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ST FORMAT

ISSUE 85 ■ AUGUST 1996 ■ £4.50

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Reviewed this month
BLOWUP FX: the ultimate three-in-one hardware upgrade for your Falcon

REVIEWED THIS MONTH:

- BLOWUP FX BOARD
- FACE VALUE
- MASTERPLAN
- ATARI INSIDE CD-ROM
- NVDI POSTSCRIPT MODULE
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games

• • ARCADE • • • • • • • • • • • • • • • • •

G.469 ASTRO 2000: A re-working of the classic 'Asteroids' arcade game. ***NEW***
G.473 BLUDGUSH: Blast enemy soldiers that dare to appear on your monitor screen. ***NEW***
G.472 TANKS (STE): Multi-player mine laying and dodging game in the style of 'Dynablaster'. ***NEW***
G.471 TANKS (STFM): As the game above but for STFM machines. ***NEW***
G.466 ZAPTASTIC 2 (S/W): A fast action arcade blast in the style of Llamatron.
G.467 BANG & BLASTMAN (1Mb): Explosive 2 player Bomberman action (2 joysticks).
G.468 SUBAQUA (S/W, Falcon compatible): Highly rated underwater shoot 'em up.
G.463 PARALLAX PAINTER: Three dimensional platform/puzzle game.
G.449 MICHIGAN MIKE & THE LOST CITY OF ZOROG: Super new platformer in the rain forest
G.454 TRAPPED II: Ten levels of fast 'Light Cycle' action (1Mb, STE, S/W) (Order G455 for STFM)
G.448 H.E.R.O.: Human Extraction & Rescue Operation: One time commercial platform game
G.450 THE ORIGINAL: Colourful 'Boulderdash' type diamond mining puzzle game
G.457 DEADLAND: Search and rescue mission 'Cannon Fodder' style
G.456 SUPER CHICKEN: Collect eggs with a giant chicken using escalators and ladders.
G.460 SKYDUEL: A single or multi-player air combat game; ballistic missiles, dogfights and ground attacks.
G.433 GENOCIDE: (1Mb, STE, S/W): Fast space 3D shoot 'em up.
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 (1Mb, STE)
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 (STE, 1Mb) (2 disks/£3.00).
G.398 ASTEROIDIA (STE): Classic asteroid blasting action – order G399 for STFM version (1Mb, S/W).
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 ST!
G.381 MAX: Help Max find his girlfriend. A 'cute' arcade platform game (1Mb).
G.286 ROCKFALL - SPECIAL EDITION: Tunnelling/diamond collecting puzzle game.
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 FX.
G.201 BLAT!: 'Tetris' style three in a row, falling blocks with many added features.

• • FANTASY/ROLE-PLAY • • • • • • • • •

G.425 ANORAKS OF DOOM: First person view fantasy role-playing game. (2 disks/£3.00)
G.124 SPECTRAL SORCERY: Excellent game of battling wizards.
G.172 HERO II: Detailed graphic role-play adventure (1Mb)
G.416 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/£3.00).
G.198 OMEGA: A large and complex wilderness and dungeon adventure with hours and hours of play (1Mb)
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.452 LAP OF THE GODS: Complex German language fantasy role play game (1Mb, mono, 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.237 CHAOS: Madcap game of battling wizards by Martin Brownlow (1Mb or 0.5Mb)
G.262 ALIENS!: Space Marines v Aliens strategy combat game.
G.115 MYSTIC WELL: Complete 'Dungeonmaster' style adventure game.

• • PUZZLES • • • • • • • • • • • • • • • • •

G.469 ASTROQUEST: A quiz program with over 500 astronomy related questions. ***NEW***
G.461 SHAPE UP (1MB, STE): A puzzle game of placing coloured squares on a grid.
G.436 SHRINKING WALL SOLITAIRE (1Mb): Challenging and addictive 'Match it' type game.
G.443 WORD QUEST: Construct and play word squares. Over 50 puzzles on disk
G.446 THE FRENCH COLLECTION: Three puzzle games; MANCIOLA, QUINZAINE & MOLECULE.
G.387 SPACESWEEPER: A challenging 'Minesweeper' game in three dimensions!
G.311 JIGSAW: A computerised jigsaw puzzle (1Mb).
G.269 QUIZMASTER: Multi-choice answer general knowledge quiz (STE).

• • TEXT ADVENTURES • • • • • • • • • • •

G.158 LOTTERY: Adventure in the red light district of San Francisco
G.462 CYBERCOP: Future cop murder investigation. ***NEW***
G.411 ROBOT REVOLT: A sci-fi text adventure.
G.162 AROUND THE WORLD IN EIGHTY DAYS: Try to emulate Phineas Fogg.
G.184 HEATHER'S EASTER EGG HUNT: Adventure for 7 to 12 year olds.
G.394 THE SECRET PARK: A text adventure with graphics for children 8 years upwards.
G.362 MARCH OF THE MODS: Strive to become 'Ace Face' (contains mild swearing, violence and drug abuse)
G.225 CAILYNVORN: D&D type fantasy adventure set on a far earth-like planet.
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.91 QUEST FOR THE HOLY GRAIL: Pythonesque madcap humour.
G.202 UNNKULIAN UNDERWORLD: Highly rated large scale text fantasy adventure.

• • GRAPHIC ADVENTURES • • • • • • • •

G.383 MOBSTERS' CITY: Track down twelve gangsters.
G.246 HYSULA: 3D virtual reality fantasy adventure.
G.217 THE MAZE: 3D adventure game loosely based on 'The Crystal Maze'.
G.321 INVESTIGATION: Graphic adventure in the style of Sierra On-Line (2 disks/£3.00)
G.356 ENDURANCE (1Mb): Space station adventure in 3D virtual reality
G.200 ANARCHY ACADEMY: 3D graphic adventure to blow up the school!
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/£3.00).

• • STRATEGY & OTHERS • • • • • • • • •

G.437 BINGO! (1Mb): Simulation of the seaside game with voice.
G.438 RACE (1Mb): Try to succeed in the 'Rat Race' of life (Board game adaptation)
G.432 MIDI-WIZ: Fantasy war game with similarities to 'Civilisation'. (1Mb, S/W).
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.290 SOFTWARE PROJECTS: Run a software company business sim.
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 200BC (S/W).
G.330 GNU CHESS: French chess playing program for all levels.
G.388 STRATAGEM: Two player strategy world war game (2 disks/£3.00).
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.324 IMPERIAL CONQUEST: Complex ancient Mediterranean game of conquest (S/W).
G.325 SOCCER MANAGEMENT: A complex simulation of soccer management (S/W).
G.173 PENGUINS: Move your penguins around the screen 'Lemming' fashion.
G.10 VEGAS: Roulette, poker, blackjack and slots... without the Nevada sand!

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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.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.86 QUATRIS: Superb 'Tetris' style puzzle game with falling cubes.
BU.71 DARK WARS: Role-playing adventure with a 3D view.
BU.70 PACMAN ST: The definitive version by Robert Leong.
BU.50 SPACE INVADERS: Classic arcade action by Robert Leong.
BU.30 QUEST FOR GALAXIA: The "Galaxians" return to your ST.
BU.10 MONEYSPINNER: Slot machine action with nudges, holds, gambles and more.
BU.8 SPECULATOR: True to life features market simulation.
BU.5 PRO DARTS: Mouse controlled 501 match play.
BU.4 OTHELLO: An immaculate implementation of the board game.
PRO.1 ELECTRONUC BANK STATEMENT: Home money managing program.

ST FORMAT TOP 10 GAMES - ONLY £12.00

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.

L.A.P.D. Licenceware Games

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Licenceware means that for every copy you buy the author 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!

strategy games

L.138 EMPIRE STAR (£3.00): Science fiction wargame, similar to 'Empire' for 1 to 3 players. ***NEW***
L.136 TRADER (£3.00): Sea trading game set in 14th century northern Europe.
L.135 ANNEX (£4.95): 3D role-play inspired by 'Dungeonmaster' and 'Doom' ***NEW***
L.128 BLUDGEON V.2 (1Mb, £3.00): Computer moderated fantasy combat system for one or more players. Includes two free adventure scenarios.
L.129 BLUDGEON ADVENTURES #1 (£3.00): Six additional solo adventures for the above BLUDGEON game.
L.124 THE SANDS OF MARS (£3.00): Govern a Martian mining colony.
L.132 SEA WAR (1Mb, £2.50): Hi-tech version of 'Battleships'. Design and fight your own fleet.
L.105 CONQUEST 2 (1Mb, £3.00): Rule over a medieval kingdom's economy and armies.
L.104 WAR OVER THE REICH (1Mb, £3.00): Plan and execute a campaign of WWII raids against twelve German cities.
L.98 WORLD AT WAR (1Mb, £3.00): A game of economic and military strategy on a grand scale for one to seven players.
L.22 GRAND PRIX MANAGER (£2.50): Simulation game of running a Formula One Grand Prix team.
L.79 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.
L.59 ARTHUR OF THE BRITONS (1Mb, £3.00): A strategy game with arcade sequences.
L.60 CONQUEST (1Mb, £3.00): A 'God' game in which your task is simply to survive for one year.

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arcade games

L.141 SAVAGE SPACE (1Mb, £3.00): 3D Space combat in the style of 'Wing Commander'. ***NEW***

L.139 BANG & BLASTMAN PLUS (1Mb, 2 disks/£6.00): Explosive 2 player Bomberman action (2 joysticks). ***NEW***

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

L.87 STORM (1Mb, STE, £3.00): Arcade action clearing aliens from a stricken space-freighter.

L.91 STORM (1Mb, STFM, £3.00): As L87 above but for the STFM.

L.117 FISH TANK (£3.00): A game for younger players who must find food for their fish without getting eaten.

adventure & role-playing games

L.143 SECRET WEAPON (£3.00): Adventure in a 3D world with a sense of uncanny. ***NEW***

L.131 WANDERING SCIENCE (£2.50): Solve the puzzles on an alien vessel. A graphic adventure.

L.125 PATHS OF GLORY (£3.00): A sword and sorcery role-playing game.

L.115 DEMON II (1Mb, £3.00): A fantasy adventure game with an overhead view and detailed point and click interface.

L.114 TIME MACHINE (£3.00): 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.

L.69 BIO-HAZARD (1Mb, £3.00): A first person perspective game to clear a space freighter of alien creatures.

L.21 DEAD OR ALIVE (£3.00): A large, complex and humorous text adventure game.

L.31 THE CURSE OF AZRIEL (2 disks, £4.00): A graphic fantasy role-playing/trading game.

L.41 MURDER ON THE ORION EXPRESS (£3.00): A murder mystery game with an almost infinite variety of solutions.

L.50 DEMON (£3.00): Trapped in a stone cell, your first task is to escape before the resident demon gets back. 3D view.

puzzles

L.140 SEVEN KEYS (£3.00): Increasingly challenging temple exploration game ***NEW***

L.133 LAZER (£2.50): Use mirrors to direct a lazer around mazes.

L.102 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. QUIZICAL, multi-choice question and answer game.

L.101 DCS COMPILATION #3 (£3.00): 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'.

L.66 HEARTBREAK (£3.00): An infuriating and highly addictive puzzle game played on a 7 x 7 grid.

L.140 SEVEN KEYS (£3.00): Increasingly challenging temple exploration game. ***NEW***

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) (£3.00).

L.71 ARTIST FREEHAND: Complete art package with multiple screens, animation, etc (£3.00)

A.107 ASCII ART: Hundreds of images rendered in ASCII characters.

A.95 VISUAL ILLUSIONS: A collection of 24 'Magic Eye' 3D pictures.

A.98 STEREOGRAM ANIMATIONS: Now see 'Magic Eye' pictures move!

A.36 KOZMIC 4: Complete version of the stunning psychedelic pattern creator.

A.1 ANI ST: Commercial quality animation program (once cost £60.00 to buy!).

A.84 GEMVIEW: Load, view, convert just about any picture format (1Mb).

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).

A.35 IMG UTILITIES: Convert Degas, Neo, Spectrum Mac and Tny files to IMG.

clip art

(Where PCX and IMG formats are offered you must state which you require)

A.110 CHILDREN (3 disks/£4.50 PCX/IMG): Over 90 quality clip art images of babies and children. ***NEW***

A.103 OFFICE CLIP ART: 33 IMG or PCX images of office related items.

A.107 HANDS CLIP ART: Over 70 IMG images of hands; pointing, waving, writing etc

A.100 ANIMALS CLIP ART (5 disks/£7.50): Over 170 IMG or PCX images of animals.

A.101 ASTROLOGY CLIP ART (3 disks/£4.50): 36 IMG or PCX images of zodiac signs.

A.102 SPACE CLIP ART: 38 images of the final frontier in PCX or IMG format.

A.106 CHRISTMAS CLIP ART (3 disks/£4.50): Over 150 images in PCX or IMG.

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

S.160 GUITAR REFERENCE: Useful program for anyone learning or playing.

S.4 YAMAHA PSS: Patch editor and facility to print tablature music.

S.156 FINAL SCORE: A music score printing program (mono only)

S.144 EKSEQ 1: A 100 track, 240ppqn sequencer with many features.

S.145 OPTRONIX MUZAK: Rip and play music from other programs.

S.8 NOISETRACKER: Soundtracker .MOD player with eight starter tunes.

S.7 ACCOMPANIAST: 16 Voice Henry Cosh sequencer (full instructions on disk).

S.19 ALCHIMIE JR: Impressive Swiss multi-window, multi-task sequencer (1Mb).

S.158 SWEET 16 LITE: An easy way into MIDI sequencing.

utilities

S.160 GUITAR REFERENCE: Useful program for anyone learning or playing.

U.88 CD PLAYER: Audio CD player for ST or Falcon.

U.86 BLITZSCHNELL (S/W): A hard drive defragmenter and optimizer from Germany.

U.80 ZORG: A 'Disk Doctor' type organiser.

U.77 THING: Alternative desktop (1Mb).

L.111 SUPER HACKER: Replace a picture in almost any game or demo with your own! (£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).

U.20 FASTCOPY 3: Excellent disk copier for cover disks.

U.48 PREMIER PACKERS: 13 of the best program packers, plus a de-packer.

U.42 PICTURE HUNTER: Rips picture screens from other programs.

U.47 PROBE ST: Handy utility. Grabs music/graphics, disk/memory editor, etc.

U.52 VAULT & TURTLE: Fast hard disk back-up utilities.

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, Hypergem, 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.202 LEAGUE TABLE MANAGER: Maintain up to 8 soccer type league tables. ***NEW***

M.199 COSMOLOGISTS' EQUATIONS: Calculate age of universe, etc. Experts only! ***NEW***

L.145 SIX PACK (£3.00): Weight and measure converter, financial future planner, useful formulas, etc. ***NEW***

M.196 MAGIC NUMBERS: Polygon regression and cluster analysis.

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.

L.134 FILM DIRECTOR ELITE: Multi-media language system - from slideshows to packages (2 disks/£4.95).

M.194 ROLL IT: Selects lottery numbers randomly and calculates chances of winning a prize.

M.193 OUT OF THIS WORLD: A 'fun' typing tutor - type the tumbling letters before they crash.

M.183 HOUSE EXPENSE MANAGER: Daily household expense management program.

L.103 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. (£3.00)

M.146 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).

L.18 CIRCUIT: Easy to use electrical circuit diagram producing program (£2.50).

M.93 STITCH MATRIX: Pattern making program for knitting machines.

M.77 THE BIBLE: King James authorised version (3 disks/£4.50).

M.76 FORM-FINDER: Proven horse race analysis and prediction program.

M.81 NEWSDISK: Construct your own newsletters and magazine disks.

M.100 GERMAN TRANSLATORS: Three programs to translate German text to English.

M.26 GENEALOGY: Two programs for the family historians to trace their forebears.

M.5 YOUR SECOND ATARI ST MANUAL: Text files to supplement the official manual.

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.111 NORTHERN & EQUATORIAL STAR ATLAS: Superb serious astronomy program S/W.

M.1 PLANETARIUM: Excellent, easy to use, astronomy program.

M.173 THE BIBLE: Complete King James, Old and New Testaments (3 disks/£4.50).

L. 89 GOLF: Database for the golfing sports-person. (£3.00)

programming

P.57 68000 PROGRAMMERS INTRO TO DEMO TECHNIQUES: Set of help documents.

U.85 EXTRA v3.21 (S/W): A powerful extension for the STOS language. 60 + extra commands.

F.53 STOSTESTERONE: A magazine disk devoted to programming STOS on the STE (issues 1 to 3 available).

P.53 IMAGINARY WORLD: Easy to use language to write your own role-play adventures.

U.76 LIBRARY CREATOR: An essential tool for GFA programmers to construct a single file.

P.55 STOS CYBER EXTENSION: An extension to the STOS programming language.

P.44 GFA V.2: Full version of language with tutorial & compiler! (N.B this disk is not PD - L.A.P.D. have permission to distribute it.)

DSP.1 SOZOBON C: A complete C compiler with documentation.

P.24 MENU-MAKER: Make your own menus with music, sprite and scrolling message.

P.33 ZX SPECTRUM EMULATOR: Emulate the old Speccy on your ST/STE (1Mb).

P.17 68000 PROGRAMMING COURSE: 10 'How to do it' document files.

P.19 GFA EXPERT: Massive text file and hellp routines for GFA-Basic 3.0

P.16 C ADVENTURE TOOL KIT: Write professional quality adventrues in C.

business

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

W.25 EASY TEXT: Easy desktop publishing program.

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

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

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

M.13 OPUS 2000: A superb spreadsheet program (1Mb).

M.83 INVENTORY PRO: A stock control system.

U.23 DOUBLE SENTRY: Impressive accounts package for the small company

U.33 FAST BASE: A powerful and flexible database.

W.3 FIRST WORD: Word processor that set the standard for others to follow.

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

educational

L.144 TEACH YOURSELF (£3.00): Geography tutor for UK, Eire, Africa & USA ***NEW***

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

M.20 G.C.S.E. STUDY AIDS: Help with Algebra, Trigonometry and Geometry.

M.204 LETS SPELL - FIRST 500 WORDS: Spelling tutor for youngsters.

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

M.186 KIDZ EDUCATIONAL: Nine learning programs for youngsters.

L.20 SUPER SPELL: Teaching games for the 4 to 9 year old (£2.50).

L.37 SUPER FUN: More teaching games for the 4 to 9 year old (£2.50).

G.266 WITCHES, MICE & FAIRY TALES: Games for younger users.

G.83 NOAH'S ARK: Collect the animals, two by two - addictive for adults too!

M.95 ABOUT THE HOUSE: Excellent collection of programs for young children.

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

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

M.42 KIDZ DISK #2: Dot to Dot, Keyboard Capers & Matching.

M.67 BODY SHOP: Graphic quiz-type human anatomy tutor.

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 and story.. all on one disk!

PRO.26 EARLY LEARNING MATHS 1: A collection of teaching programs for youngsters

PRO.27 EARLY LEARNING MATHS 2: A collection of teaching programs by Philip Rankin for 9 to12 years.

L.01 ROBOT MATHS: Maths tutor for children aged 6+ (£2.95).

L.02 MOON LETTERS: Spelling game for ages 5+ (£2.95).

L.04 ROBOT WORDS: Hangman in a modern format (£2.95).

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VISA Access

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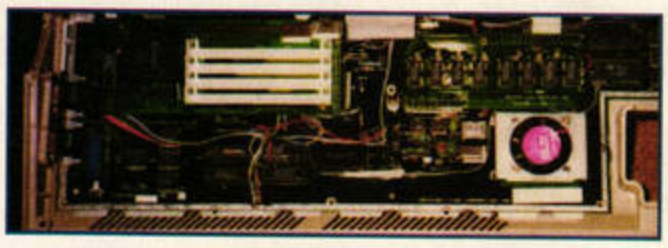
ST FORMAT



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Three upgrades in one make the new Blow-Up FX board superb value for Falcon owners.



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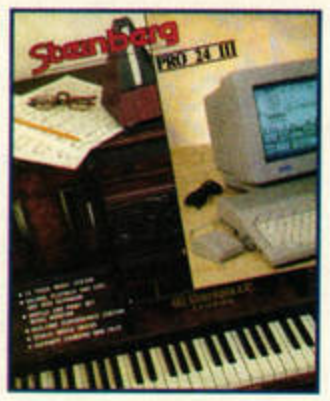
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ST FORMAT ABC Jul-Dec 1995 14,379 Member of the Audit Bureau of Circulations

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DISTRIBUTION
UK and Overseas Newsstand Distribution: Future Publishing Ltd ☎ 01225 442244
SUBSCRIPTIONS/MAIL ORDER
FUTURE PUBLISHING, Somerton, Somerset TA11 6TB
☎ 01225 442244 Fax 01458 274378
Subscriptions ☎ 01225 822511
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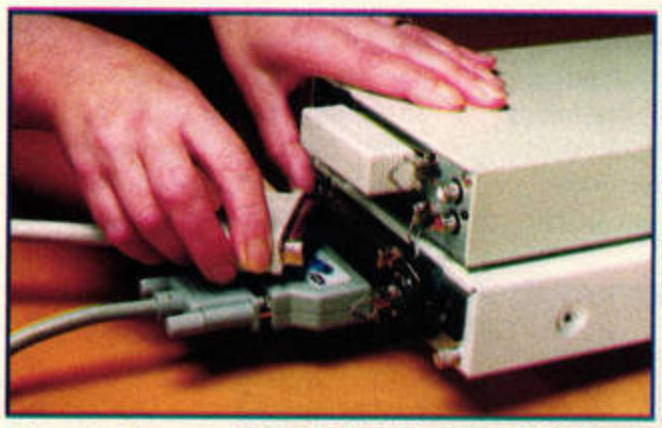
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44 CONTROL IS EVERYTHING
Control panels are small, discreet and invaluable utilities. Discover more with our guide.

46 ABSOLUTE BEGINNERS
Unravel the secrets and uses of RAM disks.

47 ATARI FORCE
Cavan Scott looks at the unique series of DC comics which were bundled with early Atari console games.



Connecting a CD-ROM drive needn't be a hassle. Find out more on page 36.



Tales of a universe where Atari outgunned Microsoft – see page 47.

COVER DISK 85

THIS MONTH...



