digital data very quickly, and forms the core of the Falcon's sound system. It can also be used for complex graphical manipulation.

9 The Falcon Memory Board. Atari dropped the STE-style SIMM boards in favour of its own design. A single plug-in memory board provides configurations of 1, 4 and 14MByte.

10 The cooling fan. This cools the Falcon's internal components, especially the RAM board.

11 The Expansion Bus connectors. These consist of one 30-pin and one 50-pin interface, both designed as 'processor direct' expansion slots. They communicate directly with the Falcon's CPU for high-speed access. Hardware devices such as Titan's brilliant Éxpose video digitiser use these connectors.





the STE and TT, the Glue chip was replaced with a single chip known as the Memory Control Unit (MCU), which is basically a combination of the MMU and Glue chips.

Keyboard Controller

Unlike other computers, the ST range has a dedicated keyboard processor chip fitted as standard. The HD6301 handles

On the right are the STFM's DRAM memory chips. These were changed for SIMMs on the STE.

As you'd imagine, the keyboard controller chip handles data from the keyboard, mouse and joysticks.



THE MODULATOR

The ST is designed to display its output on a dedicated monitor screen. To that end, the video signal is sent to the monitor as an RGB (red, green and blue) signal. Atari was smart enough to realise that not everyone can afford a monitor right away, however, which is where the modulator comes in.

The modulator takes the RGB video signal, and 'converts' it into a radio frequency signal. Put simply, it mixes the dedicated RGB monitor signal with a radio frequency signal in the UHF (Ultra

High Frequency) range to produce a signal that any domestic telly can receive and display. Because the signal is mixed, the quality isn't as high as the original RGB output, which is why TV sets produce fuzzier pictures than dedicated computer monitors.

all input from the keyboard, mouse and joysticks without using the CPU. The HD6301 is similar to the dedicated CPUs used on early home computers, with a full 8-bit microprocessor and 4K of ROM. It also contains the ST's real-time clock, which counts in increments of one second. The HD6301 communicates with the motherboard via a serial link, which is similar to a



modem port except that it runs at the slower rate of 9,600 bits per second.

Memory

The ST's memory chips provide the Random Access Memory your ST needs to operate. On the original STFM, the memory consists of single DRAM chips, which are soldered directly to the

> STFM motherboard. The main effect of this design is that it's more difficult to upgrade an STFM's memory, as soldering is almost always involved.

With the release of the STE, Atari designed the motherboard to accept the industry-standard Single Inline Memory Modules (SIMMs).

There are four slots, and slots one and three must always be occupied. With SIMM sizes of 256K and 1MByte, your STE's memory can be configured to either 512K, 1MByte, 2MByte or 4MByte.

Main CPU

The Central Processing Unit (CPU) is the heart of your ST. The CPU inside the ST and STE is the Motorola MC68000, as used by the original Amiga and Apple Mac computers.

On enhanced machines like the TT and Falcon, the 68000 was replaced with the



It doesn't look like much, but the CPU is responsible for all the binary calculations you need to run any software.

superior MC68030 chip. Along with a number of other improvements, the 030 speeds up operations and provides on-board instruction caches.

MFP chip

MFP is an acronym for Multi-Function Peripheral, and all Atari machines possess at least one of these Motorola MC68901 devices.

True to its name, the MFP handles lots and lots of tasks, including system timers (for synchronising your ST's components) and the management of serial ports. Essentially, it's an input/output manager for all serial data on the ST. The Mega STE and TT models use two of these chips, giving you two serial ports as opposed to the STFM's one.



The lower chip shown here is the MFP.





The back of your STE provides a host of sockets and ports to talk to other peripherals. If you've got an STFM, it isn't radically different – the STE simply has an additional two stereo outputs.

1 The RS232 Serial port. This 25-pin connector provides a serial interface that enables your ST to communicate with the outside world using gadgets like modems.

2 The parallel port. Another 25-pin connector, the parallel port is generally used to connect a printer to your ST, although other external devices, like sound samplers, can sometimes find a home here.

3 The DMA port. This 19-pin connector provides high-speed connections for DMA devices, such as hard drives or the Atari laser printer.

4 The external floppy disk port. This 14-pin connector provides your ST with an interface to a second 720K floppy disk drive.

5 The RF Output. This is a standard phono connector that enables you to plug your ST into an ordinary television set



6 The monitor port. This is a 13-pin connector that enables you to connect a dedicated RGB colour or high resolution mono monitors to your ST. Pin 13 is called the 'monochrome detect' pin (if a pin is present here, the ST boots in high resolution mode). You shouldn't fool with this pin as it could damage a colour monitor.

7 The on/off switch.

8 The stereo outputs. This pair of standard phono connectors provide true stereo sound output to an external amplifier or recording device.

9 The power connector. An industry standard 3-pin power connector, supplying 240V to the internal power supply board.

10 The reset button. This performs a 'warm' reset of your ST: TOS is reloaded from ROM and the ST reboots, but without the full initialisation cycle which happens when you turn the power switch on.



The square chip is the STFM's MMU. This was incorporated into the MCU on the STE.

MMU

The MMU interfaces with the ST's main CPU, and deals with all its requests to access the system's memory. The original STFM MMU also assisted the Video Shifter in the task of producing the ST's video signal. Despite the fact that the ST's 68000 CPU is capable of accessing up to 16MByte of RAM, the MMU only lets you address 4MByte. This limitation is due to the fact that Atari decided to opt for a lower power MMU during the computer's original design.

Power supply

Unlike the Amiga, the ST's power supply is fitted inside the case. It sits on its own dedicated board, which is attached to the top left corner of the motherboard by screws. The



The Yamaha YM-2149 chip.



Sound chip

The original STFM comes with a fairly basic sound chip, the Yamaha YM-2149. The chip features three independently programmable sound or tone generators and a 'white noise' generator, which is often used to add 'percussive' effects. It also has a mixer stage to combine the tone and noise channels. Each channel can generate pure tones from 30Hz to 125KHz. The chip also has two 8-bit parallel ports, and is used as a secondary controller for the ST's parallel printer port. Despite the enhanced sound capabilities of the STE, TT and Falcon, the YM-2149 still exists to keep the newer machines backwardly compatible.

Video Shifter

The Video Shifter is another Atari-designed custom chip.





The Video Shifter generates the signals you need for your screen display.

The Shifter converts data held in the ST's memory into a format suitable for output via the dedicated monitor port or modulator. The signal produced can be either monochrome (for high resolution) or made up of separate red, green and blue components.

With the STE and TT's

enhanced graphics modes, the Shifter was redesigned to cope with the extra colour palettes. The TT, on the other hand, uses a completely separate Shifter chip, which is based on a chip produced by the National company, to generate the monochrome display known as 'TT High'.

A RIGHT LOAD OF TOS

The Operating System (TOS) is the part of your ST that runs the whole show. The ST's operating system connects and manages the complex hardware, and provides an interface from that hardware to GEM, the graphical user interface we all know and er, love. The very first version, TOS 1.0, was loaded from floppy disk; the ST only held a small section of the

operating system in ROM.



This was known as a 'bootstrap', and was used to load TOS from disk. TOS 1.0 also appeared as ROM chips on the motherboard, as has every version since then.

Because of the different hardware used in Atari's range, TOS is supplied on different chip configurations. All versions up to and including TOS 1.4 (Rainbow TOS) were 192K in size and appeared on either two or six chips. STE TOS (versions 1.6 and 1.62) filled 256K and appeared on two chips, as did the range know as Mega STE TOS, which finished with TOS 2.06. Version 3, which was created for the TT, was supplied as a set of four chips totalling 512K, and the Falcon's TOS 4 finally made it on a single 512K chip. EATURE HARDWARE

The quick fix

Repairs, upgrades and crushed ST's, Dave Escott deals with them every day at The Upgrade Shop.

ver the last two years, The Upgrade Shop has grown from a tiny business into one of the major suppliers in the ST market. Dave Escott, the proprietor, and his meagre staff work very hard to make The Upgrade Shop and its research company TUS Developments the success that it is. As Dave says: "Our aim is to make The Upgrade Shop the simplest and most cost effective answer to all ST related problems or upgrade needs.

"We like to offer a door to





Fitting an external or internal high density floppy drive can make a big difference to the way you use your ST. The heart of the upgrade is the tiny, high density drive module designed by Dave Escott.

door service, so that all people have to do is to package up their computers properly and we do the rest. The machines are picked up by our couriers, brought to us, then returned to the customer as soon as the work is completed."

As well as mail order, TUS offers a full while-you-wait service by appointment. Simple repairs and upgrades can often be completed within two hours, just time for you to look round nearby Macclesfield town centre.

Repairs

Everyone wants his computer back as quickly as possible, so we asked Dave how important a quick turnaround of repairs was to him.

"Obviously I like to get things back to the customer as quickly as possible, but there is the question of cost to be considered. It is possible to do a blanket repair to a computer by replacing every part related to the problem.

"This would be rather costly and wasteful, so I prefer to test each machine carefully and locate the exact cause of the problem, which may mean replacing just one component instead of quite a few. This means we can save the customer money and give a good level of service."

DON'T DO IT...

If you've ever soldered an audio plug successfully, you may feel tempted to have a shot at repairing your ST when it goes wrong. Obviously many people do just this, because The Upgrade Shop's shelves are laden with the results. The simple truth is that, unless you really know what you are doing with electronics and understand in detail the way your ST works, you will probably end up creating more problems than you solve. Something can look very simple, but often turns out to be more complex than you thought.

As Dave Escott of The Upgrade Shop says, "Much of the work we do involves cleaning up what others have done. People who delve inside their ST's without the proper knowledge usually end up causing damage. A typical example is someone not realising that a chip is soldered to the board and trying to remove it as if it is a socketed chip. The result is a cracked chip and, quite possibly, a hole in your circuit board."

TUS Developments

When Dave's not fitting and selling upgrades, he's busy designing them. He prides himself on coming up with ideas that are original, or provide a more elegant way of approaching a problem. An example of this is



A hard drive truly transforms the way you work and can make your ST seem more powerful than ever. The Upgrade Shop produces sturdy and reliable drives at a budget price.

TUS's new TOS 2.06 upgrade, of which Dave is rightly proud. "People are unwilling to solder inside their ST's, and they're not keen to take the internal shielding off. Initially, all TOS upgrades required switching between the fitted TOS ROMs and the new ones, so some soldering or clipping had to be done.

"We eclipsed the problem by simply using both sets of ROMs on the same, external chips. The upgrade can then be fitted without removing the ST's shielding, and the only remotely hard part is fitting the switch on the side. Even so, some people prefer to have it fitted professionally, but electronics hobbyists will find it a piece of cake to fit."

But what does he find most difficult about the design process? "Almost as hard as designing the upgrade is designing the instructions. My years of experience on the telephone, giving support, has taught me what people need to know and I try, as far as possible, to deliver it." stf

COMMON ST FAULTS



The most common fault on an ST is a broken power supply. This is a component which you can replace yourself providing you have some very detailed instructions.



If you drop something on to your ST from above or lean on it too heavily, the keyboard's printed circuit board is pierced by a support located directly underneath it.



Plugging and unplugging your joystick and mouse will weaken the solder joints on these ports. As soon as your joystick starts to misbehave you should get the ports resoldered.



As disk drives wear out, the heads can go out of alignment. Sometimes the metal cover on a floppy disk fails to close properly and literally pulls the drive head off as it is removed.



If you have a screw loose inside your ST, it's important to remove and secure it immediately. If it ends up on the legs of a chip like this, it can short out the chip and literally blow it up.

THE IMPORTANCE OF PACKAGING

If your ST needs to be upgraded or fixed, it's imperative that you use substantial packaging. Otherwise, it will end up needing more repairs than you bargained for. The Upgrade Shop uses special insurance to cover items in transit, but damage claims are not accepted unless there is at least 5cm (2 inches) of packing all the way around your ST and the whole thing is in a sturdy cardboard box. If you use your ST's original packing, make sure you reinforce the bottom with some tape as it is liable to burst open. You will be liable for any damage done to your ST if it is not correctly packed.

Dave Escott mentioned one individual who chose to use no packaging at all. "When the courier arrived he simply unplugged his ST and handed it to him. He thought that a courier pickup meant that packaging was included. Another person put his computer in a plastic carrier bag and sent it off. More often, a cardboard box is used, but with insufficient packaging, leaving the ST prone to damage once again. A computer is a delicate piece of electronics, it is a wonder that people don't treat them with a bit more consideration."



The revolutionary TUS Developments TOS upgrade board is remarkable because it holds both TOS 2.06 and TOS 1.62 on the same chips. Fitting is easier than any other TOS upgrade ever produced.

AT YOUR SERVICE

All the prices stated do not include fitting or postage unless stated.

The Upgrade Shop 37 Crossall Street, Macclesfield, Cheshire, SK11 6QF © 01625 503448

While you wait service: yes (by arrangement) Type of post used and cost: courier pickup £7, return £7

STE upgrade to 1Mbyte: £7.50 (inc postage) STE upgrade to 2Mbyte: £42.50 (inc postage) STE upgrade to 4Mbyte: £82.50 (inc postage) TOS 2.06 upgrade: £47.99 Replacement power supply: £32.99 Replacement internal floppy: £39.99

Analogic

Unit 6, Ashway Centre, Elm Crescent Kingston-Upon-Thames, Surrey KT2 6HH \$\pi\$ 0181 546 9575

While you wait service: yes Type of post used and cost: courier pickup £7.05, return £7.05 STE upgrade to 1Mbyte: £9.95 STE upgrade to 2Mbyte: £49.95 STE upgrade to 4Mbyte: £99.95 TOS 2.06 upgrade: £54.95 Replacement power supply: £24.95 exchange, £49.95 new Replacement internal floppy: £39.95

System Solutions Windsor Business Centre,

A DAY AT THE UPGRADE SHOP

The Upgrade Shop is a busy place, the phone constantly rings with people wanting to place orders or receive advice on how to use equipment they've purchased. There are often deliveries of stock items to be dealt with, and even people calling in the hope of having their ST mended or upgraded on the spot. In between this stream of phone calls, though,



Another faulty STe gets checked out at The Upgrade Shop.

Dave and co follow a schedule that looks something like this...

9.00am Open the postbag.

9.30am Draw up a list of items which have to be dispatched today.

9.45am Ring the courier for the day's collections.

10.00am Transfer all new orders to the computer database.

10.30am Decide what upgrade and repair work needs to be done today.

12.00pm Repair and upgrade work on machines.

1.30pm Lunch (if there's time).

3.00pm Packaging items for the courier pick-up.

4pm The courier arrives to pick up the day's packages.

4.15pm Prepare postal items to go out. (Invoices, smaller upgrades, etc)

5.00pm Get everything to the postbox.

8.00pm Dave's evenings are devoted to product development, and testing or writing software.

Vansittart Road, Windsor SL4 1SE # 01753 832212

While you wait service: yes Type of post used and cost: courier pickup £10, return £10 STE upgrade to 1Mbyte: £18.95 STE upgrade to 2Mbyte: £59.95 STE upgrade to 4Mbyte: £109.96 TOS 2.06 upgrade: £69.95 Replacement power supply: £39.95 (Atari) Replacement internal floppy: £59.95 (Atari)

FAST Atari Repairs 144 Tanner Street, Tower Bridge London SE1 2HG # 0171 252 3553

While you wait service: yes Type of post used and cost: courier pickup £6.50, return £6.50 STE upgrade to 1Mbyte: £10.99 STE upgrade to 2Mbyte: £58 STE upgrade to 4Mbyte: £116 TOS 2.06 upgrade: n/a Replacement power supply: £25.50 exchange unit Replacement internal floppy: £39

First Computer Centre Unit 3, Armley Park Court Stanningly Rd. Leeds LS12 2AE = 0113 231 9444

While you wait service: phone and check Type of post used and cost: courier pickup £11, return £5 STE upgrade to 1Mbyte: £9.98 STE upgrade to 2Mbyte: £59.98 STE upgrade to 4Mbyte: £119.96 TOS 2.06 upgrade: n/a Replacement power supply: £39.99 Replacement internal floppy: £49.99 (Atari)

Ladbroke Computing 33 Ormskirk Road, Preston Lancashire PR1 2QP \$\pi\$ 01772 203166

While you wait service: same day service (£15 surcharge)

Type of post used and cost: Parcelforce pickup £11, return £7

STE upgrade to 1Mbyte £4.99 STE upgrade to 2Mbyte £44.99 STE upgrade to 4Mbyte £89.98 TOS 2.06 upgrade: £65 Replacement power supply: £29.99 Replacement internal floppy: £19.99

Compo Unit 3, Green Farm, Abbots Ripton, Huntingdon PE17 2PF # 01487 773582

While you wait service: yes (by prior arrangement) Type of post used and cost: Courier Return £10 STE upgrade to 1Mbyte: £9.99 STE upgrade to 2Mbyte: £45 STE upgrade to 4Mbyte: £90 TOS 2.06 upgrade: £39 Replacement power supply: £39 Replacement internal floppy: £39

Twist 3

HiSoft has finally released the latest version of its all-singing, all-dancing database program, and Peter Crush has been twisting the night away in anticipation.

> n interesting database program may sound like a contradiction in terms.

but HiSoft's Twist manages

to be just that. In issue 65 we reck-Twist 3, you may be oned version 2 surprised by its was ideal for stark appearance business use, and so we awarded it 83%.

Version 3 has been in preparation for quite some



Is Twist 3's interface too simplistic, or clear and uncomplicated? It all depends on your point of view.

time, so we couldn't wait to try it. It comes on a doublesided disk, and you get both the original version 2 manual

and a smaller 32-page When you first use

supplement which covers all the new features. These additions are described in

the 'New features' panel on the facing page.

> Cue music Twist 3 is from the Mermaid Group, the Danish programmers who wrote the multi-purpose Accessory, Harlekin. Twist 3 works on any ST, STE, TT or Falcon with 1MByte of RAM and a



double-sided disk drive. We recommend you use it with at least 2MByte of memory and a hard drive though.

Twist 3 has been coded to take advantage of SpeedoGDOS or NVDI, enabling you to use Speedo or TrueType fonts in place of the usual ST system font. This means you can use fancy text, in sizes of your choice, both on-screen and in your printouts.

In common with most modern applications, you have to run an installation program before you can use Twist. It's all fast and easy: the installer simply creates the required files and writes them to your chosen destination, which can be either a floppy disk or hard drive. Note that the original master disk isn't copy-protected, so you should make a working copy before installation,

saving the original as a backup in case of accidents.

Cue lights

When you first use Twist 3, you may be surprised by its rather stark appearance, but don't let its clean lines and simplicity fool you - lots of features are hiding behind the scenes. Twist 3 just doesn't bombard you with options until you actually need them.

You could probably start using the program without



Icons for your data files can be placed on Twist 3's desktop to give you easy access to them.

TERMINOLOGY

There now follows a short Open University-style film entitled "Getting to Know about Database Programs".

The opening scene is a busy magazine office at the West Country headquarters of Futuristic Publishing. The camera zooms in to a large leather-topped desk where tough, cigarchomping editor (played by Karen Levell) is carpeting a mild-mannered reporter. "I don't want any more of your excuses, Peers. I want results! Why can't I ever find features or reviews when I need them? Get out of my sight, and don't come back until the whole thing is sorted."

As Nick backs out, bowing and scraping, a BBC2-type voice-over says: "What Nick needs is a DATABASE PROGRAM. It will help him to organize all the information needed quickly and efficiently. Let's see how he sets one up."

Scene shifts to Nick in front of his trusty ST

as he muses. "Hmm.., I'll need to set up a reviews FILE using my favourite database program, Twist 2 (this is an old film, remember). I think this file should include all the reviews and articles ever done in ST FORMAT. That'll please the editor, then perhaps she won't be quite so beastly to me."

Nick flicks through the back issues in deep concentration, but how can he sort it out all out?

Cut to bearded professor wearing flared brown corduroy trousers (played by Frank Charlton) who wisely counsels: "Nick will have to set up FIELDS to contain his information. Each field will contain a different type of data, so there will be one field for the name of the item reviewed, a field for the number of the issue it was in, and perhaps another field for the score it received. You can have as many fields as you want in your file". Film speeds up as Nick types furiously, entering 78 issues of ST FORMAT in

about ten seconds of screen time. Mops brow, and SAVES all the data on to hard drive, with a backup copy on floppy disk.

Next scene opens with Nick dropping a jiffy bag into the postbox; voice-over says: "Now the data is safely on disk, it can be sent to another person who has the database program, enabling them to use it on their computer too". Nick posts the disk to ace freelance reviewer (played by Peter Crush. He could send it by modern, but the film needed a colourful street scene).

Peter loads Nick's data, SEARCHES for particular products, and generally finds it all jolly useful. He even uses some of it in his review, taking all the credit in his usual crafty manner. Karen gives Peter a pay rise and sends Nick off to make the coffee. Roll credits, film fades out to music of Twisting The Night Away.

(Editor's note: all characters portrayed in this film are entirely fictitious. Especially Nick.)

DATABASE REVIEW

Style	Hargins	
201 - De Mar	eight (1)	6x6 system font Swiss 721 Swiss 721 Italic Swiss 721 Bold Swiss 721 Bold Swiss 721 Bold Italic Dutch 801 Roman Dutch 801 Italic Dutch 801 Bold Dutch 801 Bold Dutch 801 Bold Dutch 801 Bold Dutch 801 Bold Swiss 721 Bold Italic Dutch 801 Bold Dutch 801 Bold Swiss Park Avenue Monospace 821 Bitstream Cooper Black VAG Rounded More Wingbats SWC Ace Symbol Monospaced

If you've got SpeedoGDOS or NVDI you can use alternative and attractive fonts throughout Twist 3, which means you can spuce up your reports with ease.

Creating, editing

database couldn't

or modifying a

be easier

studying the manual, but it's worth working through its 140-odd pages. Fortunately it's very easy to read, with none of the usual confusing databasestyle jargon about fields,

records and so on. If anything, it could be criticised for a slight lack of technical detail. The manual

gets straight to the point with

File

Product_Title

Issue_reviewed SEDFE

Company Type printer

an easy-to-follow tutorial, which is probably the easiest way to learn what the program can do. However, more experienced users can go straight to the particular section they need, thanks to the comprehensive index, which is a common feature of all HiSoft's products.

Twist 3 takes a modern, graphical approach to every-

Record Report

Select Cancel Expression

thing with non-modal dialog boxes and attractive pop-up menus. Creating, editing or modifying a database, such as adding or changing fields and their contents, selecting new

fonts and so on, couldn't be easier. It's also easy to create reports of your data, which can be viewed on screen, saved to disk

Cue dancers

and you can't say that about many databases. Its user friendly nature hides its true power, though - it's fully relational, and ready for most, if not all, tasks.

2, so existing users should find

(Left) Want to find

0	Database:WICK1.DB	10000	
File Record Report	3 records		
≪ ? Query D> □ 8dd	Edit & De	lete	
Product_Title	Conpany	Type	Ist Sce
Epson Stulus Colour	Epson UK	Printer	67 98
Deskjet 540	Hewlett Packard	Printer	72 91
DeskJet 688	Hewlett Packard	Printer	78 98

Databases are either relational or flat-file. As a rule, relational databases are more powerful, while flat-file databases are easier to understand.

Database:NICK1.DB

Eind Text

Type

The term 'relational' refers to the ability to link information between files. Going back to our ST FORMAT Reviews database (see the Terminology panel), you could set up a database for all the reviews, and a second one for the companies involved. The Companies database could include details of their head offices, phone and fax numbers, contact names and other relevant information.

ALL RELAT

Instead of having to type all the information

or printed out.

Twist 3 is easy and fun to use,

It's very similar to version

the printers reviewed? Enter 'printer' in the right box.

, and click select.		PET	FER CRUSH
COLUMN TWO IS NOT	Database:WICK1.DB	APPROX Dates	A DESCRIPTION OF
le Record Report	1 records		
? Query D Add	Edit & De	lete	Set the set
reduct_Title	Congang	Type	Ish Sce
oson Stulus Colour	Epson UK	Printer	67 98 0
eskjet 540 eskjet 680	Hewlett Packard Hewlett Packard		72 91 78 98

Twist 3 searches the file and lists all the printers discovered. In this case, we found three models in a small example file.

about, say, Hewlett Packard every time you enter one of its printers in the Reviews database, you can link the two files together. In this way, information about HP can automatically appear in all files relating to its products in the other database. You can't do this with a flat-file database, which produces one-dimensional files that cannot have links.

Twist 3 is a relational database, making it more powerful and flexible than other packages. However, making the most of this feature requires a little planning before you set up your data. See STF 68 for a tutorial on linking two databases together.

NeoDesk File Settings Optio	Ins		1/11/95 00:00
About NeoDesk ^A 20 Miste EdHak 3.01 * Imagecopy 4 Mouse Tricks	GATIA CATVE	Clippoird	PACIDISE
0	atabase:WICK1.DB	1111日日日1111日日	8
File Record Report	57 records		and the second second
	Edit A De		1
Product_Title	Conpany	Туре	1sh Sco 67 93 9
Imagecopy 3.5 (CD) Obsession APEX media Touch-Up 2.5 O.C.R. HD Internal Drive Kit Stardust Pinball Dreams Space Quest		Art Game Art Utility Utility Hardware Game Game Game	67 94 68 93 68 88 68 75 68 85 68 94 68 88 68 38 0
0	The same in the	the state of the state	0 1
Trash UVA C. C. P. PRG	ACORSE PRO	STZIP .PRG	Printer

Wow, you can run Twist 3 as an Accessory. You can even use the Chameleon DA loader to install it after you've booted up.

NEW FEATURES

Twist 3 can be run as an Accessory, which is handy if you need to look up data while using another GEM-based program.

It is MagiCMac compatible, so you should be able to run it on an Apple Mac computer (assuming you have MagiCMac - see issue 77 for a full review).

- It now offers high-quality printed output through SpeedoGDOS or NVDI, and can print address labels in columns.
- 'User-definable dialog boxes' enable you to set up Twist so that a dialog box appears before the query string (entered in reports, updates, mailmerge, import and exports operations or simply before a predefined query is performed).

The document editor has acquired an extra graphic printing capability, and can be switched to graphics mode. This enables rulers, GDOS fonts, selectable point sizes, tags and a different page size dialog to be used in your databases. Files saved by the editor contain extra information which enables it to select the correct mode when the file is reloaded.

A direct search option has been added.

said Twist 3 was too simple?

Double-clicking often enables you to

edit and adjust all kinds of details. Who

adapting to the latest version

in either version of the pro-

gram are totally compatible.

on previous releases, and the

well worthwhile. Perfect for

home or business use. stf

extra features make upgrading

Twist 3 is an improvement

easy, especially as files created

Batabase:HICK1.00 List field t_Tit boy J ion edia Up 2. Farmet 15...... Conpany O Labgl · Record O Both 6x6 system font 0 Bold rnal Eant Italic Size Black I Celer D frag Botted, Thick Black Line Change all Del How DK Cancel Desert Star Psygnosis Hustler The Beast 2

Product: Twist 3 Price: £89.95 (upgrades available) Contact: HiSoft Tel: 01525 718181 Min System: Any 1MByte Atari

Twist 3

HIGHS

VERDIC

S

STF VERDIC

•

ERDIC

Slick and modern Intuitive in use

- LOWS
- Manuals insufficiently detailed in some areas

n short...

Twist 3 is now the best ever database program for the Atari. We think so, anyway.

REVIEW PRINTER

DeskJet 600

Another month, another Hewlett Packard inkjet. Peter Crush performs a level one diagnostic on the new, low-cost DeskJet 600.

ariations on a theme seems to be the phrase whispered in the corridors of Hewlett Packard's HQ at the moment as the DeskJet 600 replaces the six-month old *FORMAT* Gold-winning DeskJet 540 (*STF* 72, 91%).

The new inkjet shares the previous model's updated, modern shape, and the mechanism under the bonnet is essentially the same – albeit with some improvements on the technical side. So, what's the difference, and how come Hewlett Packard has updated it so quickly?

The answer lies in Hewlett Packard's desire to offer standard features throughout its range. From now on all its inkjets will support a wider range of paper sizes and media, and offer colour capability. So, while the 600 is actually a monochrome machine, you can, at any time, take out the black cartridge and snap in the colour one, which is offered as an optional extra.

Rich inks

The pigment-based black ink used in its latest printhead cartridges provides a richer black with smaller, more defined dots, while the dye-based colour inks offer vibrant colours that dry quickly. The new printheads are also slightly different to the older ones, which won't fit this new inkjet. Another major feature is the increased monochrome resolution of 600 x 600dpi.

You need to supply your own parallel cable, but everything else you need, including the mains power unit, black ink cartridge and first-rate



manuals, is there. If you want to print in colour you can buy an optional kit for about £35.