ISLAND STRIKE: Rescue hostages, blow up bridges and blast anything that fires back in this addictive helicopter game. All Ataris, 1Mb. Uncompressed size: 214K

ZCONTROL: An updated version of Atari's control panel Accessory. Comes with a selection of CPX modules: *FileInfo*, *Lock*, *Reversi* and *Magic Mouse*. All Ataris, minimum resolution 600x400. Uncompressed size (with CPX modules): 286K

FACE VALUE: Two demo programs showing off System Solutions' new utility for *GFA Basic* users. All Ataris, requires 1Mb. Uncompressed size: 326K

1ST GUIDE: View images, sound samples and text files with one Accessory. All Ataris. Uncompressed size: 159K

MARCEL 2.3.4: Latest version of this powerful and popular shareware word processor. All Ataris, 1Mb recommended. Uncompressed size: 356K

MAXIDISK 2.2: RAM disk utility which speeds up file access. Accompanies our Absolute Beginners tutorial (see page 46). Size: 7K





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Pre-Press 'Extras' Services Mark Glover, Simon Windsor, Jon Moore, Chris Stocker, Jason Titley, Ollie Gibbs, Liz Cheney, Jon Wakeham
Printed by TPL, nr Kidderminster, Worcestershire
Promotions Manager Tamara 'Nicole Kidman' Ward
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ST FORMAT exists to give you all the information you need to get the most out of your ST, STE, Falcon and Jaguar. Our advice is reliable, easy-to-follow and honest, and unlike other magazines, *ST FORMAT* is completely independent, so we can say what we really think. That, we believe, is why more ST owners choose *ST FORMAT* than any other ST magazine: we're the best-selling magazine, because we're the best.

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Cover Disk



Nick Peers is only too proud to present Tony Greenwood's brand new game, plus the rest of this month's storming Cover Disk. Shove it in your disk drive and prepare to save the world.

ISLAND STRIKE



Island Strike provides a satisfying blast for all concerned. Except the hostages, that is.



Selecting Game Info from the main screen reveals your targets, so you've no excuse for missing a barn door from less than ten yards.

By: STOSSER Software
Machines: All Ataris
Memory required: 1Mb
Resolution: ST low/medium
Uncompressed size: 214K

HERO's author has done it again! *Island Strike* is a superb shoot-'em-up strongly reminiscent of that classic, *Desert Strike*. A joystick is required.

Strike one

It's the usual American action movie spiel: some rich madman has decided he's going to take over the world, and the US government has sent you in to sort him out, singlehandedly of course. In this variation on the theme, you're flying a helicopter on a number of missions to 'take this guy out.' In true macho fashion, this involves blowing up lots of things and people. Oh, and rescuing a few hostages, too *(I guess that's quite important as well – Nick's Alter Ego)*.

Control is via the joystick. It's a little tricky at first, but once you've mastered the controls they make a lot of sense. Move the stick up and down to speed up and slow down, or left and right to rotate your helicopter 45 degrees. Beyond that, you must manoeuvre around each level looking for bridges to blow up and people to rescue. Press [Fire] to blast at your enemies – after all, it's what they're doing to you. Hitting things is a precision job though, so be warned.



You'll find your ammunition, fuel and armour strength drop quite quickly as you travel around firing madly and absorbing damage. It's therefore a great idea to pick up extra supplies to keep your nose above water *(Or your helicopter above ground – Mary)*.

Boom!

Once you've dearchived I_STRIKE.TOS to a blank disk (make sure it isn't inside any folders), double-click on I_STRIKE.PRG to run the game. Once you get to the options screen, you'll discover we lied when we said you had to take on the baddies singlehandedly. In fact, you can select one of four different co-pilots. Each one comes with an extra bonus, be it extra armour, fuel, ammunition or map information.

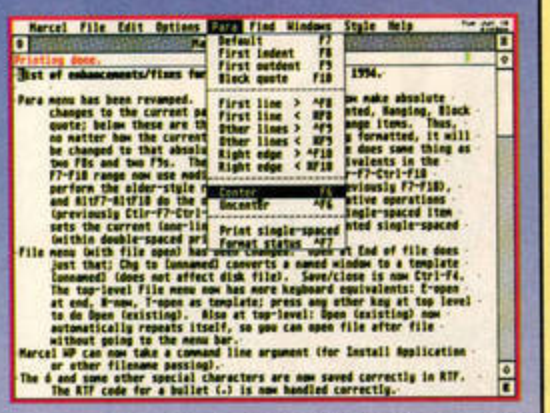
The last bonus comes in useful when you press [Space] during play. This brings up a statistics screen which lets you know your current status and tells you where the nearest bridge, hostage, fuel, ammunition and armour are (use [F3] and [F4] to cycle between them). If you have a navigator you are given your own x and y co-ordinates, as well as those of the item, making it much easier to locate and collect.

Once you've found what you're looking for, slow your helicopter to a standstill over the item. It will be hoisted up and added to your dwindling reserves – unless it's a hostage, in which case you just go looking for the next one. Island Strike is freeware so you don't have to pay a penny for it, and more information can be found in I_STRIKE.DOC.



The status screen enables you to keep an eye on your helicopter's condition while you locate supplies, hostages and targets.

MARCEL 2.3.4

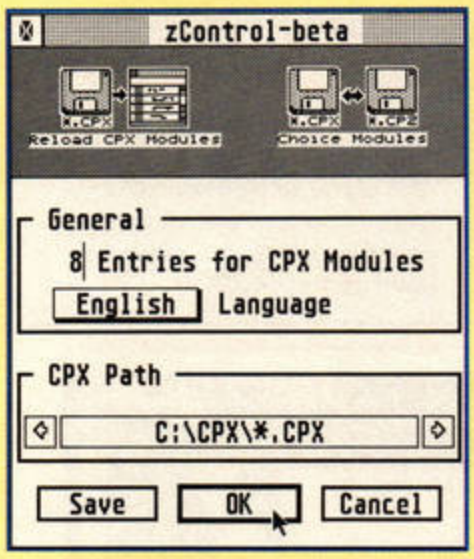


This really is version 2.3.4 of *Marcel*, and very good it is too.

Marcel is a fully functioning, well-respected shareware word processor. Version 2.2 appeared (by mistake – it was a long month) on Cover Disk 83, but this really is the latest version. It offers many new features and bug fixes.

Once you've copied MARCEL.TOS to a blank disk and double-clicked on it to dearchive its contents, run MARCEL.PRG and open NEW_IN_2.3 to find out what has been changed. Don't forget to transfer the dictionary file from issue 83's disk across so you can use the program's spellcheck function. Find out more about *Marcel* in issue 83.

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Installing and removing CPXs is as simple as clicking on them.

ZCONTROL 0.23

By: Ralf Zimmerwan
Machines: All Ataris
Memory required: 512K
Resolution: Any
Uncompressed size: 163K

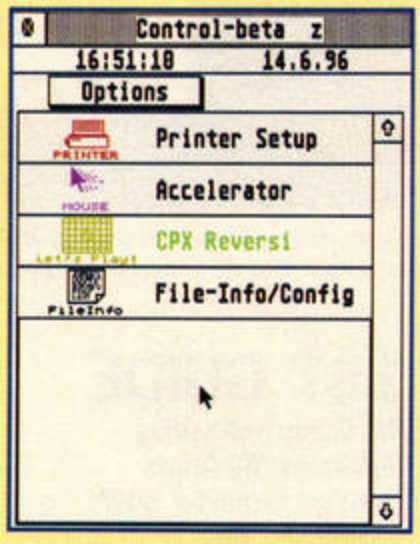
ZControl is an updated version of Atari's *XControl*. It enables you to install and run up to eight different mini-Accessories (known as CPXs).

In control

ZControl offers several new features over its forebear, such as the ability to open up to four CPXs simultaneously.

It's still in the early stages of development, so several features of *ZControl* have yet to be implemented. It doesn't yet fully support non-multitasking machines – when you boot up, you'll get a message claiming that *ZControl* won't work with single-TOS machines. This is misleading, because *ZControl* is still installed as an Accessory, and you can manually select and load CPX modules from the Desktop. You can also set it up to perform properly in a single-tasking environment – see page 44 for details.

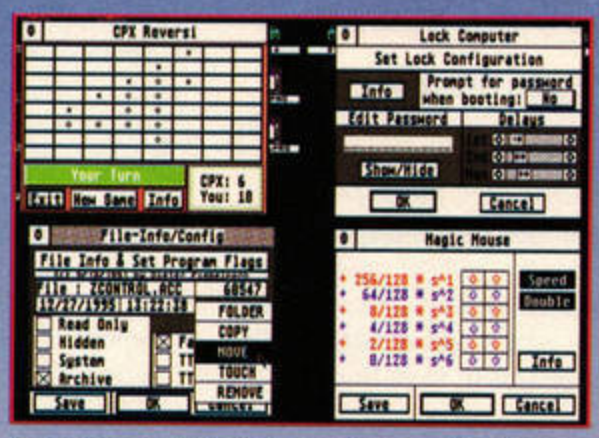
You can register *ZControl* through Denesh Bhabuta (read ZCONTROL.TXT for details).



ZControl enables you to install up to eight control panels at once.

CPX MODULES

There isn't much point running *ZControl* without any CPX modules, so we've included a selection on this month's disk. Open up the CPXS folder and you'll find four further folders containing a selection of goodies.



The four major CPXs supplied with this month's disk can be accessed simultaneously with *ZControl*.

CPX_MDLS: Contains four CPXs. *Cookies*, *Show System Info* and *NVDI-Config* are for technical types, while *File Info* enables you to view and alter statistics about any selected file.

LOCK: Enables you to protect your system from prying eyes with a password (current password STF).

M_MOUSE: Contains the *Maccel Mouse Accelerator*, a utility and CPX for speeding up your mouse.

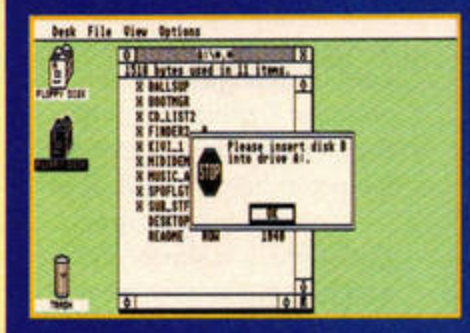
REVERSI: Contains an *Othello*-style game to pass the time.

All four CPXs come with documentation explaining how they are installed and used. See page 44 for more information about control panels.

MAXIDISK 2.2

We've included a copy of *MaxiDisk 2.2* to accompany our Absolute Beginner's tutorial. It enables you to reserve an area of RAM for use as a virtual disk drive, labelled M (just as your floppy disks are labelled A and B). Find out more about RAM disks on page 46.

START HERE!



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



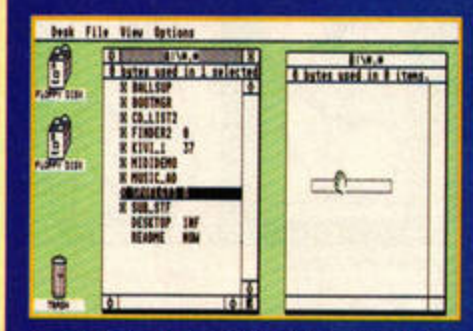
5 Just follow the instructions on the screen until the file or folder you wished to copy has been transferred. It'll be displayed in drive B's window. Now you're ready to dearchive your software.



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



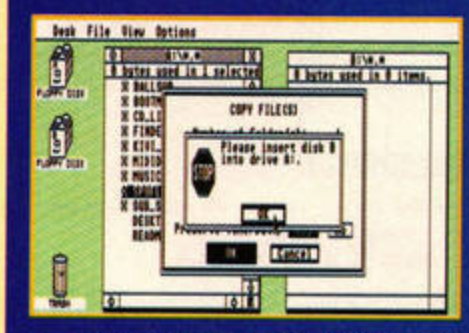
6 Re-boot your ST with your blank disk in the disk drive and double-click on the drive A icon to open up its contents.



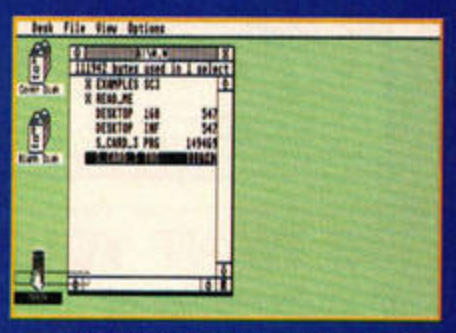
3 Next, click and hold down the left mouse button on the file or folder you wish to copy across to your blank disk. Drag the file over to the drive B window before releasing the button.



7 Double-click on the TOS file to begin decompressing it. A list of files will be displayed as they are decompressed. You'll then be asked to press any key.



4 An alert box will tell you to insert disk A (your Cover Disk) into the disk drive. Do so, click on OK and follow the on-screen instructions.



8 The relevant folders and files should now appear in drive A's window. To free up more disk space, drag the TOS file over the trashcan icon to delete it.

PROBLEMS?

- Write-protect your Cover Disk. Slide the black tab so you can see through the hole.
- Make a backup using the *Back Up* program. Never run anything except *Back Up* directly from the Cover Disk.
- If you have an old STFM and can't read the Cover Disk, you need to upgrade to a double-sided drive.
- If you are having problems with a Cover Disk program, re-read the instructions and any DOC files. If you still have problems, call the Cover Disk Hotline on ☎ 01225 442244 on Wednesday afternoons between 2pm and 6pm only.
- If you can't load, copy or back up your Cover Disk, it may be faulty. Try calling our technical support line on ☎ 0891 715929 (weekdays 10am–12.30pm and 1.30pm–4.30pm). Calls cost 39p per minute cheap rate, 49p at all other times.
- Alternatively, send the disk, a padded self-addressed envelope and two stamps to: *ST FORMAT* August Disk Returns, Tib Plc, Tib House, 11 Edwards Street, Bradford BD4 7BH (if the disk is faulty we will refund the postage). Don't send faulty disks to our Bath or Somerton offices – we don't keep stocks of Cover Disks.
- If you have any other hardware or software queries, contact the publisher.

FACE VALUE

By: System Solutions
Machines: All Ataris
Memory required: 1Mb
Resolution: ST medium or greater
Uncompressed size: 326K

Face Value is System Solutions' new utility for *GFA Basic* users (for more information, read the review on page 22). Here are two demos showing you what can be done with it, one of which is capable of loading and cropping IMG files.

Facelift

Face Value enables *GFA Basic* users to take resource files created in another program and convert them for use in *GFA Basic*. Resource files make GEM programs attractive and easy to use, and we have two example programs to show you what *Face Value* is capable of.

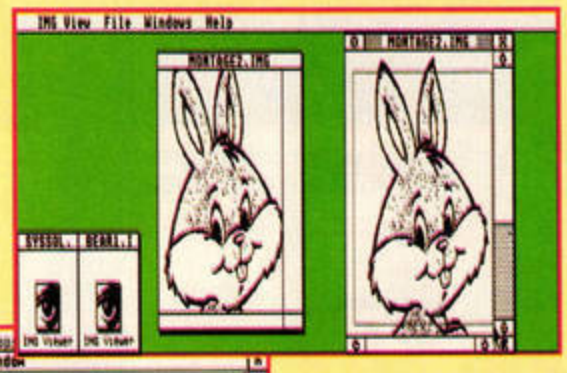
The first is found in the EXAMPLE folder. Just double-click on EX.PRG and you'll find yourself inside what looks like a standard GEM program. Selecting any of the options from each of the drop-down menus brings up a different kind of dialogue box or GEM window. Experiment with them to discover what *Face Value* can help you produce.

The second program, *IMG-View*, is a simple IMG graphics file viewer created in *GFA Basic* with the help of *Face Value*. It enables you to load, crop and save monochrome IMG files. An example file is provided with the program.

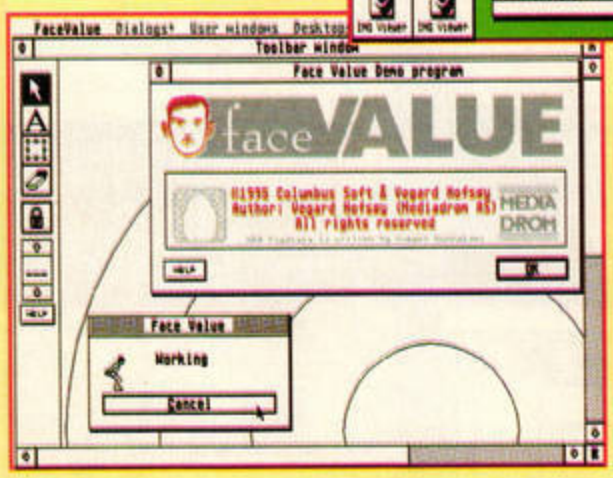
The final folder simply contains TIF images of example windows and dialogue boxes created with *Face Value*.

Full version

Face Value is being distributed in the UK by System Solutions. If you like it, you can order it by calling ☎ 0181 6933355.



IMG-View is a small example of a *GFA Basic* program written with the help of *Face Value*.

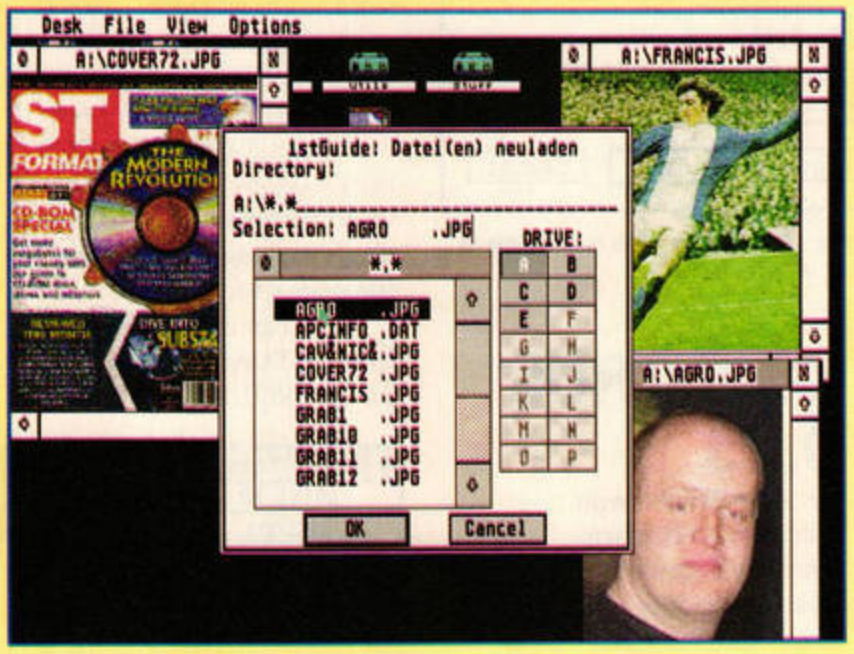


The example program supplied with *Face Value* demonstrates the variety of GEM windows you can use in your own *GFA Basic* programs. Super.

GROVEL, GROVEL

As Nick is carried off to Bedlam and the sound of hysterical laughter still rings through the *ST FORMAT* office, let us fill you in on what has happened with *Player Manager* this month.

It's missing. Again. But we are hoping that by the time you read this our sedated Editor will have a copy in his paws, ready for next month's disk. Your patience is most appreciated.



1st Guide on the Falcon. It takes advantage of the current resolution, displaying pictures in as many colours as are available, and dithering where necessary.

1ST GUIDE

By: Guido Vollbeding
Machines: All Ataris
Memory required: 512K
Resolution: Any
Uncompressed size: 159K

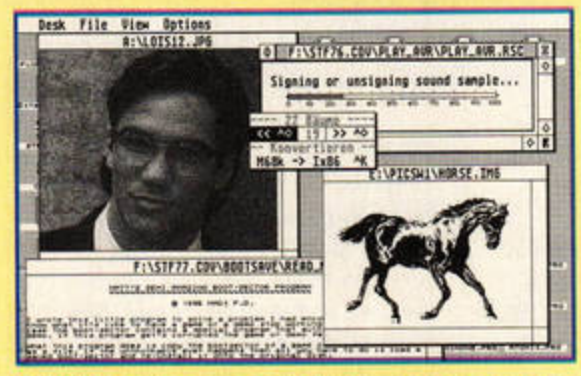
1st Guide is a simple-to-use Accessory which enables you to view image and text files and listen to sound samples.

Multimedia

There are squillions of uses for *1st Guide*. First, it is a fine viewing tool for a variety of graphics, sound and text formats – see the panel below. Because it is an Accessory, you can access it from within GEM programs or from the ST's Desktop, making it useful when you need to view a file.

All you need to do is install 1STGUIDE.ACC as an Accessory (see issue 83's Absolute Beginners section). Whenever you need to view a file, just select it from the Desk menu. The file selector will appear, enabling you to locate and select the required file. Once loaded, it appears in a window, and if you hold down the left mouse button over it you can select a few options. Graphic files can be resized or made to look transparent, and samples can be speeded up or slowed down.

It is possible to create hypertext links between the various files – we'll be explaining how in a future issue. There are simple English instructions, but the program itself is all in German. Most options are self-explanatory, though. A fully anglicised version will be available later this year – look out for it on a future disk.



1st Guide is shareware, so don't forget to register if you intend using it regularly.

***1st Guide* supports a variety of popular graphical, animated, sound and text formats.**
Graphics: IMG, IFF, GEM, PNG, JPEG
Animations: MPEG movies
Sound samples: AVR, SAM, SND
Text: OUT, DOC and all ASCII text files
Other: RSC files

WE WANT YOUR PROGRAMS

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

Name _____

Address _____

_____

Daytime phone _____ Program title _____

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On a separate sheet, explain 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. Replacement front brake discs 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.

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MasterCard VISA SWITCH

SNIPPETS

The latest version of the exhaustive list of cheats and codes for Jaguar games compiled by The Mage is now available. You can collect it via an FTP connection to: users.aol.com:/themage1/jaguar or by visiting the Web site at: http://users.aol.com/themage1/jaguar/jagcodes.txt.

If you're very quick, you may catch the tail end of the Toad Computers Hardware Clearance Sale '96. As well as low prices on generic items such as hard drives, you could find used monitors and Atari computers, Falcon memory expansions and even tower cases at bargain prices. Contact Toad via e-mail at: info@toad.net, point CAB at: http://www.toad.net/ or phone ☎ +1 410 5446943 for more details. Oh, and hurry!

Also new from Toad this month is the *Bird of Prey* collection, a CD-ROM aimed at Falcon users. Compiled by Matt Norcross and Scott McConnell of the band *Any Questions?*, *Bird of Prey* covers all aspects of the Falcon, from serious applications to music and MIDI. Toad claims that the CD is "application-heavy and light on fillers, like graphics files and MODs." *Bird of Prey* is available from Toad for $29.95 – we haven't heard anything about a UK distributor yet.