Like most modern printers, the 600 has very few controls buttons – just the one, in fact. This simplifies operations, but prevents you from adjusting anything directly. All you get is an on/off switch and a button to form-feed the paper. The built-in sheetfeeder is pretty nifty, with adjustable guides that accommodate almost any size of paper.

Also included in the 600 bundle is a set of floppy disks containing *Windows* and *DOS* printer drivers and control software. Naturally, these are rather redundant on an ST, so you need to ensure you have a suitable DeskJet driver to get the best out of the machine.

The DeskJet 600 is a slick performer, cheaper and smaller than before, but with all the features you want. It's quiet, speedy and the cyan, yellow and magenta ink in the colour kit produce a better composite

TECH SPECS

Weight: 5.3kg Size: 436mm x 199mm x 405mm Power: 12 watts when printing, 4.5 watts during standby Resolution: 600 x 600dpi black text, 300 x 300dpi colour Built-in fonts: Courier, CG Times, Letter Gothic and Univers - all available in various point sizes, styles and pitches Media handling: Built-in automatic sheetfeeder handles 100 sheets of all common sizes; up to 20 envelopes may be loaded at a time; custom sizes are also possible; labels, cards and transparencies can be used too Printer language: HP PCL Level 3 **Connection: Parallel printer port**

'black' than the muddy, dark brown produced by previous models. If you need a mono inkjet this is a great buy, and you can turn it into a colour printer for just £35 more. stf PETER CRUSH

Product: DeskJet 600

Price: £275 (but shop around) Contact: Hewlett Packard Tel: 01344 369222

ON TRIAL

Text output

To evaluate the 600's text output we used Protext 6 with the DeskJet 550C printer driver, which is the 'nearest' one Protext currently supplies. Printing was fast: about 40 seconds for our test page of 60 lines with the black cartridge, and two minutes using the colour printhead. Protext also had no problem using the 600's built-in fonts.

o you've got your NT complete with Wordprocessing. Graphics and Desktop Publishing programs, but access of later you will want to get those mainterplaces you have created off the screen and onto paper. In the over 60% of ST FORMAT readers have already plashed out their hard earned dosh buying one, and nearly 30% are planning to get one soon! A primer to most essential hardwaire accessory for your ST, but buying the right one can be a dawning task. Una they, there were only a couple of choices when it came to buying a primer, a dot matrix or dairywheel inviting in was singly no dear, or hadn't been invented! But that as all charged, suddedy dairywherinters have virtually become estinct, even though they do produce first rate quality.

Hemble dox matrix primers are still around, but as the lasers and inkjets get cheaper, the lays could be numbered! With dozens of makes on the marker, and each manufacturer producing many nodels, there are hundreds to choose between. To find the correct primer for your meets you must have be best information, and in shis special feature all the loading machines are examined. Pus details on trinter Drivers, colour printing, technical hints and tips, what ST software gets the best results, it's all

Graphical output

PageStream and its printer driver were used to check the 600's graphical output. Printing an A4 advertising poster took only two minutes, including



the time to compose and send the image from the ST. The output was close to laser printer quality.

Colour output

We used Imagecopy 4 set at Best quality to test the printer's colour

output. As you can see, the printed pic of King Tut was quite impressive. We used the three-colour printhead (no real black ink) and all the tests were done on white copier paper.



Min system: All STs, parallel cable

DeskJet 600
HIGHS

Three year warranty
Excellent printed results
Optional kit converts it to
colour

LOWS
Has no user controls or
dip switches



ST

ERDIC



6 ST FORMAT JANUARY ISSUE 78

APEX

Intro

A baby version of APEX Media for only 40 quid? Surely it can't be much cop – or can it?

hen Black Scorpion's excellent art package and animation suite APEX Media was originally released, we happily awarded it 93% and the coveted ST FORMAT Gold award. Since then, it has been upgraded numerous times, and the price has dropped, too. Nevertheless, Titan thought some of us might like to play with the superb drawing and animation tools without lashing out for the full program - hence the



The superb animation system would be well worth £40 on its own.

WHAT'S MISSING?

Titan prefers to call Intro a 'streamlined' version, rather than a cut-down one. So, what's been shaved off in the process?

Digitising Studio: Only useful if you own Titan's Exposé or Compo's Screeneye video grabber cards, so it's no big loss for most of us. Film/Image Filters: Again, this studio is only really useful for postprocessing digitised video sequences.

Nonlinear Drawing: Intro doesn't have the analog colour masking tools.

You also lose some of the nifty drawing tools, such as the realistic airbrush. Morphing Studio: APEX Media's impressive morphing tools are gone.

If you want to use these image distortion and transformation tools, you'll have to upgrade to APEX Media.



'streamlined' APEX Intro. APEX

Intro is essentially the same as

its big brother, minus four of the studios (see the What's Missing? panel for details). Once these features have been removed – especially the superb Morphing Studio – you might expect to be left with a rather dull entity. Far from it. *APEX Intro* is an excellent Falcon art package in its own right, with a very usable animation studio to boot.

Doodles Everything

which made APEX Media a superlative art package is still there. The brilliant colour

handling, great drawing tools, and fast DSP-based cel tools APEX Intro offers some of the best block-handling tools we've seen in any art package.

UPGRADING INTRO

Titan offers a stupendously good deal when it comes to upgrading your copy of *Intro* to the full version of APEX Media. Simply send in your *Intro* master disks, along with a cheque for £60, and you'll soon be the proud owner of the full package.

Upgrading brings the total price to £99.95 – exactly what you'd pay for APEX Media in the first place – so Intro is almost a 'try before you buy' version. Furthermore, you've got Intro to play with while you save up for the upgrade.

for block manipulation are still there. Just like *Media*, *Intro* can twist, rotate and otherwise

Intro can twist and

rotate portions of

your image at a

blistering pace

t and sof your image at a blistering pace, a thanks to e efficient use of the Falcon's DSP chip. All of APEX Media's

conventional animation features are present, too. You still have full control over the powerful animation engine, and the animator can still load sequences from other machines and packages. The industry-standard FLI and FLC formats are catered for, as well as the older SEQ files from the Cyber series. Even without the powerful morphing tools, APEX is still the fastest, easiest and best animation system you can use on your Falcon.

Good value

So, is *Intro* worth forty of your hard-earned coins? We say yes, without hesitation. It may not offer the real-world art tools of *Rainbow* 2, but it's still a very impressive art package. The full animation suite is absolutely brilliant, and worth the price of admission alone. There's a lot of power

here, and you can easily move up to APEX Media when you need the extra features offered by the full version. If you've considered APEX before, but couldn't afford it, you'd be mad not to take advantage of this new version. stf FRANK CHARLTON

Product: APEX Intro Price: £39.95 Contact: Titan Designs Tel: 0121 6936669 Min system: Falcon030

APEX Intro

VERDIC

4

S

ERDIC

HIGHS
Superb value
Easy to upgrade

LOWS You jest, surely?

In short...

An ideal introduction to Titan's superb Falcon art package - buy it now. 96%

Jutria Take on three empires, blow away some hover tanks, and park a missile inside an evil mega robot. Strategy takes to the stars in this new indie release.



in the fight to colonise new asteroids in deep space. But despite the fancy setting, it's essentially a turnbased strategy war game, and veteran gamers will recognise the format immediately.

Use your force

Up to three players can take part, with any human gaps being filled by the computer. Each player controls a force of machines and weaponry, which is replenished by his manufacturing plants. The weapons range from normal tanks, through hover tanks, to large Manga-style robots that'll either smash and destroy, fire missiles, or explode violently.

The action takes place on a grid-like map, with the players



You don't always start with all of the machines. but there're no surprises when you gain them.



Well, it certainly looks like the odds are stacked in my favour on this one. Anyone got a baseball bat I can borrow?

taking it in turns to move their pieces, set up gun placements, and attack enemy cities. And should you get tired of the 15 maps provided with the game, you can design your own with Outrider's map editor.

The turn-based nature of the game adds elements of thought and strategy to an otherwise chaotic fray, and the system is flexible enough to enable you to approach each problem in a slightly different way (you can

A turn-based

strategy game is a

refreshing blast

back to the past

do several things in one turn). The damage ratios are small enough to drag each battle out without making the

effects of your movements insignificant, too.

> The different weapons all have strengths and weaknesses according to the terrain. For example, while the normal tanks may save you on an open plain, if you're going to capture a bridge you need a hover tank. As the different battles are all fought during the course of a single game, resource management and military planning (the real interest

> > of strategy games) come into play. Outrider only alls down in three areas, the first being presentation. Although strategy



games never look quite as pretty as arcade titles, the graphics here are pitifully dull. The action takes place on a grid, with your units represented by static icons that don't even face the right way.

Then there's the game's depth. Although the total number of different scenarios you can play is massive, the possibilities for battle

> don't expand in any other way.

For instance, you never stumble across a completely new piece of machinery, or

find yourself in an unexpectedly strong position, where you can dominate the other players. Instead, you stay at roughly the same level throughout the game, and while this is fair, it definitely takes away the thrill of meeting an opponent with a gun four times the size of yours. Accumulating wealth and researching better weaponry would have given the game more depth.

The only other problem Outrider faces is the computer opponent, which is terrifyingly good at its job and dominates any map in no time. The built-in maps seem to have been tailored to place the computer at a disadvantage, something you'll have to take

> care of personally when designing your own lev-

Waaaay - he hasn't even noticed me (all the tank graphics face in that direction).



els. This imbalance is hard to measure, though, so designing a map is a matter of playtesting rather than playing.

A turn-based strategy game is a refreshing blast back to the past, reviving a game style that never really loses its edge. If you're already a fan of war games, you may find Outrider too shallow, but if you're new to the whole concept, this is as good a place as any to start. stf

DAVE BARRINGTON

Product: Outrider Price: £9.99 Contact: Village Software Address: 10 Oak Drive, Portishead, Bristol, BS20 8QS, England Min system: 1MByte ST

STF Outrider 0

HIGHS

ERDIC

VERDICI

٩

s

ERDIC

been

- A more simplistic approach to strategy games
- It'll last for months

LOWS

It's not pretty And the computer opponents are too tough

In short...

Outrider's a fun little strategy game, though more depth on the weaponry side would have

good.



S Tario's Christmas is essentially just a themed version of *STarioland (STF 74,* 85%), albeit with a different set of levels and a different goal. It feels – and more importantly, plays – very much like the original.

STario's still a teeny little bloke on a rampage through a series of distinctly odd platform levels, filled with even stranger foes. Again, extra power-ups and points hide in cheerful yellow boxes, and you can strengthen STario first by making him bigger, and then by finding him a new suit that gives him extra powers, such as the ability to spit fire (yup, folks – projectile weaponry).

What makes both STarioland and STario's Christmas so playable is the way your character moves – the pixel-perfect precision of previous platformers is thank-



These bonus blocks are scattered throughout the levels. Unfortunately, they all seem to contain coins. Damn.



Dave Barrington clutches his baubles in excitement as he prepares to take on the wintry world of STario's Christmas.



It's important to take out the top block first, but it won't do you any good. It's just a coin. Coins, coins, coins.

fully lost. This means you can relax and enjoy yourself as you jump as high as a house, run at unbelievable speeds and change direction in mid-air. Realism flies out of the window as you confront each level with a wonderfully manoeuvrable character who has enough inertia to stop a planet.

No return...

Unfortunately, although the inertia makes your movements flow fluidly into each other, it also makes it extremely difficult to get into some of the tight gaps or land on the narrow ledges. And while you can change direction in midair, you can't turn quickly enough to avoid that unexpected bad guy or retrace your path to collect that power-up you just passed.

Another problem is the way the screen scrolls. As with the original version, you travel from left to right through each level, so that's the way the screen scrolls. Unfortunately, having scrolled to the right, it won't scroll left again, so you miss a lot of bonuses.

...and no way out

It's also possible to get sandwiched in a low-roofed passage between a monster and the left-hand side of the screen, with no choice but death.

There are surprisingly few special items scattered throughout the levels, and there are times when bonus blocks are stacked in a staircase arrangement, meaning you have to work from the top downwards, standing on blocks you would otherwise have destroyed, to get to the higher prizes. Unfortunately, there's hardly ever anything worth collecting at the top of the pile – just another few points, usually.

Another problem that has found its way into the sequel is the levels' linear nature. The SNES *Mario* series, upon which *STario* is based, gets away with linear levels because you can jump down a pipe halfway along and explore an entirely different section. *STario's* pipes don't lead anywhere, though, so it comes down to a straightforward dash from left to right.

The final gripe is the total lack of passwords or re-starts. You begin the game with three lives, and you have to complete the whole thing with those, plus any extras you collect along the way. When you die, you have to go right back to the start of the game.

STario's Christmas is really just STarioland with different levels and a few extra effects. The addition of end-of-level rooms and bosses helps to characterise the different levels, but that's all. It still plays well, and it's still a lot of fun, but if you already own the original, you won't find many surprises on your mission to save Christmas. If you don't already have STarioland, take a dash through the festive winter wonderland of STario's Christmas instead.

DAVE BARRINGTON

Product: STario's Christmas Price: £14.99 Contact: Top Byte Software Tel: 10 Birch Walk, Danygriag, Porthcawl, CF36 5AN Min system: Any ST

STario's Christmas HIGHS It's STario again! And it's original to the ST

LOWS

- VERDICT

S

STF VERDIG

•

ERDICT

But it doesn't improve on the prequel

In short...

A disappointingly similar sequel to a great game. Can't wait for STario 3, though. 75%



The Jaguar past present and

et yourself a Jaguar and you'll be at the cutting edge of video game technology for the next five years. It's an offer too good to resist ... " Or so we said in issue 55, nearly two years ago. A lot of water has flowed under Atari's bridge since then - flooded under, some would say. Two years is enough time to measure the staving power of a games console, so where are we now with Atari's brilliant 64-bit wonderchild? Well, the Jaguar itself is

future

still here, still in the shops, and still selling. Then again, so are the doddering old 16-bit consoles like the Sega Mega Drive and the SNES, so that's no big deal. No, the way to find out whether the Jaguar has lived up to its potential is to take a hard look at what's past and what's yet to come...

The hardware

As with any computer technology, a games console needs to be updated and added to if it's to survive in a rapidly changing industry. Sega

FIGHT FOR LIFE

Atari's much anticipated vector beat-'em-up Fight For Life is doing just that – and struggling. Recent restructuring at Atari US has resulted in the game being placed on "indefinite hold". This is a pity as, judging by the screenshots we've seen, it was shaping up nicely.



Next month we'll be talking to Atari president Sam Tramiel, and you can bet we'll be asking what happened to Fight For Life. We'll also be covering the recent staff layoffs at Atari, Atari's commitment to the Jaguar, and why it abandoned the computer market. Don't miss it.

squeezed extra life from the aging Mega Drive by adding new peripherals, such as the MegaCD and the 32X add-ons. With a clear two-year head start on the rest of the industry, what has Atari done to advance the Jaguar cause?

Frank Charlton brings you up to date on the

current Jaguar scene, while Stuart Campbell

lines up the ten best games released so far.

Er, not a great deal, actually. The much-awaited CD-ROM drive was first announced when we ran news stories of the Jaguar's impending release - back in issue 55 again. It was launched in the USA earlier this year, and is now slowly appearing in the UK shops. Even now, though, you'd be forgiven for not knowing that it's out there, since Atari seems to think that advertising ranks alongside mugging old ladies and stealing lollies from babies...

The virtual reality headset was also mentioned in the birth announcement. Promising a headset was a brave move for a relatively small video game company like Atari, and many industry pundits thought it would never happen. As it turns out, they could well be right. Atari has backed out of its deal with UK pioneers Virtuality, for reasons which still aren't clear (see page 11). Atari UK's Darryl Still recently confirmed that the Virtuality deal had been dropped, but enthused that a Jaguar-based virtual reality system was still a strong possibility.

The software

No-one shells out for a new and untried game system unless there's some pretty startling software to back it up. Atari took the plunge and included 3D space game *Cybermorph* with the Jaguar, at a time when other manufacturers plumped for more predictable platform or 2D shoot-'em-up affairs.

While Sega and Nintendo consistently evolved their bundle deals to include new

ATTACK OF THE MUTANT PENGUINS HIGHLANDER



An odd-sounding game to be sure, but it looks like being one of the most colourful and amusing Jaguar games ever.



Based on the animated TV series rather than the cult movie, this is another CD-only release. It has excellent 3D polygon characters and boasts extensive digitised video and audio sequences from the original cartoon.



THE JAGUAR CD





We mentioned the infamous CD-ROM add-on back in issue 55, when we covered the launch of the Jaguar. The long-awaited drive is just starting to appear in the shops, but is it too late? Will it enable the Jag to compete with new consoles from other manufacturers? Is it any good? What are the games like? All these questions need answering, and we'll be doing so very soon in an in-depth review.

The Jaguar CD is a plug in CD-ROM drive with a double-speed mechanism. The design hasn't changed much since we saw the first publicity shots: it still sits on top of the Jaguar, and the flip-up lid still makes it look like an expensive matt black toilet.

The standard pack includes four CDs:

• Blue Lightning, an Afterburner lookalike, developed from the original game for the Lynx hand-held;

 VidGrid, a puzzler featuring swanky full-motion video footage of rockers like Aerosmith, Metallica and Van Halen;

A demo CD featuring the atmospheric graphic adventure Myst; and
 Er... the audio soundtrack to Tempest 2000. Fine if you like techno music, we suppose.

Jeff Minter's Virtual Light Machine is built into the drive. It's a soundto-light convertor which analyses any normal audio CD you play and generates weird stroboscopic fractal visuals to go with it. The impression we get from speaking to Jag CD owners in the USA is that the VLM is everyone's favourite part of the CD bundle. Let's hope Nick doesn't break it with his Magic Roundabout soundtrack...

games (the Mega Drive was launched with the awful *Altered Beast* before a certain blue hedgehog arrived), Atari has stuck with *Cybermorph* throughout. Rumours abounded about an *Alien vs Predator* bundle, but it never appeared. Here at *ST FORMAT* we think that Atari needs a serious rethink in this department if the Jaguar is to move ahead.

With the launch of the Jag CD and some long-term projects finally coming to fruition, it seems Atari is finally coming up with a steady flow of quality titles. It may be a while before we see some of these titles in the UK, but take a peek at the screenshots along the bottom of the page to see what's coming.

We're also eagerly anticipating *Defender 2000*, Jeff Minter's updated 64-bit version of the stonking Williams arcade classic. *Tempest 2000* was excellent, so the world is waiting with baited breath for this killer.

Atari has a lot more titles either ready for release or still in development. Titles such as *Myst, Commander Blood, Iron Soldier 2, Primal Rage, Fever*

THE NEW BREED

Unless you've spent all year playing Obsession, you'll have already been assaulted by ads for the 'next generation' of games consoles. Ignoring Nintendo's Ultra 64 (no one has seen one yet), the two machines the Jag has to climb into the ring with are the Sega Saturn and the Sony PlayStation (PSX). They're both 32-bit machines, they both make use of CD-ROM technology, and they're both more expensive than the basic Jaguar setup. So how does



Atari's black box compare with these young upstarts?

Processing Power: Like the ST, the Jag contains a Motorola 68000 chip, but it isn't the main CPU – despite what other mags may have said. The Jaguar uses the 68000 for 'housekeeping' tasks, while the main power is provided by two custom-made RISC chips, nicknamed Tom and Jerry. Both the Saturn and the PSX use RISC technology of comparable power. Graphics: Both the Jaguar and Saturn graphics engines deliver a maximum resolution of 720x576, while the PSX provides 640x480. All three use a TrueColour display which provides 16.7million colours. Sound: While the Jaguar offers 16-bit CD-quality stereo (even without the JagCD), the Saturn and PSX claim to provide 24-bit stereo sound. CD-ROM: All three next generation consoles line up equally with doublespeed CD-ROM drives capable of delivering data at 300K/s. The Saturn and PSX come with the drive as standard, while Jag owners have to buy



Pitch Soccer and Phase Zero are all slated for release at either the end of this year or the first part of 1996. Some ST and Falcon games are heading for conversion, too: the superb space shooter Zero-5 is in the wings, as is a CD version of Silmarils' epic space adventure *Robinson's Requiem*. their unit separately. Bundles: The Saturn is available as a base unit with no game, or as a bundle with Virtua Fighter. The PSX doesn't come with a game, but you do get a CD of playable demo versions. Marketing: No contest. Atari loses every time, thanks to the aggressive ad campaigns from Sega and Sony.

Couple all that with 'will they, won't they?' releases such as the money-spinning *Mortal Kombat 3* – listed by Atari as "in development" – and you can see there's a lot to look forward to. If Atari continues along these lines, it'll be well-prepared for the console war to come.

BALDIES



Not a game starring Clive and myself, despite what Karen may tell you. *Baldies* is a conversion of the hugely popular Amiga title, and it looks and plays like a cross between *Lemmings* and *Civilization*. The objective is to increase your army of follically-challenged chaps and take a crack at ruling the world.



This sequel to the game we all own is another CD title, and it follows on from the original. It features yet more FMV sequences, and expands the *Cybermorph* universe to include underwater or even underground travel. If it plays as well as it looks, this could be a stormer.

BATTLESPHERE



Not to be confused with the *Cybermorph* sequel, this 3D space combat epic looks a real stunner so far, with some superb texture mapped vector graphics. If you yearned for more complexity than *Cybermorph* offered, this looks to be the biggest contender.

Ten of the best-



Tempest 2000 Not only the best Jaguar game ever, but almost certainly the best video game ever. This is not so much a game, in fact, as an all-out Stalingrad-scale assault on your senses, mixing eye-watering graphical fireworks and great sound with gameplay that'll have your heart pumping so fast you'll think there's a hyperactive Brazilian samba band inside your ribcage.

FEATURE JAGUAR

How good is it? When Tempest 2000 came out, I spent £285 on a copy of the game and an imported US Jaguar. That's how good.

Even His Majesty Pete The Third, King Of The Stupid People, has bought *Tempest* 2000. Have you any idea what you're missing out on?

Doom You really shouldn't need us to tell you about *Doom*, but it's worth pointing out one last time that Jaguar *Doom* is still the best incarnation of the game to date. Tweaked, improved and the new levels run as quickly and smoothly as all but the fastest £1,600 PC can manage – and certainly as fast as you could ever need. The muchmaligned (and rightly so) Jaguar pad makes a far better job of the controls than you'd ever have expected.

The game itself is a castiron blood-and-guts classic that's still more than a match for the countless clones that have sprung up in its wake, and the awesome network Deathmatch option is the icing on a cake that's already big enough to hide three strippers and a donkey.

Soldier At heart a simple shoot-'em-up, *Iron Soldier* nonetheless has a feel all of its own. It puts you in control of a huge robot the size of a ten-storey building, with a A games machine is no use without games, so here are Stuart Campbell's recommendations.



mission to obliterate everything in sight. Clomping around looking down at the view between your huge robot feet as you stomp all over tanks and small family homes is uniquely entertaining, and you begin to see why King Kong felt the way he did.

Wolfenstein 3D Largely (and wrongly) ignored since *Doom* appeared on the scene, *Wolfenstein 3D* is still worthy of attention, and not just because it's *Doom's* daddy. A cleaner, simpler game than its offspring, *Wolfenstein* packs in the maximum amount of senseless carnage with the minimum amount of distracting puzzle-solving and comes up with a highly evocative game. It's rather less claustrophobically scary than the illustrious follow-up, but the graphics are crisper and don't make your eyes go funny and your head hurt after four



лино





JAGUAR FEATURE



hours of non-stop playing, which is always a boon.

Alien vs Predator

This doesn't match up to either *Doom* or *Wolfenstein* in the gameplay department. However, what it lacks in cunning design it makes up for in atmosphere. I've played loads of *Doom* games, but meeting one of those eyeless aliens in *Alien vs Predator*, scampering at you in that trademark way, is more scary than anything else you've ever seen in a game. In real life too, probably.

And I still have to turn away from the screen whenever one of my Colonial Marines cops it from a facehugger. Honestly.

Syndicate Set in an all-tooplausible near future where the world is run by sinister global corporations, *Syndicate* puts you at the head of a team of four cyborgs armed with a device known as the Persuadatron (ulp), with which you can brainwash other game characters. If that doesn't work, just blow their heads off with a rocket launcher.

The Jag gets the original,

sinister Amiga/PC version too, rather than the kiddied-up one seen on other consoles, and if you're not scared after playing *Doom, Alien vs Predator* and this, you're probably a cyborg already.

-/ Theme Park

The games so far released for the Jaguar have been, in many ways, a bit of a throwback to the old days of games consoles. Shallow arcade-type titles have been very much to the fore, and we've seen very little of the strategy/RPG/puzzle/weird Japanese stuff released for other machines. Or the good platform games. That's not necessarily a bad thing, but sometimes it's nice to have a bit of a break and play a sim game like Theme Park.

Theme Park puts the fun back into building up a simulated business, but without losing any of the demanding strategy. At the moment it's number one in a category of one, but it's going to be a long time before something comes along to topple it.

Cybermorph It was never going to be the kind of killer game that sold the machine on its own, but *Cybermorph* is still an underrated little game. Unearthly graphics make for an otherworldly atmosphere, backed up by lovely whooshy effects and that dreamy voiceof-your-ship speech, but the game is still the star.

Cybermorph mixes exploration and all-out blasting in an engaging setting. The difficulty curve is just right too, from the gentle introductory levels to the terrifying firefights that'll take every ounce of skill you can muster.

Cannon Fodder

In many ways reminiscent of *Syndicate*, this undisputed classic is a much more straightforward arcade shoot-'em-up. The graphics have been prettied up for the Jag, but without losing the much-loved tiny-figures that are Sensible Software's trademark. The joypad doesn't make for perfect

Pinball Fantasies

control, but the gameplay is so entertaining and just plain gosh-darned lovable that you won't mind persisting with the controls until you get to grips with them properly.

Pinball Fantasies It's pinball. But on the Jaguar. This is the second in 21st Century's long line of pinball sims, and it's one of the best. You get four tables, three of which are pretty good. The ball movement is convincing, and bouncy tunes keep you in the right frame of mind. You'll be hard pushed to find better pinball on any console, and for a small fee, 21st Century will send a big sweaty bloke round to stand behind you and shout: "The left ramp, hit the left ramp NOW!" Good stuff.







Write an ST game and win a Jaguar console or up to £100-worth of software courtesy of LAPD, our PD Library of the Year.

f reading about all those brilliant Jaguar games has left you panting for a 64-bit console of your own, here's your chance. Thanks to LAPD we have a Jaguar console, plus £175worth of software, to give away. To stand a chance of winning, you need to create a stupendous game that runs in colour on any ST. Try to be as daring, imaginative and original as possible.

Once it's complete, put it on a virus-free floppy disk and send it with a completed entry form, full playing instructions and information about how the game was created to the address shown below.

You have until Thursday 29 February 1996 to get your entries in. We'll pick out the best three games from all the entries - the winner will receive a Jaguar, while those placed second and third will be able to choose £100- and £75worth of PD and shareware respectively, all courtesy of LAPD. So, what are you waiting for? Get coding!



TERMS AND CONDI

1 The game must be free of any copyright infringements (sampled sound and graphics must have documented permission if used). 2 The finished game must not require any hardware add-ons other than the usual joystick and/or mouse.

3 The author must be prepared to release the finished game into

L.A.P.D. LICENCENARE This is a selection of games from LAPD's

CRAGHAVEN

Adventure

in a fantasy world

shareware and licenceware range. Can you write a game that would sit proudly among them? There might be a Jaguar or £100-worth of software in it for you!



domain, shareware or licenceware. 4 All PD and shareware entries may be distributed in the general

the market, either as public

market place. 5 The Editor's decision is final. There are no cash alternatives. **Employees of Future Publishing** and LAPD are not eligible to







WIN A JAG!

a aguas

Please complete this form and send it, along with your new game, playing instructions and information about how the game was created, to: ST FORMAT Jag Compo, LAPD, PO Box 2, Heanor, Derbyshire DE75 7YP. The closing date is Thursday, 29 February 1996.

The program named above is all my own work. I agree abide by the terms and conditions outlined above and agree to indemnify LAPD	
Language used (68000, STOS, etc):	••••
Type of game (adventure, shoot-'em-up, etc):	••••
Game title:	•••
	•••
Address:	
Name,	

and Future Publishing against any legal action should copyright problems arise.

Signed: Date:

(We cannot accept entries unless you sign the above declaration)

FEATURE ANNUAL REVIEW

1995 and all that...

As we wave a fond farewell to 1995 and prepare to greet the new year, Nick Peers looks at 12 months in the Atari scene, announces the winners of the 1995 Reader Awards and peeks around the corner at the treasures in store for 1996...



t's been an interesting year for the ST and Falcon. Two new TOS-based machines – GeSoft's Eagle and C-Lab's Falcon Mk2 – have been released, and while the games scene has contracted sharply, independent companies such as UDS and Impact have released some truly gob-smacking games.