Homa Systems is now the Canadian distributor for the Wacom ArtPad 2 pressure-sensitive graphics tablet, complete with drivers for Atari computers. Also available is the art package *Pixart 3*, which supports both the pressure-sensitive and erasing capabilities of the Wacom pad. 16/32 Systems is handling both items in the UK, so watch for a review in the near future.

Another one to add to the list of Jaguar games that never were: Caspian Software has stopped development on the Jaguar conversion of its award-winning game Zero 5. The ST version won many awards, including an *ST FORMAT* Gold, and was a fast and adrenaline-pumping 3D space shoot-'em-up. Early screenshots looked promising but, alas, that's all we're ever likely to see now.

Following the recent story about hobby chain Beatties selling Jaguars for £50, more bargains have appeared in some stores. Latest sightings include the Jaguar CD for a mere £50, and cartridge games at knock-down prices – including *Hoverstrike* and *Ultra Vortek* at an amazingly low £15. Seemingly not all stores have stocks – we found these bargains at Gateshead's MetroCentre shopping complex – so check with your local branch before everything gets snapped up.



STF News...



Frank Charlton is your little rubber float, here to keep you on top of the sea of Atari news.

Worms wriggles in

You can give each of your worms its own name – but Tulip, Spadge and Windmill? Gadzooks.



Call up the toolbar and prepare to give your enemy's worms a right old hiding.



In the most pleasant surprise we've had this year, Team 17 has announced that its strategy game *Worms* is to be released for the Jaguar. This superb game has won many awards, including Most Original Game of 1995 at the ECTS Industry Awards in April. It was also voted Best Game by the viewers of the BBC's *Live & Kicking*.

A fun strategy game viewed from a side-on angle similar to that of *Lemmings*, *Worms* may not push back any graphical boundaries. Nevertheless, it's a game universally acknowledged for combining superb gameplay with a wicked sense of humour.

Up to four platoons of wriggling combatants battle it out for supremacy, using weapons such as bazookas and homing missiles to wipe out the opposition. It also offers advanced tactical options, including air strikes and teleportation, and promises to bring a package of long-term enjoyment to the Jag.

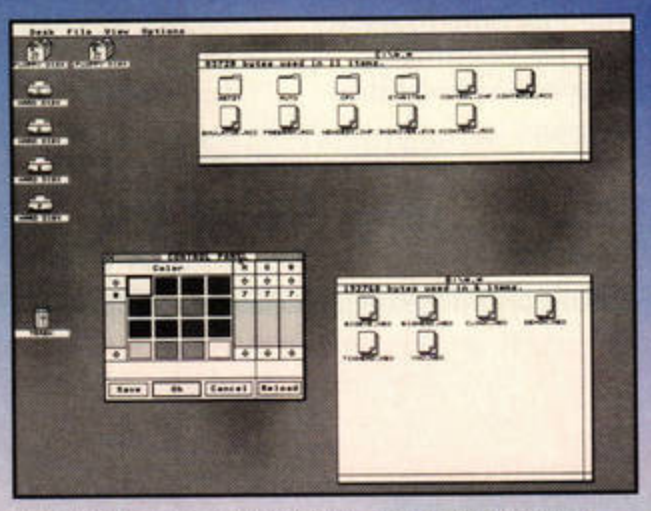
Team 17 is hard at work on the Jaguar version, and expects to release it some time in August or September. With the recent spate of bad news about new Jaguar games, we're over the moon that such a major game is heading in this direction. Watch out for wriggly things, more news and a review very soon.

ON THE MOVE

Toad Computers is distributing two new packages based around Branch Always Software's Gemulator, an ST-emulator for PC compatibles. Gemulator for Laptops slots into Windows 3.1 and 95 notebook PCs, at last bringing a portable ST back into play.

The TOS ROM board has been replaced by a copy of *MagiC 2* on disk, enabling the Gemulator to fit into a portable. The result is a fast virtual STE. At the low price of $70, or $119 for a bundle including a copy of *MagiC 2*, it should prove popular with ST lovers who need to compute on the move.

Also available is Gemulator Classic, a re-release of the original version. It runs from MS-DOS in only 4Mb of PC RAM. Supplied with a set of TOS 1.4 ROMs, the Classic version offers true ST emulation for $119. Toad Computers is on ☎ +1 410 5446943 (or 800 4488623 for US callers).



It may not look like it, but trust us – this is a PC behaving sensibly, for a change.

PhotoLine

As well as boasting an impressive yet simple interface, *PhotoLine* is brimming with serious graphical features.

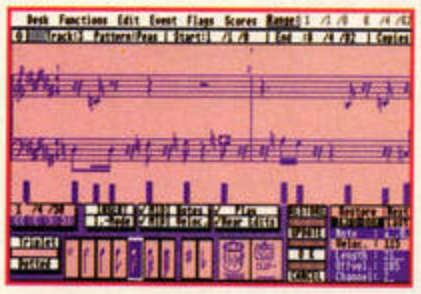


PhotoLine, the new high-end image editing and processing program from Germany, is now being distributed by System Solutions, and in Canada by Atari graphics specialists Homa Systems. The program comes in two versions – for machines with and without an FPU maths co-processor chip – and is multitasking friendly.

PhotoLine handles images with full internal 24-bit precision, so you can work with TrueColour images even if your Atari can't display them. It boasts an impressive list of features, including the Unsharp Masking function usually found on expensive software such as *Adobe Photoshop* on the Mac and PC.

Contact System Solutions on ☎ 0181 6933355, or e-mail Homa at aa414@freenet.carleton.ca. A demo version of *PhotoLine* is available from Homa's Web site at: http://www.magmacom.com/~nima.

Goodman's offers



A MIDI sequencer for only £15? It must be Goodman's Silly Summer Sale.

Goodman International has announced new stocks of Atari software at some amazingly low prices. As well as offering version 3 of the MIDI sequencer *Pro 24* (*STF* 84, 91%) for just £14.95, Goodman's has the classic *MasterPlan* spreadsheet at an all-time low of £14.95 (see page 24 for a review).

Biggest bargain of the lot for cash-strapped arty types is *Technobox Drafter*, a professional CAD package with an original price tag in three figures. It's now available for an amazing £24.95. We'll be reviewing it as soon as we can. Contact Goodman International on ☎ 01782 335650.

LINK UP

Yorkshire-based Jag supporter The Console Centre has managed to reduce the price of one of the most sought-after pieces of Jaguar hardware: the JagLink networking cable. The lead, which connects two Jaguars via the expansion port at the back, enables you to play against the deadliest foe: a friend.

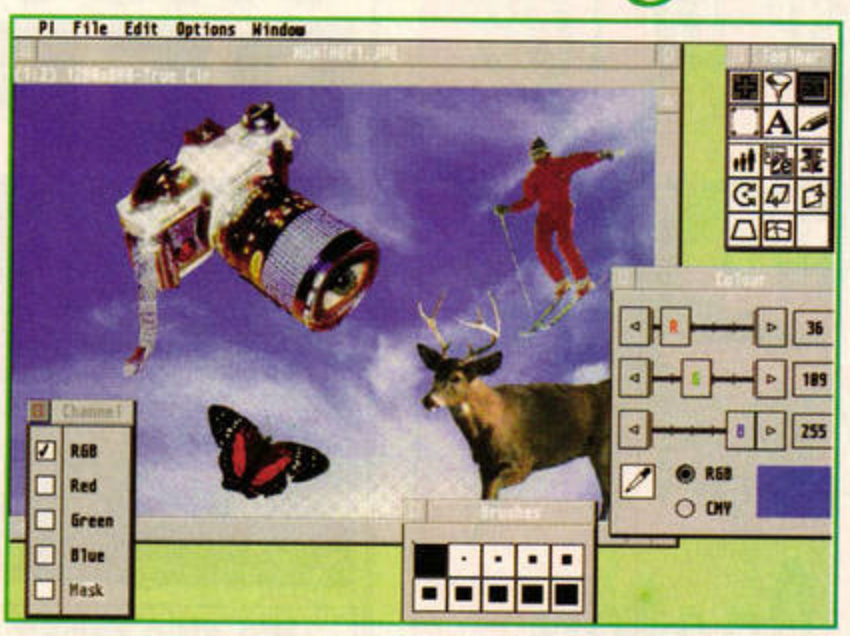
Games which support the link aren't exactly dropping out of the trees, but the obvious choice is iD's *Doom*. With two televisions, two Jaguars and two copies of the game, you can enjoy the most seriously playable head-to-head game ever.

The Console Centre's price of just £10 represents a £15 saving on the official Atari JagLink price. Give Matt Magee a call on ☎ 01484 544926 and prepare to meet thy *Doom*.



The fiendishly good *Doom* gets even better when you're pitched against a mate.

Positive Image



We will see a full review of *Positive Image* before *ST FORMAT* reaches 100 issues.

The long-awaited *Positive Image* is poised for immediate release and should be on sale by the time you read this. Originally expected late last year, when we gave it a full-page preview, *Positive Image* finally been finished and debugged.

Positive Image is a low-cost but high-spec image editing and processing suite for all Atari machines. It's not unlike *PhotoLine*, covered above. If you're extremely quick, you may just catch the introductory offer price of £65 plus postage.

The latest demo version of *Positive Image* is available from Floppyshop, or via the Internet – connect to: ftp.wintermute.co.uk, change to the directory: home/s/steil/outgoing/ and download PI_DEMO.ZIP.

Contact Floppyshop on ☎ 01224 312756 and watch for the review next issue. ***stf***

SNIPPETS

Net News

Internet service provider ZetNet has unveiled new support for the Atari platform. ZetNet offers a full SLIP connection using dynamic IP addressing, and you can connect from anywhere in the UK at local call prices. There's a sign-up fee of £25, but the account costs a mere £6 per month, with discounts for Direct Debit subscribers.

Supplied software includes a pre-configured version of the *Internet Access Pack* and special support for Atari owners is provided by the capable David Henderson, moderator of the n.st.comms. internet newsgroup in NeST.

Point *CAB* at http://www.zetnet.co.uk/ or call ☎ 01595 696667 for more information.



Another Internet provider supporting the ST? That is certainly good news.

Version 1.31 of the *Internet Access Pack* is now available from major PD libraries and just about every FTP site which supports the ST. The pack features applications for Web browsing, POP3 e-mail and numerous other services. It also includes a new Internet Relay Chat client which supports more IRC commands and offers different colours for incoming and outgoing text. Coincidentally, it's reviewed in this month's PD section – see page 33.

The June update of Jonathan Nott's Atari Net Locator is now on-line at http://www.walusoft.co.uk/anl/. The pages have been redesigned and the menu page is now based around a more compact system for much faster downloading.

As well as updated versions of the exhaustive lists of newsgroups, FTP sites and e-mail addresses for people in the Atari community, Jonathan has added a new section: The Interview Slot. Jonathan plans to chat with a prominent Atari personality each month, and this time it's the turn of Colin Fisher-McAllum, SysOp of 42 BBS and head of both the Falcon FacTT File and the excellent *AtariPhile* HTML disk magazine.

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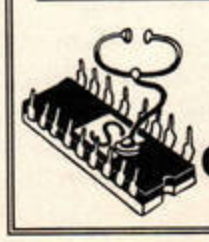
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Making Movies

Your ST can capture still and moving images, enabling you to create your own movies. Frank Charlton heads for Hollywood.

This year we're celebrating the Centenary of the Moving Image. For exactly 100 years, we've been able to suspend disbelief and partake of a fantasy world composed of nothing more than rapidly-flickering still pictures.

Sound arrived much later, helping complete the illusion, but people the world over have been captivated by the movies since day one. Now – with a little help from your ST – you too can be director, camera person and star of your very own movies.

The technology to take still and moving images from the real world and import them into a computer has existed for several years – even the humble Sinclair Spectrum could grab images, after a fashion. While your ST may be limited to a 16-colour palette, it's still possible to get involved with digital video. The arrival of the Falcon, complete with its stunning graphical hardware, makes it an even more attractive proposition.

So, you can fill your ST's memory and disk space with lifelike still images and fluid moving video, but what's the point? Is it just a treat for the eyes, or can you actually do something with it?

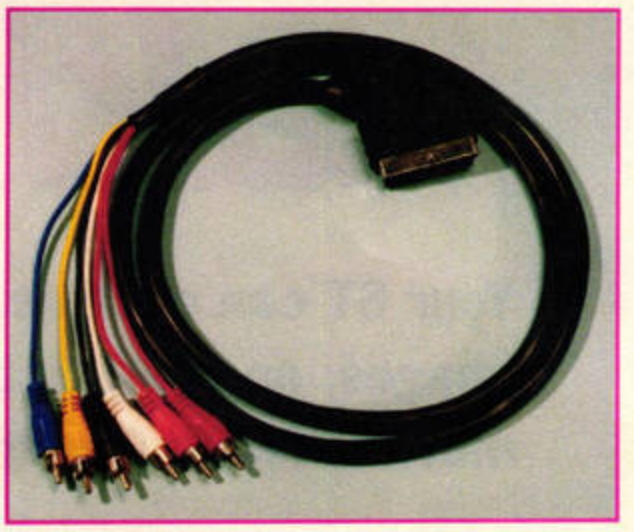
Think about the DTP angle. You've probably used clip-art in one form or another, so why not digitise your own? If you have access to a video camera, you can add images of your home and family to your printed work. Quality mono and colour inkjet printers are now very affordable, so the output can be superb, and all the better for including familiar images.

If you're a games programmer, you can include more realistic graphics in your intros and cut scenes, or even use digitised sprites like those in *The Ultimate Arena*. If you're wired to the Internet, you can fill your World Wide Web pages with digitised imagery and show the global village just who you are. Another Net vogue is to have a picture of yourself ready to break the ice on talkers and Internet Relay Chat.

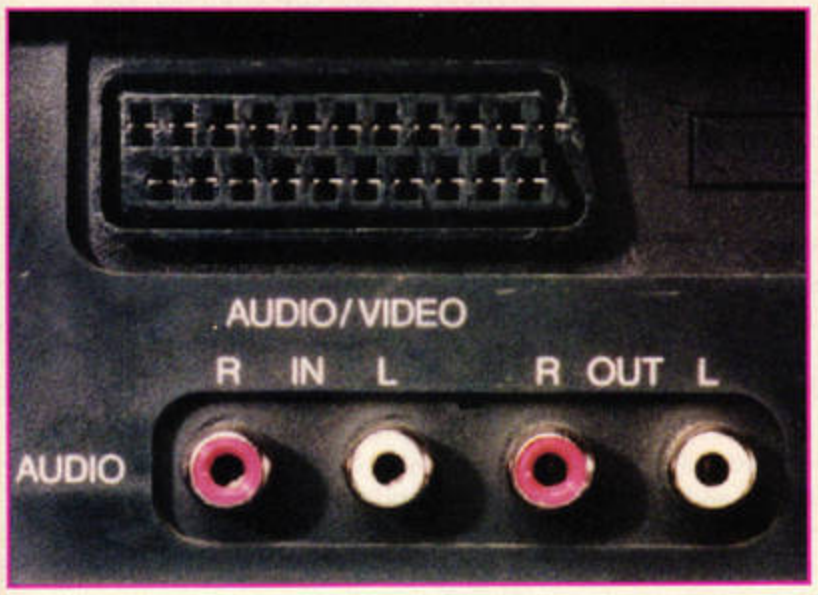
Join us as we dip our virtual toes into the world of moving images and your ST. We'll be covering everything you need to know, from what to buy and how to get to grips with it through to hints and tips on polishing and storing your final creations. You might not earn his salary, but your ST can make you the Stephen Spielberg of your family.

Pre-production

Before you assemble the cast, you need to give some thought to your equipment. Here's what you need to capture moving images.



Buy a universal SCART connection kit if you have a video or camcorder with a SCART socket. You'll be able to connect it to almost anything else.



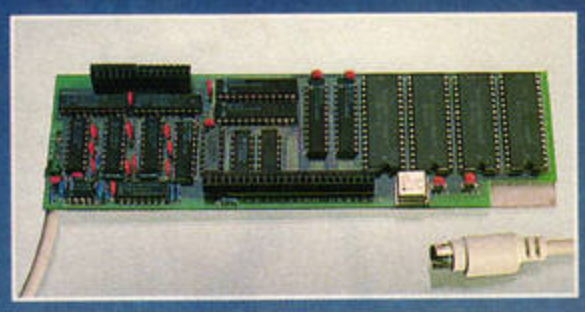
Many video recorders offer both SCART and phono sockets. Use the SCART connector if possible, because it provides a better RGB signal.

As well as your ST or Falcon and video digitiser, you'll need some extra bits and bobs before you get started. The most obvious thing you require is a video source. Since all digitisers need a signal in either composite video or S-Video, you can't just whack in an aerial and grab from live television. You'll need something capable of outputting suitable signals, such as a video camera or camcorder.

If you don't have access to a camera, the most obvious source of video footage is television or pre-recorded video tapes. However tempting they might be, remember the thorny issue of copyright. It's unlikely you'll get sued for filling your hard drive with grabs from the latest Schwarzenegger blockbuster, but distributing images from well-known movies is asking for trouble.

Other possible sources include

DIGITISER ROUND-UP





Exposé uses both *APEX Media* and the supplied *FalCAM* software to grab moving and still images.

Exposé Falcon

Exposé is easily the best digitiser available for the Atari machines, but only runs on the Falcon. Thanks to its direct connection to the motherboard, it grabs at ripping speeds and produces superb stills even from fast-moving video sequences.

In conjunction with *APEX Media*, Exposé can snatch moving video sequences at a healthy rate, and *APEX* can save them as PC- and Mac-compatible FLC files. Used with the supplied *FalCAM Tripod* software, Exposé can also produce stunning stills from a steady source, such as a camera. A separate RGB splitter is provided, and the whole kit is very fast indeed.

Exposé can accept video signals as either composite video or the superior quality S-Video, if you have appropriate equipment. For overall quality, it really can't be faulted – it's more expensive than the other options, but given the speed and quality it's money well spent if you're serious about video digitising. It's Falcon only, but it's also a very good reason to buy a Falcon.

● Exposé Falcon (*STF* 75, 96%)
£279, Titan Designs

VideoMaster Falcon

While the standard ST version of the VideoMaster runs quite happily on Atari's enhanced machine, it doesn't take full advantage of the superb graphics capabilities of the '030 machine. VideoMaster Falcon is custom-built for the higher colour palettes, and works well.

Basically, it's VideoMaster ST with knobs on. The capturing and editing software is much the same as for its little brother, but it can grab much more colourful images. Unlike Exposé, it still uses a slower cartridge port connection, so



VideoMaster Falcon's software is essentially the same as the standard ST version.



VideoMaster comes in both Falcon and ST guises.

it doesn't offer the larger image sizes of Titan's hot hardware. However, it's a lot cheaper.

VideoMaster Falcon offers moving video capture at 25 frames per second, in colour. The colour information increases the memory used by moving footage, but at least the Falcon can be expanded past the ST's 4Mb limit for larger sequences. The multimedia sound snatching functions are still there, but the Falcon's dedicated audio hardware produces much better results.

It isn't up to the Exposé's standard for still or moving video, but it's an absolute steal in comparison, and enormous fun to tinker with.

● VideoMaster Falcon (*STF* 53, 92%)
£89.95, HiSoft

JARGON BUSTERS

BNC Plug: An older 'twist and lock' connector used on some camcorders and VCRs.
Composite Video: A system which combines red, green and blue video signals into a single stream. It's found on most home videos as a Phono socket.
NICAM: A method of broadcasting digital stereo sound via television transmissions.
Peritel: See SCART.
Phono plug: A simple push-in connector used by hi-fi gear as well as most domestic video recorders. You either have one each for audio and video, or three sockets on a stereo VCR.
RGB: Connection with separate wires for each of the three colours. It's used on monitors, but isn't common on video equipment.
RGB Splitter: A device used to separate a video signal into the red, green and blue components required by video digitisers.
SCART: A 21-pin 'universal' connector which carries video, audio and control signals, mostly used in Europe.
S-VHS: Super VHS, providing enhanced picture and sound quality. It's very expensive and not backwardly compatible.
S-Video: Superior quality connection method which splits a signal into chrominance and luminance values – colour and light brightness, effectively.
VHS: Video Home System, the video recording format invented by JVC and in common use worldwide.



With a SCART plug, one simple connection handles video, audio and the control data needed by your video gear.

LaserDisc players, VideoCD machines such as the Philips CDi range and even other computers and games consoles.

Needless to say, the better the quality of your video source, the better your grabbed results will be. Digital formats produce superb results, but CDi and LaserDisc machines are expensive, and you can only digitise from pre-recorded media.

Home video recorders produce good results providing you use a good, clean tape rather than one your mother has used for the last 250 episodes of *Coronation Street*. Invest in a high-quality tape if you can, and avoid four-hour tapes – they're more prone to snapping if you rewind and fast forward a lot while you're grabbing.

Best of all the options is a camera of some sort. If your family has access to a camcorder you can point it at whatever you like. Creating digitised versions of your own videos is not only free from copyright hassles, but also more fun than plucking stills from pre-recorded tapes.

Depending on the age of your video source system, you may need extra leads and adaptors before you get started. All but the most ancient systems provide a wealth of connection options.

If you're using an older top-loading video recorder, you'll probably find that all it offers are the old 'twist and lock' BNC connectors. All isn't lost, though, as long as there's one labelled something like Video Out. It will be a composite video signal suitable for feeding into a digitiser.

You probably won't be able to find video leads with BNC at one end and phono plugs at the other in High Street shops, but specialist electronics dealers such as Maplin carry them. Failing that, the best purchase you can make is one of the generic 'video copying kits' from any video shop. These supply a basic set of leads along with plug-in adaptors for both ends of the cable. For a little over a tenner, you'll have the tools to connect any video source to your digitiser.

Most of the front-loading video recorders produced in the last ten years have a set of phono sockets for video and audio output. Since all the digitisers we're featuring have phono inputs, a simple set of leads from any hi-fi shop will suffice. The most modern VCRs have SCART connections – multi-pin sockets which carry all the signals both to and from the video recorder. Again, a copying kit will provide the adaptors needed to interface the video with your grabber.

There is another extra which will improve your work immensely – a hard drive. With only 720K per floppy disk, you'll soon run out of storage space when you get grab-happy. Hard drive prices have tumbled over the last year, and now is an excellent time to buy.



Vidi-12 uses GEM in some places, but not everywhere. It does have powerful image processing tools, though.

Vidi-12 ST

Vidi-12 was the final product from Scottish hardware guru Rombo, which has since moved on to the PC market. It offers digitising hardware capable of grabbing in up to 4096 colours and an integrated RGB splitter in one compact box.

The Vidi software is the weakest of the bunch as far as ease of use goes. It's an odd mixture of standard GEM and a non-standard Amiga-like shaded interface.

While Vidi can grab at the standard 320 x 200 resolution or in much larger sizes, it also seems to be the slowest, and it really does need a solid still frame to lock on to. Of the four we tested, it gives the worst results with moving video – both motion and colour blurring is evident – but it produces stunning pin-sharp grabs from a still source. If it's colourful stills on any ST you're after, Vidi-12 is a winner. VideoMaster is the better option for moving video, even though the grabs are smaller.

● Vidi-12 ST (*STF* 54, 80%)
£69.95, First Computer Centre

VideoMaster ST

HiSoft's VideoMaster digitiser is very much the budget model, but don't let that put you off. It can grab images in 16 shades of gray at 160 x 100 pixels from still or moving video. If you have a still video source, the optional ColourMaster RGB splitter can grab and save 512-colour images in Spectrum 512 format.

VideoMaster can grab smooth-moving sequences at speeds of up to a fluid 25 frames per second. It's also the only device which can simultaneously digitise audio samples in sync with the video, and it's great fun to use.

The editing software is well written, and comes with a smart video sequencer which can be programmed to play sections of video in different ways. The manual also explains how to create auto-booting demo disks, and you can apply various special effects.

Like all of the budget sampling kit from HiSoft/AVR, VideoMaster is very easy to get to grips with. It's definitely best of the bunch for moving footage on a standard ST.

● VideoMaster ST (*STF* 42, 92%)
£69.95, HiSoft



VideoMaster's software is simple to use. It has a clean well-designed interface with a good manual.

CONTACTS

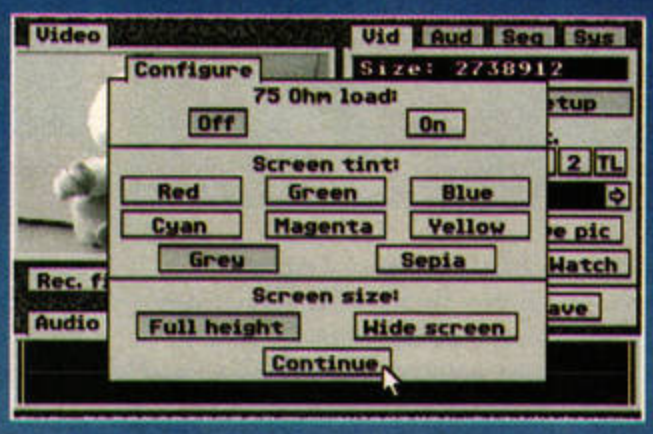
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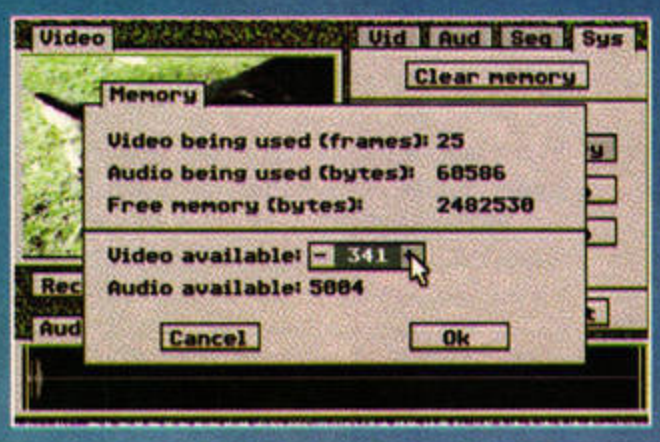
On the set

Now you're ready to make a movie. Call the cast, set the lights, roll cameras... action.

TAKE ONE: VIDEOMASTER

1 You'll need to configure VideoMaster first, using the Setup button in the Video section. Make sure 75 Ohm Load is off, and that you're set to Full Screen rather than Widescreen, otherwise the image may be out of proportion.

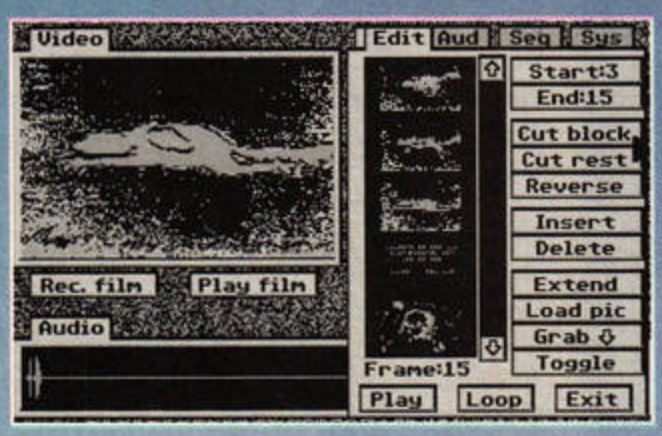




2 Since we're concentrating on video, you can free up valuable memory by disabling the audio function. From the Sys menu, hold the mouse on the + button until no memory is allocated for audio.

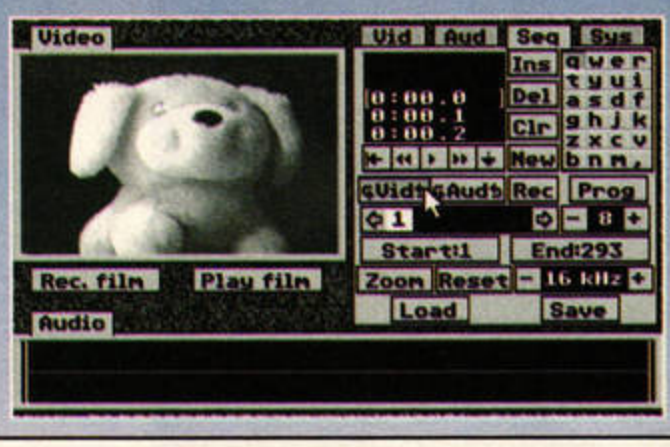
3 Set the frames per second to a decent value – 25 is ultra-smooth, but eats memory and disk space. Try 12 frames per second for an acceptable compromise. Click the Rec button and away you go.





4 The Edit section shows your video as a film strip. To chop out unwanted sections, set the start and end points to the beginning and end of the junk footage using the two buttons, then click Cut Block.

5 Using the built-in sequencer, you can re-use sections of video repeatedly to create longer presentations. You can then create a standalone demo to send to all your friends, Empire magazine, Spielberg...



So, how does all this video grabbing trickery work? Put simply, the heart of a video digitiser is an analogue-to-digital convertor. In much the same way as the analogue movement of your hand on the mouse is translated into digital pulses your ST can decipher, the digitising kit breaks the incoming video signal into zeros and ones. This signal is fed to the digitising software, which recombines the digits into an image we can recognise.

Speed matters

Digitisers which can work faster, and therefore discard less of the incoming information, will produce larger or more colourful images. If your digitiser is slow at decoding and converting the incoming video, you'll be stuck with small grabs or simple grayscale pictures, or both.

No matter how fast the actual grabbing hardware is, its effective speed is limited by the speed of the connection to your ST or Falcon. All but one of the digitisers we're featuring here use the ST's cartridge port to pass information to the software. Unfortunately, it isn't terribly fast, which usually means that digitisers for the ST suffer from the size and colour problems mentioned above. Of course, this doesn't matter much when you're grabbing from a still image, because the hardware can take as long as it likes.

Exposé, on the other hand, connects to your Falcon via the internal expansion bus. Since this is much faster, the Falcon can handle more information, producing larger and more colourful pictures.

Moving pictures

All digitisers produce better results if you're grabbing from a still image rather than constantly moving video.

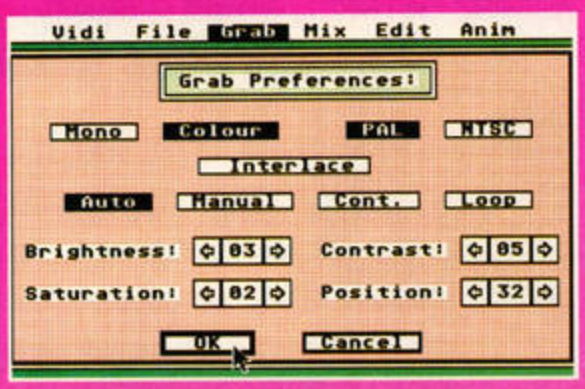
Digitisers grab in three passes, picking up the red, green and blue video information sequentially. If you're taking frames from a moving film, the image will have moved slightly between each pass of the digitiser. This results in the three colour channels being slightly out of synch, producing a slight colour blur.

Exposé and *APEX* can save files which anyone with a PC, Mac, Amiga or Atari can replay easily

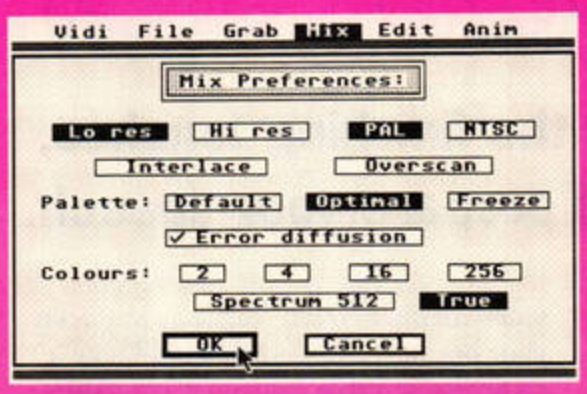
Obtaining a still image with a video camera is easy – just point and shoot. Digital sources such as LaserDisc also produce good stills, but a lot of home recorders present a problem. Videotape is an analogue medium, so it's difficult for the video recorder to lock on to any single frame and hold it still. You can see why it's difficult when you consider that video footage runs at 25–30 frames per second.

High-spec modern video recorders often offer a 'noiseless' pause facility. However, you'll still find that cheaper tapes won't hold an image anywhere

TAKE TWO: VIDI-12 ST



1 Vidi's odd mix of GEM and a custom interface means you may find it hard to configure initially. You'll need to set the grabbing options carefully.



2 Next, set the Mix options. Vidi grabs each of the three colour channels separately, so you can mix a finished image in lots of different colour depths.



3 With the grab options set to digitise at 320 x 200 (standard ST low res) in 16 colours, just click the Grab button and wait for a few seconds.



4 As long as you have enough memory, Vidi can hold multiple images in RAM at once. You can browse through them using the Carousel feature.



5 Vidi is unique in offering a built-in range of image processing functions to sharpen, smooth or generally clean up a grab before you save to disk.



6 Vidi can grab some exceptional still images. If your camera or a video recorder doesn't have a perfect freeze-frame you'll be disappointed, though.

near as well as high-quality ones.

If you're stuck with a video with a pause function which produces white lines running horizontally across the screen, or 'noise bars', it's better to try grabbing from the moving images.

Calling the editor

You'll never ever shoot exactly what you want first time. If you're out filming with a camcorder and shoot something you know you won't be using, don't muck about trying to wipe the sequence there and then. Wait until later and do your editing in the digital world.

One technique that's used a lot in the film and TV industry, both for digital editing of footage and normal analog videotape methods, is to build a library of 'stock footage'. *Star Trek* is a prime example: those classic 'beauty passes' where the Enterprise gracefully orbits a planet are all drawn from a library of pre-prepared clips. Rather than shoot new ones, the editor simply drops in a stock shot. This footage can be re-used as often as you like.

Once you have a decent stock footage library, make sure you keep track of it. There's nothing worse than knowing you have a clip of the vicar cycling round the village in a grass skirt if you can't find it when you need it. There isn't any software available to help you keep track of video clips, probably because each package uses yet another file format, but a database program or even a simple text editor will do.

'Non-destructive editing' is one of the digital editing industry's buzz phrases. Put simply, it means you don't ever work on the only copy of a file. If you chop out a few unwanted frames, then decide you need them after all, you're in trouble.

When you come to use one of your stock clips, make a temporary copy of it before you begin. You can then chop and change as much as you like, knowing that you still have the original to fall back on.

On the screen

If your friends and family have access to an ST, you can create a special demo sequence if you're using VideoMaster. Exposé and *APEX* are even better, because they can save files which anyone with a PC, Mac or Amiga can replay easily.

A final option is to record your ST's output back to videotape. This does cause loss of quality, but VHS tapes are universally portable. Simply link the RF out on your ST to the VCR's RF in. The ST and video may be using the same channel though, so you might have to detune your video recorder slightly – the manual should explain how to do this.

IN LIVING COLOUR

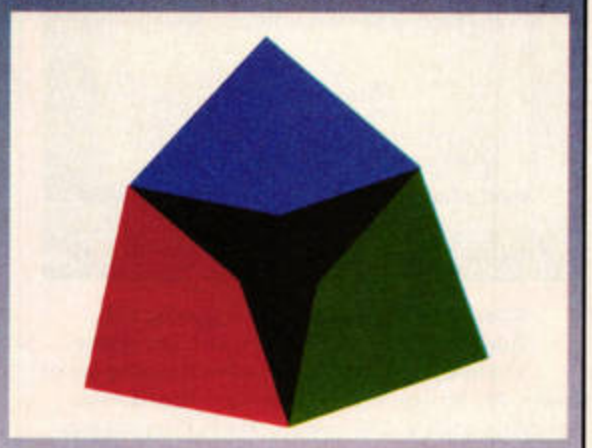
Designing a hardware digitiser which grabs images in either monochrome or shades of gray is much easier than coming up with one which can handle continuous colour information. Grayscale grabbers ignore the colour data from the incoming video and measure the brightness of the signal, representing the image in shades of gray.

Computers process colour information by mixing the three primary light colours of red, green and blue to form an image. Since each colour channel needs to be separated out from the main signal, you can't just feed raw video into a digitiser and get a colour picture. Each of the three channels needs to be split and processed independently by another piece of hardware – an RGB splitter.

The splitter works with one colour channel at a time. It feeds the data to the grabbing software, which recombines the three channels.

If you don't have access to an RGB splitter, you'll only be able to grab grayscale images from videotape. With a camera and a still image, however, you can get the same results using coloured pieces of plastic – RGB filters.

You place each of the plastic cels over the camera lens, then grab an image. Each of the coloured filters removes the other two channels, producing a pure image in one colour. The digitising software then remixes the three together to produce a colour picture. It's fiddly, but it produces excellent results as long as the image is absolutely rock-steady. Mount your camera on a tripod to minimise wobble.



These simple pieces of plastic can give you colour images – even with a monochrome camera!

Post production

You just need to apply the finishing touches, order the popcorn and prepare your speech.

Once you have some video footage safely stashed away on your hard drive, there are numerous things you can do to improve the quality and reduce the amount of disk space used.

If you've ever played with any sort of video digitiser, you'll realise how quickly your precious drive is filled up. Using a compressed image format for your stills means you can fit more of them on disk.

There is a confusing selection of different file formats, many of which are worth considering. Don't just use one format willy nilly – examine your stills and base your decision on its contents.

The most obvious compressed format is JPG. JPG compression scans the colour information in each picture, and strips out detail which the human eye theoretically can't pick up. While this means the files are very efficiently packed, the compressed image isn't identical to the original – JPG is a 'lossy' compression system.

JPG stores images in either 24-bit colour or 256 levels of grey, at any physical size. Don't use it for 256- or 16-colour images, and never use it for anything containing lots of text. JPG compression works best on images with smooth colour transitions, such as digitised video stills.



The shareware *GEMView* is an easily affordable image compressor and convertor.



JPG images are compressed according to a quality value. A setting of 70% produces tight packing with no real visible side effects.

There are lots of programs which can create and view JPG images. If you can afford it, FaST Club's *ImageCopy 4* is superb. Shareware application *GEMView* is the next best bet, but isn't as good at displaying images on 16-colour screens. *Speed Of Light* is excellent for viewing JPG files on an ST, and the Falcon's *APEX* image viewers are blindingly quick.

The GIF format uses a 'lossless' compression system – packed versions are identical to the original. It handles a maximum of 256 colours, but works well on grayscale or 16-colour images. All the programs mentioned above handle GIFs.

TIFF is another format worth considering. It's a lossless compression method and can handle any colour depth from mono up to 16.7 million colours. TIFF-capable software isn't as thick on the ground, but *ImageCopy* and *GEMView* both handle the format well. It is excellent for exact copies of your original files with reasonably efficient compression.

A final option is the PNG – Portable Network Graphics – format devised as a replacement for GIF by CompuServe. PNG uses a lossless method and compresses quite tightly in anything up to 16.7 million colours. At the moment, the only ST software capable of handling PNG images is Floppyshop's *Positive Image*.

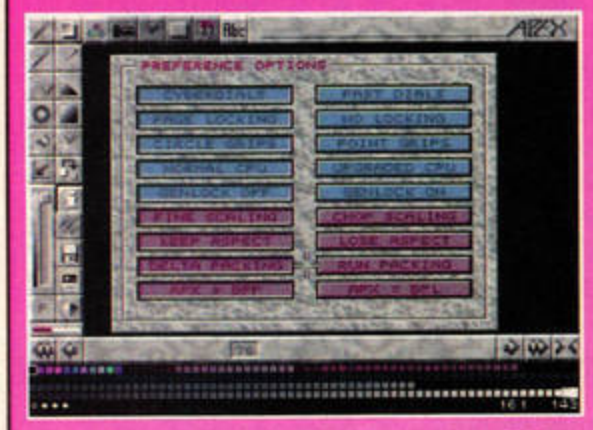
Image processing

Running your grabs through an image processing program, such as *Positive Image* or *Rainbow 2*, can clean up 'spotty' pictures, making most compression methods more effective. You can also filter and tweak an image as much as you like, distorting family members until they're unrecognisable. If you're skint, look out for shareware or freeware packages such as *Eclipse*, *ImageLab* and *PhotoLabor*.

You could also add text and create fancy credit sequences for home videos, then transfer the whole lot back on to tape. Drop in next month as Denesh Bhabuta shows you how to do just that. In the meantime, dig out the director's chair and enjoy making your movies. ***stf***

APEX MEDIA ANIMATION

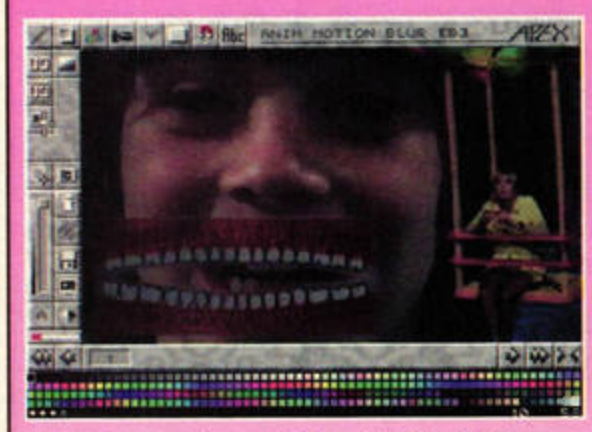
As well as supporting Titan's Exposé digitiser directly, Black Scorpion's *APEX Media* offers some clever features for adding post-production effects to grabbed sequences.



1 ***APEX*** **saves animation files in the popular FLC format, which can use two types of compression – Delta Packing and Run Packing. Delta only saves the changes between one frame and the next – fine for animations, but not so good for digitised video where each frame is radically different due to noise. Use Run Packing instead for slightly smaller files.**



2 **The *APEX* Film and Video tools offer a very smart feature which can help to reduce the size of your files on disk. The Noise Removal tool scans your animation and averages out individual noisy pixels. You may not notice an immediate difference on screen, but this helps the Run Packing compress the file more efficiently.**



3 **The second unusual filter offered by *APEX Media* is the Motion Blur tool. This takes a guess at what would be between any two frames and creates a kind of half-and-half version. The result is the oddly smooth blur often seen in Japanese animation. It can make jerky footage look better when you play it back.**



4 **Colour Reduction is also worth playing with. TrueColour grabs look very smart, but chomp into memory and disk space like it's going out of fashion. Try forcing *APEX* to dither and supersample everything down to 256 colours. The FLC format can use a separate 256-colour palette for each individual frame, if need be.**

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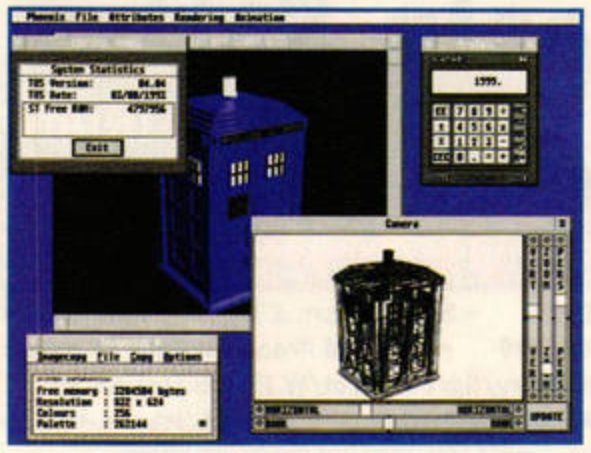
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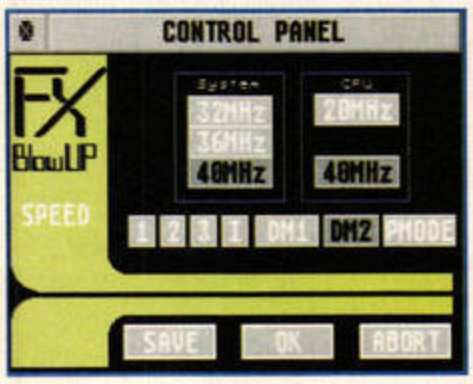
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BlowUp FX board



BlowUp FX provides you with the processing power and memory to run multiple CPU-intensive programs in a single session.

Boost your Falcon's performance with this three-in-one accelerator, memory module and screen expander.



The FX's CPX allows you to fine-tune your new configuration for maximum stability. It also facilitates dynamic switching of clock rates.

The Falcon030 is a pretty nifty machine, but even the most entrenched Atari flag-waver will admit that it perhaps isn't as nippy as we'd like it to be.

Although hardware accelerators have been available for some time, there has never been a better all-rounder than the FX board. It offers multiple chip speed-ups, a SIMM memory module and the Blowup030 screen expander, all in one neat package.

It sounds tremendous on paper, but how good is it really? Armed only with a 4Mb Falcon, a soldering iron and a steely glint in our eyes, we decided to find out.