At the more serious end of the spectrum, Compo, HiSoft and System Solutions have produced a steady stream of excellent software. Hardware specialists Analogic and The Upgrade Shop also had a busy year: new monitors, TOS upgrades, hard drives, CD-ROM units and accelerator cards all made appearances.

Meanwhile, the FaST Club, Goodmans, LAPD and Floppyshop ensured that even the most specialist needs were catered for. Thanks to their inexpensive commercial products and rapidly expanding PD and shareware catalogues, a wide range of low-cost software is readily available.

Like the rest of the industry, ST FORMAT also felt the bite of ST users defecting to other machines. Nevertheless, we remain dedicated to keeping you up to date and showing you how to get the most out of your machine.

1996 should be another intriguing year, but for now, let's sit back in our comfy chairs, sherry in hand, and reminisce about the year that was 1995.

Fun and games

The year dawned brightly for STE and Falcon owners with the release of *Zero-5*. This superb 3D shoot-'em-up was the first of a 'new wave' of games that used the enhanced hardware of these machines. Reviewed in issue 66, it immediately set new standards for machinespecific titles by securing an *ST FORMAT* Gold.

Table-tilting fanatics got a double helping of fun during the spring as UDS's *Obsession* and 16/32's *Pinball Dreams* battled it out for the title of pinball wizard. *Obsession* won by a street, its crisp graphics and realism proving an



Obsession: colourful and realistic.

addictive combination. *Pinball Dreams*, the first of 16/32's Falcon-only titles, was less impressive: 21st Century, the game's coding team, saved its best efforts for other machines.

Stardust took the classic Asteroids genre and gave it a good shaking in March. The game's eye-popping graphics and slick gameplay boosted the STE's emerging reputation as a serious games machine. Other STE-only releases, including Team, Ultimate Arena and SubStation, followed later in the year as game programmers got to grips with the new technology. Team was the first football game to knock the



Moon Speeder: fast Falcon action.
THE GAMES OF 1995

ST/Falcon				
Alien Thing	Top Byte	£19.99	68%	75
Brenarvarious	Top Byte	£8.99	25%	71
Catacombs of the				
Undead Sorcerer	Merlin	£7.99	35%	73
Championship Manager				
Italia '95	Domark	£24.99	70%	70
Hollywood Hustler	Desert Star	£24.95	75%	69
Ishar 2	16/32 Systems	£12.95	90%	70
Obsession (STE/Falcon)	UDS/Merlin	£24.95	94%	67
Shadow of the Beast 2	Psygnosis	£12.99	80%	69
Space Quest	Kixx XL	£9.99	30%	68
Spellbound	Psygnosis	£19.99	40%	68
Stardust (STE/Falcon)	Daze	£25.99	94%	68
STarioland	Top Byte	£19.99	85%	74
SubStation (STE/Falcon)	UDS/Merlin	£24.95	75%	72
Super League Manager	Audiogenic	£29.99	85%	72
Team (STE/Falcon)	Impact	£24.95	94%	72
Tessera	Dolphin	£5	79%	71
Their Finest Missions	Kixx XL	£14.99	65%	66
Ultimate Arena (STE)	STeam	£15	86%	74
Zero-5 (STE/Falcon)	Caspian	£24.99	92%	66
Falcon-only				
Double Bobble 2000	Shareware	£10	96%	77
Evolution Dino Dudes	16/32 Systems	£24	81%	77
Gravon	Access Info	£35	64%	75
Ishar 3 CD-ROM	System Solutions	£59.95	70%	76
Killing Impact	Merlin	£29.99	85%	77
Moon Speeder	Merlin	£29.99	79%	73
Pinball Dreams	16/32 Systems	£24	80%	68
Ping 2000	Merlin	£19.90	60%	71
Robinson's Requiem CD	System Solutions	£59.95	72%	76
Steel Talons	16/32 Systems	£24	83%	73
Towers 2	Goodmans	£19.95	93%	70

classic Sensible Soccer into orbit, while Ultimate Arena proved that the STE could easily handle the likes of Mortal Kombat. SubStation was more disappointing, but it did show that classic blasters like Doom are at least possible on the STE and Falcon.

In the closing months of 1995 the Falcon gained some excellent platform-specific games, boosting its reputation in the leisure arena. *Moon*



Stardust: eye-popping Asteroids clone.



Ultimate Arena: Mortal Kombat thump-alike.

Speeder (which will soon spawn a sequel) offered Falconeers a slick racing game set in a superbly rendered lunar landscape, while Killing Impact took another classic idea, Joust, and brought it bang up to date in an addictive game of giant jet hoppers. Interestingly, a Killing Impact clone has yet to appear on any other platform, computer or console. Finally, the Falconspecific Towers 2 and Double Bobble 2000 proved that shareware is still a breeding ground for quality releases.

The STFM also demonstrated that it is still capable of supporting lively, colourful and playable games. Alien Thing, Super League Manager, STarioLand and Hollywood Hustler all made appearances as the year progressed. Within the games scene, 1995 was a year of quality, if not quantity.



Killing Impact: giant jet-hoppers.

Seriously speaking

nce again, 1995 demonstrated that the ST can easily take the strain of serious use. The number of releases may have dropped over the past 12 months, but a quick glance at the Serious Software panel (page 38) proves that all we've lost is the dross and the also-rans. After all, there's really no merit in having six packages to choose from if four of them are rubbish.

The ST graphics scene was fairly quiet this year, although the perennially popular Imagecopy continued to improve with every update. Falcon owners, on the other hand, benefited from two exciting releases. APEX Media began the year with a bang, turning the '030 wonder machine into powerful graphics workstation and scoring a massive 93% for its trouble. August saw the release of Addiction Software's Rainbow 2, a powerful art package with sound and animation studios, which astonishingly, proved even better than APEX.

After the flurry of word and document processor releases in 1994, no-one was especially surprised when things quieted down in 1995. Still, Arnor's cessation of trading didn't prevent Compo from releasing *Protext 6.6*, and very nice it was too.

Things were far busier on the music side. The Atari remained very much the musician's choice, courtesy of C-Lab's re-packaging and re-release of the Falcon. We also saw the long-awaited



Ease: user-friendly replacement desktop.



OMEn: cross-platform operating system.

update of *Cubase Score*, plus a number of digital recording systems for the Falcon, including Harman's own *Cubase Audio 16*. There was even a new budget-priced sequencer: *Sweet Sixteen* may not have all the features of *Notator* or *Cubase*, but it offers a higher level of performance than most entry-level packages.

It was a quiet year for programmers, although a new operating system, OMEn, did appear in late autumn. The new system makes it possible to produce software that may ultimately be compatible with other platforms, including the Mac and PC. At least, that's the theory; whether OMEn will take off on the other machines is highly debatable, and these doubts resulted in the rather unconvincing score of just 67% in issue 75. On the bright side, Sprite Works 2



APEX Media: turn your Falcon wonder machine into a powerful graphics workstation.



Twilight: colourful animated screensaver.

made games programming in GFA Basic more straightforward by making it easier to add graphics and sound to your GFA creations.

Software upgrades proved as popular as ever in 1995.



Diamond Edge: help for hard drives.

System Solutions led the way with the latest version of its excellent screen accelerator NVDI. It also gave non-TOS 2.06 owners a user-friendly desktop in the form of Ease, which, along with MagiC and Kobold, provides a stable suite of multitasking programs for those power users unconvinced by Compo's Geneva and NeoDesk 4 package.

The number of specialised utilities available for the ST continued to increase this year. The never-ending war against viruses received an inoculatory boost with the release of the latest version of Ultimate Virus Killer. Diamond Edge 2 and Hard Disk Driver made life easier for hard drive owners, and OCR and Touch Up beefed up scanning set-ups throughout the land. The Thought! ideas processor was also given a well-received update.

CD-ROM software finally began to make its mark on the Atari scene in 1995. Although many discs were essentially

BOOKS

Atari A to Z	Linnhe Computing	£12.50	91%	73	
Cyberspace for Beginners	Icon Books	£7.99	85%	70	
Practical MIDI Handbook	PC Publishing	£8.95	50%	69	
Music Reference Book	PC Publishing	£12.95	81%	72	
Sequencer Secrets	PC Publishing	£6.95	80%	69	
Signal and Image Processing					
with Neural Networks	John Wiley and Sons	£36.95	80%	70	
UVK Book	Douglas Comms	£15	55%	COLUMN S	

just PD and shareware collections, a number of more specialised titles did appear. The most important release for CD-ROM owners, however, was System Solutions' ExtenDOS Pro, the latest and most stable software interface. SARA was also intriguing, but while its ability to run certain PC CD-ROMs on a Falcon (or an ST with a graphics card) is promising, it needs further development.

If you were looking for an attractive screensaver, JCA

Ty C A CI D M Tr

Int 0

ST Sp X-BE

U Bit Bo Di Ea GI Ha NV 00 To

Vie • OL

Ext

The Tw Vid

• Ma



Cubase Score: long-awaited sequencer update.

Europe's TwiLight more than filled the bill. Finally, Apple Mac users were given a fighting chance to run Atari programs at fantastic speeds with MagiC emulator MagiCMac.

SERIOUS SOFTWARE

Art and Graphics				
Art for Kids	Goodmans	£24.95	90%	66
Grafix	Top Byte	£19.95	52%	73
Imagecopy 3.5	FaST Club	£34.95	93%	67
Imagecopy 4	FaST Club	£34.95	94%	75
Metamorphosis 24	16/32 Systems	£80	70%	66
Outline Art 3	JCA Europe	£99	85%	69
Quill 2	CGS Computerbild	£29.99	81%	67
Vector Graphics XChang		£14.99	76%	73
Falcon-only		1.		
APEX Media	Titan Designs	£119.95	93%	68
Rainbow 2	JCA Europe	£69	96%	73
Word processing an	nd DTP			
Calamus Font Set	JCA Europe	£7.50	89%	75
Calamus SL update	JCA Europe	£69	90%	69
Fonty	FaST Club	£11.95	86%	76
Mastering Calligrapher	FaST Club	£24.95	80%	75
Mastering Papyrus	FaST Club	£26.95	83%	75
Protext 6.6	Compo	£74.95	90%	76
CD DOM				
CD-ROM			ST(SERT	The second
Astronomie and Jupiter	ROTH EDC	£72*	92%	72
Crawly Crypt 1 and 2	16/32 Systems	£27* each	83%	74
DTP Grafiken 1,2 and 3	Xware	£35 each	91%	72
Lohrum 3	System Solutions	£24.95	93%	72
Maxon CD 1	MAXON Computer	£23*	85%	72
Maxon Demo CD	MAXON Computer	£12*	83%	72
Mega Archive Volume 2	System Solutions	£24.95	88%	76
Mission 1	Xware	£23*	89%	72
Oxyd Magnum	Dongleware Verlags	£45*	95%	72
SARA for Grolier	16/32 Systems	£45	60%	76
STE Power CD	Compo	£24.99	89%	66
Whiteline Alpha	System Solutions	£39.95	93%	72
Falcon-only				S. Contraction
Transmission CD-ROM	System Solutions	£29.95	80%	76
Music and MIDI				
Cubase Score 2	Harman Audio	£449	90%	73
MIDI Hacker	Profile Entertainment	t£9.95	82%	74
On Stage	Hands On	£39.95	92%	74
Sweet Sixteen	Hands On	£59.95	79%	74
	HER REALIZED AND AND AND AND AND AND AND AND AND AN	CHARLES HALLS	Contraction of the	A DECK

viddly Bits Drums	Keyfax	£19.95	81%	73	
viddly Bits Guitar Falcon-only	Keyfax	£19.95	92%	73	
udio Tracker	System Solutions	£159	82%	74	
ubase Audio 16	Harman Audio	£799	90%	73	
gital Tracker	16/32 Systems	£49	90%	74	
USICOM 2	Compo	£79	81%	73	
akCom	Compo	£79	83%	73	
rogramming					
terface 2	Compo	£49	90%	72	
MEn and the					
Developers' Kit	Floppyshop	£20/£12	67%	75	
TOS Extra 3	Top Byte	£4.95	77%	69	
orite Works 2	Ninth Wave Software	£7	90%	74	
Debug	FaST Club	£24.95	83%	66	
Falcon-only					
BS-Debug	Titan Designs	£39.95	89%	68	
tilities					
tzcopy	BITZ Computers	£10	68%	70	
oot Sector Installer	Intercom Media	£5	3%	76	
amond Edge 2	HiSoft	£49.95	94%	74	
ISE	System Solutions	£49.95	97%	69	
Look 2	System Solutions	£120	85%	77	
ard Disk Driver	System Solutions	£19.98	93%	70	
/DI 3	System Solutions	£49.95	97%	71	
CR	Golden Image	£49.95	75%	68	
uch Up 2.5	Golden Image	£35	80%	68	
/K 6.6	Douglas Comms	£12.95	94%	77	
ew 2	FaST Club	£14.95	90%	66	
Falcon-only					
ıtside	16/32 Systems	£69	89%	71	
iscellaneous					
tenDOS Pro	System Solutions	£29.95	92%	71	
ought! 2.2	Titan Designs	£79.95	90%	72	
riLight .	JCA Europe	£29.95	88%	76	
deo Supreme 2	Goodmans	£29.95	90%	70	
Apple Macintosh-only agiCMac	Custom Calutions	6140	750		
Approximate price	System Solutions	£149	75%	77	
approximate price					

ANNUAL REVIEW FEATURE

Hardware stores

he big news of 1995 was the launch of two Atari clones. GeSoft's Eagle was repeatedly previewed, but has yet to cross the channel. Although it houses a very fast TT-clone, the new machine's most impressive quality is its flexible motherboard, which, in theory, supports a wide range of upgrades. Gasteiner hopes it will be available in the UK within the next few months.

C-Lab's Falcon Mk2, distributed in the UK by Digital Awareness, was released this summer. It arrived towing a hefty price-tag, 14MByte of RAM and guaranteed compatibility with *Cubase Audio 16*. The Mk2, with its direct-todisk digital recording, DSP chip and MIDI interfaces, was aimed specifically at musicians. However C-Lab soon realised that other users were also looking for Falcons and a cheaper model, the Mk1, was released without a hard drive later in the year.

On the whole, though, 1995's hardware

race has been dominated by storage media, with everything from hard and CD-

HARDWARE

Falcon Mk 2	Digital Awareness	£1499*	91%	72
Floppy, Hard and CD-R	OM drives			
Aiwa ACD-300 CD-ROM	HiSoft	£175	92%	76
Apple CD-300E Plus	Gasteiner	£279	95%	72
High Density				
Internal Drive Kit	Analogic	£59.95	85%	68
MaxiS 540MByte Hard Drive	System Solutions	£379	97%	70
Prima Hard Drive/CD ROM	First Comp Centre	£479.99	85%	70
Squirrel 4x CD-ROM	HiSoft	£259	96%	74
Squirrel Hard Drive	HiSoft	£318	92%	73
TUS Hard Drive	The Upgrade Shop	£264	85%	69
TUS High Density Module	The Upgrade Shop	from £58	92%	72
Toshiba XM-5301B	Koch Media	£204.53	95%	72
Modems				
Hayes Accura 288	Hayes	£292.58	88%	71
Hayes Optima 288	Hayes	£586.33	81%	71
Speedcom+	Siren Software	£109.99	84%	73
Supra 288	First Comp Centre	£233.99	94%	71
US Robotics Courier	First Comp Centre	£327.99	89%	71
The second se		£234.99	72%	71
US Robotics Sportster 288	First Comp Centre	2234.33	1210	
Music			1	_
Cubase Audio 16	Harman Audio	£1089	90%	73
The K.AT	Digital Awareness	£79	89%	74
Korg 05R/W module	Sound Control	£399	n/a	71
MM1 MIDI Expander	Digital Awareness	£299	75%	76
On Stage	Hands On	£79.95	92%	74
Roland PC200Mk 2				
Mother Keyboard	Tech Mate	£165	86%	72
Soundpool MO4				
MIDI Expander	System Solutions	£149	89%	73
Printers				
Deskjet 540 Inkjet	Hewlett Packard	£275	91%	72
Epson Stylus Colour Inkjet	Epson	£449	90%	67
HL-630 Laser	Brother UK	£528	90%	73
HL-660 Laser	Brother UK	£546.38	91%	75
Scanners and Digitise	re			
	System Solutions	£799	85%	77
Epson GT-Look 2	Titan Designs	£279	96%	75
Expose	Intan Designs	22/3	50 %	
Miscellaneous			-	
ArtPad (Wacom)	CGS Computerbild	£186.33	79%	74
Gemulator 4	FaST Club	£119	82%	75
Pak 68/3	System Solutions	£299	93%	70
STE TOS 2.06 upgrade	TUS	£49	92%	76
TUS 14-inch mono monitor	The Upgrade Shop	£89	80%	70
Universal Interface	InterFX	£25	65%	70
* Prices are approximate				

ROM drives to the revolutionary Zip drive battling for your cash. It's hard to pick favourites, but HiSoft's Squirrel quad-speed CD-ROM is a good buy if you're looking to join the CD throng. HiSoft is also handling the UK distribution of Iomega's Zip drive, a revolutionary storage device that enables you to store 100MByte of data on a single disk.

Brother continued to churn out printers throughout the year, and its lasers are now under £600. Those on a tight budget can still get reasonable speed and quality from the various inkjets, though.

High-speed modems were very much in vogue as many an ST owner upgraded his serial port to take advantage of the rapid transfer rates. Several high-speed devices are available, but for price and quality you can't do better than the Supra 288.

If it was April, you had to be buying the Pak 68/3, a breathtakingly fast hardware accelerator from System Solutions, while in November, The Upgrade Shop made it impossible for STE owners to resist the lure of TOS 2.06, with the easiest and cheapest switchable TOS upgrade yet. Forget soldering, forget awkward clips, TUS's TOS 2.06 option is a dream to fit.

Other new hardware enabled Falcon owners to harness the full power of the '030's sound and graphics hardware. Harman produced the most impressive 16-track digital recording system of the year with Cubase Audio 16 - the hardware option includes an interface to link your Falcon to an external recording DAT machine. Meanwhile Titan Designs' repeatedly delayed Exposé video digitiser blew everybody away, enabling Falcon owners to view and grab moving images from



Pak68: blisteringly fast accelerator.



Supra 288: impressively efficient modem.



TUS TOS 2.06: easily installed STE upgrade.



C-Lab Falcon: designed for musicians.



TUS 14-inch monitor: high res monochrome.



ST FORMAT JANUARY ISSUE 78

HiSoft's Squirrel quad-speed CD-ROM drive: the quickest in its field.



Asteroidia: Dave Munsie's slickly rendered take on the Asteroids theme.

PD action...

ne of the best things about the ST is how inexpensive it is to run and maintain. If commercial software is out of your price range, you can always turn to the public domain for alternative programs that do the job you want, and often a lot more besides.

On the whole 1995 proved to be a mixed year for the public domain and shareware market. Gamewise, it was all a little disappointing - nothing matched up to the excellent Starball and Dynabusters+ from 1994, although there were still a few gems. Dave Munsie returned with a vengeance, thanks to the likes of Frantick, Square Off and, more importantly, Asteroidia, his slickly rendered take on the Asteroids theme. Although overshadowed by the commercial, STEonly Stardust, Asteroidia earned important brownie points from STFM owners by running on all 1MByte STs.

We're still waiting to hear more about Dave's next two releases: *Megaspace* and *Choplifter '95* (or should that be *Choplifter '96?*). Still, if his record this year is anything to go by, they should both be well worth the wait.

Also worth mentioning are the Falcon puzzlers *Tautology* 2



MultiCAD: computer-aided design made easy.

5

and *Switch*, which bounded their way into the hearts and fevered minds of '030 gamers everywhere. The ultimate accolade, however, must go to the ST-compatible *Skyduel*. This one- or two-player battle game combines arcade action with strategy to produce an addictive shoot-'em-down. The host of options ensures it will be some time before the game becomes stale, too.

The last 1995 game worth mentioning is *HERO*. It was originally a commercial game, but authors Tony Greenwood and Bob Goodfellow recently re-released it as freeware. Look out for their new project, *Timeslips*, in 1996.

... and PD choice

Serious applications continued to impress in 1995, with excellent shareware support and regular updates keeping the PD scene buzzing. The excellent hypertext reader *ST Guide* led the way, impressing PD aficionados everywhere with its ability to spruce up the online help documents accompanying major shareware and commercial applications.

Also impressive was the replacement desktop *Thing*. Although still officially under development, an early version (0.54E) was released this sum-



Pacman on Es: gobsmacking fun.

M

ST FORMAT JANUARY ISSUE 78

PD IN 1995

Top Ten PD Games of 1995

1	Tautology 2	AdLib	93%	76
2	Skyduel	Floppyshop	92%	75
3	Switch	Merlin	92%	76
4=	Pacman on Es 2	Power	90%	68
4=	Tomtar	Power	90%	68
4=	Bombzai	Comp. Dungeon	90%	73
7	HERO	Goodmans	88%	77
8	Conquest 2: The Viking Hordes	LAPD	87%	69
9	Asteroidia	LAPD	86%	72
10	Datachess 2	Floppyshop	85%	70
To	p Ten PD Applications of 1	995		
1	ST Guide 1.3	Floppyshop	95%	73
2	GEMBench 4.03	HENSA	93%	72
3	Speed of Light 3.8	Cover Disk 72	93%	71
4	Warp 1/2	Keefy's PD	92%	70/73
5	Novadisk 6	James Bird	92%	71
6	MultiCAD	Floppyshop	91%	72
7	Award Maker Plus	Tumblevane	91%	66
B	Selectric 1.10E	Ad.Lib	91%	69
9	Egale 2.7	HENSA	90%	76
10	Freedom 1.1/1.14	HENSA	90%	71/74
1000			I-OPC CONTRACT	and the second sec



5678

9



Freedom: non-modal file selector.

mer to much acclaim, despite the fact that it lacked some of the features planned for the full program. *Thing* 0.54*E* proved so competent that many are now using it as a low-cost alternative to *Ease*.

Owners of MagiC and Geneva celebrated the arrival of Freedom, a non-modal file selector that you can access without suspending other operations, making it perfect for multitasking. Elsewhere, Selectric comfortably confirmed its position as the premier file selector for the Atari. If you've got an older ST, this is one software upgrade you can't be without.

Graphics software continued to flourish, too. Version 3.8 reinforced *Speed of Light's* position as a top-class image processor and GIF/JPG file viewer. Other graphics



Speed of Light: top-class image viewer.

HERO: commerical release gone freeware.

programs that caught our eye were MultiCAD, Award Maker Plus and Pixikrome.

Disk magazines have made a lot of progress over the past 12 months too, with new user interfaces making it possible for each magazine to have a different identity. Our particular favourites included the two *Star Trek* magazines, *Novadisk* and *Warp*.

On a more serious note, user magazines for specific applications, such as the 3D Construction Kit (The Third Dimension) and Frontier: Elite 2 (POG), continued to provide valuable information on titles no longer supported by their publishers. General ST magazines, such as Power and Maggie, also kept up their sterling work throughout the year, building up cult audiences and deservedly flourishing.



Thing: powerful replacement desktop.

TUMBLEVANE PDL

(Dept 1), 6 West Road, Emsworth, Hampshire P010 7JT Telephone: (01243) 370600

SPECIAL STARTER PACKS ANY 5 DISKS ONLY £6.99 1 - 4 disks £1.75 each ANY 10 DISKS ONLY £12.99

Plus FREE catalogue disk and FREE postage.

Please send cheque or **Postal Order payable to: TUMBLEVANE PD**

Sorry no credit cards.

INK AND REFILL KITS 4 Times refill kit + syringe and instructions £11.95 80ml bottles (black) £5.00 60ml bottles (colour)......£7.00 Larger quantities of bottled ink available on request, please telephone for prices.

GAMES & ADVENTURES

GM 01:	Llamatron, Mega Blast	GM 03:	Backgammon
	Bermuda Race, yacht racing	GM 27:	Monopoly
	Pickpockets Slots	GM 38:	Pipe Perfect
GM 40:		GM 43:	Mystic Well, RPG game
GM 60:	Die Alien Blob, shoot-em-up		ST Bridge, card game
	Ozone, platform game		Smash Hit, tennis
	Bar Games, pool, darts, crib etc	GM 88:	Hunt for Grey Novembe
	Fatemaster, graphic adventure	GM 101:	Psycho Pig, 2 disks
	Grandad 2, graphic adventure	GM 119:	Insectroid
	The Klingon War, 1Meg	GM 129:	Termatroid
	Snacman, Pacman clone	GM 134:	Starball, Pinball
	Dave Munsie Collection, 9 games	GM 136:	I TO THE REPORT OF A DECIDENT OF
	MAX, mad platform game	GM 138:	180 Darts
	World Conquest, strategy	GM 148:	Andromeda
	Graveyard, shoot-em-up	ADV 09:	Pork 2
	A Night on the Town	ADV 31:	Susan, text adventure
	Christian Adventure	ADV 35:	Deena
	Grandad, Graphic adventure	ADV 50:	Black Dawn
	Three realms of Suspicion	ADV 55:	
	APT & G	RAPHI	cs

aki & Graphics

AAG 01:	Palette Master	AAG 06:	Fractal Zoom
AAG 10:	ST Cad, design program	AAG 21:	Picture Format Converter
AAG 22:	Public Painter, mono	AAG 29:	Paintpot, 1/2 meg package
	Metafile Objects, for Timeworks	AAG 38:	Crackart V1.36, English doc
	Creative Titles, for video	AAG 53:	Pad V2.4, clipart editor
	Banners & Scrolls for Timeworks		Cosmic 4, pyschedelic art
	Cosmic slide show		Photochrome V3.0
	Movie Master, animation	AAG 60:	Creative Titles 2, 1 Meg
	HP Chrome, driver for HP Deskjet		
	Plus disk after d		

SPECIAL OFFERS 100 Capacity disk box £7.00 Mouse Mats £1.75 Mouse House £1.25 Joysticks from £8.50 We also have a selection of secondhand commercial games. Please ask for a list or telephone for details.

MUSIC & MIDI

	and a second second second second		LIGAL BURGUN I
MUM 01:	Accomptanist, 16 voice sequencer		1632 for DX/TX Yamaha
MUM 22:	TX8IZ Yamaha Editor	MUM 24:	Alchime Jr, Sequencer + 200 tracks mono
MUM 53:	Riff, create backing tracks	MUM 54:	Kawai K<>K4, Hi Res
	Yamaha SY22 Editor, mono 1Meg	MUM 56:	Guitar Professional, learn those chords
	Roland 'D' series Sound Banks		Score Perfect - At last a score writing program
			which works in all resolutions 1 Meg

EDUCATIONAL SOFTWARE

EAC 01:	Maths Test for under 10s	EAC 02:	Body Search, anatomy game
EAC 06:	Shipwreck, maths cartoon	EAC 08:	Letter Bomber, recognition
	Chunnel, French/English	EAC 11:	Maths made easy
	History File, 4 disks	EAC 18:	The World, guiz game
	Planetarium, sky at night		Telltale Chemisty, GCSE level
	CIA World Factbook, info on over	240 countrie	is (4 disk set)
	Workout, a learning aid	EAC 30:	World War Two, a history 3 disks
EAC 37:	GCSE higher grade maths tutor	EAC 40:	Molsys, molecular modelling
EAC 46:	The complete King James Bible, 4 disk almost 8 hours of pure hell de-compac	s of compacte	d files £7.00, or save yourselves

WORD PROCESSING & DTP

WPD 23: WPD 28: WPD 35:	ST Writer Elite, Wp Calamus Manual, your 2nd manual DB Writer, customised database Font Master, GEM font designer Marcelle, THE word processor 22, 30: 3 disk set, Printing Press in E	WPD 24: WPD 34: WPD 37:	DB support disk Jet-lope, envelope print for HP Thats Write & Write On fonts	
	UTILI	TIES		

UTA 06: UTA 22: UTA 28: UTA 38: UTA 48:	Doc Displayer plus utilities Fastcopy3 plus other copiers Double Sentry, accounting program Award Maker, with 286 listed awards & 5 Databases on one disk Sagratan, virus killer	UTA 09: UTA 34: instructions UTA 40: UTA 51:	Calamus Support Disk 70,000 Word Spell Checker
UTA 48: UTA 52:		UTA 53:	70,000 Word Spell Checker German Translate, 27,000 words Hard Disk Utilities

0 0

5

24

CD ROM DRIVES

X-LINK MODEMS

SSSSSS

Atari 520/1040 ST/STM/STF/STFM/ST ...£59.95 Atari Mega ST/Mega STE/TT/Falcon£Quotation Atari/Philips/Protar/Microvitech Monitors ...*£59.95

THE ONLY leading repair centre in the UK providing a professional, high quality, while-u-wait repair & upgrade service on Atari computers without any surcharges

HARD

BARE SCSI HARD DRIVES

2.5" IDE HARD DRIVES

*All monitors' repair charges exclude CRT & LOPT.

EMORY UPGRAD

£3
£5
£9
£
£4
£9

H DENSITY & STANDARD

.

9.95 1 Meg 3.5" Internal Drive £39.95 9.95 High Density 3.5" 9.95

Internal Drive & Module £54.95 9.95

=

4.95

9.95

STFM/STE Power Supplies (Service Exchange)	£24.95	290dpi Mouse	£14.95
New STFM/STE Power Supplies	£44.95	Blitter Chip & Socket	£39.95
STE/STFM Lead to Philips CM8833	£14.95	Forget-Me-Clock	£21.95

2.06 TOS SWITCHE	KS
STE TOS 2.06 ROMs	£44.95
STE TOS Switcher & ROMS	£49.95

CALL FOR LATEST BEST PRICES

STE TOS Switcher & ROMs	£49.95
STFM TOS Switcher & ROMs	£54.95



 All prices subject to change without notice
 We reserve the right to refuse any repair Please allow 5 working days for cheque clearance
P&P £3.50 by Royal Mail or £6.00 + VAT by Courier



Reader Awards The votes are in and counted, the gold envelopes 1995 are ready, and the suspense is unbearable...

Welcome to the 1995 ST FORMAT Reader Awards.

efore we announce the winners, we'd like to thank all those readers who took the time to send or e-mail their votes. It took a long time to go through them all, but we've finally stopped seeing Reader Award forms before our eyes and can now get on with presenting the awards.

But first, we promised to give five lucky winners a year's free subscription, so well done to: Brian Ahern from Glasgow, Martin Kolesar of Kosice in Slovakia, Peter Godley from Sheffield, Victor Wootton from Wirral and Hakan Stenow from Surte in Sweden.

And now, without any further delay, cue music, cue lights, and on with the show ...



Hardware

FEATURE ANNUAL REVIEW

iwa's low-cost ACD300 scored 92% in issue 76, so it's not surprising that it walked off with the CD-ROM award, although the speed at which you have adopted it raised a few eyebrows.

The DIY Kit vote was more predictable, with memory and TOS upgrades streaking away from the pricier accelerators and graphics cards.

Gasteiner's Mega range of hard drives, which use Quantum mechanisms, beat off 13 other nominations to take the Hard Drive award, while the rise of STE and Falcon games that use the Jaguar Powerpad accounts for its popularity in the Input Device sector. Elsewhere, US Robotics dominated the Modem field, but there was fierce competition for the Monitors award.



No fewer than 19 models were nominated, but the Philips colour and Atari monochrome models took the honours comfortably in the end.

Star's LC printers attracted some support, but in the end

Hewlett Packard edged out Canon's BJ range for the Printer prize. Finally, Cumana's external model won the Disk Drive award in convincing style, comfortably beating HiSoft's new Zip drive.

DISK DRIVE Winner: Cumana Runner-up: Zip drive

MODEM

Software

espite all the excellent new software released in 1995, most awards went to older programs. HiSoft's AtariWorks managed to pip KSpread for the Business Program award, while Comms voters comfortably favoured Connect over Flash.

Although Compo's Timeworks 2 has been upgraded to support SpeedoGDOS, Calamus's enduring popularity helped it edge out its great rival in the DTP market. Although seven packages were nominated in all, Calamus and Timeworks together accounted

for 70 per cent of all the votes cast in this section. With only a couple of new learning packages released during 1995, the traditional favourite, Noddy's Playtime, found it easy going in the Education section.

No less than 39 titles were nominated for the Game

award, but the winner proved to be the classic Civilization. 1995 releases put up a strong fight, though - UDS's Obsession held off Stardust and stablemate SubStation to claim runner-up spot.

It was a similar story in the Art award, with 30 nominations



ANNUAL REVIEW FEATURE

STAR TREK CHARACTER

Winner: Star Wars

TV PROGRAMME Winner: Star Trek

Runner-up: X-Files

Runner-up: Aliens

Winner: Spock

FILM

Winner: Lord of the Rings (JRR Tolkien) Runner-up: Discworld novels (Terry Pratchett)

USER GROUP

Winner: Panther Owners

Group Runner-up: Abbuc

FAVOURITE BBS

Runner-up: Penske

MAIL ORDER COMPANY

Winner: Wizard Games Runner-up: System Solutions

Winner: Ad.Lib

ST REPAIR SERVICE

Vinner: Analogic Runner-up: Compo

Runner-up: Data



battling it out for the Graphics Package title. Surprisingly, a Falcon-only package, *APEX Media*, stole the award from the more compatible *Imagecopy*.

Emagic's Notator didn't get a look in in the Music category, as its ancient rival Cubase claimed first prize from the old

Cover Disk star, Quartet. The popularity of Harman's Cubase range was further emphasised when the Falcon direct-to-disk

recording package, *Cubase Audio*, secured a comfortable third place.

Although *STOS* took the Programming award, the *C* language had two representatives in the final four – united you stand, divided you take minor honours. HiSoft fared well, though, with no less than three programs in the top four.

The final category, Word Processing, was also the most interesting. No-one was particularly surprised when *Protext*, now distributed by Compo, won a reasonably comfortable victory, but against all expectations HiSoft's *Papyrus Gold* edged out *1st Word Plus* and *Write On* for the runner-up spot. Even more remarkably, HiSoft's *Devpac Assembler* won a remarkable four per cent of votes cast in this section. Talk about versatility!

JUST FOR FUN Twelve months of intensive Star Trek pictures helped secure the top spot for the popular sci-fi TV series, although the

X-Files came close to pipping it. Babylon 5 came a poor third, with the two top shows securing 43 per cent of the vote between them.

Star Trek fared less well in the film stakes, being beaten by both Aliens and Star Wars. The album category proved impossible to judge unless the artists were taken into account instead. After taking an early shock lead, James Last was eventually outpaced by two office favourites, Pink Floyd and Queen, who settled for a draw after a heated battle for the title.

It was a similar tale when trying to gauge the popularity of individual books, so we decided to tot up the votes the authors received instead. Stephen King and Isaac Asimov proved very popular, but in the end the evergreen Lord of the Rings pipped Terry Pratchett's Discworld series for the major honour.

And just who is the best Star Trek character? The voting proved that classic Trek still has a solid

core following. Six classic Trek characters were nominated to The Next Generation's nine, but Spock easily outpaced the runner-up, Data.

BOOK

SERVICE PROVIDER

Winner: Demon

No runner-up

FTP/GOPHER SITE

Winner: HENSA Runner-up: Univ of Michigan



o less than 22 companies were nominated for the Mail Order Company award, proving that those who have remained true to Atari have had their trust repaid by their customers. The eventual winner was Wizard Games, with System Solutions taking the runner-up spot.

The 15 nominations for top PD Library didn't prevent LAPD from taking a lion's share of the vote,

with 42 per cent to second place Goodmans' 15 per cent. Analogic just squeezed out Compo for the Repair

A look ahead



Service award, while the Panther Owners Group, which offers support for beleaguered *Frontier: Elite 2* pilots, won the User Group category in convincing style. The German user group Abbuc grabbed an unexpected second place.

Ad.Lib saw off 21 other BBSs, but the German bulletin board Penske was hard on its heels. Hensa won a predictable victory in the best FTP/Gopher site category, while the University of Michigan's Atari site took second place. There were no up worthy of mention among Online Service Providers, as the vote was widely split across individual univer-

PD LIBRARY

Winner: LAPD Runner-up: Goodmans

runners-

sity servers. Consequently, Demon won this award rather comfortably. The Web Site award went

to ST FORMAT's very own Futurenet site, with Mark Smith's Atari Web page taking almost all the other votes.

here's plenty to look forward in 1996. The keenly awaited Papyrus 4, Arabesque 2, Neon 3D and Positive Image should finally hit the shelves, and Top Byte has several new games planned, including Space Ace STario and Aronath. Meanwhile, 16/32 Systems and Merlin will continue to support Falcon owners with both home-grown and imported software. There'll be a number of new upgrades for Falcon users, including the new 68040-based

Falcon users, including the new 68040-based accelerator from Compo, and you can also be sure that the PD and shareware scene will continue to flourish, bringing you regular upgrades of your favourite applications as well as completely new packages. There's also plenty of excellent, untapped European software begging to be translated into English.

1996 is going to be a very interesting year, and you can rest assured that *ST FORMAT* will be here covering it all. Until then, though, we're off to plunder the leftover mince pies, dance a Highland fling, make (and break) our New Year's resolutions and enjoy a brief holiday. *stf*



Andy Curtis straps on a pair of rocket-powered sausages and blasts off to check out the latest PD and shareware.

Genocide

PUBLIC DOMAIN

LAPD, Disk G433 All 1MByte STEs and Falcons, colour monitor and joystick required

REVIEW

Fasten your seatbelts for wave after wave of explosive action in this multi-level pangalactic shoot-'em-up. This demo version provides you with a generous ten levels of action, and registering for £15 gets you over 50 more.

After a couple of professional-looking intro screens, up comes the traditional scrolling starfield and an options screen. There are one and two-player options, but the two-player mode is disabled in the demo version.



You won't need a degree in astrophysics to work out that all you have to do is shoot everything that leaps out at you from the screen.

Fortunately, you never run out of weapons; unfortunately, there's a time limit. The baddies come at you from the centre of the screen, and there are also

asteroids to avoid: too many hits and you're dispatched to the great games arcade in the sky. If you blast sufficiently well you will, eventually, come up against a nasty centipede-like creature. Fervent and continuous firing dispatches it without too much difficulty.

Genocide has definite

echoes of the game *Tempest*, principally because the baddies start off at the centre of the screen, and become larger as they get nearer. Because of this, you often need to be right in front of the enemy craft, and almost obscuring them, before you can blow them away.

Another annoyance is the rather slow response. No matter how frantically you waggle the joystick, your ship will stubbornly



Genocide features a rather bizarre, but well-written, intro sequence featuring a desert island and the cow who jumped over the moon.



The demo version of Genocide provides ten relentless waves of baddies to kill off, plus an end-of-level boss. The full version has over 60 levels of blasting action.

move around the screen at its own sedentary pace.

If you can handle these niggles, you will enjoy a good few sessions of mindless blasting, accompanied by excellent music. Genocide certainly enables you to unleash the frustrations of the day, and if it all gets a bit repetitive, £15 sent to Paradise Software (PO Box 72, Chorlton, Manchester M21 8JL) will buy you the full game, featuring over sixty levels and lots of new baddies.

STF RATING: 89%

STOS ALERT!

Many excellent games and utilities are written in STOS Basic. However, Falcons and some STs won't run STOS programs unless they have been patched with STOSFix3. We featured STOSFix 3 on Cover Disk 67, which is now sold out. If you have difficulties running a STOS program, you can get STOSFix3 and several other STOS patches from LAPD – call = 01773 605010 and ask for disk U22.

B/STAT Power, Disk PWR 119 All Ataris, 1MByte required

B/STAT is a statistical analysis program which uses a selection of established tables to assimilate and process data. Let's be honest here, we haven't actually got a clue what this program really does, and there are no documents to explain the functions.

A small help facility is included in the main program screen but it completely fails to give an adequate overall view of the program's funtionality. The interface is very rudimentary, with no real graphics. If you're something of a statistics propeller-head it may be worth a look, but otherwise leave well alone.

STF RATING: 35%



Plasma Ball

Floppyshop, Disk GAM 5261 All Ataris (TOS 2.06 and Falcon with STOSFix), colour monitor and joystick required

A successful game captures your imagination with strong gameplay, entertaining graphics and a subtle plot. Unfortunately, Plasma Ball is not a successful game. If you imagine Breakout without the blocks, you have a pretty good idea of what goes on.

Basically, you have to move a 'bat' with your joystick to keep a ball in play. The top of the screen is progressively lowered, giving you less and less space to work in. Sadly, the bat often doesn't move fast enough to meet the ball, so you can lose lives lives before the game has even begun. If you survive long enough, you get into the high scores board. There isn't really any rea-

son to recommend this game. STF RATING: 49%



Plasma Ball - it's kind of like Breakout, without the gameplay. Boredom lovers everywhere, take note.

World League Soccer

Floppyshop, Disk GAM 5261 All STs (TOS 2.06 and Falcon with STOSFix), colour monitor required

If you find managing a football team exciting, this game could be just the ticket. It enables you to pick a name for your team, buy and sell players, and set up your own league competition. You then have to predict the results of all the games - if your selections come up, you receive a cash bonus.

There is no actual gameplay for the matches, just a brief pause while the computer decides which team is victorious. However, there are loads of options to experiment with, and it's a enjoyable distraction from Third Division football.



It's more team management than kicking a ball about, but World League Soccer is a great game for enthusiasts. The inclusion of a gambling option seems to mirror real life - put a huge amount of money on your team getting thrashed in STF RATING: 78% a match and then put out the under-11 side.

Craghaven

LAPD, Disk L112 (£2.50) All Ataris, colour monitor required

Craghaven is a fetching tale of a simple farmer's boy who leaves his island home to seek fame and fortune on the continent of Angara. You are that country lad, and we join the story as you sail your small boat into the harbour at Eyntown, eager to discover what the unfamiliar place has in store for you.

Wherever you go in this well-written text adventure there are people to meet and places to explore. You might bump into a dark, mysterious Craghaven is a wellwritten and attractive text adventure, with a few pictures slipped in for good measure.



figure, Chuckles the Jester, or any of the other colourful characters who live in Eyntown. As you progress the plot will slowly reveal itself, and it is easy to be drawn into the intriguing storyline.

Craghaven's screens are complemented by a series of tiny and uninspiring colour pictures, but if you're after high jinks then try Craghaven for hours of perplexing fun. STF RATING: 84%

Emperor

LAPD, Disk G424 All Ataris, high resolution

If you are familiar with the board game Risk, Emperor will hold few mysteries for you. It runs in high resolution mode, so you will need the supplied mono emulator if you only have a TV or colour monitor to hand.

Almost everything is in German, so deciphering the menu items is a game in itself. However, it isn't too hard to work out how to play, and you can soon busy yourself with the allimportant task of killing off your opponents by conquering their countries. You can play against real or computer-generated opponents, and the game ends when you have completed your mission or defeated everyone else.

Emperor will definitely please anyone who fancies taking control of the entire world (Oi Nick! Give me that disk back immediately! - Karen). Once you get the hang of the German controls, it's a game with long-term appeal, because you never quite know how it's going to turn out from one game to the next. There is a high level of skill involved in knowing which country to attack at any given time. This game is certainly one for the strategists



So you want to conquer the world, huh? Emperor is the game for you.

among you, and a delight for those who only have mono monitors, but crave a good game every now and then.

STF RATING: 84%

Take500

Floppyshop, Disk MID 5272M All Ataris, monochrome monitor required

Take500 is a fully-fledged TG500 patch editor and librarian. It was written by Y-Not software, which produces many commercial synth editor packages. This one is in the public domain, though, because Yamaha wanted it to be freely available.

Take500 serves as an effective demonstration of Y-Not's elegant patch manipulation. It only runs in high resolution and, unfortunately, only from your internal floppy drive (the documentation mentions a hard drive installation program, but this utility is not supplied). You will also need a TG500 module and two MIDI cables – it is important that the editor can receive data from your module as well as send to it.

The package includes a formidable bank of sounds for you to enjoy, and you may edit them as you wish. An extensive manual on the disk tells you all that you need to know about the program.

If you have ever tangled with the TG500's on-board editing facilities, Take500 is a like a breath of fresh air. All the controls and edit pages are laid out clearly and legibly, so there's no reason for TG500 owners to screw their eyes up in front of a tiny LCD screen again.



STF RATING: 91%

(Left) Take500 is a professional voice librarian and editing package. This particular screen enables you to edit the performance sounds of your TG500.

Sets of voices can be loaded from or saved to disk on your ST, enabling you to change every synth



Disk and Desktop Utilities

Floppyshop, Disk UTL 5291

voice in an instant.

Applier

STS with TOS versions prior to 2.06 This handy little utility enhances the TOS Install Application feature. It enables you to link file suffixes with programs, so that clicking on the document will load both the relevant application and the document ready for immediate use.

With Applier active it is possible, for example, to set the extension .TXT to load your favourite text editor. Instead of loading your text editor and then opening a file, all you need to do is double-click on a file with the .TXT suffix. This is an excellent enhancement, especially for older versions of TOS. STF RATING: 79%

iPRN

Any ST or Falcon

IPRN increases print speed by up to three times, as long as your printer can go that fast. It also monitors the state of the printer constantly, so that your ST will know immediately if the printer goes offline. This demo version has some limitations, but is well worth having if you use your printer regularly. It's just the job for those oh-so-slow *Calamus* printouts that can freeze up your machine. STF RATING: 74%

Pysgham All Ataris, hard drive required

Pysgham creates virtual drives from folders, enabling you to access deeply nested folders and their files quickly and easily. If you keep all your pictures three folders deep on drive D, for example, Pysgham enables you to call this folder drive Q and access it as such. The benefits are a less cluttered desktop and a faster route to your often used files. Up to eight virtual drives can be installed at once, and you can load and save different configurations. The program is postcardware, so please do take



the time and trouble to send the authors a postcard if you find the program useful. It's not a lot to ask, and it will help in the future development of invaluable utilties like Psygham. STF RATING: 89%

A silly name, but a useful program. Pysgham creates virtual drives allased to folders on your hard drive.

Muzak Player 2

Floppyshop, Disk MUS 5256 All Ataris (TOS 2.06 and Falcon with *STOSFix*), colour monitor required.

This competent music player makes good use of *STOS* extensions and can cope with many varied music formats (except MIDI). *Quartet* files, MOD files and countless sound chip music formats are catered for. The only tracker format that is not covered is the *Digit Tracker* standard – maybe this will be included in future versions?

The interface is in a rather dingy shade of dark green, but the program works very well. We tried MOD files created by several different programs and it didn't fail with any of them. The sound quality is good, although there are no controls for changing treble or bass

Rip It Up

Power, Disk PWR 1052 All Ataris, medium resolution only

Many people have nightmares about trying to pass their driving test. If you want to load response, a disappointment for STE and Falcon owners with their DMA chips. There is a speech synthesis

feature built in to the software, but it is rather bug-ridden and the author does not advise you to use it yet.

If you need one program to deal with almost every music format on your ST, *Muzak Player* is for you.

STF RATING: 81%



Muzak Player isn't much to look at, but the music replay routines are great and cover almost every music type.

the dice in your favour, *Rip It Up* could be just the thing for you. It teaches you the signs and symbols of the highway code using a simple question and answer format.

You can start off using a multiple choice format, then move on to the less helpful question-only mode. If you can regularly score 90 per cent or above, you can be pretty sure that you won't have to worry about this section of the test. The illustrations are clear and comprehensive, and the whole program is bright, cheerful and easy to use.

Incidentally, if you think you know all the road signs, try running this program and answering a few of the questions. It's surprising how little we really know. Full marks to the author for a useful and practical program.

STF RATING: 74%



So you think you know the highway code road symbols, do you? Think again!

National Lottery Simulator

Floppyshop, Disks S-UTIL5224 and S-UTIL5225 (£3.50), Falcon version F5226 (£2)

All 1MByte Ataris (TOS 2.06 and Falcon with STOSFix), colour monitor required

The National Lottery has prompted an assortment of number selection programs on the ST, but none could be more complete and entertaining than the National Lottery Simulator. The samples are so big and the graphics so well done that the whole thing needs two disks. Hard drive owners with 2MByte of RAM can even get an enhanced version.

The program is packed with plenty of options and it provides no less than three different methods for choosing the numbers. The full method really captures the atmosphere of the BBC presentation, complete with audience participation and convincing music. Dramatic chords and audience cheers add considerably to the suspense as the balls are selected. The experience is so convincing you may even be tempted to check your tickets, cursing if you win because it's not real.

The quick method simply dumps the random numbers to your screen, a rather pointless exercise in itself, and there is a 'fix' method which enables you to rig the outcome. If you fancy making an event out of choosing your numbers, then the National Lottery Simulator is great fun.

Magic Speller

Floppyshop, Disk EDU 5237 All Ataris, low resolution only

Magic Speller has the potential to be a great spelling aid for young children. The screens are colourful and there are lots of spelling tests supplied. There is also the facility to create spelling tests better suited to your children's needs.

Unfortunately, there's not enough error checking on keyboard input, so if you type too many characters for a word it will take the extra characters as the start of your next spelling attempt. This can be confusing and irritating, especially for children, who are apt to make this sort of mistake.

The real problem with the program is its reliance on a computerised voice to request spellings – often you cannot tell which word has been spoken. A clue does appear for each word, but you really shouldn't have to guess the word as well as spell it. Could do better, report ends.

STF RATING: 65%



I've won! I've won! No, sorry folks, it's just a load of computerised balls. You may, however, think that this program is complete overkill for such a simple task. We couldn't possibly comment.

STF RATING: 85%



Magic Speller, the kids spelling aid that just falls short of the mark. The speech is difficult to decipher and the whole experience less than thrilling.

PD & SHAREWARE ROUND-UP

Just in case you missed it... here's a round-up of the best software from the past four months.

Title	PD Library	Туре	Issue	Rating
Tautology 2	AdLib PD	Falcon game	76	93%
Skyduel	Floppyshop	Game	75	92%
Switch	Merlin PD	Falcon game	76	92%
Everest 3.5	Goodmans PDL	Text editor	77	91%
Egale 2.7	HENSA	Utility	76	90%
Freedom 1.14	HENSA	File selector	71/74	90%
Wildlife Slideshows	STellar PD	PCS pictures	77	90%
Da Capo 1.22	HENSA	Address manager	77	89%
Backward 3	Merlin PD	ST emulator for Falcon	75	88%
The Lost Blubb	Floppyshop	Falcon demo	75	88%
HERO	Goodmans PDL		77	88%
Thing 0.54E	Floppyshop	Desktop	74	86%
Xiator 2.0	Merlin PD	Translator	76	86%
KIVI 1.41	HENSA	Off-line reader	74	85%
Novadisk 8	James Bird	Diskmag	76	85%
Anoraks of Doom	Goodmans PDL		76	83%
ESSCode 6.4	HENSA	File converter	74	83%
Third Dimension issue 15		Diskmag	76	83%
Cartoon Capers	Power PD	Game	74	82%
Pipetris	Cover Disk 77	Game	77	81%
Counter Atak	Floppyshop	Game	75	80%
	Floppyshop	Image processing	76	80%
Pixikrome STOSSER Multimedia	Goodmans PDL	under hiererening	77	80%

Falcon 030 STOS Extensions Suite

Floppyshop, Disk F 5307 Falcon only

If you use STOS on the Falcon, this disk is a system requirement. It contains all the extensions you need to get STOS working well on your machine. The files include a system control extension, graphics, sound and MOD player for the STOS Basic interpreter. Full instructions for installing the extensions are included in the help file supplied on the disk.

As well as the extensions, there is a wealth of documentation files, STOS listings and pictures in .LBM format. STOSFix3 is also included, enabling you to patch STOS programs so they load and work with your enhanced hardware.

Please note that the extensions on the disk are all unregistered shareware versions – you will need to register if you use them regularly. The disk is a one-disk solution for STOS enthusiasts who own a Falcon, and very good it is too, enabling STOS to harness the power of your machine.

STF RATING: 88%



MARCEL IT UP In issue 76 you recommended AtariWorks to Martin Jones. He was looking for a word processor capable of producing RTF files, but the HiSoft product seems a bit pricey for this limited use.

Might I suggest the shareware word processor Marcel as a cheaper alternative. It offers the RTF import/export he requires, and it's not at all bad - I've used it for translating files for some time. Gareth Jones, via e-mail

Thanks for that, Gareth. Marcel is an excellent little word processor that puts some of the older commercial offerings to shame. The RTF support isn't perfect, though - it

loads RTF files saved from AtariWorks, but crashes when we try to load RTF documents from Papyrus. However, there's no harm in trying, and you only have to register if it works.

Frank Charlton steps

confidently into Clive

month... then steps in

everything else Clive left

Parker's shoes this

behind... oh dear.

DAT'S THE WAY After reading issue 76's article on hard drive back-up, I'm wondering if there is a program which can back up ordinary data to DAT via the Falcon Digital Interface? I have a program which came with Cubase Audio, but it only works with AIF sample files. Backing up my whole hard drive to DAT would save me a great deal of extra expense. Dave Stanton, Slough

()			ws Style	ieib T	2:51an
0	Marcel	2.3: NEW_IN_2	2.3		8
lood evening.	Stranger Law	A State of the second	Top.	C	0
Para menu has bee changes to t quote; below no matter ho be changed t two F8s and F7-F10 range perform the and AltF7-Al (previously sets the cur (within doub File menu (with f just that; C	ents/fixes for Mar en revamped. The fi- the current paragray these are the pro- w the current para to that absolute for two F9s. The preve- now use modifier older-style relati tF10 do the older- Ctlr-F7-Ctrl-F10). rent (one-line) pa- te-spaced printing ile open) has been hg to (unnamed) co opes not affect dis	first four ite aph: Default, evious relativ graph is curr rmat. Block vious keyboard keys, so that ve operations style reverse The new Pri ragraph to be D changed. Op neverts a name	ms now nake Indented, Ha ve-change itt ently format Quote does s equivalents CtIr-F7-Ctr (previously relative op nt Single-sp printed sin en at End of d window to	inging, Block ms. Thus, - tted, it will ame thing as in the 1-F10 F7-F10), - verations aced item gle-spaced file does a template	

The shareware word processor Marcel puts many commercial offerings to shame.

LHARCIN' ABOUT

Could you explain how a simple mortal such as me can use the GEM shell version of LHARC 3.10 (Wonder Disk 70)? I want to create a TOS file which has packed a batch of directories and files, just like the TOS files on your Cover Disk. archive, and the right one for the Michel Oks, St Clement, France



Contract Data of	LBart-Shell 1.18	14
Aers 2.18 - 91396 31917 #.#	Big Strikts Researchers Petra Sellext sective Sellext sective Sellext sective	Briver Bi
Kana La		m Dit

The LHARC shell has two file selectors: use the left one for the contents of the

uncompressed files on your disk. Click on the close box on the left selector to open a normal GEM file selector, and choose a name for your new archive. You don't need to add the LZH extension either, as the shell does it for you automatically.



FLASHER! I have a couple of questions concerning my 1MByte STE: 1 When my 720K disk drive is not accessing a disk, it flashes.

Any idea why? 2 I have two disk drives. I can read and write to drive B with no problems, but can only read from drive A. I cannot save to it because it completely corrupts the disk, as if it has formatted it, but not completely. Any suggestions? Symon Hambrey, Malvern

First, the disk access LED on all STs flashes slightly, even when there isn't a disk in the drive. This shouldn't really be obvious unless you're in a semi-dark room.

If the light flashes at full brightness - that is, just as it does when accessing the disk - there may be a problem with the drive.



With your empty archive open in the left window, navigate through the right window until you've found the files you want to compress. Use the mouse to highlight either individual files or entire directories (thereby packing both the folder and its contents). With your chosen files highlighted, just click on the Compress Files button in the centre of the screen.



As your external drive works normally, it's likely to be the drive itself, rather than the ST's disk controller chip.

Second, it sounds very much as if your internal drive's heads are out of alignment. Disk heads are precision mechanisms, and need to be very precisely aligned. The screws holding them in place can sometimes slacken after a lot of use, and the heads will drift just enough to cause the symptoms you describe.

This isn't something you can fix yourself, as you need precision tools to measure the alignment angle. Your best bet is to have the drive looked at by a repair specialist. However, replacing the whole drive mechanism may well be cheaper than having it repaired.

EXTRA SCREWS I have just noticed, with horror, Clive Parker's solution to Mr Stokes' DIY Video Port question in issue 71.

Mr Stokes' problem is that, like me, he is the owner of an STE, which has three screws holding the power supply in place. The third screw can only be accessed by removing the three screws holding the motherboard down, and then removing the motherboard from the case bottom. Patrick Jones, St Ives



Once LHARC has finished packing your archive, you should see the packed files in the left window. To create a selfextracting TOS file, move to the Command button. A drop-down menu will appear select Make SFX. Point the GEM file selector at the LZH file you just created. and LHARC creates a self-extracting archive, leaving the LZH version intact.



You can buy the Zip drive both with and without a host adaptor.

OUTSIDE, YOU!

I use Xenomorf 2 on my 4MByte Falcon030, which has a 68882 co-processor. Whenever I try to render complex images, the program complains that there is not enough memory. Is there any way I can eliminate this problem without spending £600 on a memory upgrade? **Douglas D Grannell**, Newcastle-under-Lyme

There certainly is, Douglas. You could take a look at the **Outside virtual memory manager** for the Falcon. Virtual memory

managers watch for little-used chunks of RAM, and 'swap out' their contents to your hard drive, freeing up real memory. When the program requests information that has been swapped out, Outside will re-load it from disk.

You need to be able to set aside some hard drive space, obviously, but Outside can even take you beyond the Falcon's 14MByte limit. It works very well, and yes, it certainly works with Xenomorf 2. Outside costs £70 and is available from 16/32 Systems (= 01634 710788).