It's a fit up

The first thing you notice is the board's compact size. It sports just a few chips and a rack of SIMM mountings, with some clock crystals and cables dotted around the edge. However, it comes with a manual guaranteed to scare the pants off most Falcon owners. If you were hoping to just plug it into the expansion port and switch on, you're in for a shock.

The fitting instructions are lengthy, complex and rather indifferently translated from the German. It's soon obvious that only someone with a fair degree of soldering expertise should tackle the job. It isn't just a soldering job, either: you must snip resistors and cut PCB tracks to get the full benefit of the upgrade, and the entire main board has to be extracted from the case at least once.

Even if you follow the instructions to the letter, there can be problems. When our Falcon was reassembled, we found that part of the main shielding made contact with the bare end of the ribbon cable and prevented the machine from booting up. Worse, one of the modifications was only described in a readme file on the driver disk, not in the printed manual.

Better times

If the previous section has put you off the whole idea of the FX board, don't despair. Although it's by no means an easy job, it is possible as long as you have the right tools and a bit of experience (or know a man who has). And, you'll be relieved to hear, it's all worth it in the end.

Although it's by no means an easy job, it's all worth it in the end

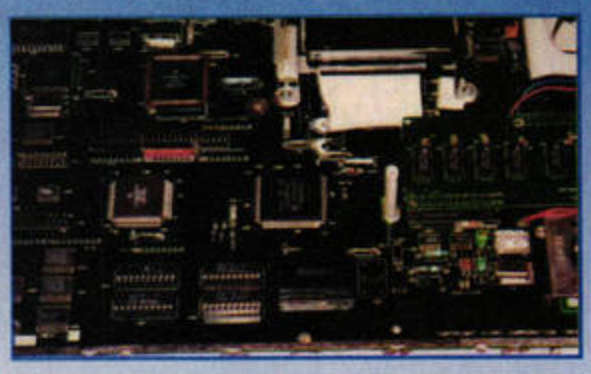
At its simplest, the FX board allows you to add pairs of 1 or 4Mb 30-pin SIMMs to the 4Mb already on board. If that's all you want it for, you don't need to do any soldering. The extra memory is accessed like TT FastRAM, which most newer programs recognise straight away.

We installed four 1Mb SIMMs, and they were picked up by the Desktop with no problems. A utility called *SETFLAGS* enables you to amend older programs. It alters the header flags which control memory access, and works surprisingly well. For example, we amended the *APEX* JPG, TGA and FLC viewers to use the full 8Mb and open much bigger files. However, some programs, including *Rainbow 2*, don't like you mucking about with header flags and promptly crash. Also, the current version of *Cubase Audio* can't use the new memory to store samples. The next version will support this feature, and you can still load the program into FX Ram.

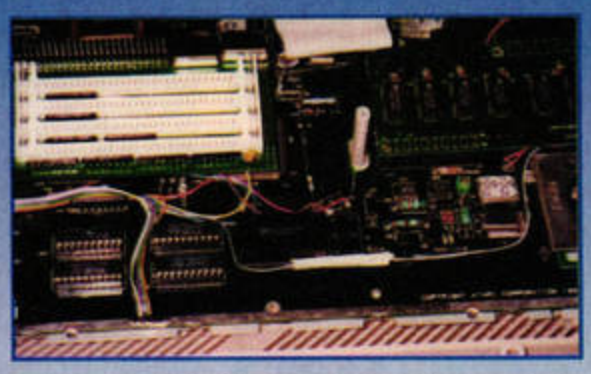
The accelerator feature is even more impressive. Normally the Falcon's CPU runs at 16MHz, and the system bus clocks in at 32MHz. We were able to crank both settings up to 40MHz, more than doubling the CPU speed and

PASS THE SOLDERING IRON

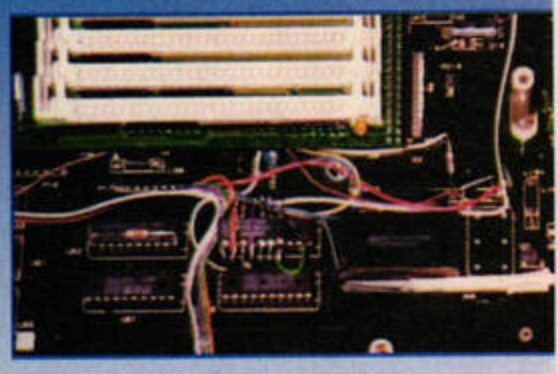
A short, sharp and shocking run-down of the BlowUp FX board installation procedure. Thanks to John Rodger of Art-Tech for his help with this nightmarish task.



1 First, the Falcon has to be opened up and all the top metal shielding removed. It's also a good idea to remove the floppy drive and power supply if you're going for the full 'macho' installation.

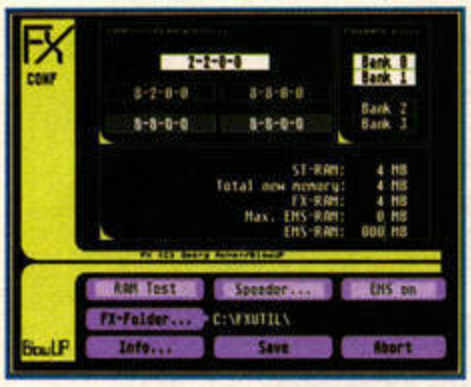


2 After a good bit of resistor snipping and wire adding, the FX board is eased on to the expansion slot connectors. Various umbilicals are attached, some of them to interrupted tracks on the printed circuit board.



3 You must now perform a further bit of tricky wire-adding involving the small IC just below the FX board. Extra work is also required to speed up the FPU (to 40 MHz) and DSP (50 MHz) chips.

www.stformat.com



The *FXCONFIG* utility gives a report on existing ST RAM size and how much has been added by FX. The current version does not allow more than 14Mb to be recognised.

increasing peripheral and memory access rates.

A little bit of fiddling – and guesswork – with the CPX settings is required to make the machine stable at these rates. The parameters depend very much on which hardware revision you have.

We also installed the DSP speeder option, which increases the clock rate for this chip from 32 to a whopping 50MHz, boosting operations such as JPEG decoding. It isn't as easy to measure the effect of this upgrade, but we noticed improvements of around 20 per cent.

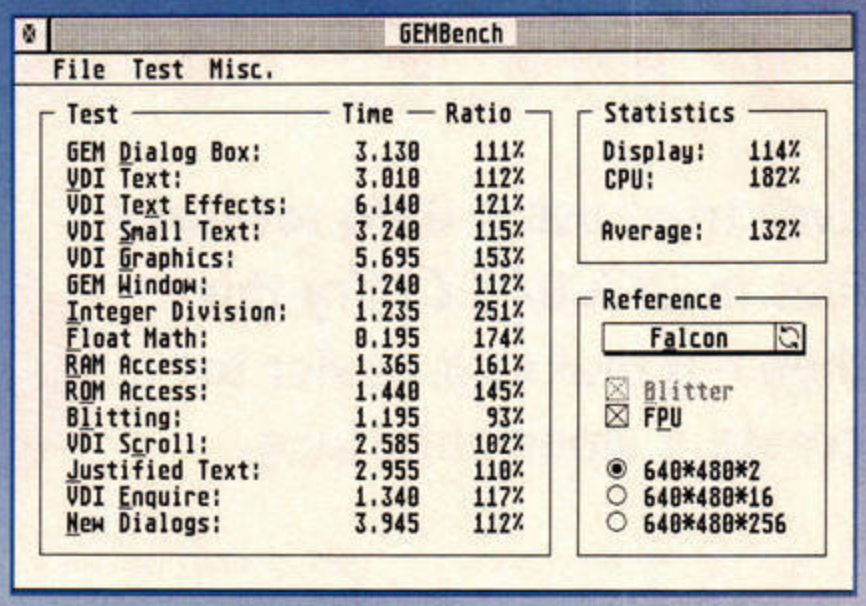
The BlowUp expansion provides a noticeably more stable screen than the software-only equivalent, with additional 'pixel clock' settings and a few little extras. This option performs just like the BlowUp Hard 1 kit, which has been available for some time as a separate unit, but without the bother of extra external pluggy bits. It does, however, seem more finicky about the exact X and Y settings required to avoid screen corruption and system hangs. It also requires the system board to be removed so you can make a connection on the underside.

HARD FACTS

Hard-core performance freaks will be interested in this screen grab, which shows the performance of each accelerated machine function in relation to the standard (100%) benchmark on an unenhanced Falcon. Increasing the system clock speed from 32 to 40MHz has increased ROM and RAM access considerably, as well as improving most of the Desktop video operations. Increasing the CPU and FPU clocks from 16 to 40MHz has had an even more dramatic effect on integer and floating point calculations, doubling the speed of tasks like 3D rendering and image remapping.

Not shown is the effect of enhancing the DSP from 32 to 50MHz, which we found speeds up DSP tasks such as fractal generation and JPG decoding by around 20 per cent on average. The only minus appears to be a mysterious seven per cent drop in Blitter performance, which we were unable to improve on. It's also worth noting that with a television or RGB monitor, the system clock is limited to 32MHz.

As far as problems were concerned, these were few and easily remedied. Once a stable CPX setting was found, 95 per cent of all software ran without incident. The only problem we couldn't sort out was some crackling during 50KHz sound playback. This does not affect direct-to-disk recording or sampling sounds at this rate, and can be cured by dropping the CPU speed to 16MHz, in many cases without having to quit the program. Apparently on some Falcons this can also cause *Cubase Audio* to crash or exhibit sound problems, but you can get round this with software and hardware fixes. In general, the FX board provides an excellent level of compatibility considering the complex installation.



***Gembench 4.03* gives the best picture of your Falcon's new accelerated capabilities over a range of operations. Note the Integer Division entry in particular, which reflects the main 68030 CPU speed directly.**

So, was it all worth it? The traumatic installation, the worry, the hours of fiddling with CPX settings? The answer is a resounding yes. Your Falcon will zip through previously tedious tasks with renewed vigour.

ImageCopy 4, for example, handles larger images and remaps TrueColour images to a high-res 256 colour screen in less than half the time taken previously. *APEXMedia* works flawlessly, hauling in large animations and processing multiple frames at warp speed. The rendering and redraw times of *Xenomorph 2* are boosted considerably, especially when using the FPU version of the software. *Calamus SL's* page redraw rates become frighteningly fast, and boring jobs such as zipping large files and formatting bulky HTML pages are a pleasure to watch instead of being an excuse for a break.

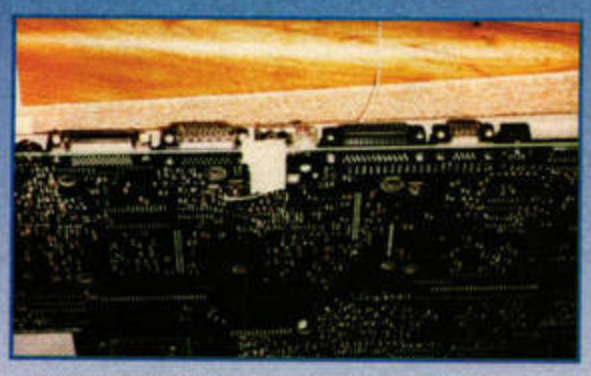
Resuscitation

If you've been wondering how to breathe new life into your Falcon, the BlowUp FX board may be the answer. It's cheap, effective and very useful. However, it does involve fairly radical and irreversible alterations to your machine's circuits, and shouldn't be taken lightly. If you have little or no experience of 'wire-add' soldering work, you'll need some help with the procedure.

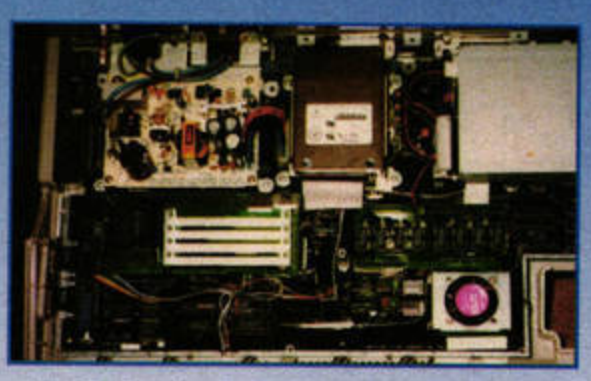
System Solutions offers a full fitting service, which adds to the cost of the board but is strongly advised. Even so, the value for money offered by the memory expander and fully featured accelerator are difficult to beat. In the take-no-nonsense words of the SAS, 'Who dares, wins.' *stf*

DUG ARMSTRONG

Product: BlowUp FX Board
Price: £179 (fitting service £70)
Contact: System Solutions
Tel: 0191 6933355
Min system: Falcon



4 Now the BlowUp Hard 1 connection must be established. It's a simple connection, but it does require the complete removal of the motherboard to gain access to its underside.



5 The final result, with the FX board gripping your Falcon's innards like an electronic octopus. You can now add some 30-pin 1Mb or 4Mb SIMMs to the new board and begin the testing process.

STF VERDICT ● STF VERDICT ● STF VERDICT

HIGHS
- Great performance
- Good compatibility
- Excellent value for money

LOWS
- It's difficult to install
- Not compatible with all Falcon software
- Configuration of the driver by trial and error

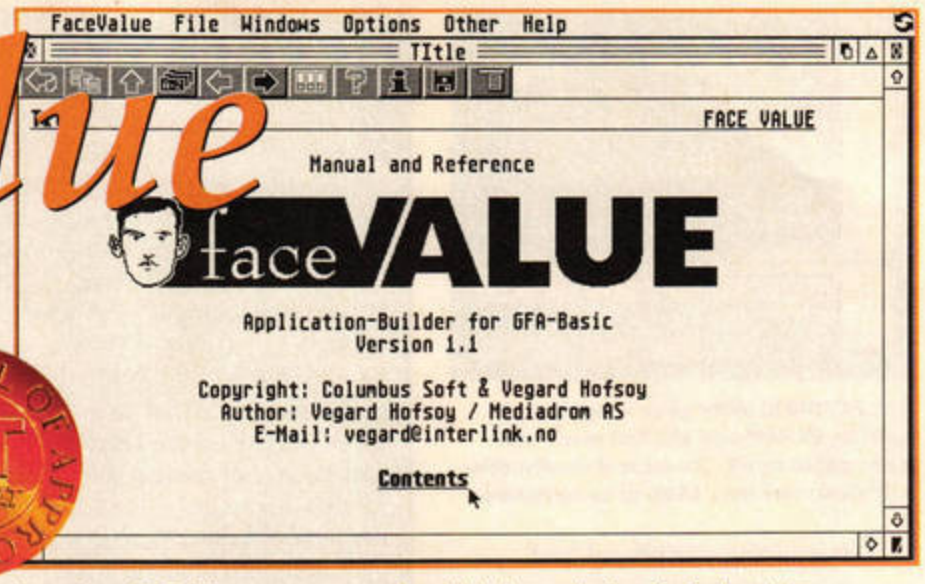
In short...
An effective and affordable three-in-one upgrade that revives your Falcon.

95%

www.stformat.com

Face Value

Ever tried using GEM resource files in *GFA BASIC*? Try this, then – it makes it easier to create a smart interface.



If you have *ST-Guide*, you can access *Face Value*'s excellent on-line help system.

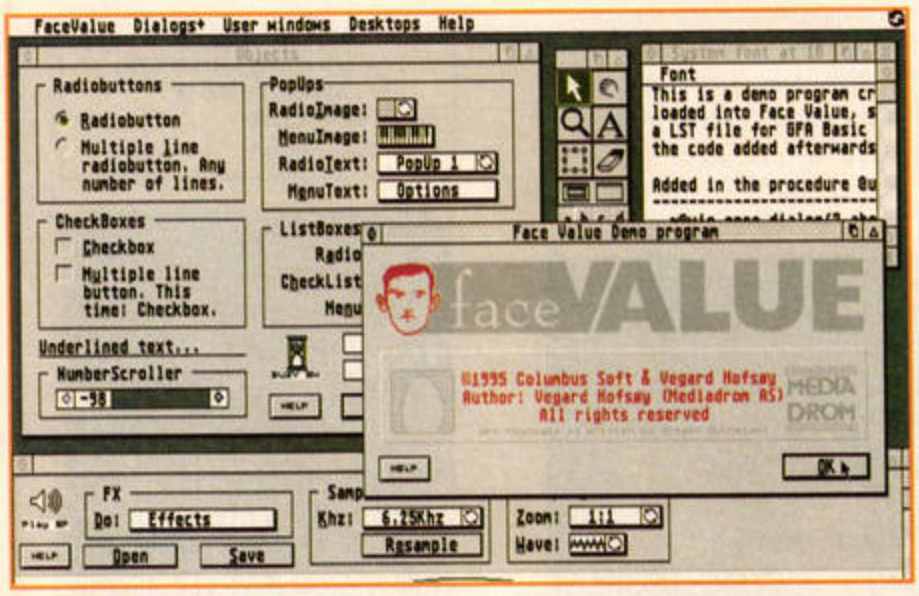
While there's no doubt that *GFA Basic* is an excellent tool for novice programmers and old codeheads alike, it's a bit of a swine if you want to take full advantage of the ST's GEM environment. To use GEM fully, you must not only tangle with a resource editor, but also grapple with *GFA's* cryptic resource handling system. It's somewhat akin to wearing a hair shirt in July.

Face to face

Face Value helps ease the transition from developing simplistic programs using *GFA's* menu and window commands to producing a modern multitasking-aware application using the richness of GEM. It isn't a complete interface creation kit, though. It won't actually help you create the various GEM Resource elements: windows, drop-down menus, dialogs and alert boxes. You'll still need a good resource editor, such as HiSoft's aging *WERCS* or the *ST FORMAT*-Gold-winning *Interface* (languishing in limbo since Compo's demise), as well as a basic grasp of the design of these elements.

The bridge

Face Value acts as a bridge between the RSC files and the otherwise complex procedures you'll need to learn to coax *GFA BASIC* into using them. Essentially, you create your resource file, then pass it through *Face Value*, specifying a few parameters as you go. *Face Value* spits out a LST file which is merged into *GFA Basic* and forms the skeleton of your program.



The demo program shows how complex your user interfaces can be, with very little work.

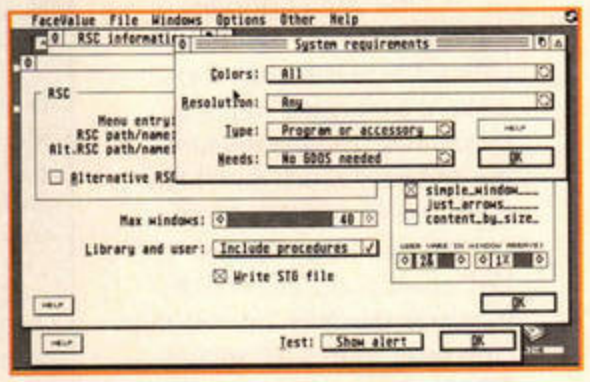
You then identify the various sections of the program – a small routine called when you click the About... entry in your new menu, for example – and write code to handle the task. *Face Value* shields you from the jiggery-pokery you'd otherwise need just to display the simplest of GEM dialog boxes and lets you get on with writing the real guts of your program.

There's no excuse for believing that GEM programming is a black art

When you're confident with basic GEM elements, you can work towards producing some very clean-looking programs, complete with extras such as pop-up menus, animated icons, custom Desktops and even menus within windows. To produce a GEM application with all these features without the help of *Face Value* would be a nightmare, to be honest. A quick look at most *GFA*-authored programs shows how simple their interfaces tend to be.

Face the future

In these days of Atari-compatible machines, such as the Hades, and new operating systems, such as *MagiC*, your program needs to cope with lots of possible configurations. *Face Value* helps produce interfaces which don't obstruct multitasking systems by catering for non-modal dialogs which don't require immediate attention, so users can still switch between applications. Normally, this is even harder than standard GEM programming in *GFA*, but *Face Value* produces code to handle these awkward tasks for you.



Once you've set a few parameters, *Face Value* produces well-commented GFA code for you to work with.

Face Value isn't perfect, but it is a superb product. The lack of an RSC Editor is a pain if you're just starting with GEM programming, although shareware alternatives such as *ORCS* are available.

The wind changes

If you want to give your *GFA Basic* programs real 1990s interfaces, then *Face Value* is a must. There's no longer an excuse for believing that GEM programming is a black art. Go for it. ***stf***

FRANK CHARLTON

Product: Face Value 1.1
Price: £49.95
Contact: System Solutions
Tel: 0181 6933355
Min system: All Ataris, needs 1Mb, *GFA Basic* and a resource editor

VERDICT ● STF VERDICT ● STF VERDICT

HIGHS
- Easy to use
- Makes a difficult task much easier
- Well designed and written

LOWS
- No RSC editor included

In short...
Face Value **takes the pain out of including GEM work in your *GFA Basic* programs.** **90%**

ROYAL SHAKESPEARE CO?

A Resource file – identified by the RSC extension – contains data describing all the elements of a program's GEM interface. Rather than coding these windows, menus and dialog boxes from scratch, you use a resource editor to create them graphically, then store them in a single file which the program can decipher.

Atari Inside CD-ROM



Top: The disc contains over 900 TrueType fonts. Bottom: One of the many things to interest DTP fans is this demo of *Papyrus 4*, complete with colour picture handling.

We've reviewed so many CD-ROMs recently, we've seen enough software to sink the Titanic. Here's another one... glug, glug.

Germany has always been a major source of ST software, because the Germans sensibly took the Atari machines to heart at a very early stage. Rather than endorsing the games machine image we've battled against in the rest of the world, they have always viewed the ST as a serious machine, and their CDs usually reflect this.

The Very Best of Atari Inside Vol 1 is produced by the German magazine of the same name. It offers a more straight-laced selection of ST, TT and Falcon software than the usual CD compilations. There aren't any folders stuffed with PD games; the developers have concentrated on programs you'll actually want to use for more than five minutes.

East meets West

As you'd expect, the vast bulk of the software is in German. Other than specific bits of shareware from other parts of Europe and the USA, almost all the commercial demos, shareware and document files have a distinctly Teutonic flavour. You'll need to think carefully before you buy if you aren't confident about using non-native software. The disc doesn't have a rigid structure or front-end menu program, so you're free to dip in and out at random.

Fontasia

So, what's on this latest silver platter? If you're of a DTP persuasion, you might well like it a lot. It's easy to say that copying hundreds of fonts on to a CD-ROM is a cheap way to fill space, but it's also very convenient to have easy access to a big font library.

If you're using any of the variants of *Calamus*, you'll find no fewer than 600 fonts in the CFN format. They can also be used with *APEX Media* on the Falcon. If you've taken the plunge and installed a vector font handler, such as *NVDI 3* or *4*, this disc will set your mouth watering, because there are over 900 fonts in TrueType format.