Phoenix File Attributes Rendering Animation 0 8 Canera ZOE \$ H % N RS Ĕ BANK : 8 ZOOM: 188 0 M RS Phong 8 Render Scene UPDATE BANK O Preview Image **O BANK**

Xenomorf 2 can render bigger images using Outside's virtual memory. As long as you have the necessary hard disk space, it's much cheaper than a RAM upgrade.

First of all, Barbara, you should reconfigure Protext so you can access the dictionaries from your hard drive. It comes with a separate configuration program, and you can set this up to point the spellchecker to a hard drive partition, then save the config file.

As far as your original floppy-based dictionary goes, it's more than likely the disk has developed a fault with age and the heavy use it gets when you spellcheck a document. One thing to try: load the USER.DCT into Protext as if it was a document. If the file is intact, Protext should load it. Spellcheck as normal, and add all the words to your new user dictionary.

You really should back up important disks like this one, especially when a year's work can be lost like this.

MAC ATTACK

Is there any way to connect my 2.5MByte STFM to an Apple Mac LC475? I would like to use the Mac's hard drive and high-density floppy as slave drives on my ST.

If this is not possible, how



We love using Protext grabs in ST Answers, so keep sending those Protext problems in!

ST FORMAT JANUARY ISSUE 78

Silver Stre

THE REAL PROPERTY

Yes, you're right. It appears that some revisions of the STE motherboard have the power supply attached with three screws, rather than just the two mentioned in Clive's answer.

A quick case-opening session in the ST FORMAT office reveals that all our STs are the same, with only two screws to anchor the PSU. Nevertheless, we goofed, and one of the office Klingons has been dispatched to thrash Clive soundly with a wet towel. He won't make the same mistake again. In fact, he's unlikely to be any mistakes for a while ...

ZIP IT UP

I understand the Zip drive package from HiSoft includes everything you need to use it on any SCSI-aware Atari: the Zip 100 drive, a 100MByte cartridge, all the necessary leads, and a complete set of software. Does it come with a SCSI-ACSI adaptor? T Anderson, Stockport

Yes, if you want one. HiSoft sells the Zip drive kit both with and without a host adaptor. If you have a Falcon, or already own a host adaptor, you won't need (another) one; otherwise HiSoft provides the excellent ICD Link 2.



If you want to test your new selfextracting file, either load it back into LHARC and click on Test arc from the same menu as Make SFX, or simply double-click from the Desktop. The files will be extracted if the archive is okay. This way you can pack even more files on to a single disk - this month the Cover Disk contains 1.3MByte of data, for example!

GHOSTS

In issue 71's PD Section you mentioned a utility called GhostLink, available from Riverdene PDL. I have three questions about this: 1 Is it possible to use the PC's floppy drive as a drive B for the ST? 2 Do all 520STE machines have a null modem port? 3 Which port do you use on the rear of the PC? James Selway, Harrogate

1 No. As far as we know, GhostLink will only allow you to use the PC's hard drives. 2 There's no such thing as a null modem port really, it's just the standard modem port on the back of the ST. A null modem cable is designed to connect two computers directly, rather than via a modem, and it's slightly different from an ordinary modem cable. Any standard RS-232 null modem cable from a computer shop will do. 3 You use the serial port, often marked as COM1 or COM2 on a PC. It may look different from your ST's modem port, as modern PCs use 9-pin connectors rather than the older 25-pin ones. It still works, but you'll need to ask for a 25-pin to 9-pin null cable.

FLOPPY FAILURES I do a lot of work from home, using Protext 4.3. I run the program from a hard drive, but it spellchecks from drive A slowly! I've spent over a year

teaching the inadequate dictionary loads of work-related jargon, and there were around 3,500 words in my USER.DCT. Now all of a sudden,

Protext has decided my dictionary is "bad". I've checked the disk and there doesn't seem anything wrong with it. I've also compared the files to the ones for my new dictionary, and they only differ in size. Barbara Pancha, London

R PC Exchange Each assignment below determines which Macintosh application program is used when you open DOS documents with a particular suffix. DOS Suffix Application Program **Document Type** 5 .GIF ÷ GraphicConverter GIFf .JPG GraphicConverter ÷ JPEG .TXT SimpleText = TEXT Z .ZIP Ziplt Þ ZIP Add Change... Remove On O Off **Options..** A REAL PROPERTY AND A REAL PROPERTY AND

You can't create or read Mac disks on an ST, but if you create MS-DOS disks with Fastcopy 3, you should be able to transfer files from your ST to a Mac.

do I format my disks so that I can read them on the Mac? I want to be able to transfer MIDI files and so on. Malcolm Rigg, Isle of Lewis

HELP!

ST ANSWERS

Unfortunately, Malcolm, there's no way to do this. While the PC and ST use very similar disk filing systems, the Mac uses a system known as HFS, or Hierarchical Filing System. Mac floppy drives also use a standard known as GCR - Group Code Recording which varies the spin speed of the disk as it reads and writes.

However, we can help with your second question. Modern Macs with System 7 – including your LC475 - should have a system extension called PC Exchange, which allows the Mac to read and write standard PC floppies. The simple answer is to create MS-DOS-compatible disks which can be used in both machines. One suitable formatter is Fastcopy 3, which you can pick up from any PD Library, or from Cover Disk 62.

DEMON DRIVER I'm no expert in computing, but I'm about to take the plunge and buy a hard drive for my STE ideally about 540MByte and 'plug in and go'. I would appreciate your advice.

First, I was confused by issue 73's Six of the Best article. The MaxiS drive was rated at 89%, but in issue 70 it scored 97%. Do original ratings change relative to subsequent reviews of other drives?

Also, I'm confused by some of the features. Analogic run ads mentioning the features of their Protar Series II drives. Are all drives "Autobooting, auto-parking", and do they all have "Selectable boot partition, Device Number switch and management software"? What about space to add another drive in the same case? I couldn't tell which of the MaxiS, Squirrel and Gasteiner drives match up to the Protar. Hugh J Lee, Glasgow

Yes, rat-

ings will

L L change as

time passes. A piece

of hardware which

ST FORMAT Gold

longer be state of the

All modern hard

a year ago may no

art today, and rat-

ings change to reflect that.

won the coveted



If Faze is giving you problems, try an alternative screensaver, such as Before Dawn (above).

drives have the features you mention, with one exception. Of all of the drives tested in issue 73, only two have a case that is big enough to accommodate another drive mechanism - the Protar and the MaxiS from System Solutions. The main difference between the two is case design - the Protar uses the old 'slab' design, so you can use it as a monitor stand, whereas the MaxiS uses the more modern 'toaster' design and stands upright.

As Andy said in the article, there's little to choose between the drives we covered. Our personal favourites, for sheer speed and ease of use, are the MaxiS and HiSoft's Squirrel drive, both of which use fast Quantum mechanisms. Take your pick, and enjoy your ST in a whole new way. Don't forget to back up your data regularly - see issue 76 for advice.

FAZED OUT I use the screensaver Faze from Cover Disk 71, together with Supercard 3.13. When Faze sets in while a card is still open, I get double images which persist as red/green double images, even when I return to the main menu screen of Supercard. This obviously is very disturbing.

P Thiebault, Paris, France

Problems with your ST? Falcon giving you grief? Send your tale of woe to Uncle Frank at: ST Answers, ST FORMAT, Future Publishing, 30 Monmouth St, Bath BA1 2BW, or e-mail them to: de18@dial.pipex.com.

BLITTER, TWISTED

I would like to know what the difference between an ST and a TT is, please. I would also like to know what a Blitter chip is, and whether a TOS 1.62 1989 STE should have one. Andrew Smellie, Wishaw



The TT was launched after the ST, but before the Falcon030. Built around a 68030 processor running at 32MHz, it came in a MegaSTE-style separate case. The TT was designed as a professional workstation, and Atari even licensed the multi-user operating system UNIX for it. The ST, on the other hand, has a 68000 processor and is essentially a home machine.

The red/green double

you see when a GEM

program has attempted to switch

between low and medium resolu-

tion, and hasn't re-set the screen

Presumably, Faze is switching to

saver, then not quite managing to

switch back to medium resolution

best suggestion we can give you is

I am having problems

with my ST: each disk

I insert either seems to

If your ST is doing this

insert, you have a fairly

with every disk you

for Supercard to carry on. The

to try another screensaver.

DODGY DISCS?

be wiped completely, or skips

the Auto folder and goes to

become unreadable and the

programs become unusable.

major problem with your ST's

internal floppy drive. Your best

replaced, and replacing may well

be the cheapest option. Get your

outfit - try Compo = 01487

773582 or The Upgrade Shop

a 01625 503448 for starters.

ST looked at by a reputable repair

bet is to have it repaired or

GEM, where the names

What's wrong? S Norman, Norwich

low resolution for the screen-

properly when it quits.

images are usually what

The Blitter is a custom chip designed to process graphic data, taking some of the strain from the ST's main processor. Every machine from the STE onwards has one, so yours certainly does.

The TT (left) followed the ST, but was designed as a professional workstatio



Mac Marsden unplugs himself from the Internet and fires his huge brain (so he says) into GFA Basic mode, ready to answer your questions.

FA Workshop

TESTING TIMES I've been doing lightweight GFA programming for a couple of years now. My present project involves producing a MCQtype examination 'paper'. The production of the file containing the questions and answers isn't a problem, but I've been unable to sort out one seemingly simple routine.

What I've done is produce (for example) 500 questions with answers. What I then want to do is retrieve these questions in a random fashion. Producing a random number is not difficult, but my problem is this - I want to retrieve

NEXT F

a number of questions in a random fashion, but obviously without repetition. Therefore, I want a routine that will write the numbers from 1 to 500 in a random fashion. I'm sure arrays are needed, but I just can't find the solution.

It would also be good if, on subsequent use of the program, the order of numbers is different. For example, a user might answer ten questions, then, on returning to the program the next day, answer another 10, but a different set. Some questions may be repeated, but ideally each set of questions will be different. Philip Turner, Bradford

```
Algorithm for 500 random numbers file
       Outer loop counting to 500 (f)
NO
            Do loop until number selected and not used before
                Select random number (1-500)
                loop from 1 to f to check number not used before
                     if number not used before
                          array(f) = number
ONE PANE
                     endif
                end loop
            end loop
       Increase loop number
       end loop
       Save Array
       Random numbers program
       DIM ARRAY(500)
       FOR F = 1 TO 500
            LOOPEXIT = 0
            COMPARE = 0
                X = RAND(500) + 1
ONE PA
                FOR G = 1 TO F
                     IF X = ARRAY(G)
                          COMPARE = 1
                     ENDIF
                NEX T G
                IF COMPARE = 0
                     ARRAY(F) = X
                     LOOPEXIT = 1
                ENDIF
 11
            LOOP WHILE LOOPEXIT <> 1
```

One solution is to have an array, say x(500), holding the randomly selected numbers. When these numbers have been used, you simply generate another set and overwrite the file. I am sure the user would not mind waiting once in a while. See Panel One for the algorithm and code.

The program will take a little time as more and more numbers are used up, but the user will be able to sit back and answer or attempt to answer the questions without interruption.

The other file you require for this to work is a simple log of how far down the list of questions the user is. If, say, the log is at 100 and the user attempts another 40 questions before terminating the program, you overwrite the file with 140. This gives you the starting point of the next session.

Be careful when selecting the seed for your random number generator Randomize(x). One infallible method is to use the date: add the month and date and year and use the result as the Randomize variable.

PIPPED

Thanks for the help you gave to me in ST FORMAT. My database now speeds along with the best of them ... except when I'm entering text.

The problem is entering text into text boxes created in AutoZest. I've tried to make a routine which allows the user to click on the box and then type in the string. The problem is that there isn't a cursor, and I can only delete a letter from the string with the DEL key, not the backspace. I have tried making a routine like those in AutoZest, enabling the user to type in a string which follows the mouse pointer around until you click, whereupon the text is placed, but I am suffering from screen corruption. Pip, no address given

SWERS

HE

Pip, thanks for the compliment, and let's see if I can help you again. I think the solution is to use

FORM INPUT, and I suggest you design your database screen around your FORM INPUT lines. Although this will be timeconsuming initially, the finished product will look professional and do what you require.

All you have to do is to work out the x and y co-ordinates around the area and include the following lines to check for a mouse click:

IF (mouseX > BOXLEFT AND mouseX < BOXRIGHT AND mouseyY > BOXTOP AND mouseyY

< BOTTOM) FORM INPUT

ENDIF When users click the mouse

pointer within the specified rectangle on the screen, the particular FORM INPUT command for that area is called, giving them full editing facilities.

If you would like a specific topic covered or are stuck with a particular problem, write to Mac at: GFA Workshop, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW or e-mail him at: de36@dial.pipex.com. Please include details of your computer.

ST FORMAT JANUARY ISSUE 78



ANSWERS

Triple buffering enables you to manipulate graphics quickly and smoothly. Andy Gisby explains – physically, logically and virtually – how it works.

Assembly Line

he high-speed manipulation of graphics is one of the most attractive aspects of assembly programming. However, you need to ensure everything runs smoothly. This is where triple buffering comes in.

Triple buffering involves the cyclic usage of three draw areas. If you are lucky enough to have a Blitter chip, it really comes into its own.

Three areas in memory are allocated in memory to act as three animation buffers. You don't necessarily need the areas in consecutive memory positions, but it is good programming practise to keep sets of buffers together.

Controlling the buffers is simple. A buffer can have any one of three roles (states):
Physical – the buffer is displayed to the user;

Logical – the buffer will be the next draw area; and
Virtual – the buffer that is waiting to become the next logical buffer.

The roles can be cycled: the Logical becomes the Physical (displaying the frame just drawn); the Physical becomes the Virtual (ready to be cleared); and, finally, the Virtual becomes the Logical. Confused? Look at the code in Panel One.

A screen on your ST takes up 32K, so triple buffering requires 96K. If you use the buffers as screens, the next frame can be displayed using the Extend BIOS function 5 call (setscreen) – see Panel Two. move.l physical, -(sp)
move.l logical,physical
move.l virtual,logical
move.l (sp)+,virtual

/ Logical becomes new physical / Virtual becomes new logical / Physical becomes new virtual

move.l physical,-(sp) ; Display buffer

move.w #-1,-(sp)

move.w #5,-(sp)

#14

TRAP

add.1

move.l logical,-(sp)

#12,80

; 0 = low, 1 = Med, 2 =

Hi res, -1 = No change

; draw Buffer

; Tidy stack

; XBIOS setscreen

This function call will not physically change your ST's hardware video registers until the next

vertical blank interrupt (VBL). Also, if you are allocating screen buffers on your ST (STE owners need not worry), you must ensure any screen video addresses have an address value that is exactly divisible by 256.

When the new Physical buffer is physically displayed (after VBL), you need to go about clearing the new Virtual

> buffer (ready for future frames). There are several ways to clear a block of memory quickly, but the best method is to use a Blitter chip. The main reason

for this is parallel functionality. You can trigger the Blitter to clear the new Virtual buffer, and proceed to draw the next frame in the Logical area at the same time (providing you're not using the Blitter to draw things). Neat, eh?

If you don't have a Blitter chip, the code in Panel Three describes one of the faster methods of clearing 32K. Can you think of a better one? This code has to finish before you can start to draw the next frame in the "logical" area.

Using the Blitter chip is relatively simple. You load up the registers (in supervisor mode), and trigger the Blitter

chip into action. I'll cover the Blitter in another column, but in the meantime the code in Panel Four will clear a 32K Virtual buffer.

> If you have any questions about assembly programming, write to Andy at: Assembly Line, ST FORMAT, Future Publishing, 30 Monmouth St, Bath BA1 2BW.

.loop	movem.1	empty_regs, D0-D6/A0	<pre>; 8 long registers set to 0</pre>
	move.w	#999,d7	; 1000 (DBRA) loop iterations
	move.1	virtual,A1	; Area to clear
	movem.1	D0-D6/A0,(A1)	; get 68000 to clear 32 bytes
	LEA	32(A1),A1	; Increment area to clear
	DERA	d7,.loop	; back around the loop
empty_regs	: dc.1	0,0,0,0,0,0,0,0	

* BLITTER REGISTERS FXSR BOU 7 HALFTONE \$FF8A00 EQU .waiting_for_blitter SRCINCX EQU \$FF8A20 ; BLITTER in Use? #BUSY.LINENUM BTST SFF8A22 SRCINCY waiting for blitter EOU BNE RCADDR EQU \$FF8A24 Set up Blitter Variables ENDMASK1 EOU SFF8A28 #16000, COUNTX move.w ; source count x ENDMASK2 SFF8A2A EOU move.w #0, COUNTY ; source count y ENDMASK3 EQU \$FF8A2C DESTINCX EQU \$FF8A2E #0, SRCINCY move.w ; source inc y DESTINCY EOU SFF8A30 move.1 #empty_word, SRCADDR ; source address DESTADOR SFF8A32 EQU ; End masks move.w #SFFFF, ENDMASK1 COUNTX EQU \$FF8A36 #\$FFFF, ENDMASK2 move.w COUNTY BOU SFF8A38 #SFFFF, ENDMASK3 move.w HOP EQU \$FF8A3A #2, DESTINCX move.w ; Destination inc x \$FF8A3B EQU #0, DESTINCY ; Destination inc y move.w LINENUM BOU SFF8A3C move.1 virtual, DESTADOR ; Destination address SMUDGE EQU #0, SKEW ; No bit Skew move.b HOG EQU ; Half tone operation move.b #\$2, HOP BUSY BOU move.b #\$3,0P ; Logical Operation SKEW EQU \$FF8A3D BSET #BUSY, LINENUM ; Trigger chip! NFSR EOU RTS (continued in next column) empty_word dc.w 0



Mac Marsden celebrates the festive season with the next part of his guide to programming dropdown menus with the HiSoft C Interpreter.



s far as GEM is concerned, any single user action (keypress, mouse click) of any drop-down menu item, or the manipulation of a window (changing size, manipulating a slider, moving the window and so on), is an event. It's GEM's way of telling you what you've done with the mouse or keyboard.

The algorithm in Panel One shows a typical GEM program. Translating this algorithm into C produces the listing shown in Panel Two.

If you examine the listing in detail, you'll see that the variables declared at the beginning of the program are used to store the type of event and the details of each particular event. These variables are modified by the user and tracked by the program by means of the event function. Variables x and y hold the position of the mouse cursor. The array 'window' contains extra information about any window event. If we could execute our skeleton program, it would go something like this: all variables are initialised, the event function is called and waits for something to happen. Depending on what action the user has taken, the program calls that specific function, then returns to the event function.

EVENT FUNCTION

The event function uses six parameters: event (&menu_title, &menu_item, window, &key_press, &clickx, &clicky)

These parameters were explained last month. All parameters are modified by the call to the function (hence the &). They allow you to indicate the type of events you wish to monitor and the details of the event that occurred are returned. If we wished only to wait for &key_press, we would put zeros in the place of the other variables.

Next month we will examine the four events in detail.

PANEL ONE

create the menu create the dialog boxes open the Windows ile we haven't finished, do the following wait for an event Depending on the type of event If it is a mouse event Deal with the mouse event If it is a keyboard event Deal with the keyboard event If it is a menu event Deal with the menu event If it is a window event Deal with the window event **Close the window** Remove the menu

EVENTS

Val Event ty

- Key press
- 2 Mouse button click
- 3 Menu selected 4 Window manipulation

The event function returns values indicating which option the user has selected. Other functions are available, but they use the GEM functions evnt_multi, evnt_timer or evnt_mouse directly, rather than a toolbox function.

PANEL TWO

/* Note program won't work as we haven't set up menu items, */
main()

HEL

SWERS

```
int menu_title, menu_item;
     int x, y; /* mouse co-ordinates */
     int event_type;
     int ch; /* holds character typed in at the keyboard */
     short window[6];
     int notfinished;
/* The following three statements initialise the environ-
ment, calling the functions which would open user defined
window(s), create the menu and dialog boxes */
     create_menu();
     create_dialog();
     openwindows();
/* The while loop waits for and deals with any events
required by the user until he/she decides he wants to exit
the program and go and play a game. */
     while (notfinished)
/* The event_type variable holds the number (see panel 1)
returned with the user action. */
          event_type = event(&menu_title, &menu_item, window,
                                     &ch, &x, &y); (all one line)
          if (event_type == 2)
          {
               do mouse(x, y);
          if (event_type == 3)
          1
               do menu(menu_title, menu_item);
          3
          if (event_type == 1)
          £
               do_key(ch);
          if (event_type == 4)
          1
               do_window(window)
          }
/* get rid of drop-down menu bar */
     destroy_menu();
   close any windows that remain open */
     closewindows();
```

If you have any C-related questions, write to Mac at: HiSoft C Centre, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW or send him an e-mail at: de36@dial.pipex.com.

ST FORMAT JANUARY



ST ANSWERS

Easy as XYZ? This month Frank Charlton, always a stickler for protocols, explains the various standards for sending and receiving files.

alt.comms.stf@

XYZ WHO?

I'm new to comms, and I'm more than a little confused by some of the jargon, to say the least! For sending and receiving files, the comms software I've looked at offers lots of what it calls 'protocols', such as X, Y and ZModem, plus others with esoteric names like YModem-G and Kermit. What do these all mean, and which is the best to use?

Tom Aiston, County Down

A protocol is simply a standard method for sending and receiving files. They need to be standardised so that comms packages across the different machine types can all talk to each other successfully. Let's run through them: **XMODEM:** Comes in several flavours, including XModem-1K and XModem-CRC. They're all

derivatives of the same protocol, and very old. Don't use them unless the BBS you're calling offers nothing else.

YMODEM: A more advanced protocol. YModem transfers automatically receive the filenames from the BBS, saving you lots of hassle. YModem is a batch protocol, so it can transfer more than one file in the same download, unlike XModem.

YMODEM-G: This protocol doesn't do any error checking it relies on the hardware error correction provided by your modem. In practice, it offers nothing over YModem. KERMIT: An old protocol designed for mainframe computer use, Kermit is mainly found on large computer systems, such as those used by universities. You may need this protocol if you're connecting to your college from home, but most offer other choices. ZMODEM: The best protocol available, without a doubt. It provides excellent error-checking, quality monitoring (ZModem make adjustments on the fly if transmission conditions deteriorate) and batch transfer. However, the best feature of ZModem is the way it can resume a failed or interrupted transfer at a later stage. If a bad line kicks you off a BBS right near the end of a huge file transfer, ZModem will restart the download from the point where you left off. All modern comms packages and BBS systems support ZModem - use it!

STIK SEARCHES

As you may have noticed, the Crystal Atari Browser (CAB – previously HTML Browser) doesn't yet support HTML forms, so you can't enter any data. This makes it difficult to sniff out interesting pages with search engines like Yahoo. Kelley Rogers e-mailed us with this excellent advice:

You can search Yahoo by opening the URL: http://search.yahoo.com/bin/search?p=keyword Replace 'keyword' with the word you wish to search with. In order to do a second search, you have to leave CAB and delete or rename the SEARCH_Y.COM folder in your cache folder.

Terminal I		- Transfer film	(1)	A
-	Status		CHC31	
L. No.	Files de-pen-tia Pethi Erillows		ch size 1824	
		Neta (cps)	1344	
anti ati	Ressages			
sector of the	Recaine dirgen.als		1	

Use ZModem wherever possible – it's the fastest and most reliable protocol.

STACKED UP

I have some experience with network programming at the BSD socket level on various UNIX systems. I have an ST and was wondering what the best TCP/IP stacks available for the ST are and what they are like to use.

Dave Paul Beynon, via e-mail

Given your UNIX experience, MiNT and MiNTnet would seem ideal. MiNT is the multitasking extension to TOS which Atari adopted for MultiTOS, but it has since evolved in its own right. MiNTnet extends it even further by providing a set of BSD-style TCP/IP sockets which resemble the ones you're used to working with. There's even a portlib for use with GNU C++, making porting existing UNIX net software even easier - presuming you have access to the sourcecode. Point your browser or ftp client at: ftp://src.doc.ic.ac.uk/computing/systems/atari/umich/ Mint/Network/ to pick up everything you need. Be warned though, a full installation including the MinixFS filesystem which provides UNIX-like long filename support - really requires a dedicated hard drive partition.

BBS SPOTLIGHT

The Chameleon BBS, run from Yate in Avon, ST FORMAT's home county, is one of the UK's biggest Atari boards. SysOp Martin Stacey has ploughed a lot of money and time into the BBS, and it runs on an impressive ST setup, complete with a Local Area Network to other machines.

Chameleon is the development site for some excellent QBBS-related software, so if you're thinking of becoming a SysOp yourself, this is the place to look. It's also the centre of activity for a lot of mail networks, and has an absolute truckload of Atari files. Chameleon runs at speeds up to V34 and is on 01454 881095.

The second se

T FORMAT JANUARY ISSUE

78



Don't forget, if you haven't got access to a modem yet, you can still drop Frank a line via old-fashioned snail mail. Write to: alt.comms.stf, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW, or e-mail your questions to: de18@dial.pipex.com (please put 'STA Comms' in the subject line). Cyber Talk

magazines, including .net, The

You can take out a sub-

.net Directory and, of course,

scription to your favourite

magazine, order back issues

and even take advantage of

the comfort of your ST key-

board. You needn't worry

of your credit card details

prevent Internet fraud.

either, as FutureNet's server

utilises encryption software to

on bargains, you can sit back

and fill your noodle with the

day's Computing News. Or, if

you prefer, you can check out

which is also updated daily.

natter with other like-minded

souls via the magazine's chat

forum? Yep, it's coming soon

to FutureNet, so if you want to

stay in touch, stay connected ...

Koven hevell.

Or what about having a

FutureNet's World News,

Then, having stocked up

special reader offers, all from

about evil hackers getting hold

ST FORMAT.



FutureNet has recently been rated in the top five per cent of Internet sites. Find out what the fuss is about by pointing your browser at the ST FORMAT home page.

ou've seen the ads over the last couple of months, but you're still a little unsure what FutureNet is all about. Allow me to explain. FutureNet is Future Publishing's rapidly expanding World Wide Web site.

Now, I know what you're thinking: why tell us about it? Well, it seems that at long last the new graphical browsers we've all been waiting for are on their way (see the Web of Intrigue feature in *STF* 76). So, why not start your Internet travels with a trip to FutureNet?

What's on offer?

FutureNet includes features, news, essential contacts and links for all of Future's 30-plus



NEW FTP SITE

Not content with being the most successful commercial World Wide Web site outside the USA, FutureNet is now dipping its toes into the realms of ftp (file transfer protocol) sites.

The new site will enable us to put all the software and files that we can't squeeze on to the Cover Disk on to the Net, for you to download at your leisure. To take a gander at what's available, point your Web browser at ftp://ftp.futurenet.co.uk/ incoming/futurenet/. If you're using ftp software, type in: ftp. futurenet.co.uk and go to the directory /incoming/futurenet/.

ST FORMAT DIRECT

Future Publishing's daily electronic magazine Image: State of the pression of

Okay, so you know what FutureNet offers generally, but what's available for hard-core Atari buffs?

Features

It's all here in our bite-sized features guide – everything from making music on your ST to the hardware and software behind the CD-ROM revolution.

ST Answers

Dr Clive Parker and the gang crowd into the cyber ward for insane STs... and their owners. Whether you're troubled by viruses, assembly code, comms or badly-behaved STs, this is the place for you.

Machines of the future

We take a closer look at the latest Atari clones, GeSoft's Eagle and C-Lab's Falcon Mk2, and ask whether they have what it takes to topple the TT and Falcon.

Hands on

Discover exactly how to take your ST or STE apart – and put it back together again – with our practical guide to fitting a composite video port. Or how about designing your own 3D game? We show you how.

E-mail the team

Now you can get in touch with the team that produces ST FORMAT. Whether you want to pose technical queries, suggest features or send us compliments, you're only a mouse-click away from our desktops.

Bargains

Order a back issue, submit a subscription or take advantage of our reader offers, all without ever leaving the comfort of your ST.

http://www.futurenet.co.uk/computing/stformat.html



Welcome to the ST FORMAT home page, the Web centre for the world's biggest-selling ST magazine. Our mission is to being you news and reviews about every piece of software and hardware produced for the ST, STE and Falcon, as well as practical, creative and technical advice to help you make the most of your Atari

With over 100,000 hits every day, FutureNet is one of the most popular Web sites in the UK. Point your Web browser at http://www.futurenet.co.uk to find out why...

HTML coding made easy

Anyone can create stunning multimedia documents with HTML. Frank Charlton shows you how in a new series of tutorials.

ou can't fail to notice the World Wide Web these days – every man, woman, child and pampered pet seems to be rushing to get their Web pages on-line. Whether you're a home user, a local club or a big, global corporation, the World Wide Web is definitely the place to be.

If you don't have Internet access, or even a modem, you might be wondering what all the fuss is about. However, creating a Web page can still be both enjoyable and useful, even if you wouldn't be seen dead strutting your stuff on the cyber dance floor of the Net. Check out the Not Online panel for some examples and ideas.

Over the next few months we'll be showing you how to create your very own Web pages, starting from the raw basics. By the end of the series you'll be able to create a full set of attractive multimedia documents, complete with hypertext links.

Web slinger

Web pages, otherwise known as HTML documents, are simply text files. All the special effects – bold and italic text, rules, pictures and so on – are added using HTML, or HyperText Markup Language. Now, before your eyes GENERAL Colin Powell turned down the chance last night to become America's first black president. In an emotional statement he said he would not enter the White House race. "I had to look deep into my own soul standing aside from expectations and enthusiasms of others," he said. After "long hours" talking to his family he had decided that to run "would require sacrifices difficult to make at this time"

Powell will not run for president



The Daily Telegraph now produces an on-line electronic edition – could the Net one day replace traditional paper publishing? (I seriously hope not! – Karen)

start to glaze over at the thought of tangling with yet another set of difficult-to-learn commands, let's get one thing

Thursday 9 November 1995

straight – HTML is not a programming language. It's essentially a page description language, and it tells the view-

Issue No 252

TAG, YOU'RE IT!

About 90 per cent of an HTML document is simply plain text. If you were to load a normal ASCII file into a Web browser, you'd see it displayed normally. The extra features available in HTML, such as bold or italic type, large headings and even embedded images, are all created using HTML tags. A tag is simply a short command, or pair of commands, which tell the browser to display a piece of text in a certain manner, display a picture file, or jump to another hypertext link.

EVEREST	File	Bleck			Paraneters	Info
0	32080	050.027	0713 0	TEMPLE	TE.NTH	1989
CHITHL>						
CHEAD						
TILD B	ACK DI	AL ION	plate for	311 4/1	THE	
C/HEAD						
CEREN						
AL BOOM TO						

A good starting point is to create a blank template, which you can reuse for all of your pages. Open your text editor, and create a document which looks like the one in the screen grab. Note that HTML tags don't need to be in upper case, although it's common practice to type them like this. The same applies to the blank lines between some of the tags – they're purely to make it more readable.



You've had your first experience with writing HTML tags – easy, wasn't it? Next, save your new file and load it into CAB, the Web browser on the Cover Disk. If you've followed the example, you should see nothing more than a blank window, with the phrase 'ST FORMAT Example 1' along the window's title bar. If you see stray text creeping into the actual window, it's possible you've mistyped one of your tags. This step-by-step guide covers the basic construction of an HTML document. Tags usually appear in pairs, with parts of the document in between. The first tags you'll see are simple: <HTML> and </HTML> tell the browser where the HTML document starts and ends. The first tag toggles an effect on, and the second, beginning with the / character, switches it off - this principle applies to all tags you'll be using here. So, let's get down to it.

0 0:/T	HPLATE.ET	Blan	a stat. Ten	late for STF	17.17
Some	Harb	BABK!	PART		.
-44					
10					

An HTML page is broken down into two sections, the header and the body. As you can see from the example, <HEAD> and </HEAD> define the start and end points of the header, and the <BODY> </BODY> tags do the same for the main part of the document. Next, type in some text on the blank lines between the two <BODY> tags, and save your file. Load it into CAB and you'll see something like this.

9:/HH	HTML, browser: None page H/CAB/html/hone_e.htm
Elick	We brucker for RIMEL ST/TI/Falton an any of the following time to view the relevant souther.Jack.
	d disk contents
	cellanesus MERLINES de maniferian MERLINES de maniferian
In. the	erested in the MANT for the Call Science reasons are statistic to a statistic of the Appletics (starset) in the set

contain images in the 256-colour GIF format. A common touch is to use small images as 'bullet points', as shown in the example page here – they don't do anything other than decorate the page, and break up the text. You can also add clickable sound samples too, using separate 'helper' programs. We'll be covering all this next month. In the meantime try out the different text effects.

HTML TUTORIAL

NOT ON-LINE?

You may not have a modem, but the ability to create HTML documents is still a useful skill. After all, if you do ever decide to go on-line, you'll be able to create Web pages which can then be accessed by over 20 million people.

Even if you've got no interest in comms, HTML is an excellent way to produce attractive multimedia documents on disk. These documents can be read by anyone with a Web browser, and since HTML is the same whichever computer it's running on, with a little extra work your documents could be accessible to PC, Amiga and Mac owners as well.

You could easily create a disk magazine aimed at a specialist market, such as a programmers' magazine, a sci-fi fanzine or even a user group newsletter. For example, the Falcon FacTT File newsletter, which is produced by Colin Fisher-McAllum and Kev Beardsworth, is distributed as a set of HTML documents. The Falcon FacTT File previously used ST-Guide to produce monthly hypertext updates, complete with news and reviews. Nowadays, however, it's produced in HTML format, meaning it can be made available to both its on-line and offline members.

The latest news is that the FaST Club's subscription magazine ST Applications is also making the switch to HTML, after years as a traditional paper magazine. HTML is colourful, interactive and a lot easier to learn than ST-Guide, so follow the lead of the Falcon FacTT File and FaST Club and get writing those HTML documents!

The compilers of the Falcon FacTT File newsletter know that HTML is an easy way to produce smart multimedia documents.

ing program – in this case your Web browser – how the page should look. It's nowhere near as complex as Postscript, so you don't need expensive software to produce it.

Tag know-how

If you're a complete beginner, read through the Tag, You're It! panel to find out how HTML formatting works. Once you have created a simple template, you're ready to investigate some of the commands for altering the way your text looks. These text formatting tags are the easiest parts of HTML to remember, and you'll use them a lot.

For each example, you need to enclose the text you

want to format within the pair of tags: This text appears in

BOLD This text appears in BOLD

<I>This text appears in ITALICS</I> This text appears in ITALICS

You can mix and match tags as you like, so using: <I>Hello</I> will produce: *Hello* One of the most common mis-

takes when you're writing your first HTML documents is forgetting to close a tag. As you can imagine, not closing a bold tag somewhere near the start of a page will have ugly

Comms Desktops Desktops DTP/WP Games Misc News Shows

results – unless you want your entire document be **loud and difficult to read.**

Help

Back

Falcon

Click for Info

FFF

Home

Nent

Unfortunately, the only way to check for these mismatched tags is by hand. When you view the document with your browser, it will be obvious that something is missing, but you'll need to go back and examine your source document carefully to find the problem.

This leads on to a handy tip: to begin with, save and check your document frequently. Don't be tempted to produce a huge document



Utils

Here you can see the Header tags <H1> through to <H6>, and the effects they produce.

without checking it, as mistakes will be much harder to spot. The maxim 'little and often' applies, at least until you're confident.

You will also see a lot of header tags on Web pages. Headers are basically like the small headings we use to separate paragraphs in *ST FORMAT*, and they're easy to create. They come in six sizes, with a level 1 header being the largest. A header tag looks like this:

<H1>This is a Big

Header!</H1>

Headers always appear in emphasised (bold) text, and they are useful for breaking up different sections of your page. As with most HTML effects, you should use them sparingly for the best results.

Next month we'll start guiding you through the process of creating a full multimedia document. We'll also be showing you how to add graphics to your pages, and looking at hypertext links. *stf*



The Score

ST FORMAT's resident DJ, Andy Curtis, checks out the latest MIDI file helper disks and shows you how to create natural-sounding guitar effects. Hurrah!

Digital wonder

There's a new product, designed and built in the UK, that's set to revolutionise direct-to-disk recording for Atari users. It's so radical, in fact, that the company producing it has asked to remain anonymous for the time being, because it believes otherwise its switchboard would be flooded with calls from would-be buyers before the new kit is available.

The forthcoming Digital Signal Processor (DSP) cartridge will make it possible to use a conventional ST with an external hard drive to record up to four tracks of digital audio alongside the MIDI tracks from your sequencer.

The new package will

offer, for the first time, budgetpriced CD-quality digital recording on your ST. ST users with a standard hard disk and at least 2MByte of RAM should be able to plug in the hardware and start recording straight away. The price has not yet been finalised, but the full software and hardware package could be on sale for a well under £500 by March 1996. It certainly looks like being a major leap forward for MIDI and music on your faithful old ST.

Expect to see a full preview when more details are available, and at that point we'll be able to reveal more about the company developing the cartridge.

JUNGLE PATTERNS 1

£9, Newtronic Songware, ☎ 0181 6911087

The latest dance innovation, Jungle music, features wild and complex rhythms running at fast tempos. If you want to produce your own Jungle music tracks, this release from Newtronic could be just what you need.

The disk contains a wealth of grooves which you can cut and paste into your own music. Because of the complexity of the rhythms, however, you'll need to assign two General MIDI specification drumsets on different channels to get the optimum effect.

We're not really dance enthusiasts here at ST FORMAT (which is undoubtedly a blessing for rave events up and down the country), but these sequences sounded pretty authentic to our untrained ears. If you're interested in Jungle music, you could do a lot worse than splash out a measly £9 on this disk. STF RATING: 81%



With a little help from the Jungle Patterns MIDI disk, Jungle music can be produced on your ST.

CHEAP STFM MEMORY

I up cat fait port con an property con the port Con and configure to fait port con the mp

Upgrading the memory of your STFM has, in the past, been a tricky business. The internal chip configuration makes some STFMs very difficult to upgrade, but help is at hand – The Upgrade Shop is now able to offer a guaranteed upgrade from 512K or 1MByte of RAM to 2MByte, regardless of STFM type. Once you've upgraded, you'll be able to run most, if not all, ST sequencing software.

The upgrade price of £80 includes courier pick-up and return, and you can reach The Upgrade Shop on = 01625503448.



MIDI Web page

With the emergence of *CAB* (see this month's Cover Disk), the wide world of the World Wide Web is now open to you. One of the best MIDI sites is The MIDI Archive, which is run in the Netherlands by Piet van Oostrum. You can get there by pointing your Web browser at: http:// www.cs.ruu.nl/pub /MIDI/.

The site provides all kinds of interesting links, including a comprehensive documentation archive, containing loads of text files all about MIDI hardware and software. There

The MIDI Archive is stuffed full of all things music and MIDI. Give it a whirl – you won't be disappointed. is a collection of synth patches and MIDI programs, and a list of good MIDI literature, too.

You will also find a number of links to other MIDI World Wide Web sites and archives. If you are at all interested in MIDI, this site is sure to please.



ST FORMAT JANUARY ISSUE 78

ATARI MIDI 3 INTERFACE

Quick questions

SY99 EDITOR? I have a Yamaha SY99 keyboard which I love. I was wondering whether there was a full patch librarian and sound editor package available for ST users – my music shop says there isn't. Any information you have on the subject would be most welcome.

Alex Semmel, Brighton

Good new, Alex, Newtronic Songware (= 0181 6911087) distributes an SY99 editor called System99. It offers full patch editing and librarian features in an easy-to-use package. You will, however, need a high res monitor to run the software. Give Newtronic a ring if you want a demo version or the full package.

MIDIPHILES

I am a MIDIphile, and I just love playing with other peoples files. In the past you have put one or two MIDI files on your Cover Disk, but why not put a load of them on? Loads of people collect them and they're not too big to fit on the disk. Not everyone can afford to buy them as they can be quite expensive, so give some away on the disk, it will make lots of people buy your mag. Justin Clark, Warrington

> We'd love to put some com-

mercial MIDI files on our Cover Disk, Justin, but due to

the current copy-

right restrictions it would cost us a for-

tune. Don't worry,

though, we have a

special treat lined up for MIDI file fans very soon.

Watch this space.



System99 provides everything you need to hack the sounds on a Yamaha SY99 keyboard.

£169, Harman Audio, [∞] expanders, input socke you a MIDI We have already reviewed a number of MIDI expander boxes in MIDI input o can switch

The Score, including the MM1 (STF 76, 75%) and the MO4 (STF 73, 89%). This latest one is Steinberg's offering.

As with the others, it only works in conjunction with MROS, Cubase's operating system. It is therefore only useful if you have Cubase or another Steinberg MIDI application.

The unit provides another three independent MIDI output banks, giving you a total of 64 MIDI channels. Unlike the other expanders, it also has a MIDI input socket, effectively giving you a MIDI merge facility (MIDI merge enables you to plug in two MIDI input devices at once, so you can switch between a keyboard and MIDI drum pads, for example, without having to pull out all the plugs first).

Simply copy the supplied MROS driver into your MROS folder and plug the hardware unit into your ST's printer port with the supplied cable. Next time you boot Cubase it will be automatically detect the extra outputs, and you can throw away your old MIDI thru box.

STF RATING: 88%



Steinberg's neat MIDI expander not only provides three extra output banks, but also enables you to input MIDI.

NATURAL SOUNDS

While many modern synth modules and keyboards have very naturalsounding voices, the keyboard player must still play those voices in the style of the original instruments. Anything remotely keyboard-based presents no problem, but what about flutes, trumpets, strings and, of course, guitar? This occasional series will teach you to produce natural instrument sounds using a keyboard.

Acoustic guitar

PCel- do pany

The most obvious way to create guitar effects is to buy a MIDI guitar pickup. If you have the playing skill, the world is your oyster.

However, if you want to create simple guitar effects and have no guitar-playing experience, there are two avenues to explore. The first is to invest in some of the many guitar effects MIDI disks. These present you with riffs and flourishes which you can cut out and paste into your own sequences, remembering to change the pitches accordingly. This method is fiddly, though, and is unattractive from a compositional point of view.

Ill mpegte in I prost constant appendent in the prost

The other option, which is also (conveniently) the cheapest, is to learn how to create your own simple guitar effects with your keyboard. The trick is to know which note combinations a guitarist would use and duplicate them. In the chart below you will see some common guitar chords mapped out on a conventional piano keyboard. If you learn these combinations of notes, your playing will sound a great deal more authentic.

Guitarists use a capo to transpose their music upwards, and we can do the same thing on a keyboard. Simply transpose the shape for E major up a semitone in order to play in F Major. However, if you have learnt the notes for E major, it may be advisable to play your piece in E and then transpose the whole piece.

A good guitarist can vary the order in which notes are plucked, but there are some natural patterns which emerge. If you acquire a little background knowledge, you will soon be able to play along in real time to your music, just as a guitarist would. The result is that your music will sound more natural, and it will take on some real sparkle.



59

www.stformat.com

UTORIAL

ART

Mastering Deluxe Paint

Last month our Cover Disk held the complete and unrestricted version of Electronic Arts' *Deluxe Paint*. This month we take a closer look at just what this beauty can do.







Above is an example of the standard graduated fill. Here we've chosen the conform option with a diffused fill.

eluxe Paint drew copious amounts of praise when it was first released, including a whopping 96% score from us. Since then it has become the ST paint package by which all others are judged, and last month we gave away the full version on our Cover Disk (if you didn't get a copy, turn to page 69 and order your copy now).

Although we gave you a quick run-down of what all the icons do in issue 77's Cover Disk pages, it's the kind of program with which it pays to experiment – it can do some very clever things.

Colour tricks

Right-click on the palette icon, the one with the box of crayons on it, to open the colour tools. At the top is your palette. To edit a colour, click on it and move the row of sliders. As with any paint package, you can adjust the red, green and blue elements of each colour. You can also alter the Hue, Saturation and Value sliders. Hue is the actual colour, it runs through all the available colours at the set saturation. Saturation is the amount of any colour, moving it to maximum will give you bright primaries, while its minimum setting gives you a washed-out look. Value sets the amount of black.

The Swap and Remap commands make it easy to arrange your palette's colours. Select a colour, then click on Swap and choose another colour. The two colours swap over, effecting your picture. So if you swap yellow and red, everything in your picture that was yellow is now red and vice versa. The Remap command does a similar job, but it also swaps around the colours in the picture for you so it remains the same. Effectively, it enables you to re-order your palette, without altering your picture. Copy copies one colour value to another.

Spread is another very powerful function. It automatically creates an even spread of colours between any two you have chosen. Define two colours, then select one and click on Spread, now click on your second colour. Bingo! A range of tints between the two defined colours is created. You can define up to four separate colour ranges.

These colour ranges are used by colour cycling and graduated fills. The currently selected range is shown by a little line joining two colours. To define a range just select a colour and click on one of the numbered colour ranges, then select the second colour. When you want to start or stop the colour cycling hit [Tab].

It's easy to loose track of which colours you've used while working on a picture, which makes it tricky if you want to define a new colour. *Deluxe Paint* offers a neat solution to this problem. Just click on Used, and any colours you haven't used are set to black.

PICTURE FORMATS

Deluxe Paint can load pictures in Neochrome, Degas Elite PI1 and PC1 formats, but it also has its own much more useful IFF format. IFF images are compressed, so you can fit more pictures on a disk. It can also cope with animation – one IFF file can contain any number of frames.





Painting is all about colours and Deluxe Paint gives you loads of control over them, including stencilling, graduated fills and colour cycling.

Sys gives you the default palette, while Undo enables you to undo any changes made to one or more colours.

It doesn't stop there. You can also stencil colours. This is a wonderful feature, as it prevents you from painting over any colours you define. Say you've drawn a rather fetching bunch of red flowers, but you now want to paint some green foliage behind them. No problem, just right-click on the S icon and highlight any colours you want to protect, in this case the reds, then click on Colours below Stencil. The buttons below the palette enable you to select all or none of the colours in your current colour range.

You can also stencil the foreground, so you can only paint on the background. Alternatively, if you're happy with your background, you can load the picture, select Fix, which is under the Stencil menu's Background option, and save it as a complete picture. If you now use this image as your background, you can experiment with foreground elements as much as you like – the picture underneath remains intact.

Smooth Stuff

Anti-aliasing is a clever way to get rid of the jaggies you get when two highly contrasting colours meet. The success of

the effect depends on your palette; your ST needs a range of colours in between the two you are trying to blend to work effectively. Open up the list of FX functions and select Smooth (or press [F8]), now when you paint the colours will blend automatically. It's still a little fiddly to go around all the edges by hand, though, so why not try this trick? Use the Brush to cut out the section you want to blend and select Smooth. Now paste your brush directly over the top of itself, click once, and the whole lot is blended perfectly in one go. Groovy, eh?

Graduation Day

Graduated fills are a quick and easy way to get impressive results. First draw yourself a shape of solid colour, then right-click on the palette icon to access the colour controls. You need to define the range of colours that your graduated fill is going to use – you can use the Spread function under the palette controls to create one quickly.

Now right-click on the Fill icon, the one with the dripping paint can on it, highlight the Gradient button and click on your shape. If you select the Conform option, your graduated fill follows the outline of your shape. The bottom slider diffuses the pattern, while the Angle function sets

STE CONTROLS

One of Deluxe Paint's strengths is the amount of control it gives you over the palette. It makes full use of the STE's 4,096 colours, so if your ST sports the extra E, make sure you switch over to 4,096-colour mode. For some reason, access to this is tucked away under the About menu (the one with the little ST on it).

TOOLS OF THE TRADE

Left-clicking on an icon selects that function, while right-clicking opens up the parameters box. *Deluxe Paint* contains all the tools you've come to expect, such as box, circle, line, cut and paste and fill.

the direction of your fill.

Move it

Deluxe Paint also boasts a rather wonderful animation section. At its most basic, it enables you to paint a series of pictures and display them one after the other, but it also provides a sophisticated tweening function that enables you to create animated graphics with ease. Simply define the start and end position of a block and Deluxe Paint works out all the frames in between. You can even move the block in three dimensions, rotating it around each of its axis.

First you need a block with which to work. Load an image, select the brush icon and use the cross-hairs to cut out the block you want to animate. Now clear the screen. If you want a background, load it now, but remember it must use the same palette as the block you want to animate.

To create the frames, rightclick on the animation icon (the one with the film camera on it), and select the number of frames. If necessary, you can clear the field using the [Esc] key, then type in a new number and hit return. The number of frames you can have is limited by your ST's memory. This will fill up rapidly, since every picture you load into the buffer will automatically be copied to every frame.

Now right-click on the Tween icon, the one that looks like a stack of squares, and you can start defining your animation. There are two sets of parameters, the position of the block at the start and end of the animation. These are known as the From and To sets. Each set contains six possible values. X and Y govern the horizontal and vertical position of the block. Z denotes the third axis, the inscreen depth. A positive value moves your block back into the screen, while a negative one moves it towards you. The rotation values, which are measured in degrees, spin your block along the three axis. Entering a value of 360, for example, gives you a complete revolution.

Change the Z value to 1,000 in the To section and the X rotation to 360. Now click on the Preview button and you are treated to a wire-frame view of your block tumbling towards you. You can experiment as much as you like, previewing each effect. When you've got the look you want, click on Tween and your ST starts to generate the frames for you.

The animation uses all the frames you've created by default. If you want to alter this, adjust the Count value in the Tweening controls. You can also use the Frame parameter, which is under the Count value, to alter the frame from which the animation starts. Once you get to grips with it, the Tween function enables you to create stunning animation. Try it, you'll like it. *stf* **CHRIS LLOYD**



This is a mirrored image in which one half has been smoothed. The effect is particularly noticeable on the zig-zag line, where the white has been blended into the black

the internet magazine

Hunky dory

A perfect body in 20 days, plus a mind to go with it – and all thanks to the Net

It's easy when you know how. The secrets of Netscape Navigator 2.0 revealed

> Still haven't found what you're looking for? Discover the best way to find information on the Net



SPECIAL HALF-PRICE OFFER

3 trial issues for only £4.50

Save £1.50 an issue on the cover price
 Each issue delivered free to your home

Title (Mr/Mrs/Miss/Ms)Initials	Surname
Address	
	Postcode
Daytime telephone	
I would like to pay by Cheque (payable to Future Publishing)	. Visa Access
Card number	Expiry date
Date	Signature
Please tick if you would prefer not to receive notice of a This offer is only available to readers in the UK	



Return to: .net Subscriptions, Freepost (BS4900), Somerton, Somerset TA11 6BR

NET/PCP/601



Issue 14 £3 on sale Thursday 7 December The ultimate guide to the electronic world 000000 DSP PROGRAMMING TUTORIAL

CLK GEN

32 Mhz 25.175 Mhz

DSP Port ExtCI

Play

Record

Srd Std Sck



The Falcon's 56001 is wired to some nifty hardware. Paul Hills explains how everything works.

he 56001 isn't connected to the screen or the keyboard in the Falcon, so how can we send data to it, and get answers back?

In the case of analogue signals, we do it through the CODEC (COder/DECoder), which is a combined ADC (Analog to Digital Convertor) combined with a DAC (Digital to Analog Convertor). It is connected to the DSP via a high-speed serial link, and to the outside world through the Mic and Phones connectors and the speaker.

For digital data, the 56001 and 68030 are connected through the Host Interface Port. Before we go any further, look at the diagram above,

which shows how the Falcon is organised internally.

Let's analyse the block diagram. The Switch Matrix (centre) is physically inside the SDMA chip. Each of the thick lines going in and out of it represents three wires, a clock signal, a data signal and a sync signal. The sync signal is used to mark the beginning of a frame of data.

The switch matrix can switch any one of its four inputs to any number of its outputs. It is controlled by the 68030, and a simple operating system call sets the switching.

The CODEC is a crystal semiconductor CS4216 device. It is a 16-bit stereo ADC and DAC combined, capable of sampling rates up to 50KHz. It is connected to the switch matrix rather than directly to the DSP, enabling any of the sound sources to drive it, and thus ultimately enabling them to drive the speaker or phones output. For example, the sound data could come directly from disc, via the DMA play input, to the switch matrix, and then on to the DAC and the speaker.

SSI

HI 11

68030

56001

The L and R audio outputs of the DAC are sent to the phones connector, and are also combined and sent to the

off the speaker if necessary.

The first thing to

get to grips with is

loading programs

into the DSP

speaker amplifier. SW1 represents a switch controlled from a spare pin of the Programmable Sound Generator (as found on the ST) that can turn

The DSP is connected to the switch matrix through its Synchronous Serial Interface. This is a high-speed serial link P:\$7FFF designed to communicate with industry-standard CODECS. The DSP communicates with the 68030 through the host interface port. This is an 8-byte memory-mapped port as far as the 68030 is concerned, with various data, control and status registers.

The clock generator simply selects a clock frequency for the CODEC. This can be 25.175MHz, 32MHz or an externally generated frequency from the DSP port. A simple operating system call sets the clock frequency. The actual

sampling frequency is set using the same call.

CODEC

SWITCH

DAC

Ext out

DAC

DMARec

DSP Rx

record

The Falcon's audio system.

DMA

ADC

Extin

ADC

DMA Play

DSP Tx

-14

8W1

SW3 is also physically inside the SDMA chip. It allows the DSP SSI port to be tri-stated using an operating system call. This means it is effectively disconnected from the switch matrix.

DSP memory

Unlike the 68030, the DSP has a fairly complicated memory map. For a start, as you already know, the 56001 has three memories: X, Y, and P. In

most 56001 configurations, these would be in separate memory chips, but Atari has merged the three into one block of memo-

ry to keep costs down (see the DSP Memory Map panel for a diagram).

The X and Y memories are separate, but the program memory, P, overlaps X and Y. That means, for example, that anything in Y memory address \$1234 also appears in P memory at \$1234. Anything in P memory at \$4010 will also be in X memory at \$0010. Therefore it's up to you to make sure that your data and program don't overlap.

There are some things to note about each memory: The X and Y memories have 256 bytes of internal RAM from \$0000 to \$00FF, and the P memory has 512 bytes from \$0000 to \$01FF. Accesses to these are generally faster than

ISSUE 78 JANUARY ST FORMAT



0017 001000 P:0040 00000 P:0044 000000 P:0045 F09800 P:004

accesses to external RAM, so use them if possible.

• The X and Y memories have internal ROMs which can be switched in by setting bit 2 in the Operating Mode Register (a control register – use ORI #\$04,OMR to set it). The X memory has a u/A-law table which is used in speech companding, and the Y memory has a useful fourquadrant sine table.

In motion

The operating system allows multiple DSP subroutines to be resident in the DSP's memory, and they can be used by programs

used by programs that are multitasking. To make things simpler, though, let's just consider one DSP program that can be called by one main program.

The first thing to get to grips with is loading your programs into the DSP, running them, sending data to the DSP, and getting data back again. This is no mean feat.

All these operations require function calls in the DSP extensions to the XBIOS. If you do not have these extensions in your programming language, you will have to upgrade, or program them in 68000 assembly language. If you are using *Lattice C 5.52* or earlier, *Pure C, Turbo C* or *Prospero C*, there are extensions in folders on this month's Cover Disk (see page 6 for details). *Lattice C 5.60* already has the extensions.

All the calling code examples are written in C. If you are using the public domain DSP assembler, *A56*, supplied on the Cover Disk 74, there is a utility folder (OUTTOLOD) on this month's disk with a program to convert OUT files to LOD files.

When you assemble a 56001 program, you can generate a file with either a LOD extension, which is an ASCII file representing the 56001 machine code, or a binary source file. We'll deal with LOD files for the moment. Getting the program into the DSP and running it is achieved by the sample C code shown

> in Panel One. The example

introduces the concept of the program's 'ability'. This is a code, or handle, that is used to identify whether the subroutine is already in memory or not. It is

most useful in situations where the 68030 is multi-

tasking. For our purposes, it isn't worth worrying about.

Dsp_RequestUniqueAbility() gets an ability code for us. The Dsp_LoadProg function converts the LOD file into binary machine code, loads it into the buffer, sends it to the DSP and starts it running. The constant SIZE must be large enough to take the program.

Host interface

Now you have the program in the DSP, you need to send data to it, and get data back. This is done through the host interface port.

The host in the Falcon is the CPU, the 68030. These registers are mapped into the 68030's address space from \$FFFFA200 to \$FFFFA207. However, the operating system has functions to deal with all the data transfer on the CPU side so we don't need to know the details of that side of the host interface.

However, on the DSP side

of the host interface we are on our own – there is no operating system to help us out. There are three registers:

	Address	Register	Name
I		Host control register	HCR
I	X:\$FFE9	Host status register	HSR
	X:\$FFEB	Host receive	
		/transmit data register	HRX/HT

Let's look at them in more detail, starting with the host control register:

Bit:	7	6	5	4	3	2	1	0
Flag:	0	0	0	HF3	HF2	HCIE	HTIE	HRIE

The eight bits of this register occupy the lowest byte of the 24-bit X memory location \$FFE8. The bits are: HF3, HF2: These flags are for general-purpose signalling between the 56001 and 68030. The DSP can write to them, and the CPU can read them. HCIE: Host Command Interrupt Enable. This is used to cause a DSP interrupt when the CPU sends a command. HTIE: Host Transmit Interrupt Enable. When this is set, the DSP calls an interrupt routine every time data sent to the CPU has been read by the CPU (when the HTX register has been read by the CPU). HRIE: Host Receive Interrupt Register. When this bit is set, the DSP calls an interrupt routine every time new data has appeared in the HRX register from the CPU.