If you're remotely interested in DTP or raytracing, give it a serious look

Sadly, there isn't a guide to the type styles, so you're reduced to ploughing through each one in turn. Considering the price of commercial fonts though, having almost 1,000 at your fingertips outweighs any inconvenience.

Fans of raytraced graphics will also find plenty to play with. Along with a demo of the commercial *RayStart* package, you get a complete copy of *Persistence of Vision 2*. There's a vast collection of pre-written scene files to render, and many inspiring sample images, too.



The complete *Persistence of Vision* raytracer is on the disc – and yes, you could produce images like this with practice. Lots of practice.

Claire who?

The data on the CD-ROM only takes up 380Mb, a little over half of the maximum capacity. Curiously, the remainder contains standard audio music tracks – 48 minutes of tunes in a semi-ragtime style from a German outfit called *Claire De Luxe*. No, we've never heard of it either, and we have no idea why its music is cluttering up an Atari CD-ROM. If we want something to listen to, we'll nip down to Our Price, thanks all the same.

Atari Inside is basically another shareware compilation. You do get unusual items, such as an HTML guide to the ProTOS show – in German, natch – and over 900 pieces of GIF clip-art to use on your own Web pages. There's also a selection of programs for the Portfolio.

Atari Inside isn't fantastic, but it offers a neat selection of software. The score we've given the CD is for general users; if you're remotely interested in DTP or raytracing, add another 10% to the rating and give it a serious look. *stf*

FRANK CHARLTON

Product: The Very Best of Atari Inside Vol 1
Price: £16
Contact: 16/32 Systems
Tel: 01634 710788
Min system: All Ataris, CD-ROM drive required

STF VERDICT ● STF VERDICT ● STF VERD

HIGHS
- Great raytracing and DTP selections
- Wide variety

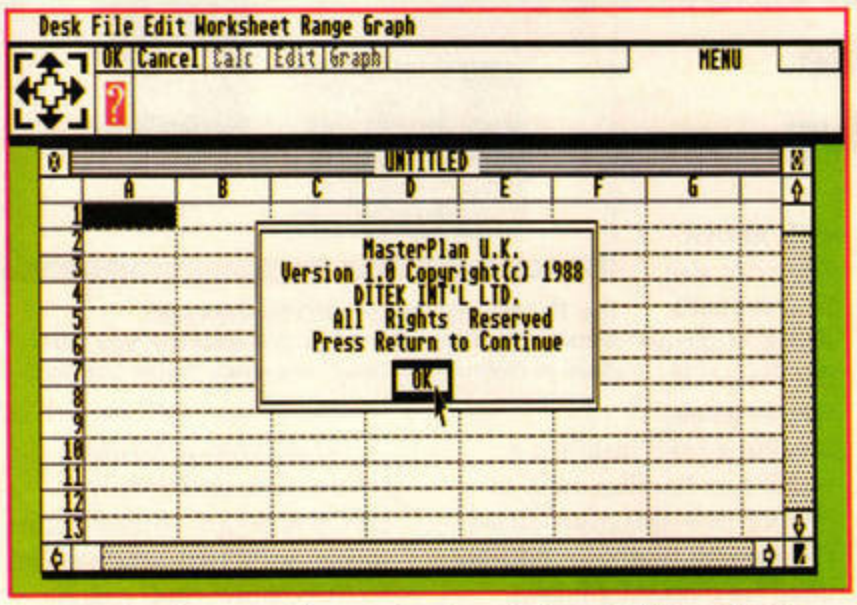
LOWS
- Only 380Mb used
- Audio tracks on an Atari CD?

In short...
A wider selection than most PD discs. Great value for graphics and DTP fans.

80%

Masterplan

A commercial spreadsheet and chart program which runs on any ST and costs less than £15 adds up to a bargain, in our opinion.



The screen has three areas: the menu bar, the control panel and the worksheet.

MasterPlan was developed by Canadian company Ditek International and is distributed here by Goodman's. It's quite old, having been written in 1988, but uses many of GEM's user-friendly conventions.

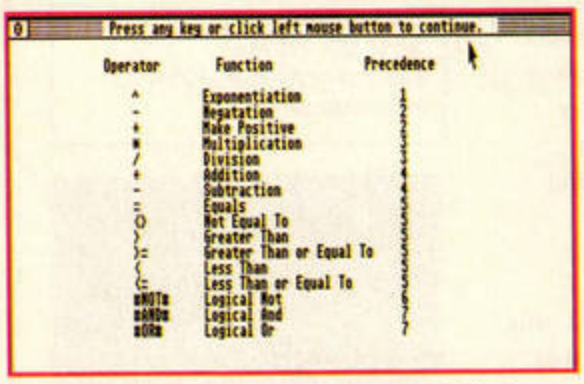
MasterPlan will run on a 512K ST, but 1Mb of RAM is recommended, and a printer is advisable for serious use. It works in ST high and medium resolutions, and isn't copy protected. You can also transfer it on to a hard drive.

One, two, three

Masterplan divides the screen into three sections. Immediately beneath the menu line (top section), you'll find the 'control panel'. This is where you type the values which are to be entered in the cells of your spreadsheet. It also controls data entry and editing, and displays the current mode and any actions the program is carrying out.

The third section of your screen is occupied by a GEM window showing your worksheet. The entire sheet covers a much larger area than your screen shows, so you'll need to use the scroll bars to move around.

Masterplan uses the right mouse button to emulate the action of the ST's [Return] key. This setup makes it easier to enter data quickly as you navigate the spreadsheet with the mouse pointer.



The Help text gives a succinct explanation of all the main features. There's also a well-written manual.

In the money

Setting up a worksheet is very easy and fairly intuitive, and you'll be able to get going simply by experimenting with the program. When you need it, the manual is clear and detailed, and the program also has a built-in on-line Help system. It's easy to set ranges of cells and define formulae, be they mathematical, scientific or financial.

You can print either direct to the printer or to a file on disk, making it possible to use the text and numbers within word processor documents. You can also print the whole worksheet, or just a part of it. Print commands include control over page margins, page length, headers and footers and borders.

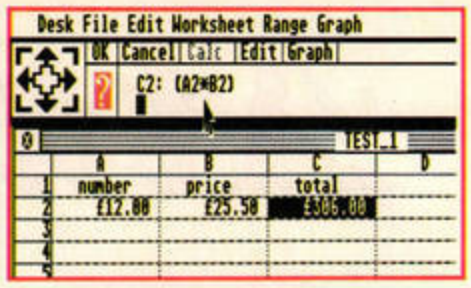
You can produce various charts, including line, bar, stacked bar, pie and scatter charts, plus the dangerous-sounding 'exploded pie charts'. They can be displayed in colour or monochrome and up to six separate data ranges can be used. Multiple charts can be created and stored for each worksheet, and they can be saved as image files compatible with *Degas* and *Publishing Partner*.

Verdict

MasterPlan is a good program with many nice touches. For example, you are able to drag the columns to the desired width using the mouse pointer, as well as being able to specify this via a dialogue. However, you won't find the really modern features, such as pop-up menus or movable dialog boxes, that you get in the latest programs.

Nevertheless, *Masterplan* works well and contains good financial and business features not often found in ST software. The well-written manual complements the software and the price is right. *stf*

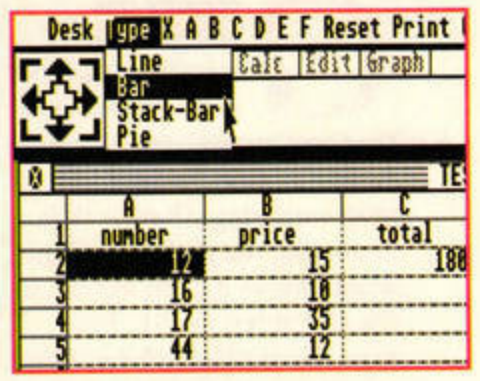
PETER CRUSH



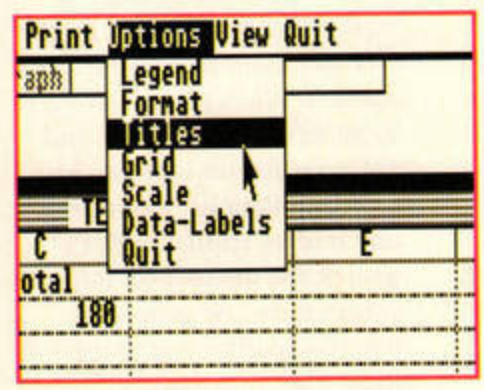
The contents of the first two cells are linked by the formula displayed in the control panel. The result appears in cell C3.



If you get stuck, click on the question mark icon to access the on-line Help files.



It's easy to select the kind of chart you want to use for your data...



...and just as easy to set all *MasterPlan's* other chart options.

Product: MasterPlan
Price: £14.95 plus postage
Supplier: Goodman's PDL
Contact: 01782 335650
Min system: Any ST

VERDICT ● STF VERDICT ● STF VERD

HIGHS
- Easy to use
- Well-written manual
- Works on all STs
- Very affordable

LOWS
- No example spreadsheet files provided

In short...
If you're looking for a good all-round spreadsheet, you won't go far wrong here. **85%**

SPREADSHEETS

Next to word processors, spreadsheet programs are probably the most popular business applications. Once set up, they enable you to enter financial or scientific data and perform calculations quickly and easily. This is accomplished by linking the 'cells' which contain the data with mathematical formulae and displaying the results in other cells. You can also generate charts to display your data pictorially.

NVDI PostScript module

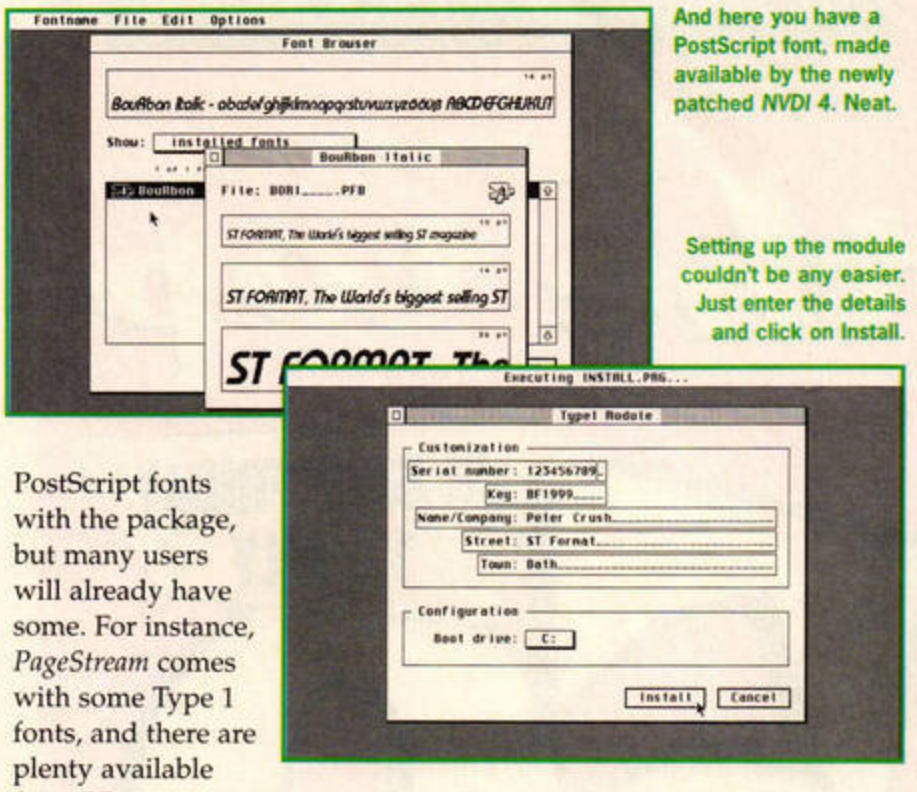
It's impossible to use PostScript fonts with *NVDI 4*, isn't it? Nope, not any more.

NVDI enables you to use Speedo and TrueType fonts in any ST software that uses *GDOS*, Atari's graphical extension for driving screen and printer output. It scored 93% in issue 82.

Until recently, though, you couldn't use PostScript Type 1 fonts with *NVDI*. Changing all that is the recent release of an add-on module from System Solutions. It enables you to use these industry-standard typefaces freely.

The PostScript module is supplied on floppy disk and you need to have *NVDI 4* installed to make use of it. You can then simply run the installation program to 'patch' the module on to the main program. This gives you access to all the features *NVDI* normally provides for Speedo and TrueType fonts.

You don't get any PostScript fonts with the package, but many users will already have some. For instance, *PageStream* comes with some Type 1 fonts, and there are plenty available from PD sources.



And here you have a PostScript font, made available by the newly patched *NVDI 4*. Neat.

Setting up the module couldn't be any easier. Just enter the details and click on Install.

We tried some of these out, plus some from HiSoft's *500 Fonts* CD-ROM (*STF* 84, 90%), and had no problems making use of them.

Typoflexibility

If you have *NVDI 4* and are happy with your current range of fonts, you may not need or want this module. However, if you want maximum flexibility and the ability to use the hundreds of excellent Type 1 fonts in your ST documents, this is the ideal way to do it. It works well and isn't too expensive. *stf*

PETER CRUSH

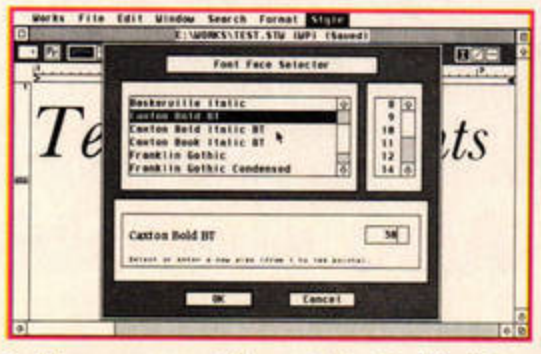
Product: NVDI PostScript Module
Price: £24.95
Contact: System Solutions
Tel: 0181 6933355
Min system: 1Mb Atari with hard drive, 2Mb recommended

STF RATING 89%

TrueType fonts

So many typefaces, so much to say. Mix and match with another 100 fonts from Systems Solutions.

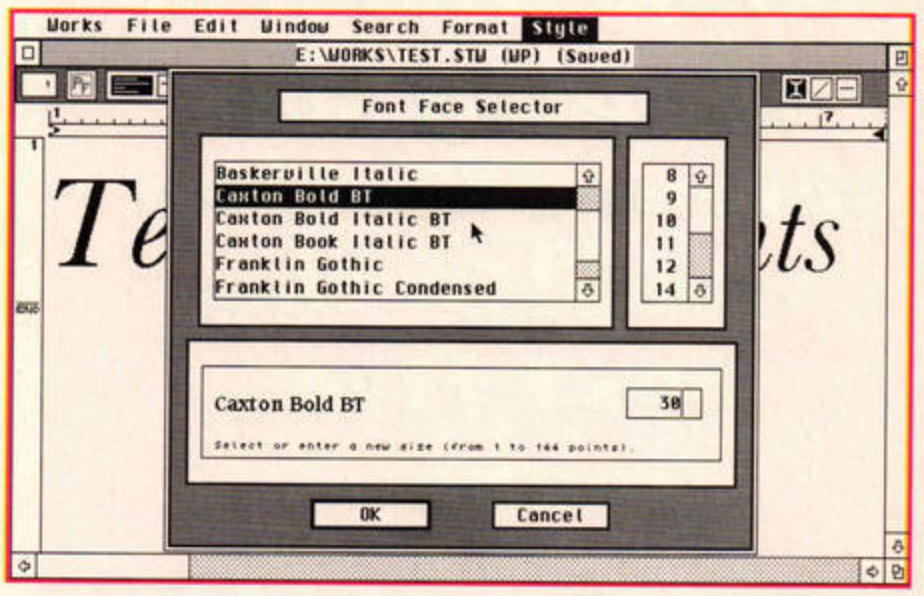
We awarded 85% to System Solution's Font Package 1 last month (*STF* 84). A second set is now also available, also containing 100 Truetype fonts.



And here are some of the new fonts. *AtariWorks* is *GDOS* compatible and hence works well with *NVDI*.

The fonts are all from Bitstream, a USA company specialising in fonts for Macs and PCs. They are in the TrueType format, so normally they would be of no use to ST users. However, if you have *NVDI 4* you can use them with any Atari program which normally outputs via *GDOS*. Bitstream produces high-quality typographical designs and its fonts are certainly very beautiful.

The typefaces in this five-disk set are of the highest standard. They range from showy ones such as Broadway, Stencil, and Informal to more restrained designs such as Original Garamond, Cheltenham and Amerigo. If you are looking for 'old-style' fonts, try Calligraphic or Caxton. More modern typefaces include Incised 901, Seagull or Humanist 521.



NVDI 4's Fontname utility makes it easy to preview this newly installed Caxton font.

There is plenty of choice and most fonts are available in a range of weights and have proper italic versions. We recommend you look at Bitstream's font catalogue, available from System Solutions for £6. It has printouts of over 1,000 fonts, including all those offered in both font packages.

These fonts are top quality and, being scalable, will look good at any size. If you are into DTP work, you should treat yourself. At a mere 40p per font the cost is very reasonable. *stf*

PETER CRUSH

Product: NVDI Font Package 2
Price: £39.95
Contact: System Solutions
Tel: 0181 6933355
Min system: 1Mb Atari with hard drive, 2Mb recommended

STF RATING 85%

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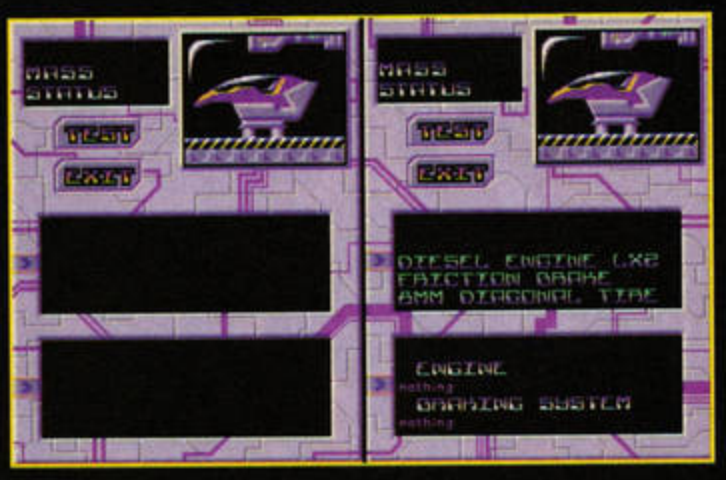


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.net The Internet Magazine
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Game on

It's going to be a fun-packed year for Atari games fanatics. Nial Grimes grabs his joystick and prepares for an exciting ride.



Highly Side brings power-ups and swish presentation to the *Tron* concept. A demo version is available now.



The Running demonstrates just what the Falcon is capable of in the 3D department.

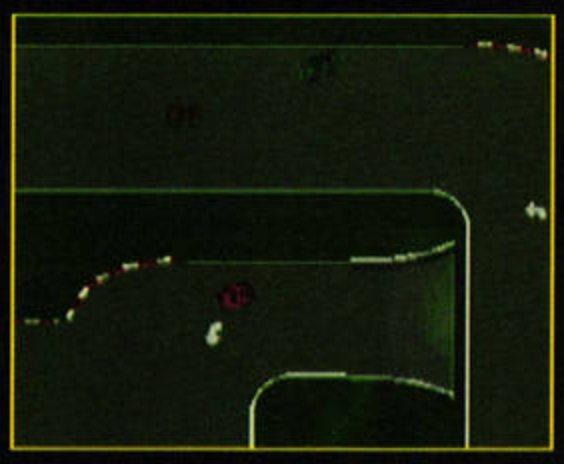
Most of today's games descend from a few hallowed concepts established by the arcade hits of the early 1980s. *Defender*, *Tron* and even ye olde pinball table can be found alive and kicking in the modern arena. It's no surprise, then, that the ST and Falcon release schedules for the next six months include several titles which siphon the best from the classics.

Radical Race borrows much of its atmosphere from the Atari classic *Super Sprint*. The overhead view of the track may seem a little antiquated for a Falcon game, but the plethora of upgrades keeps your attention firmly focused on the gameplay. *Highly Side* attempts to do similar things for the *Tron* genre by retaining the same basic style of play, but squeezes in a 'shop' packed full of power-ups between each bout. The presentation serves as a constant reminder that you are in the 1990s.

Even *Alien Thing – The Director's Cut* owes much to the likes of *Robotron*. Both games are trigger-happy shoot-'em-ups with the emphasis firmly on gameplay.

Although it's superficially similar to its predecessor, *The Director's Cut* has been injected with a good dose of class. For a start, you now play the game from a slightly offset, 3D perspective, and the asteroid setting provides more room for graphical variation. The gameplay has been tweaked as well: it has a two-player mode and over 25 levels are planned.

The arcade tributes are rounded off by *Obsession Falcon; Spice*, a Falcon tribute to *Defender*; and *Mole Mayhem*, a revamp of the all-too-rarely cloned *Bomb Jack*.



Radical Race inherits much of its gameplay from the classic Atari driving game *Super Sprint*.



Alien Thing – The Director's Cut offers Improved graphics and two-player gaming.



Colourful visuals and immaculate animation feature throughout Willie's Adventures.

The birdy song

Meanwhile, the Falcon is finally beginning to break free from the restraints of ST compatibility and prove its mettle as a games machine. Obviously inspired by *Rayman*, *Willie's Adventures* is one of the most visually appealing games on any platform. Silky smooth scrolling, dozens of colours and eight-channel sound put this platformer on a par with the very best console offerings.

Willie's Adventures is one of the most appealing games on any platform

The Running is similarly impressive from a technical standpoint. A fully 3D shoot-'em-up set in moody corridors full of hideous monsters, it also has fully lit outdoor sequences which run smoothly on a standard Falcon. Most onlookers will wonder where you've hidden the PC.

A fully playable preview is available from Internet sites. Many of the mutants appear to have been, er, 'borrowed' from *Doom*, but no doubt this will change before the release version arrives. Level design is really the key to this type of game, so it remains to be seen whether *The Running* will become a true classic or a digital version of the Hampton Court maze. Given the level of attention that has been paid to the technical aspects, early indications are good, however.