The host status register is also an 8-bit register:

Bit:	7	6	5	4	3	2	1 0 HTDE HRDF	
Flag:	DMA	0	0	HF1	HFO	HCP	HTDE HRDF	

DMA: This bit is concerned with DMA mode, which is a rather complex feature we won't go into.

HF1,HF0: These bits reflect the states of the bits in the ICR set by the CPU. They are used for general-purpose signalling from the CPU to the DSP. HCP: Host Command Pending. The HCP bit is concerned with the CPU sending command interrupts to the DSP. HTDE: Host Transmit Data Empty. This flag indicates that the HTX register is empty (has been read by the CPU) and more data can be sent. HRDF: Host Receive Data Full. This flag indicates that data is available in the HRX register from the CPU. These flags are used by

56001 programs to communicate with the 68030.

To the CPU

RX/HTX Let's use the flags shown above to send some numbers from the DSP to the CPU.

We'll deal with the CPU

program first, in C, using operating system calls rather than

accessing the host interface registers directly. Let's start with a very simple example. We'll send a value from the CPU to the DSP, the DSP program will double it, and send the result back to the CPU.

This can be achieved using the function:

Dsp_BlkUnpacked(long *DataIn, long SizeIn,long *DataOut, long SizeOut) This function sends 32-bit data in either – or both – directions, depending on the values sent to it (out means out of the DSP). The 56001 only sends 24-bit data, so each 'long' (32-bit) value will have the top byte equal to zero. This program, DOUBLE.C, is also on the Cover Disk.

From the DSP side, we need to monitor the host interface to see when the data has arrived, and when it has, double it and send it back. The HRDF flag in the HSR tells us

> when data has arrived from the CPU, and the HTDE flag tells us when

we can put the result in the HTX register so the CPU can read it. The DSP program is also on the Cover Disk (DOUBLE.S56).

The complete set of commented files are available on the Cover Disk in a folder, together with an executable version for a new Falcon. Note that some very early Falcons had different XBios function numbers – if you suspect yours is one of these, see the comments in DSPLIB.S in the *Lattice C* extension folder.

Next month's tutorial will cover the theory and practice of sampling. *stf*

PANEL ONE

FORMAT

int ability;

void LoadProgramIntoDSP(void)

long Xavailable, Yavailable, len; char buffer[SIZE];

ability = Dsp_RequestUniqueAbility(); len = Dsp_LoadProg("FILENAME.LOD", ability, buffer);

JANUARY ISSUE 78



"The 'roar' of the engines sounds like a farting caterpillar, and the soundtrack comes straight from the jukebox of Beelzebub."



"Whinge, bloody whinge: that's all you do. 'That game took up 10Mb on my hard drive', or other such I'mso-boring dribbly-nosed rubbish."



"Someone is going to realise that the only content on the Web is four pages about *Star Trek* and two filled with pics of Pamela Anderson."



"The PC beat-'em-up has finally come of age, and now it's on the streets. FX Fighter wants to know if it was you who spilled its pint."

Personal Computer? Polite Chat? Popular Culture?

PC FORMAT. For those who know the difference.



"This is country music at its most authentic. Joy Division fans will hate it. Almost everyone else will too. Just why do they bother?"



"What's going to be in PC Virgin this month? Forget computers – how about doing films? Or music? Or skateboarding? Or girls?"



"Before you know it you'll be applying for an e-mail licence and paying Opinion Tax for the privilege of having ideas of your own."



"The problem with Star Trek is that you could wrap a dog turd in a box, give it an official Trek licence and it would still sell by the bucketful."

PC Format The world's best-selling PC leisure magazine

www.stformat.com

FREE! READER ADS



SALES

Another World, SF Robotic 3, Parasol Stars, Ashore 2, Urbanising Requiem, Hero Quest, Space Crusade, £5–7 each. All good condition. Tel: Paul 01524 791529. Enjoy the user.

Falcon030 4MByte RAM/65MByte hard drive with mouse, two joysticks, some software and PD, £300. Buyer collects or pays postage. Tel: 01257 425131 after 6pm.

4MByte STE, Atari colour monitor, extra floppy disk, 18 full-priced boxed games plus shareware, £575. Tel: 0181 2992532.

Atari STFM 2.5MByte and disk drives, also lots of games, all boxed in mint condition, That's Write word processor and plenty of fonts. Tel: 0161 3384332.

Atari STE 2MByte RAM, high res monitor. 40MByte hard disk, second drive, scanner, 24-pin printer, lots of software – mainly serious. £400 ono. Tel: 01437 720438 after 6.30pm.

Vortex At Once – AT286 emulator upgrade for STFM £35. For details, tel Keith: 0114 2659253.

Atari Falcon 4MByte, 300MByte hard drive and SCSI kit, mono VGA monitor, tower case, Tabby, Forget-Me-Clock, 65 ST FORMAT magazines and disks, True Paint, NVDI 3.0, ImageCopy2 and loads more. £650 ono. Tel: 0115 9305013.

Atari STE 4MByte RAM TOS 2.06/1.62 second drive, 270MByte hard drive Phillips 8833 monitor, loads of software, £550 ono. Local delivery. Tel: 01704 547943, ask for John.

STFM with mouse, joystick, double-sided disk drive, lots of games/utilities, manuals, boxed, perfect condition. Bargain at only £99. Tel: 01902 842995.

Atari 520STE with 1MByte upgrade, Family Curriculum inc 1st Word, Crackart, a few games all boxed, excellent starter pack, £70. Tel: 01932 883557 (Weybridge).

Atari 500MByte SCSI drive and translator, software, software also on drive, £220 ono. Tel Lee: 0151 2840363.

STOS, the game creator. Original and boxed. Best offer gets it. Tel Chris: 01473 281609 after 7pm.

Falcon030 4MByte RAM, TOS 4.04, MultiTOS, Truepaint, SpeedoGDOS 5, Easy Text Pro Vector and books and magazines in good condition, £400. Tel Kay: 0171 737 0350.

STE 4MByte, HP310 Printer, Phillips and Atari monitors, 127MByte hard drive, external floppy disk, scanner, numerous quality programs and extras. Cost new over £2,000, sell for £500, no offers. Tel: 01257 422924.

Atari 520STFM, manual, mouse, joystick, software, magazines, £70 inclusive. Tel: 01935 25974.

Atari SC1435 colour stereo monitor with stand and Atari STE cable. Beautiful picture, £110 inclusive. Tel: 01935 25974.

32MHz Falcon, TOS 4.04, 4MByte, 20MByte internal hard drive, SCSI-2 cable for external devices, manual, books, magazines and Casio Midisynth £575. Tel: 01935 25974.

STE 1MByte, HD external drive, £150. Epson LX80/tractor, £50. Software, manuals etc.
Tel: 01482 633192, evenings (Humberside).
8-bit hardware and software, 130 XE computer.
1050 disk drive. XC 12 recorder. Touch tablet, trackball, paddles. 25 cartridges, 25 disks, various tapes. Offers. Tel: 0121 6031205 after 6pm.

SyQuest 5.25-inch 44MByte removable hard disk cartridges, £25 each. Tel: 01343 830961.

Falcon owners: Videomaster and Colour Master, Truepaint, True Image, Papyrus Gold, Diamond Back 3, Ease, NVDI3 and more, £150. Tel: 0181 8542162 for details.

Atari 520STFM, mouse, joystick and SM124 monitor plus software, £130. Tel: 01962 854271.

Original ST games: Ishar Trilogy, Silent Service 2, Bloodwych, Wrath of Demon, F-19, Dungeon Master, Legend Knightmare, Captive and more. £4–12 each. Tele: 01943 875411 after 4pm, ask for James.

1MByte STFM, excellent condition, £1,500. Plus original software, plus second drive (needs new lead), joystick, mouse and accessories. £130 ono. Tel: 01943 875411 after 4pm. Ask for James.

Games: Jimmy White, Pirates, Bart vs Space Mutants, Robotic 2, Back to the Future 3, Gauntlet 3, The Godfather, Thunder Burner. All for £30. Tel Chris: 01473 281609 after 7pm.

ST FORMAT READER AD ORDER FORM

Name:

Address:....

Telephone (inc new area code):....

Write your ad, as you wish it to appear, including contact details, in block capitals in the space below (max 30 words). Print clearly. Cut out the coupon or use a photocopy and send it to: *ST FORMAT* Reader Ads, Future Publishing, 30 Monmouth St, Bath, Avon, BA1 2BW.

......

.....

.....

.....

.....

Please tick: Sales 🗌 Wanted 🗌 Swap 🗌 Messages 🗌 User Groups 🗌

Terms: ST FORMAT Reader Ads are accepted on the following conditions: 1) No trade or commercial ads 2) The accuracy, position and timing of the ads cannot be guaranteed. 3) Anyone found using the ST FORMAT Reader Ad service to sell pirated soft-

ware will be reported to the appropriate authorities. 4) We cannot accept ads by e-mail. 5) We will only print your ad if you sign below. I agree to abide by the conditions stated above.

RASTF78

MASIF.

Totally free!

Original software, Timeworks, Reach for Skies, Rogue Trooper, Epic and more, cheap to clear. Tel: Chris 0181 6989138.

1MByte STE, TOS 2.06 and 1.62, mouse, joystick, stereo amplifier with speakers, Epson printer, 2,400 Modem (Supra), £100+ worth of software, 40+ issues ST FORMAT with disks, £350 ono. Tel: 0115 9876402.

Boxed games for sale, inc Super League Manager, Premier Manager 2, Elite 2, Another World, Toki, Kid Gloves. Tel: 01255 428747 after 5pm.

Atari 520STFM 1MByte upgrade. External drive, Citizen 120D printer, 70–100 games and other software including Timeworks. £300, or will separate. Tel: 01734 792276.

For sale: Power scanner with box and instructions. Perfect condition. Bought for £100. Selling for £80. Hardly used and complete with original software. Tel: 01698 286852, ask for Paul.

Atari 520STE with 1MByte of RAM, 170MByte hard disk, lots of magazines and software including Neodesk 4, Magic Stereo Master, Lemmings 2. £170. May split. Tel Andrew: 01924 262355.

Atari 1040STE. CM8833/SM144 monitors. Cumana external drive. MiniS 40MByte hard drive. Three years ST FORMAT and disks, lots of software and games, £350. Tel: 01543 376616 (West Midlands).

Atari 1040STE – excellent condition. Boxed, two mice, two joysticks, lots of software. ST FORMAT magazines 58 onwards (including Cover Disks and Wonder Disks 64 onwards). All manuals, £200 ono. Tel: 01977 556120.

For sale, Naksha scanner with software and manuals, as new, £75. Tel: 01222 628497.

MegaDrive for sale. Five games, including Theme Park and Micro Machines 2. All leads, one joypad, £110. Tel Philip: 0181 877 0182 after 6pm.

Atari 1040STFM 1MByte, Phillips 14-inch colour monitor CM8852, mouse, joystick, loads of software, £100 ono. Tel Clive: 01203 593564.

520STE, 2MByte RAM and external drive, mouse, 50+ games and utilities, £230 ono. Mono printer LC Star, £90. £300 the lot. Tel: 0113 2944324.

Philip Pro 8 CM852 colour monitor. Scart RGB socket and cable for ST. £100. Atari SM124 Mono Monitor £80. Both very good condition. Tel Mike: 01372 273248 after 7pm.

Atari Portfolio palmtop computer. Soft leather case, parallel interface, software including spreedsheet, PC link facility. Mint condition, boxed £80 ono. Tel Mike: 01372 273248 after 7pm.

Atari 520STFM, 1MByte CM8833 colour monitor, LC10 colour printer, mouse, joystick, Fastbasic cartridge, manual, STOS and manual. Boxed graphics, games and manuals, 66 cover disks. Magaziness, 1987–1995. £250. Tel: 0181 6741416, or answer phone: 0181 6719211.

1040STFM, Concerto M101 sequencer, other software, £110. Colour monitor £75. Mono monitor £30. Forget-Me clock £12. Mouse/joystick switch £8. Tel: 01483 766414.

STE 1MByte, external DS disk drive, Video Master, Ultimate Ripper, many games eg Elite 2, F1/GP, Civilization, PD software and cover disks. Tel Darren: 01634 234257.

Original boxed games. Special Forces £10. Streetfighter 2, Face Off Hockey, Robotic 2, Hollywood Collection (Batman the Movie, Ghostbusters 2 etc). £5 each. Tel: 01481 55061.

STE 2MByte, Reflex Graphics, 30MByte Supra hard drive, Atari SC1435 colour monitor, extra floppy drive, three mice, three joysticks, games, manuals, disks, magazines etc. Also 520STFM, all for £450 ono. Tel: 01922 494407 (Walsall).

STE 4MByte RAM second floppy 44MByte hard drive, Star LC20 Printer, all boxed. Also two joysticks, software, various ST FORMAT magazines and cover disks, mouse, manuals etc. £370 ono. Buyer collects. Tel: 0141 6493670.

Atari 520STFM 1MByte RAM, Discovery Pack. Joystick/mouse, 19 games worth over £200. PD disks – boxed excellent condition, £150. Tel: 01923 835775.

50p-£5. Clearout 100+ boxed ST software. Something for every interest. Also 8-bit tapes and disks from 30p. Send a large SAE to: Mr D Loughton, 34 Collindale Ave, Erith, Kent, DA8 1EE.

Atari 1040ST, monochrome Atari SM125 monitor, colour Philips monitor, NEC CP6 Pinwriter printer, second disk drive, 230 3.5-inch disks – including Signum, Art Director, Degas, STOS, STAC, many games and lots more original software. Also books, accessories, paper etc. Total price £1,000, very clean and perfect condition. Tel: 01732 810640, evenings only.

I have MIDI leads coming out of my ears! SAE for list to: Ade, Flat 3, 69 Birmingham Road, West Bromwich, West Midlands, B70 6PY. Hi Darren!

Blasteroids (not STE), M4 Sherman, First Samurai (Not STE) – £3 each, inc postage. Chaos Engine £6 inc postage. Tel: 01704 578302. Mega, two 1040STFM, 520STFM, each with mouse, SM124/125 high res monitor. Also LC10 printer. Little used. Offers. Buyer collects. Tel: 0191 3742157, weekdays 10am-7pm (Durham).

Back issues ST FORMAT, 20 issues between January 1992 and February 1995, with disks. Sensible offer to clear. Sensible Soccer 92/93 £9. Tel: 01326 564069 after 4pm.

Yamaha PSS–780 multitimbral MIDI keyboard. Drum pads with PCM sounds. 100 voices, 100 rhythms. Complete with mains adaptor and two 5m MIDI cables, £100. Tel: 01326 564069 after 4pm.

NESSAGES

Send a disk and SAE for a free copy of ST World – a new disk magazine for all Atari users. Write to: Sion Dovey, Trecyrn Fawr, Blaenwaun, Whitland, Dyfed SA34 OHY.

The world's only Spectrum tapezine TOTAL SPEC! is now only £1.10 and an SAE or get 12 issues and bonus newsletter for £13.20. Send cheques to: Michael Escritt, 29 Ealand Avenue, Wilton Estate, Batley, West Yorkshire, WF17 8JN.

SWAPSWAPS

Two 256K SIMMs, swap for Elite 2, Microprose Golf, Thunderhawk, Lattice C, Falcon 030 or two weeks in Barbados. Tel: 01603 619492.

Hey, over here, for swaps: Microprose Golf and M1 Tank Platoon (boxed originals) for Cannon Fodder and Days of Thunder, to buy, sell or swap. Tel: Simon 01323 483948.

WWF, Skate Wars, Supercars will swap any for Sensible Soccer or Sensible Soccer V1.1, Operation Stealth, Thunderhawk or will sell. Contact: Shaun, 16 Banbury Lane, Kings Sutton, Nr Banbury, Oxon OX17 3RU.

Wanted/swap Atari high res monitor, SM124, SM125 or SM144, other hardware, cash waiting. Tel: 01884 257487.

Wanted Battle of Britain and Silent Service II. Sale or swap, Pacific Islands, The Patrician and Ishar all of which are boxed. Tel: 01977 647255.

VANWANTED

Do you have a copy of No Second Prize? Do you play it, or would you rather have a crisp tenner? Tel Chris: 01473 281609 after 7pm.

Wanted: Atari Works Package, Speedo Fonts, and any fonts or printer drivers for Calligrapher Pro. Tel Birnie: 0171 7063178.

Any bridge game for a 1040STE? Tel: 01922 442105.

STE (or FM), 1MByte DS drive and mouse, £50 ono. May consider whole system for good price. Tel: 01787 473401 evenings.

Atari 520 or 1040STE, 1MByte. Will pay reasonable price for full working machine. Tel: 01273 725253.

F16 Combat Pilot Atari. Tel: 01404 43219 eves. Airbus 320 wanted, will swap for other games or pay. Tel: 01828 627793 after 6pm.

Wanted: Battle Chess for ST or Falcon. Tel: 01895 254100.

Atari hand scanner for STFM. Tel: 0161 773 0484. Issue 65 of ST FORMAT wanted. Tel Turan: 01843 290944.

Wanted to complete collection, issues 1 and 2 ST Review with cover disks. Good prices paid. Tel Tom: 01924 452100.

Imagecopy 3.5 complete on disk. Tel Paul with price: 0171 2194768, working hours.

Atari Robokit with manual hardware interface and software. Tel Paul with price: 0171 2194768, working hours.

Sub or battleship games for 520STE (not Hunter Killer of Bismark). Tel Rob: 01424 440523 after 6pm.

Calamus 1.09N with instructions, also ST contacts. Write to: Matt, 12 Moxon Place, Wakefield, WF2 8EN. 100 per cent reply.

Wanted: any good games eg: flight sims and fantasy like Dungeon Master. Also any hardware of any format or age, sensible price. Tel Oliver: 01262 468340.

Tower of Babel, F-15 Strike Eagle II, Shadowlands, Shuttle, Silent Service 2, Robocop 3. Will refund postage if you send a list of all games for sale. Also F22 for Mega Drive. Write to: Guy Walker, Box 294, Officers Mess, RAF Laarbruch, BFPO 43.

Who's who!

ST CONTACTS DIRECTORY

ESSENTIAL CONTACTS

Academic Software = 01296 82524 Acclaim = 01703 860722 Accolade = 0181 977 0880 Advanced Graphics = 01942 488174 Alternative Software # 01977 797777 Analogic Computers # 0181 546 9575 Atari UK = 01753 533344 Audiogenic Software = 0181 424 2244 Care Electronics = 01923 894064 Centresoft = 0121 625 3399 CGS ComputerBild # 0181 679 7307 Cheetah = 0161 707 7080 Codemasters # 01926 814132 Coktel Vision = 00 331 46 30 99 57 Compo Software = 01487 773582 Core Design = 01332 297797 Creative Sounds = 0117 9244395 Daze Marketing = 0171 372 7435 Digita = 01395 270273 Digital Awareness = 0181 598 8984 Digital Integration = 01276 684959 Dolphin Software = 01603 617602 Domark = 0181 780 2222 Douglas Communications = 0161 456 9587 Electric Distribution/GST = 01753 549442

Electronic Arts = 01753 549442 EMagic = 01462 480000 Empire = 01268 541212 Empire/Readysoft = 01268 541126 Europress Software = 01625 859 333 Everglade = 01463 240168 Evesham Micros # 01386 765500 ExNet Systems # 0181 244 0077 Fast Atari Repairs = 0171 252 3553 FaST Club = 0115 945 5250 First Computer Centre = 0113 231 9444 Fujitsu = 0181 573 4444 Gadgets by Small = 00 1 303 791 6098 Gasteiner = 0181 345 6000 Golden Image UK Ltd = 0181 900 9291 Goodman International = 01782 335650 Gremlin Graphics = 0114 275 3423 Harman Audio = 0181 207 5050 Hewlett Packard = 01344 369369 HiSoft/AVR = 01525 718181 ICD Inc = 00 1 815 968 2228 IDS = 0121 459 4340 ImageArt = 0181 767 4761 Impact Software = 01280 850450 Impressions = 0171 351 2133

Infogrames # 0171 7388199 JCA Europe = 01734 452416 Kixx XL/US Gold = 0121 625 3311 Korg = 0181 427 5377 Kosmos Software = 01525 873942 Krisalis = 01709 372290 Kuma = 01734 844335 Ladbroke Computing Int'l = 01772 203166 Lexicor Software (USA) = 00 508 792 6618 Lexicor Software (Europe) = 00 43 1 36 75 92 Llamasoft = 01734 814478 Loriciel = 00 331 46 88 28 38 Marpet Developments = 01423 712600 Meedmore = 0151 521 2202 Michtron = 00 1 313 334 5700 Microdeal # 01525 713671 MicroProse = 01454 329510 Millennium = 01223 844894 Mindscape = 01444 246333 Mirage = 01260 299909 Ocean/Hit Squad = 0161 832 6633 Panasonic = 01344 853195 Power Computing = 01234 273000 Premier Mail Order # 01268 271172 Pro Music = 01284 765765

Psygnosis = 0151 7095755 Q Logic = 01382 25311 Q Tek UK = 01382 200808 RC Simulations # 0117 955 0900 Renegade = 0171 481 9214 Roland = 01252 816181 Rombo = 01506 414631 Rubysoft = 0171 381 8998 Silica Systems = 0181 309 1111 Siren Software = 0161 724 7572 Software Technology = 0161 236 2515 Sound Technology = 01462 480000 Special Reserve = 01279 600204 Star Micronics = 01494 471111 System Solutions = 01753 832212 Thalion = 0121 442 2050 The Third Dimension = 01484 460888 The Upgrade Shop = 01625 503448 Titan Designs = 0121 693 6669 Titus Software # 0171 700 2119 UBI Soft = 0181 941 4004 Virgin = 0181 960 2255 WeServe # 01705 647000 zzSoft = 01254 386192

USER GROUPS

E-MAIL ADDRESSES

All Future Publishing magazines, including ST FORMAT, are on the Internet. Point your Web browser software at: http://www.futurenet.co.uk/

ST FORMAT: stf@futurenet.co.uk Karen Levell: klevell@futurenet.co.uk Nick Peers: nick@stformat.demon.co.uk Peter Crush: petercrush@cix.compulink.co.uk Frank Charlton: de18@dial.pipex.com Andy Curtis: andy@adlib.co.uk Mac Marsden: de36@dial.pipex.com

Calamus User Group: caluser@cix.compulink.co.uk CGS ComputerBild: 100042.2312@compuserve.com Compo Software: compo@cix.compulink.co.uk Demon Internet: internet@demon.net First Computer Centre: sales@demon.co.uk Gribnif Software: gribnif@genie.geis.com HiSoft: hisoft@cix.compulink.co.uk ICD: icdinc@genie.geis.com or icdinc@delphi.com Lexicor Software Corporation: services@lexicor.com support@lexicor.com info@lexicor.com graphics@lexicor.com Mark S Smith: dlms@nessie.mcc.ac.uk Oregon Research: rres@teleport.com Sam Trameil, Atari: 75300.3443@compuserve.com

Atari ftp sites:

atari.archive.umich.edu/atari/ ftp.demon.co.uk/atari micros.hensa.ac.uk/micros/atari/ src.doc.ic.ac.uk/packages/atari/umich/

Atari ST Usenet newsgroups: comp.sys.atari.advocacy comp.sys.atari.announce comp.sys.atari.st comp.sys.atari.st.tech demon.ip.support.atari

Mark Smith's Atari Web Page: http://www.mcc.ac.uk/~dlms/atari.html

Kent Town, 5071, South Australia ATARI USER GROUP OF IRELAND, 3 St Kevin's Park, Kilmacud, Co. Dublin ATARI USER GROUP (SCOTLAND), 9/3 North Hillhousefield, Edinburgh, EH6 4HU ATARI-YAMAHA USER, 49 Summerfield Road, Wythenshaw, Manchester M22 1AE BLOXWICH COMPUTER CLUB, 29 Station St, Bloxwich, Walsall WS3 2PD BOURNEMOUTH and POOLE ATARI USER GROUP, 110 Bridle Way, Canford Bottom, Wimborne, Dorset **BH21 2UX** BRENTWOOD USER GROUP, Grindelwald, Crow Green Lane, Pilgrim's Hatch, Brentwood CM15 9RH BRISTOL ST USERS CLUB, 4 Barbour Gardens, Hartcliffe, Bristol BS13 OPN CALAMUS USER GROUP, PO Box 148, Deal, Kent, CT14 7QN CHESHUNT COMPUTER CLUB, 196 Coates Way, Garston, Watford, Herts WD2 6AE COLCHESTER ATARI USER GROUP, 61 Rayner Rd, Colchester, Essex CO2 9AE FALCON FACT FILE (FFF), 11 Pound Meadow, Whitchurch, Hampshire, G28 7LG FALCON OWNERS GROUP (FOG), 10 Oak Drive, Portishead, Avon BS20 8QS ICTARI PROGRAMMERS USER GROUP, 63 Woolsbridge Road, Ashley Heath, Ringwood, Hants BH24 2LX

ADELAIDE ATARI COMPUTER CLUB, PO Box 333,

Rd, Catteris, Cambs PE16 6JB MAIDSTONE COMPUTER CLUB, 4 Brookmead Rd, Cliffewoods, Kent ME3 8HP MID-CORNWALL CO-OP COMPUTER CLUB, 8 Victoria Rd, Roche, St Austell PL26 8JF MIDLAND AMATEUR RADIO ST GROUP, 12 Ainsdale Gdns, Erdington, Birmingham, B24 OEP NORWICH USER GROUP, 45 Coleburn Rd, Lakenham, Norwich NR1 2NZ PARATARI ST/TT/FALCON USERS GROUP, 16, 2º Izqda, 47004, Valladolid, Spain THE PANTHER OWNERS' GROUP, 56 Whitley Crescent, Wigan WN1 2PP SEAFORD AND DISTRICT COMPUTER CLUB, 23 Kedale Rd, Seaford, Sussex BN25 2BX SOUTH WEST ST USER GROUP, 5 Turbill Gdns, Chaddlewood, Plympton, Devon PL7 3XF STENCH UK, 59 Renton Rd, Wythenshawe, Manchester M22 9TQ SWINDON ATARI USER GROUP, 46 Eastcott Rd, Swindon, Wilts SN1 3LR TARILAND CLUB INC, PO Box 332, Kumeu 1250, Auckland, New Zealand UDDINGTON ATARI/AMIGA USERS, 28 Croft Wynd, Uddingston, Glasgow G71 8BJ WIGAN COMPUTER CLUB, 1 Lidgate Close, Wigan,

HUNTINGDONSHIRE COMPUTER CLUB, 7 St Martin's

WIGAN COMPUTER CLUB, 1 Lidgate Close, Wigan Lancs, WN3 6HA

16/32 Systems, 173 High Street, Strood, Kent ME2 4TW = 01634 710788 AD-LIB PD, 22 Alexandra St, Pelton Lane Ends, Chester-le-Street, County Durham, DH2 1NT A-ONLINE MULTIMEDIA, 1229 East Mohawk Avenue, Tampa, FL 33604, USA ■ 00 1 813 238 5223 (BBS = 00 1 813 238 4411) AGPD, c/o A Green, 6 Middlebere Drive, Wareham, Dorset, BH20 4SD ASCIILUM PDL, 34 Earlswood Gardens, Clayhall, Ilford, Essex EG5 0DF = 0181 550 5572 ATARI USER GROUP (SCOTLAND), 50 Jones Green, Knightsbridge West, Livingstone, EH54 80B = 01506 32521 CHAOS PD = 01296 89059 CALEDONIA PDL, 250 Oldtown Road, Hilton, Inverness IV2 4PT = 01463 225736

CLIPART LIBRARY, 62 Colwyn Ave, Winch Wen, Swansea SA1 7EJ = 01792 799762 COMPUTER DUNGEON, 1440 Spencer Avenue, Berkley, Illinois 60163, USA DUBBLE DEE ATARI PDL, PO Box 226, Smithfield, South Australia, Australia, 5114 EFFECT PUBLIC DOMAIN, 10 Beechwood, Church Hill, Caterham, Surrey, CR3 6SB FALCON OWNERS GROUP, 10 Oak Dr, Portishead, Bristol, Avon BS20 8QS = 01275 843241 FaST Club, 2 Broadway, Nottingham NG11 1PS = 0115 945 5250

PD LIBRARIES

FERDY BLASET, Halleyweg 114, 3318 CP Dordrecht, Netherlands = 00 3178 172 879 FLOPPYSHOP, PO Box 273, Aberdeen AB9 8SJ = 01224 312756 GOODMAN PDL, 16 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent, Staffs ST3

1SW = 01782 335650

HIGHLANDER PDL, 11 Castle View Est, Derrington, near Stafford ST18 9NF **m** 01782 48735 IM SYSTEMS, Via Zamboni 41, 25126 Brescia, Italy # 00 39 30 2090563/300762 LAPD, PO Box 2, Heanor, Derbyshire DE75 7YP ± 01773 761944 LOCUTUS PDL, 49 Summerfield Road, Woodhouse Park, Wythenshawe M22 1AE ■ 0161 498 0716 MAGNETIC FIELDS, PO Box 118, Preston, Lancs PR2 2AW = 01772 881190 MERLIN PD, PO Box 77, Stroud, Gloucester, GL6 9YD = 01452 770133 MICROGEAR SOFTWARE, 23 The Sycamores, Horbury, Wakefield, WF4 5QG ■ 01924 277600 MIKE PD, 3 Holsworthy Way, Chessington, Surrey KT9 2QP = 0181 3911992

MUSIC DOMAIN, Beaufort, Glencople, Dumfries, DC1 4RD = 01387 770429 PAJ SOFTWARE, PAJ House, Shaftesbury Ave, Cheadle Hulme, Stockport SK8 7DB POWER PD, 3 Salisbury Road, Maidstone, Kent, ME14 2TY = 01622 763056 RIVERDENE PDL, 30a School Road, Tilehurst, Reading, Berkshire RG3 5AN = 01734 452416 SDPD, Stephen Day, 11 Allington Mead, Bridport, Dorset DT6 5HF = 01308 427179 STAMPC PDL # 01256 814549, 1 Keats Close, Popley, Basingstoke, RG24 9BS STELLAR PD, Newholme, Aston Road, Chipping Campden, Gloucestershire, GL55 6HR ■ 01386 840737 TUMBLEVANE PDL, 6 West Road, Emsworth, Hampshire, PO10 7JT = 01243 370600

WHO'S PDL, 5 Highmead, Plumstead, London, SE18 2DH = 0181 473 1488

BUYING BY MAIL ORDER

The number of bargains available through mail order has never been greater – just follow our guide.

 Before you send any money, ring the supplier to make sure the item you require is in stock. Ask questions about the company's policy on delivery and returns of faulty equipment. Make sure there are no hidden costs such as postage and packaging. Find out when you can realistically expect to receive your goods.

2. Make sure you read the small print on ads.

Any town

 Beware of companies that don't include their address on their adverts, or don't answer or return your calls.
 By far the best method of payment is by credit card. If you're ordering goods that come to more than £100 in total value, you are legally entitled to claim compensation from some credit companies if the retailer goes bust.

claim compensation from some credit companies if the retailer goes bust. Check your credit card company's policy. You can also try to get extra insurance in advance. If you're not paying by credit card, pay by cheque. Never send cash, and avoid postal orders.

6. Always keep a record of your order, and make sure you keep it somewhere safe. If you're buying by credit card keep a note of the time of the order and ask for an order number. When ordering anything over the telephone, double-check the price before you part with your money.

 If you are sending a cheque keep a note of the cheque number, the date and the exact value. Make sure you know the name and some details of the mail order company.
 When you receive your goods, check them carefully. If anything is missing

or faulty, contact the supplier immediately. 9. Order from the most recent issue of ST FORMAT.

10. If a problem does arise, contact the supplier first. Calmly and politely

tell them your problem. Most problems turn out to be minor hitches or misunderstandings, which can easily be resolved. If you think you have a genuine grievance, contact your local Trading Standards Officer. The number is in the phone book.

BUYER BEWARE

Inclusion in this list does not mean that ST FORMAT endorses or recommends libraries, user groups or companies in any way.

If you run a PD library, or a user group/club, and you'd like it to be included in the list, please send your details for inclusion (and your latest catalogue if it's a PD library) to: The Directory, ST FORMAT, Future Publishing, 30 Monmouth Street, Bath, Avon, BA1 2BW.

Sormat Reader offers

GET THE MOST OUT OF YOUR ATARI ST 2 FUTURE BOOKS

Written by ST FORMAT's very own Clive Parker, this little volume is full of useful hints and tricks. Discover how your Atari works. improve its performance, and read about all the best ST software and hardware.

Blast your way through this 3D

space shoot-'em-up - Zero-5 is all

1MByte STE

or Falcon only

about wiping out the aliens before they blow you

combines fast action with accurate shooting and

apart. It scored 92% back in issue 66, and

Description: Get the Most Out of Your Atari ST 2 STF price: £12.99 Order no: FLB099X

ZERO-5

battle!

CASPIAN SOFTWARE



SAVE £5

US GOLD Street Fighter 2 is the de facto beat-'em-up, and possibly the most popular computer game ever created. With eight difficulty levels, one- and two-player

STREET FIGHTER 2

options, and a dazzling array of 'electrifying' special moves, it's certainly a game to be reckoned with. Get your copy now!

Description: Street Fighter 2 RRP: £14.99 STF price: £9.99 Order no: STFSF2

UNIQUE DEVELOPMENTS



SAVE £5

THE BLACK BOX COLLECTION **Obsession** is a technically brilliant re-creation of **VE £10** pinball that scored a massive 94% in issue 67. There are four tables, featuring

magnets, kickbacks, overhead runs, combination targets and comments on how badly you played - it's highly addictive. Our reviewer described it as "one of the greatest ST games ever."

UDS followed up Obsession with SubStation, the first attempt at Doom on the STE and Falcon. It scored 75% in issue 72 and "holds its own as a 3D blast-'em-down," according to our reviewer. You must roam a dangerous underwater energy plant that's lost contact with the surface. SubStation also features the realistic DD-Audio 3D sound system.

Now you can get Obsession and SubStation together, for less than the price of the individual games! Just turn the page, fill in the form and get your order in today.



ST FORMAT BINDER

ST FORMAT

Keep your prized collection of the world's most exquisite, comprehensive ST magazine safe from spills, stains and the neighbours' children in these sturdy red binders.

Description: **One binder** STF price: £5.95 Order no: ST112 **Description: Two binders** STF price: £9.99 Order no: ST1122



Description: Zero-5

pleasingly

violent

explosions. Order your copy

today, and prepare to do

RRP: £24.99 STF price: £19.99 **Order no: STFZERO**

SPEEDBALL 2 **BITMAP BROTHERS**



Speedball 2 is a fast. ultra-violent sports game. The futuristic matches are laced with gratuitous violence: you can tackle from behind, throw a player across the pitch and generally

behave in an ungentlemanly manner. It's a much-loved classic.

provides both one- and two-player games, and scored a whopping 94% in issue 54.

Description: Speedball 2 STF price: £9.99 Order no: STFSB



If you wish to order by credit card or have any queries, please ring the Hotline on 2 01225 822511

Customer Services is on # 01225 822510

ST Back issues

£4 EACH OR £10 FOR THREE PLUS A FREE BINDER



Disk: Deluxe Paint, Strip Cartoon demo Inside: Comic strips; compression; system software Reviewed: GT-Look 2, MagiCMac, UVK 6.6 Tutorials: DSP



Disk: Hollywood Hustler, Sweet Sixteen Inside: Hard drives; Spotlight Show Reviewed: Cubase Score 2 and Audio 16, Rainbow 2 Tutorials: KIVI, boot disks



Disk: Stardust, Endurance, Route Finder Inside: Animation; ST First Aid course; DeskTopper Reviewed: Metamorphosis, Zero-5, View 2 Tutorials: Pascal, GFA Basic



Disk: Xenomorf 2 demo, STarioland demo Inside: 3D graphics; fonts; Web browsers Reviewed: SARA, Protext 6.6 Tutorials: Backing up, DSP, boot disks





Disk: Quill and HERO demos, Herman Inside: ST FORMAT Golds; programming Reviewed: Starball, Protext 6.5, Papyrus Gold, That's Write 3 Tutorial: Papyrus



Disk: Realms of Reality, SubStation level Inside: PD Top 50; scanners Reviewed: Zip drives, Imagecopy 4, Exposé Tutorials: DSP, boot disks



Disk: HyperGEM, Goin' Down, Bombs Away Inside: Multimedia magic; printers Reviewed: AudioTracker, Diamond Edge 2 Tutorials: DSP, boot disks

Please send me the following items from Description	Order		Price
		TOTAL	
Please send me the following back issues	of ST FORMAT:		
70 73 74	75	76	177
Other:	(Call = 01225 8	22510 for a	vailability)
Mr/Mrs/Miss/Ms:			
	EEC VAT I	No:	
	EEC VAT I	No:	
Tel:	EEC VAT I 4 for overseas d g Limited. Custo	No:	
Tel: Total amount payable: £ (Customers outside the UK please add £ Method of payment	4 for overseas of Limited. Custo n in Sterling)	No: lelivery.) mers outside	
Tel:	4 for overseas of Limited. Custo n in Sterling)	No: lelivery.) mers outside	e the UK should
Tel:	4 for overseas d g Limited. Custo n in Sterling) Expin	No: lelivery.) mers outside y date:	e the UK should
Tel:	4 for overseas of Limited. Custo n in Sterling) Expin	No: lelivery.) mers outside y date:	e the UK should

day form







Nick Peers rolls down his fur-trimmed Christmas stockings to bring you a new selection of cheats for the festive season. Sherry, anyone?

Gamesbusters



e don't mind whether it's for commercial, licenceware or PD games - if you have a tip, send it in to Gamesbusters, ST FORMAT, Future

Publishing, 30 Monmouth Street, Bath, Avon, BA1 2BW. The more recent the game, the more chance there is that we'll print it. Alright? In the meantime, here are some cheats we received earlier ...

Realms of Reality

We'll be featuring more levels and a character editor for Realms Of Reality on

> a future Cover Disk. For now, though, here are the maps for the first two levels, courtesy of author, Robert Megicks...

Realms of Reality level two.

The Ultimate Arena

Thanks go to Robert Wilson of Swindon for discovering just how Arvester fires his gun and Joe cracks his whip in The Ultimate Arena (STF 74, 86%), the splendid beat-'em-up from across the Channel. Make sure you press [Fire] when directions are given in bold.





Flurry punch: downright, up-left

Supercut: down-left, left, upleft, up, up-right

Sandy

Flying kick: down, down, down, up Flurry kick: right, right, right Whirlwind chops:

left, right, left, right Energy bolt: up, up-left, left



Ahh, there's nothing like beating up your in-laws to relieve the odd bit of seasonal stress.



left

Genius: down-right, right, up-right, up Freeze: right, right, right Sword slash: right,

Sword throw: left, down-left, down, down-right

Kato



Back kick: right, right, left Sliding kick: right, right, right Disappear: down-

right, right, down-right, right Telepathy: down-right, right, up-right



Whip: down-right, right, up-right, up Whirlpunch: crouch, up Throw hat: downleft, left, up-left

Arvester



Big punch: down, left, left Bulldozer: left, left, jump Fire pistol: up, down,

Alien Thing

It seems pretty unlikely, but if there is anyone who's still stuck on the original version of



Look out for our review of the Expert edition of Alien Thing next month.

Realms of Reality - level one.



OUICKIES

Those of you who felt STario was too slow in the demo on Cover Disk 75 will be pleased to know that holding down [Fire] while he's moving speeds him up.

Joseph Palmer from Ipswich reckons that the Romans or Mongols are the best tribes to start off with in Civilization. He also favours playing with at least seven different civilizations, because that way you can quickly gain knowledge through exchange and conquest.

Geoff Bowditch from Bexhill-on-Sea sent in this great tip to enable

you to start Speedball 2 (see page 68) with a fortune. Select a fresh game in one-player mode and save it straight away. Now load up a disk sector editor such as Knife ST, and load in the data from side O, track O. You should find the string \$044C on the first line of that track. Alter this to \$7530 which, when saved, will give you 30,000 credits - enough to upgrade the entire team to 220 points. (Make sure you know your way around your disk sector editor and that you work only on a backup of your saved game.)

OLD GAMES

The best way of finding out about old games is to invest in The Cheater's Digest. At just £4.99 and with over 5,500 cheats included on the disk, this is a real bargain.

Cheques should be made payable to PjH Publishing and sent to: PjH Publishing, 4 Manor Close, Brampton, Huntingdon, Cambridgeshire, PE18 8UF.



We wanted to interview our intrepid monster-bashing hero, but unfortunately an alien beat us to it, devouring him in a single bite.

Alien Thing (STF 75, 68%), Daniel Richter of Velbert in Germany has the level codes you need

Level Code

- PARTY 2 WORK 3 4 LARD 5 WHEEE HELLO 6 7 HARD 8 GOSH 9 NIGHT 10 PEN
- 11 RULER.

Moon Speeder

Although there's no specific cheat for Merlin's Falcon-only racing game (STF 73, 79%), Giles Audoly, one of the team behind Moon Speeder and its sequel Moon Games has the following tips for frustrated lunar racers everywhere.

"I love playing with



More hot alien-splatting action.

speeder six or seven on track two," begins Giles, "and on 'meli melo' with speeder six, but I would not advise those speeders for beginners." Giles favours speeder three over all five levels, although its relatively poor acceleration means you need to avoid hitting the barriers too often.

And there you have it. In the meantime, more information on Moon Games can be found in news, see page 11. stf



Moon Speeder scored 79% in issue 73 when it cost £45. Now you can get it from Merlin for just £29.99, and we'd recommend it to all Falcon owners.



Available NOW for only £9.99 (overseas add £2 postage) Cheques or POs made payable to 'Village Software', 10 Oak Drive, Portishead, Bristol BS20 8QS England

Email: sales@village.demon.co.uk futureshocks@village.demon.co.uk



Super Starioland The ultimate in platforming. A Mario clone for the ST.





ART 16:	Whole host of picture converters and utilities	BUS 6:	Over 600 business letters covering every aspect from accounting to	
UTL 22:	Your second Atari Manual - essential reading, plus Tempus Doc Editor, League Tables and others.	ODDS 35:	employment. Puzzlers Delight - make your own puzzles or solve those you are stud with. 5 programs & 2 accessories.	
	1-5 Disks, £1.25 each; 6+ Disks, £1.00 This is an example of what you might cho remember postage is include	ose for the 12 di	isks for a £10 package -	
ART 44:	Over 60 screens of clip art in IMG format complete with viewer.	EDU 8:	From Picts to Parliament: A potted history of England.	
MUS 8:	Over 40 interrupt tunes to play while you work.	BUS 16:	FIVE DATABĂSES: Book Database, Atari Cash Register, Cinema File	
ODDS 14	of interviews, facts and a slideshow.	UTL 27:	Manager, Class, Record Base. Bootblock, Pack Ice, Hard Up,	
ODDS 29	ASSISTANT CHEF: super program with over 120 recipes.	UTL 38:	Cheetah and lots more. Pools Predictor, ST Sheet - a	
BOOK 16	: SHERLOCK HOLMES STORIES: 13 stories about the master sleuth.		spreadsheet, plus a host of accessories.	
ADV 20:	TEXT ADVENTURES: Crowleys House, Dark Pearl, Starwreck,	GAM 37:	COMBAT: Excellent game - the ultimate war shoot em up	
E.S.	Devtomb, Dethstar. (GFA run prog needed for last 2).	GAM 31:	Colour Clash, Entombed, Dungeonz, Maze, Solitaire.	

Stockists of Impact UK CATALOGUE V3.1 OUT NOW! Massive selection of 1000s of programs. Also on disk: Rebotz, Mad, ST Speech and Serenade • Power Disk Magazine • Golden Dawn useful accessories and utilities 34 Eariswood Gardens, Clayhall, Ilford, Essex IG5 ODF



www.strormat.com

Feedback

Christmas is coming, Karen's getting fat, please do drop a letter on to her doormat...

Falconman I'd just like to say how much I liked

your last cover (STF 77). I've been a fan of comics for a long time, but I've never seen that particular character before. Who is that masked man? Are there any comics devoted to him?

Tony Wright, Southport

stf: Glad you liked it, Tony. The character is actually an original one, dreamed up especially for ST FORMAT. Some say the ears represent a Falcon's wings, but who really knows?

No triumph



I have to admit that I have mixed feelings about ST FORMAT. There are some good articles. Those

on CD-ROMs, hard drives and archiving were particularly informative and inspiring -I'm actually now getting my act together and backing up my hard drive, something I'd never thought about before.

I do have a small complaint, though. The magazine appears to be stuck in a tenyear time warp with respect to technology, and it still portrays the ST as being the king of home computers. Could we not have a little objective reporting? Face it, good as it was - and still is, when looked at out of context - the ST is now little more than a dog. It's relatively slow and poorly supported. Try buying hardware or software for it, or even getting it fixed here in the Netherlands: "An Atari, what? No, sorry."

Likewise, readers with a problem ST are always advised to "try it out on a friend's Atari". Perhaps those who write for an Atari mag or work in an Atari repair shop are fortunate enough to move in such a circle of friends, but for your average punter, it's a bit like telling a Triumph Spitfire owner to try something out on his friend's Spitfire. While the Spitfire is no doubt a classic car, I have probably about, hmm, zero friends who own one.

Let's have a bit more objectivity when it comes to singing the praises of the ST. And spare a thought for those ST owners who are bachelors in an ever-expanding world of PCs and Macs. Richard Mayer, via e-mail

stf: A dog, eh? Okay, the ST's 68000 chip can't really compete with the Pentium chips inside modern PCs, and there's not as much software and support for Atari owners as there was two years ago, but so what? Not everyone rejoices in the throwaway market, where as soon as something becomes old it has to be abandoned in favour of the next big thing. If your ST still provides you with the power you need for the tasks at hand, what's

MOD PLAYERS

After printing Aljo Wijnands' request for help in issue 76, we've been inundated with suggestions, some of which were almost printable, and some of which were clamouring to help Aljo find a suitable .ACC MOD player. It's John Beranek with the shortest note and the longest list who finally gets to have his say in print, though ...

- There are actually quite a few PD/shareware players.
- Desktracker (atariArchive/Sound/Players/dtrak122.zip)
- Paula (atariArchive/Sound/Players/paula24.lzh)
- Jukebox (atariArchive/ste/jukebx11.zoo)
- There may be more, but I've just checked both micros-hensa and atariArchive and the above are all I could find.



Rarer than a Triumph Spitfire? Tracking down faults on your ST is becoming more difficult as the number of machines available for comparison decreases.

the problem? Most of our readers want to hear about what their ST can do, not what it can't - if that results in a lack of objectivity, well, so be it!

As to your second point, it's a fair cop, and after this month we promise never again to mutter those immortal words "try it out on a friend's ST". Not ever. Okay?

Off-line antics



Why don't you set up e-mail addresses for competitions, user

ads and generally submitting things to your magazine? I'm sure it wouldn't be too difficult, and for those of us online it would be a lot cheaper and easier than sending postcards and letters. As HTML Browser (or CAB as it's now known - Karen) doesn't support forms yet, e-mail would be a better proposition than the World Wide Web. Phil Hough, via e-mail

stf: You're right – it's a disgrace that no-one can get through to us by... hold on... we can't find the paper copy of your letter. It

should be somewhere because you definitely couldn't have sent it by ... how very strange.

We already accept submissions by e-mail - competition entries, Feedback letters, ST Answers letters, articles, press releases and even letters telling us we should accept letters by e-mail! Just send them to: klevell@futurenet.co.uk. The only thing we don't accept over the information super dog-track is reader ads. This is because reader ads have to be signed.

The last laugh?



I felt smug when those with singlesided disk drives complained that everything was for double-



The Falcon Mk2 is a tasty bit of kit, but at around £1,500 for a 4MByte model with a hard drive, it's a little pricey.



You better make the most of the existing Obsession tables, because with UDS pulling out of the ST market they're all you're getting.

sided ones. I laughed when those with 520K STs moaned that software was mainly for 1MByte machines. Now, though, it seems that all the decent software is for STEs, and I only have an STFM. Need I say more?

Robin Fisher, via e-mail

stf: It's the nature of the beast, I'm afraid. If you want to play the best games, or run the best software, you have to have the best machine. It's the same with every format - be it ST, PC, Mac or Amiga.

Still, you ought to be grateful, if you'd had a PC you'd have been forced to upgrade years ago.

Dear Santa



I'm in a bit of a quandary here. You see, I've wanted to own a Falcon ever since it was launched. Being 16, I can only hope to get a new computer as a Christmas present, and the

absolute maximum my family and I could afford to spend is £500. I know this was enough to buy a 1MByte Falcon when it first came out, but it wouldn't have been too useful in that state. So, I spent the next two years saving up to upgrade my 1040STE to 4MByte, and to buy a MiniS 170MByte hard drive, thinking I would then be able to buy a 1MByte Falcon with an adaptor to let me use my current memory.

But what do I find? Atari has stopped making them and there isn't a single ad for Falcons in your magazine. Compatibles like the Falcon Mk2, Medusa and Eagle are all well out of my price range. Could you tell me where I can get a (preferably new) Falcon? I never expected that two years down the line I wouldn't be able to buy one. Colin J Ballantyne, Balloch

stf: No, I don't think anyone could have predicted the speed of

OVER THE RAINBOW



Falcon owners sent entries from far and wide in an attempt to grab one of three copies of Addiction Software's wonderful and marvellous and, oh, everything Rainbow 2. Now, after a passing nod of thanks to JCA Europe who donated the packages, we can reveal the three lucky winners. They are: Stuart Bowes from Twyning, R Moys from Weston-Super-Mare and K Dermott from Oldham. Congrats to you all - keep the dog from the postie for a while.

> Do you have any further information on whether these

extra tables will ever see the

light of day? Please help as

James Marson, via e-mail

stf: Sorry to be the bearer of bad

news, James, but UDS has decid-

ed to cease all programming for

the ST, so the extra tables won't

now appear, nor will the Falcon

Do you know what

has happened to

Ad.Lib PD

Library? The scope and flexi-

bility of its service was so

the once excellent

upgrade. For more details see

issue 77's News pages.

Ad libbing

I'm very Obsessed.

Atari's hit and run.

Your best bet is to try and pick up a secondhand Falcon by advertising in our reader ads section (see page 66). Last month someone was selling a 4MByte Falcon and a 1MByte 520STFM for £650, so you should be able to find what you want.

Your only other option is C-Lab's Falcon Mk1 - a 4MByte Falcon without a hard drive costs £799. Call Digital Awareness on **■** 0181 598 8081.

Obsessional



Obsession, you mentioned that some data disks were in development.

TRILOGY WINNERS



Back in issue 76 we ran a competition to win one of ten copies of the Ishar Trilogy game, courtesy of 16/32 Systems. And here, without further ado, are the winners: Jay Boarman from Warrington, AD Parkey from Morcambe, Mr De Meester from

Belgium, Peter Lister from Keighley, Mick Mason from Portsmouth, John Man from Romford, Harry Keaney from Cranhill, Martin Waterhouse from Bedford, Reggie Baeyens from Belgium (great postcard), and finally, Hayden Smith from Deal. Well done to one and all. The games will be with you shortly.

PIXEL PAINTING

This month's winner was discovered during an archaeological dig under the office floor. It was drawn by Matt Bearpark from Hertfordshire. If you could get in



Matt began by using the draw tool to create the main outlines, zooming in to tidy up any mistakes.



Next, he used his basic colours to fill the wolf outline, before zooming in to widen the nose.

contact with us Matt, we'll forward your prize to you. Matt drew this rather fetching wolf using that old shareware classic, Crack Art. Here's how he did it ...



NEX MONTH

Exclusive: It's the one you've all been waiting for. Sam Tramiel, head of Atari Corporation, talks to ST FORMAT about the company's past, present and future. Why did you discontinue the ST and Falcon, Mr Tramiel?

Go natural

Buckle your seatbelt, flux your capacitor and come with us to a time of natural harmonies and soothing melodies. Yes, next issue we show you how to create natural-sounding music and richer, more organic tones, plus we give you the software to help you do it.



3D extra

Virtual adventures in cyberspace. We take a more detailed look into the animation and design of 3D objects. Plus: a preview of the English version of Papyrus Gold, and a review of Ease 4, the latest update of System Solutions' replacement desktop system.



ST FORMAT 79 on sale Mon 22 Jan

ON THE CARDS

If there's a feature you'd like to see in a coming issue of ST FORMAT, please write to: On the Cards, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW and we'll do our best to fit it in.



- Animation techniques step-by-step guides
- Input devices we take a look at alternate input devices
- On the money specialist business applications
- Video digitising capture and edit moving images
- Game coding how to create your own game
- Falcon upgrades how to create a monster machine

DON'T MISS OUT

There's an easy way to guarantee your copy of ST FORMAT. Fill out the form below and take it to your newsagents, and they'll keep a copy for you each month. Go on, don't miss out, do it now.

Please reserve/deliver ST FORMAT each month, beginning with the February issue, which is on sale Monday 22 January 1996.

Name:

Address:

Phone number:

To the newsagent: ST FORMAT is published by Future Publishing = 01225 442244 (Circulation)

RESERVE YOUR COPY NOW!

THE NEW VIDEOMASTER



marvellous it was verging on the philanthropic, which more than compensated for its unpredictable speed. Now, however, I've had an order, and a much later separate request for a catalogue, outstanding for several months, and I'm beginning to fear the worst. Can you throw any light on Ad.Lib's current status for me? P Rex, Dunstable

stf: Unfortunately, Ad.Lib recently decided to take on the wrath of nature, in the shape of huge lightning bolt. Not surprisingly, the lightning bolt came off best, and Ad.Lib lost most of its files when the power surge wiped out the hard drive. As a result, Andy Curtis, who runs Ad.Lib, has decided to scale down the library and now only offers programs featured in ST FORMAT that you can't get elsewhere.

Print-shy results



When are we going to hear the results of all the recent competitions? It gets a tad frustrating scanning through the pages for winners

each month and not finding any. Are they heaped away in a quiet corner of the office? Piles of print-shy entry forms?

Now for a total change of tack: can anyone tell me if there are any shops near me that upgrade STs for a reasonable price? Or ST owners wanting to swap stuff? John Thompson, Darlington

stf: Oops, sorry about that. We've just checked the office, and cowering in the corner were hundreds of entry forms simply desperate to escape being singled out for printing. Or maybe it's the coke Nick spilt on them that's making them all stick together. Anyway, if you cast your eye about these very pages you'll find some of the less sticky winners. As for repair shops in

Paul Jenkinson from Blackpool is the lucky winner of HiSoft's VideoMaster digitiser and RGB ColourMaster splitter, so expect something really special when you visit next year's illuminations. Oh, and by the way, Andy's surname is actually spelt 'Ounsted' - something which tripped up many of you! Not that we like Andy any more - he left us.

Darlington, no, we don't know of any personally. Anyone else? What else? Oh, yeah - people to swap stuff? Hang on, don't we have a reader ads section for this sort of thing? Clear off to page 66 where you belong. Sheesh!

Absolute beginners



I'd love to see an issue devoted purely to beginners (like issue 31).

Even though the ST is no longer selling in huge quantities, I've seen many Ataris for sale secondhand, and I feel this sort of feature would be invaluable to many people who are new to the ST.

Second, and finally as it turns out, I recently got a new PC and have been having great fun with the PD Ghostlink utility. In comparison, however, I feel the ST's operating system is far easier to use than the PC's cumbersome Windows/DOS environment. I don't like having to muck about with CONFIG.SYS or AUTOEXEC.BAT files every time I play a new game. Maybe I just haven't got the hang of it yet, but I'm glad I have still have my trusty ST. Neil Davidson, via e-mail

stf: Hmm, an article for beginners, eh? We've considered doing a feature like this for some time, but to be honest, we weren't sure if the numbers of ST newcomers warranted it. What do you think? Would it be a waste of space? Or are you one of these newcomers? And if so, which areas of the ST don't you understand?

Send your letters to the editor, Karen Levell, at: Feedback, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon, BA1 2BW or e-mail: klevell@ futurenet.co.uk. You can also reach her via our Web site at: http://www.futurenet.co.uk. Note: letters may be edited for length and clarity.





On this month's...



GREAT PROGRAMS

KILLING TIME ST TOOLS

@17:43 Hed,22.11. 3420kb

BLINK Palette Switc

do it!

Refresh: 250_ msec Redraw: 10__

Offset: 0_

91990 by Bill Aycock CHANGE

small font

use window

Blast your way through time in this exciting arcade game for all colour Ataris, TOS 2.06 and Falcon users need to use STOSFix.

MENUINFO

Display all kinds of system information on your desktop with this configurable utility for all Ataris.

BLINK

Brighten up your desktop with this set of utilities for switching system palettes. All Ataris.

Print out ASCII documents in the background while you get on with other **GEM** applications. All Ataris.

GOOFFY | DSP FILES

reset

ATARIPRO

Discover the potential of your Falcon's DSP chip with this set of utilities and example files to accompany our DSP tutorial.



Scan, edit, repair and optimise your files, disks and hard drive with this powerful disk utility for all Ataris. 1MByte

FOR MAXIMUM COMPATIBIL AND FALCONS, AND GUARANTEED VIRUS



PEN PAL

A fast and powerful text editor for creating **ASCII documents.**

WWW ACCESS PACK

CAB (formerly HTML Browser), STiK and the interface overlay - all the software you need to get onto the Internet with any 512K Atari. Colour or monochrome.