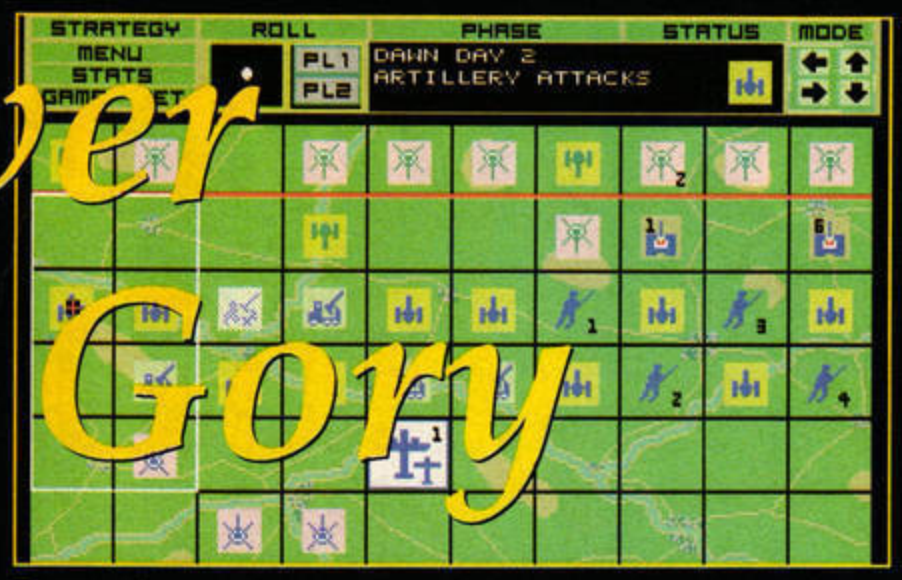
Extras

The titles we've mentioned form a relatively small part of the schedule, and there are lots more just over the horizon. *The Power And The Gory* (reviewed on page 28) is due for a Falcon update and a new game from the authors of *Isle of Glass* (*STF* 80, 92%) should see the light of day at the Atari shows later in the year. You can be sure that *ST FORMAT* will bring you news and reviews of all of these games as they arrive. *stf*

- **Spice**
  CyberSTrider
  (dbhabuta@cix.compulink.co.uk)
  Shareware version available soon.
- **Radical Race**
  ☎ +331 48049975
  lhubert@nest.demon.co.uk
  Preview version available now.
- **Highly Side**
  Yann Trevin, 159 rue de l'Impératrice, 62600 BERCK, France
  defief@eisti.fr
  Demo version available now.
- **Alien Thing – The Director's Cut**
  ballra@falmouth.ac.uk
- **Mole Mayhem**
  Croft Soft ☎ 01454 313352
- **Obsession Falcon**
  Merlin ☎ 01452 770133
- **Willie's Adventures**
  Daniel Hedberg
  Preview version available now (send HD disk and International Reply Coupon to: Daniel Hedberg, Halvergatan 9a, 641 51 KATRINEHOLM, Sweden).

www.stformat.com

The Power and The Gory



The range of each unit is highlighted when your turn arrives.



These weeny dogfights are about as exciting as the animation gets.

Tanks, bombers and rocket trucks trundle across the screen as war breaks out on your ST. Pass the *Risk* campaign diary!

Journalists shouldn't have to cope with this sort of pressure. While we are perfectly happy to squash legions of cute little creatures in the name of incisive reviews, the thought of wrestling with the future of peace, democracy and a new series of *Baywatch* is frightening. Even more terrifying is the prospect of learning and mastering a war game that takes itself as seriously as *The Power And The Gory*.

Risk holds nothing on the obvious depth of this hard and dry war game. The overall aim is to obliterate the enemy, usually best accomplished by beating a path directly to the capital city. In time-honoured tradition, this gargantuan battle is fought, tiles in hand, over a somewhat unconvincing grassy battlefield.

Once you have carefully placed your cities, airports, rocket trucks, tanks, infantry, toilet facilities and burger bars, the battle begins. Each player takes turns to attack and the whole game is very much about strategy. You could, for instance attack your opponent's industry, reducing his capacity to produce weapons, to make your next offensive more successful. On the other hand, a *Braveheart*-style charge against ridiculous odds may be more your style.



Awooga, awooga... incoming air raid! Are you going to scramble fighters or take a risk?



The large battlefield can be squeezed on to a single screen with the help of the 'strategy' view.

Whatever option you choose, you can expect the battle to last some time, although some comfort can be drawn from the fact that the rules are taken care of by the ST – flattening the whole of Russia with a single plane may have worked in *Goldeneye*, but you'll need to work harder to achieve similar success here.

A casual glance around the page should be enough to tell you that *Power and Gory* is not basing its hopes for success purely on graphical excellence – you have to look hard to find even basic animation among the primitive icons and bland landscapes. Much the same can be said of the sound effects, which are more reminiscent of a bee in a bottle than a world war. Thankfully, a lot more effort has gone into the design of the game itself.

This gargantuan battle is fought, tiles in hand, over a grassy battlefield

The battle takes place across a large multi-screen field and tile operations are straightforward. The range is thoughtfully indicated on screen, and you can safely put the exhaustive manual aside, because a well-placed mouse click here and there will usually get you where you want to go. Despite its seeming complexity, *Power and Gory* is quite straightforward to play. This is perhaps its greatest advantage over traditional, board-based games.

Kill your speed

However, the capable interface is powerless to reduce the sheer amount of time needed to complete a game. The set-up phase alone takes at least five minutes – more if you are going to give some thought to where each piece is placed – and the computer often seems to make more of a meal of decision-making than a human opponent. Small consolation can be found in the 'save game' facility, which at least enables you to attempt the odd foolhardy attack without the risk of losing several hours' work.

The Power And The Gory oozes depth out of every pore and the statistics screen alone would keep Peter Snow happy for many a month. However, no amount of depth can change the fact that this is basically a board game, with very few concessions made to the digital age in terms of animation or sound effects.

Time is money

Die-hard war gamers may appreciate the purist approach, but the vast majority of ST gamers will prefer something that exploits more of *STOS's* potential and takes less time to set up and play. *stf*

NIAL GRIMES

Product: **The Power And The Gory**
Price: **£24.95**
Contact: **Merlin**
Tel: **01452 770133**
Min system: **1Mb, colour monitor**

VERDICT ● STF VERDICT ● STF VE

HIGHS
- Full-blown strategical warfare

LOWS
- Long-winded
- Rather dull

In short...
A purist's war-game with little to recommend it to the average ST games player.

53%

www.stformat.com

Road Riot 4WD



Firing your rocket launcher is the best way to catch up with the opposition. Gangway!

Do you wanna play dirty? Grab yourself a joypad and get ready for *Road Riot 4WD*, then. Pass the rocket launcher, aim, fire!

Have you considered how laughable it is that dozens of motorway drivers leave their Cavaliers and Escorts in service station car parks, only to dive straight into the arms of *Sega Rally*, *Daytona USA* or *Ridge Racer?* Exactly what this says about the British saloon car is a mystery, but if nothing else, it certainly illustrates how popular racing games are. Charging around impossibly tight tracks to the sound of a raucous bassline and crunching metal is as close to gaming nirvana as many can get, and yet Falcon owners have been denied this pleasure – until now.

Road Riot 4WD is a Falcon-specific, arcade-style racing game packed with powerful machinery and splattering mud, with one or two missiles thrown in for good measure. In fact, cast your mind back through the mists of time and you might remember playing *4WD* in the arcades. Released in 1991, it was typical of Atari's penchant for exploring new vehicles and adding weapons and unpredictable tracks to its racing games.

As far as looks and concept are concerned, *Falcon 4WD* is an exact clone of its arcade parent. The aim is to race around a series of tracks, ultimately emerging as the winner of the championship. Only first position will do in any race, although there are three credits to bail you out of tight situations.

Having chosen your course from the selection of 11, you are introduced to the host (caricatures ahoy!) and the race begins. It's at this point that you start to have doubts about leaving the smooth tracks of classics such as *Super Sprint*.

The tracks send your buggy skyward at the merest suggestion of a hill

Bump, skid

Road Riot's undulating tracks send your buggy skyward at the merest suggestion of a hill and call for a completely new approach to steering: make sure those wheels are pointing in the right direction when you hit the ground. The constant skidding can also present a problem for the first few games, although it quickly comes under control as you get a feel for each course.

Slightly more worrying is the fact that it's practically impossible to avoid larger obstacles on the narrow tracks, especially when they appear in mid-flight. A glancing blow to a tree or rock results in a complete smash and, despite your speedy resurrection, the opposition usually seizes the opportunity to charge past. It's just as well that your buggy packs a rocket launcher to hinder their progress. You can take unlimited ammunition for granted, too.

Even with artillery aplenty and liberal amounts of mud, there's always a danger that monotony will sneak into race games. *Road Riot's* answer is scenery that changes according to your location. In the Swiss Alps you'll find yourself surrounded by mountains, whereas country roads are more the deal in New Jersey. The medley of bouncy tunes also helps you plough through to the end.

Road Riot possesses some of the ingredients of a great racing game – it's fast and the soundtrack, if not the effects, reinforces the quality of the overall presentation. There are times when you feel you've almost mastered the controls, but that moment usually arrives two seconds before another major tree tangle.



Ah, the obligatory after-the-win snogging sequence, complete with nauseating sound effects.

Falter, crash

Given some of the race games that have appeared on the ST, we feel the Falcon can do better than this. However, in the absence of an *Overlander* or *Buggy Boy* for the 1990s, *Road Riot 4WD* fills a gap. *stf*

NIAL GRIMES



Bump, crash, bang, SMASH! Tangles with trees are deadly, but your buggy quickly reappears on the track.



The scenery depends the location of the race. Here, we race against Helga Grossebergen in the Swiss Alps *(Er, quite – Nick).*

Product: Road Riot 4WD
Price: £24
Contact: 16/32 Systems
Tel: 01634 710788
Min. system: 4Mb Falcon, Jaguar PowerPad, hard disk.

VERDICT ● STF VERDICT ● STF

HIGHS
- Impressive presentation
- One or two neat tunes

LOWS
- Frustrating at times

In short...
Looks nice, sounds sweet, and is playable, but it's ultimately a bit of a let-down.

65%

Fight for Life

Bite down on your mouth guard and take a look at the most eagerly awaited Jag title yet, *Fight For Life*.



The texture-mapped graphics and a lively camera lend an ultra-modern atmosphere.



The fighters all have their own strengths, and CJ's trademark is powerful punches.

Every console must have its beat-'em-up, and after some decidedly lacklustre titles, the Jaguar bounces back with a real winner.

Fight For Life has been a long while coming. More than any other Jaguar game, it has been back to the drawing board many times as other software houses have upped the ante. It looks as if the wait has been worth it, though.

From the moment you plug the game in, you know it's something special. The intro screen is like a mini pop video – the music and fighting are synchronised, and the camera zooms and cuts from one view to another. Once you've chosen training, two-player or tournament mode, the battling begins.

Plot? What plot?

The plot is largely irrelevant.

You can play against the computer or a human opponent. The computer plays a pretty mean game and is great to practice against, but you can't beat (sic) playing against a friend to really get the competitive juices going.

The eight opponents all have their own special moves, and every time you beat one, you get to add two of their moves to your repertoire. This means your range of kicks and punches increases as you progress. However, there are so many moves that most people will probably settle on a few favourites.

There are also some combo-moves. They are extremely hard to get right, but well worth it in terms of hit points and spectacular on-screen action. How about a face-slap combo? Try to remember right up B left up B right up B. With button combinations like that though, a few more hit points wouldn't have gone amiss.

There's also an invisible force field which surrounds the playing area. If you can push your opponents into it, you get to see them electrocuted by long blue sparks. It's good fun, although the jerking bodies and sound effects are not for the squeamish.



The computer-controlled opponents have definite personalities. What works against one may not work against the next, so you're on a constant learning curve.

To beat an opponent, you need to win two out of three matches. The early ones are soon mastered, but later opponents do take a bit more work. If you are successful, you get a password so you can keep your new skills.

The speed and detail of the graphics should be a revelation to many of the Jaguar's detractors. Each fighter is fully texture mapped and the various moves are well animated. The little 'dances' that the winners perform at the end of each match are a particularly nice touch.

Point of view

The camera angle can be fixed or rolling. In the latter mode it pans wildly around the arena, following the players. Sometimes close up, it can then fall away to a long shot. Very occasionally this makes it difficult to judge your position, but it's rarely a problem for long.

The music is good and consists of the usual techno tunes – *Tempest 2000* has a lot to answer for. The sound effects are sparse but well chosen, with kicks producing gentle whooshing noises and characters grunting and squealing when hit hard. An awesomely deep voice introduces each new match.

Comparisons to *Tekken* and *Virtua Fighter* are inevitable. I'd be lying if I said it came into their league. However, given that they come on CDs with hundreds of megabytes of sounds and graphics, whereas *Fight For Life* is all packed into a 4Mb cartridge, the latter is an astounding achievement. It may be missing some of the polish of *Tekken*, but it matches both for playability. The only real caveat is that you need a human opponent for long-term value for money. *stf*

IAIN LASKEY



You can choose your fighter, but the Jaguar sorts out the opposition automatically. Curses.



The basic kick and punch moves will see you through the first few rounds, but you'll have to learn some combos to get much farther.

Product: **Fight For Life**
Price: **£59.99**
Contact: **JTS Atari**
Tel: **01753 533344**
Min system: **Jaguar**

VERDICT ● STF VERDICT ● STF VERD

HIGHS
- Superb playability
- Texture-mapped players
- Sound effects

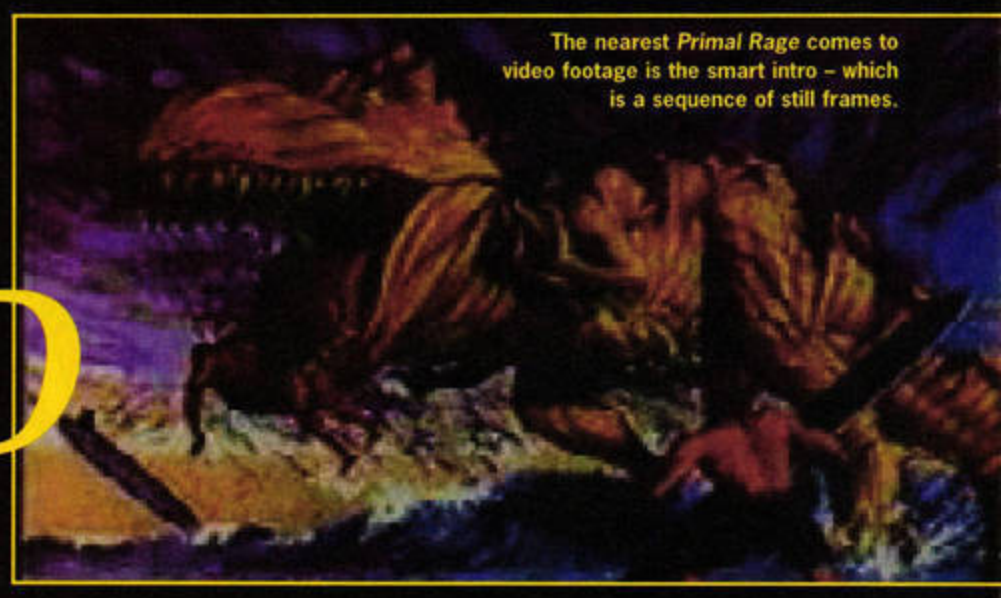
LOWS
- Price
- Some moves are tricky
- No very powerful moves

In short...
Superbly playable beat-'em-up with great graphics and sound. Worth the wait.

90%

www.stformat.com

Primal Rage CD



The nearest *Primal Rage* comes to video footage is the smart intro – which is a sequence of still frames.

Streetfighter 2 meets Jurassic Park in the second Jaguar fighting game of the month. So much for our vows of pacifism, then.

If you have a games console of any description, it's hard to avoid the angry mob of one-on-one fighting games which has flooded the market in the last few years. The Jaguar is no exception, boasting the aged *Kasumi Ninja*, *Ultra Vortek* and Atari's latest PlayStation-wannabe, *Fight For Life*.

Mother Urth

Not content with three titles, Atari has also released a CD-ROM conversion of the coin-op fighter *Primal Rage*. It replaces the usual collection of martial arts experts and genetic weirdos with a new element – giant prehistoric beasts.

Civilisation has been destroyed by a global catastrophe and the old gods have return to Earth in the form of vast dinosaurs and mutated apes. Humanity worships these gigantic predators as they begin the battle for supremacy on the New Urth.

Primal Rage offers two single-player modes, plus three for when your mates are handy. Arcade is the simplest: you work your way up the ranks by defeating all the opposition. The solo training mode lets you choose an opponent, enabling you to practice controlling your fighter and perfect your moves.

Like every fighting game, *Primal Rage* benefits enormously from a human adversary. You'll need an extra joypad, but the game improves greatly as you play the standard, tug of war and endurance two-player modes. In the last, your four players take it in turns to fight against a friend's team.

Chop-socky!

Beat-'em-ups tend to have cryptic control systems which strain your mitts, and *Rage* is no exception. The three main buttons produce a range of standard punches, kicks and bites, which can be expanded using the Up and Down controls. Each character has an array of special moves, ranging from spitting fire to cranium-crushing charges and drops. They aren't especially easy to execute, but each character's moves use a similar system. Once you're used to them, games will fly. There are also some moves which aren't described in the manual. You'll discover them as you play...

If you've been indifferent about digital slug-fest games so far, give this a try. *Primal Rage* manages to introduce something sorely lacking in previous efforts – a large helping of fun. The difficulty levels make it easier to get into than most fighting games, although you'll need to play at 10 or above to finish the game. Anything below that doesn't let you play the final battle.

Those of you with small hands may find the controls difficult – my hands are huge, and it still took a while to get used to them. Some people will also find the excessive gore off-putting. These criticisms aside, *Primal Rage* offers fast and very enjoyable sessions of prehistoric pugilism. ***stf***

FRANK CHARLTON



Diablo's special moves include this fearsome fiery toe toaster. Coo, pass the marshmallows.



Finish an opponent without being hit and you'll be rewarded with Total Domination points.

Product: Primal Rage CD
Price: £40
Contact: 16/32 Systems
Tel: 01634 710788
Min System: Jaguar with Jaguar CD

GORE BLIMEY

Primal Rage **is a very visceral game and there's a lot of flying blood whenever you score a damaging hit. Most moves result in a few unsavoury splashes, but some of the more spectacular hits can flood the screen with a crimson tide of generous proportions.**

If this kind of thing doesn't appeal, you can switch off the gore at the options screen, but there isn't a 'lock out' or parental control feature, so be careful if you don't want your kids to see enormous washes of the stuff. Still, you knew a fighting game would be violent, didn't you?



Primal Rage **contains more gore than most blood banks.**

VERDICT ● STF VERDICT ● STF VERDIC

HIGHS

- Easy to get into
- Bone-crunching sound and graphics
- Great fun

LOWS

- Awkward controls for smaller hands
- Too gory for some

In short...

A Jaguar game which offers something missing from many others – fun.

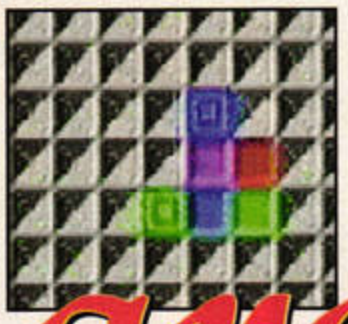
89%

www.stformat.com

P&D & Shareware







Shape Up

All STs (TOS 2.06 and Falcon require a *STOS* fix utility)

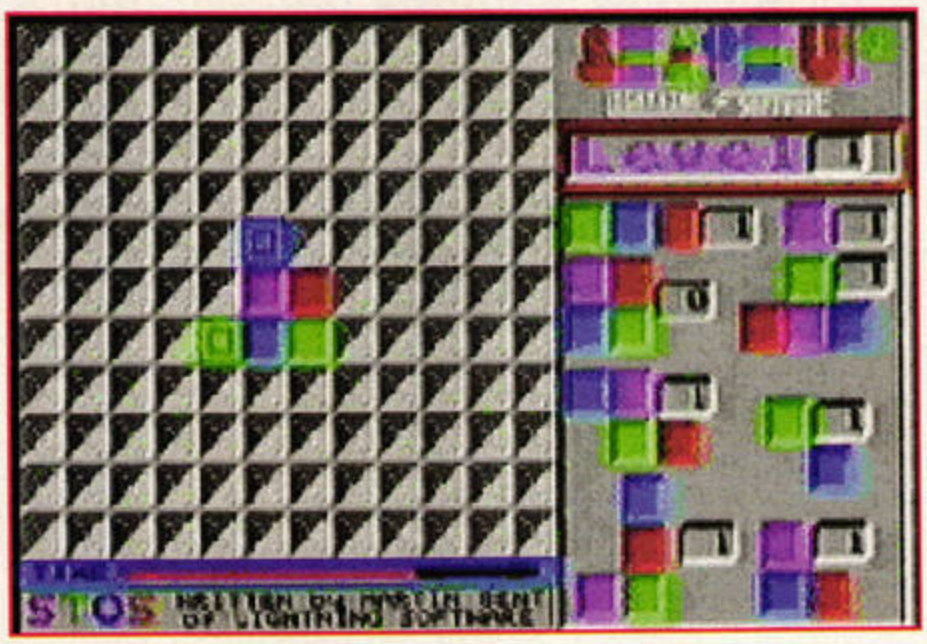
Shape Up is a puzzle game. It requires you to cover a target grid with shapes which exactly match the shape and colour of the target. You can use a combination of the pieces on offer, and once a piece is selected, you can flip it around to get it into the right position.

Shape Up has the potential to be a good, entertaining piece of software, but the timer is a problem. No doubt the author immediately became an expert at the game and was anxious not to make it too easy. The over-zealous timer makes it nearly impossible for a new player to get into the game.

It doesn't even have a couple of easy stages to get you started. This means you have to rehearse each level with multiple failures until you learn how to get it right first time. The timer should be switchable, or offer several different difficulty levels.

Sadly, this flaw ruins a potentially excellent game. With a more flexible approach, *Shape Up* would score at least 20 per cent more.

STF RATING: 59%



Shape Up is a promising puzzle game spoilt by over-zealous timer. Boo!





You have to lay siege to your opponent's castles and breach their defences In this smooth strategy game. Remember, in the end, there can only be one.

When a knight won his spurs in the stories of old, he was gallant and brave and had a huge army, tooled up to the teeth.

Lords of Chivalry

Goodman's, disk GD2732. All Ataris (Falcon and TOS 2.06 with a STOS fix utility)

Tis the year 1150, and war hath broken out in the kingdom. Three other lords do wage war against thee and thy castle. Thy task, shouldst thou choose to accept it, is to lay siege to the castles of thine enemies and destroy them utterly. This message self destructeth in five seconds.

Yep, it's *Mission: Impossible*, 12th Century style, in this cleverly constructed *STOS* strategy game. Four players, either human or computer, wage war until there is only one left.

There isn't any live action in the game, but you must busy yourself building up your castle's defences and gaining troops. You can buy spies to bring back reports from the other castles or sabotage their preparations.

When you feel you are sufficiently armed and well defended, it's time to go to war. Strategy is crucial, because if you spread your army too thinly you'll soon be defeated. The idea is to make modest gains and then reinforce them. The graphical interface works well, enabling you to keep track of your progress and that of your enemies. The presentation draws you into the action and you'll soon start to care who wins and loses.

With so many weak and badly presented PD strategy games around, *Lords of Chivalry* is a breath of fresh air. If you decide to strap on your spurs and have a go, you won't regret it.

STF RATING: 79%

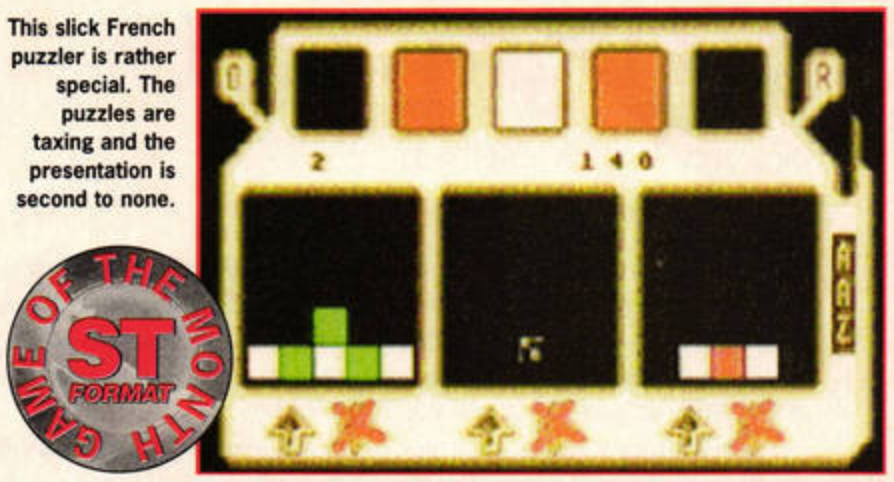
Aerius

LAPD
All STs

This French puzzler is beautifully written and graphically very attractive. All the text is in French, so working out what to do is also something of a game.

You are required to take a series of coloured blocks and unite two or more like colours to get rid of them. When all the blocks are gone, you move on to the next level. You manipulate the blocks by rotating them and moving them between the three work areas on the screen. Confused? You won't be after five minutes – it's easier to play this game than it is to describe it.

The sound chip music is among the best around, and even manages to sound classy in places. The game is compelling, if frustrating at times, and you will soon get hooked. Each level presents new challenges, and you can restart the current level at any time if you get stuck.

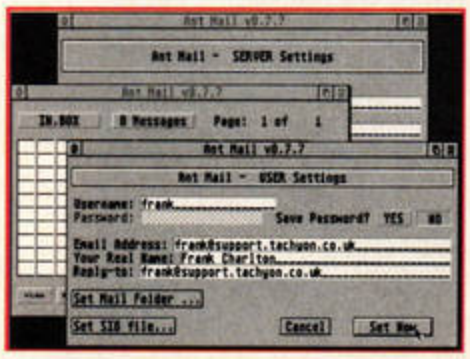


This slick French puzzler is rather special. The puzzles are taxing and the presentation is second to none.

Overall the game feels solid and professional, much more like a commercial game. Puzzle-solvers of the ST world, reach for your phones and get hold of *Aerius*, it's a must-have.

STF RATING: 89%

Internet Access Pack 1.31



***AntMail* provides a complete POP3 mailing solution within the *Internet Access Pack*.**

LAPD or HENSA ftp archive
All Ataris (CAB requires 1Mb)

This latest release of the *Internet Access Pack* includes far more than the old *STiK* and *CAB* setup. It's coming pretty close to being a full Internet connectivity solution, and plans are afoot to revamp the whole kit quite soon.

The new pack not only has the stuff you'd expect – *STiK* and a new version of *CAB* – but also includes some smart extras. *CAB* itself has new HTML routines enabling it to suport some more advanced Netscape features, such as client-side image mapping. It also has support for JPGs and forms. Swampdog's GEMmed installation and setup program is included, making it a doddle to install *STiK* for the first time.

You also get *AntMail*, the POP3 e-mailer, and clients for Finger and Telnet connections. The old IRC program is replaced with Lonny Pursell's new *GFA Basic* client, which supports colour and other new tricks.

This is likely to be the last release of the *Access Pack* in its current form. It's due for a complete overhaul, and the next version should be a much better integrated system. In the meantime, though, this release provides for most of your Web access needs, and does so very well. *Frank Charlton*

STF RATING: 76%



The Finger client enables Demon users to check how much mail you have waiting – even if you can't use the *Web Access Pack* to download your messages yet.

MIDI AND MUSIC



***STEFFI* is a delightful program, but it's only of use if you own a Yamaha FX900 guitar effects processor.**



There's nothing complex about this neat patch librarian – just click and drag the patches to your desired destination.

ST-Effi
Goodman's, disk GD2795
All STs, high res only

This program is only going to be of interest if you own a Yamaha FX900 guitar effects unit. The unit fully supports MIDI, both in and out, so you can use *ST-Effi* to build patch lists and save them to disk.

Like one or two other programs, it's a Yamaha official release which is now available in the public domain. The unit itself is now discontinued, but if you have one, this patch sorting software is invaluable.

The user interface is blissfully easy to operate – simply click on a patch and copy it to the destination of your choice. There are no cryptic editing screens to do battle with, so you can concentrate on what you want to achieve. When you have assembled your ideal bank of effects, you can upload it to your FX900 with a single click.

STF RATING: 79%

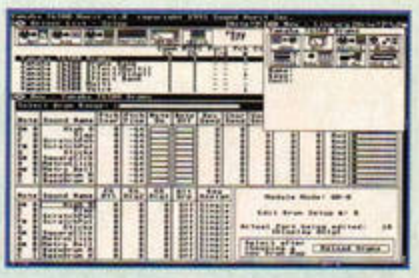
TG300 Quest
Goodman's, disk GD2785
All STs, high res only

Again, this program is neither use nor ornament unless you have the relevant piece of MIDI gear. In this case it's the Yamaha TG300, and the program is a real cracker. It not only provides extensive facilities for setting your patches on the instrument, but is also a complete patch editor, enabling you to change waveforms, cut-off frequencies and a host of other sound parameters.

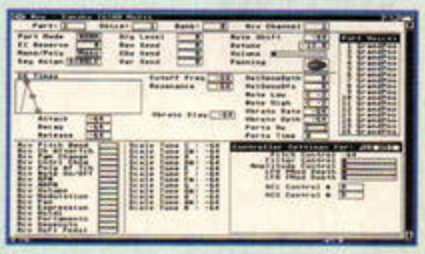
The nice thing about all ST patch editors is that you can copy your original patch settings to disk first using a MIDI dump from your instrument. This leaves you free to play with the settings, safe in the knowledge that you can restore the originals if you wreck the patches in the editor.

Because this is a full patch editor and librarian package, there are a lot more screens to tangle with than in *ST-Effi*, but everything is clearly labelled and the program is very stable. You won't want to be without this if you own a TG300, it's pure class.

STF RATING: 89%



***TG300 Quest* enables you to set up each sound precisely, right down to the reverb and chorus level.**



The real power of *TG300 Quest* is its ability to edit the patches and change the entire nature of a sound.

ST Highway 1

Jake Nichols ☎ 0181 3670147
All STs

First issues of diskzines are rarely excellent, and this one, unfortunately, is no exception. The intro screen, shown in our grab, is hardly enticing, and it doesn't cover any recent software. Instead, it seems to contain the musings of Jake Nichols on the software he already has, and features about ancient programs, such as *Noisetracker*.

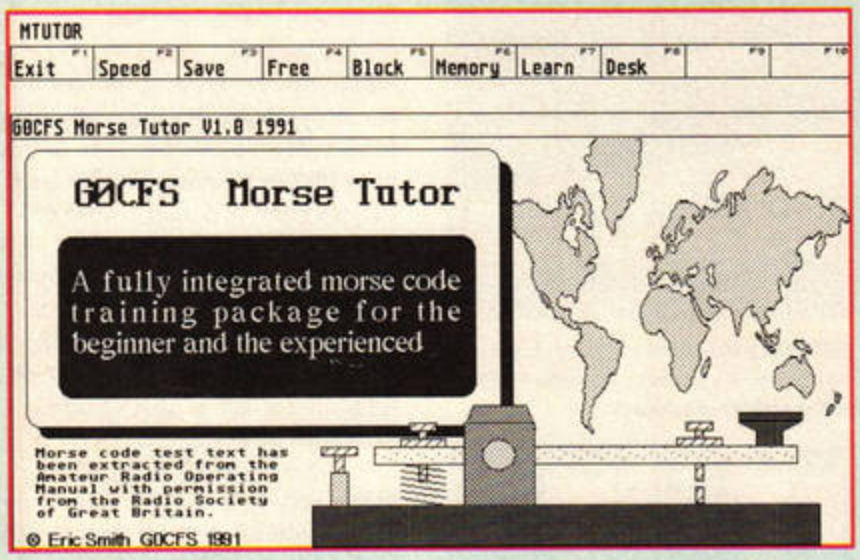
The humour comes courtesy of an old joke book and there is nothing on the disk to grab your attention. No doubt a lot of work went into producing the mag, but it doesn't get a cigar.

STF RATING: 28%



It isn't easy to produce a good disk zine. *ST Highway* provides the proof.

Morse Tutor



***Morse Tutor* is a simple, but well-thought-out, aid to learning Morse Code. With practice, you'll soon be bleeping away with the best of them.**

Goodman's, disk GD2747
All STs

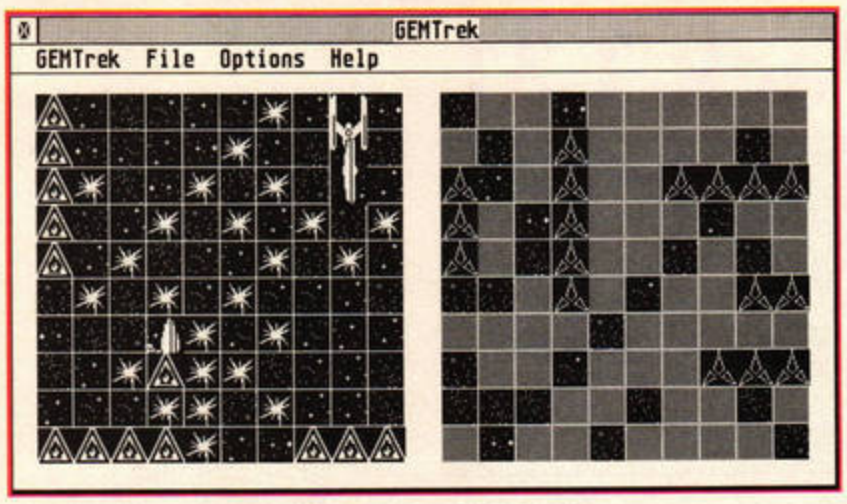
This Morse tutor has been around since 1991, but it's just as useful as ever today. Those learning the ancient and secret art of dots and dashes will find it an excellent aid in your quest for trans-global communication. There are 50 sets of text and numbers for you to interpret, as well as user-configurable tests.

The speed of keying is adaptable to suit all abilities, although the tone is a harsh sound-chip bleep.

The tutor only covers Morse Code receiving, but it does it very well and will prove indispensable if you're seeking to pass the Radio Amateurs Morse test and gain your full Radio Ham licence.

STF RATING: 76%

GemTrek



Make time for a quick game of battleships, *GemTrek*-style.

Goodman's, disk GD2793
All ST's, high res only

GemTrek is a neat version of the old *Battleships* game, using *Star Trek* space ships. It only runs in ST high resolution, but the *Sebra* high-res emulator is supplied on disk.

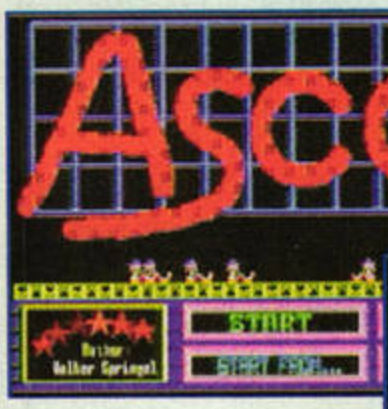
The rules are simple: just place your ships on the grid, by dragging them from their 'docks', then click on squares in turn with the computer. Whoever reveals all their opponent's ships first wins.

The game is enhanced by authentic *Star Trek* sound effects and the nice sense of humour expressed in the 'registration' procedure: you have to answer three questions correctly and state your favourite colour. The disk also includes a shareware registration form from InterActive, but you can ignore it. *GemTrek* is freeware.

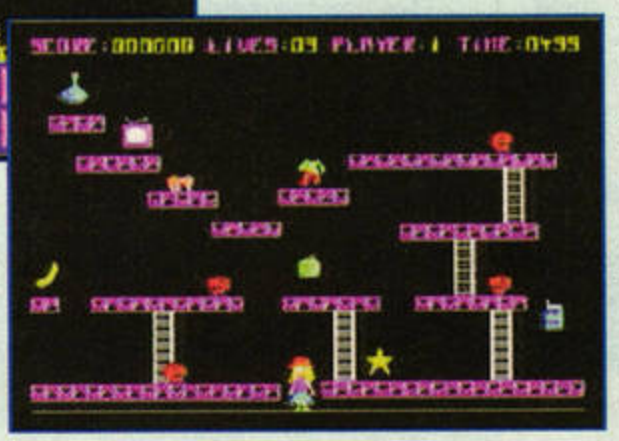
GemTrek is a great game for passing a few idle moments between more serious tasks.

STF RATING: 80%

Ascot



***Ascot* is a sort of platformer cum *Pacman* game, making an interesting combination of the two disciplines. Well worth a bash.**



Be careful not to fall off any of the platforms, because this guarantees your early demise. Your three lives have to last a full 100 levels.

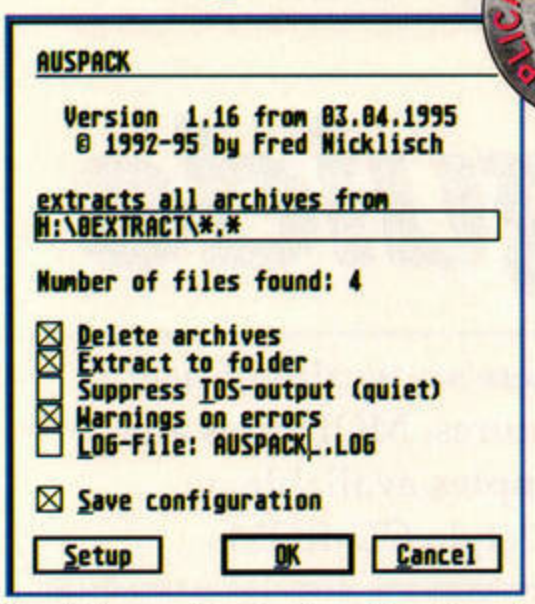
LAPD
All STs

Nope, it's not a horse racing game, so relax – you won't need your smart suit, posh frock or silly hat. *Ascot* is actually a simple platform game, very much in the style of the old Speccy game *Manic Miner*, but with elements of *Pacman* thrown in for good measure.

There are no doc files, but it's fairly simple to grasp. In order to progress to the next level you must eat all the goodies, kill all the baddies and cover every inch of the platforms. As you walk over a platform it turns yellow so you can monitor your progress. When you eat one of the prizes, the baddies change colour for a short while, enabling you to land on them and kill them.

The jumping routine is a little touchy, and if you have the misfortune to fall down a level, you will always die. Lots of care is needed to actually progress through the levels. A full 100 are provided, so this game will take

Auspack



Your all-in-one archive extracting solution, *Auspack*.

LAPD
All Ataris

Every so often, along comes a utility so mind-blowingly useful and obvious that it's hard to believe it hasn't been done before. *Auspack* is such a program.

When you've spent an hour or so downloading files from bulletin boards or the Internet, you end up with a folder full of archives. It's a real chore dearchiving them all and placing the files in folders ready for use. This is where *Auspack* steps in, offering to automate the whole process.

Use the setup button on the front panel to enter the paths to your archiving packages (*STZIP, LZH Shell, ARC* and so on). Once this has been done, all you have to do is click on the folder box at the top of the panel to select your downloads folder, and then click OK. As if by magic, all the files are extracted into folders and, if you wish, the original archives are deleted. In future, all you have to do is launch the program and click OK after each download session to extract all your new archives.

Because of the disk space required for multiple archives and extracted files, it is unlikely that *Auspack* will be much use unless you have a hard drive attached to your ST. If you are so equipped and often have to extract lots of archives in different formats, *Ausback* is the utility you've been waiting for – and our PD Application of the Month.

STF RATING: 89%



Auspack works with up to 20 archiving packages. It's very easy to configure and will save you lots of time.

some time to complete.

The big drawback with *Ascot* is that you only need to make the slightest mistake and you're done for – down at the first bend, so to speak. A little more tolerance would be welcome, because the game is not particularly easy and you only have three lives. The levels get a little repetitive, but there's plenty to keep you occupied on a wet Wednesday afternoon. Should you complete all 100 levels, there's even a level creator included with the program.

STF RATING: 75%

UPDATES

iPRN 2.01
LAPD, Wonder Disk 85
All Ataris

iPRN 2.01 is probably the best Atari printer accelerator so far. It can increase the speed at which your Atari sends data to the printer by up to 40 per cent, and this new version fully supports all TOS machines, including the Falcon and TT.

Other new features include the interception of GEMDOS printer routines as well as BIOS routines. This is a major step forward, because it means that the vast majority of programs can take advantage of the dramatic speed increase.

This version is shareware and limited to one enhanced printout per session, but it should be enough for you to realise how much difference iPRN 2 will make. Registration is handled in the UK and costs just £13.

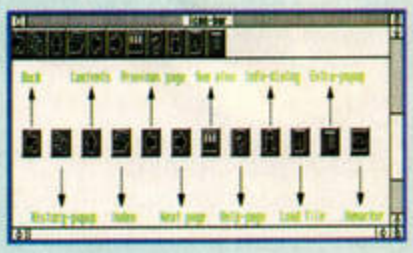
iPRN 0.46 appeared on Cover Disk 83.

STF RATING: 78%

ST-Guide 1.4e
LAPD
All Ataris

ST-Guide just keeps getting better and better, and it's now the help file system of choice on the Atari platform.

The program has taken that important step from an interesting little utility to an essential one. With more and more programs supplying help files in HYP format, you really can't afford to be without it.



The *ST-Guide* Accessory help system is now better than ever. Its neat icon bar makes it easier to navigate through your help files.

The latest version is fully compatible with just about all the Atari systems, so ST-, Falcon-, TT-, *MagiC*- and TOS-compatible computers will all run the Accessory. Remember to copy all your HYP files to the correct directory on drive C, or *ST-Guide* will not find them. As long as you do this, the program is transparently easy to use.

The current version offers many technical bug fixes relating to pop-up dialogues and text display. All you really need to know, though, is that it is much more reliable and bug free than previous releases. The other thing you'll notice is the new icon bar at the top of the help screen. This makes it easier to navigate through big help files without using the drop-down menus.

ST-Guide 1.3 received 95% in issue 73.

STF RATING: 95%

PD & SHAREWARE ROUND-UP

If a piece of PD software scores 80% or above, it enters our PD hall of fame for four months. If you want to know more about one of these programs, turn to page 50 and order the relevant back issue.

TITLE	PD LIBRARY	TYPE	ISSUE	RATING
Let's Spell 1st500 Words Intro	Goodman's	Utility	82	96%
EKO System Demo	Falcon Owner's Group	Falcon demo	81	94%
AtariPhile 1	Falcon FacTT File	Diskzine	83	93%
Isle of Glass	Goodman's	Game	80	92%
Psycho Series	Goodman's	Graphics utility	84	90%
Two-in-One 1.51e	Wonder Disk 81	Archiver shell	81	90%
Michigan Mike	LAPD	Game	82	89%
ToDo 1.01	Hensa	Organiser utility	82	89%
Nishiram	LAPD	Game	81	89%
Songz 1.90	HENSA	Music database	81	89%
AstroGuide 4	Goodman's	Astronomy utility	81	88%
Nova 10	Nova	Diskzine	84	88%
Pac Attack	LAPD	Game	84	88%
STOS Adventure Creator	Goodman's	Games utility	84	86%
Mobsters City	Goodman's	Game	83	84%
JML Snapshot	LAPD	Utility	84	83%
Rollercoaster Experience	Goodman's	Game demo	81	82%
UDO 4	Cover Disk 82	Utility	83	81%
Look and See	Hensa	Graphics utility	82	81%
List Font 2.1	FaST Club	Font utility	81	81%
Shrinking Wall Solitaire	LAPD	Game	83	80%
Annex	LAPD	Game	81	80%

CD-ROM setup – the ultimate guide

Anyone can set up a CD-ROM drive – all you need is the know-how. Andy Curtis unlocks the secrets in our step-by-step guide.

There's a wealth of useful pictures, MOD files and samples available on PC-style CD-ROMs

We keep telling you it's a simple job, but you keep writing in and telling us it isn't, so here's our definitive guide to setting up a CD-ROM drive.

CD-ROM has come a long way since the very first Atari releases, and there's also a wealth of useful pictures, MOD files and samples available on PC-style CD-ROMs. Now's the time to access all that lovely data, but where do you start?



The six-speed IDE drive from System Solutions is a very safe bet for an almost fool-proof CD-ROM installation. See issue 83 for more information.

If you want to sidestep any possibility of hassle, the safe bet is to buy an IDE CD-ROM kit (£249.95) from System Solutions (☎ 0181 6933355). This model scored 95% in issue 83.

It has a six-speed mechanism, offering excellent data transfer rates, and it simply plugs into the cartridge port of your ST. Apart from one German dialogue box (just click on OK), the software is a breeze to set up, and you'll be using your drive within minutes of opening the box. If you can spare your cartridge port for this system, it is definitely the easiest option.

No hard drive?

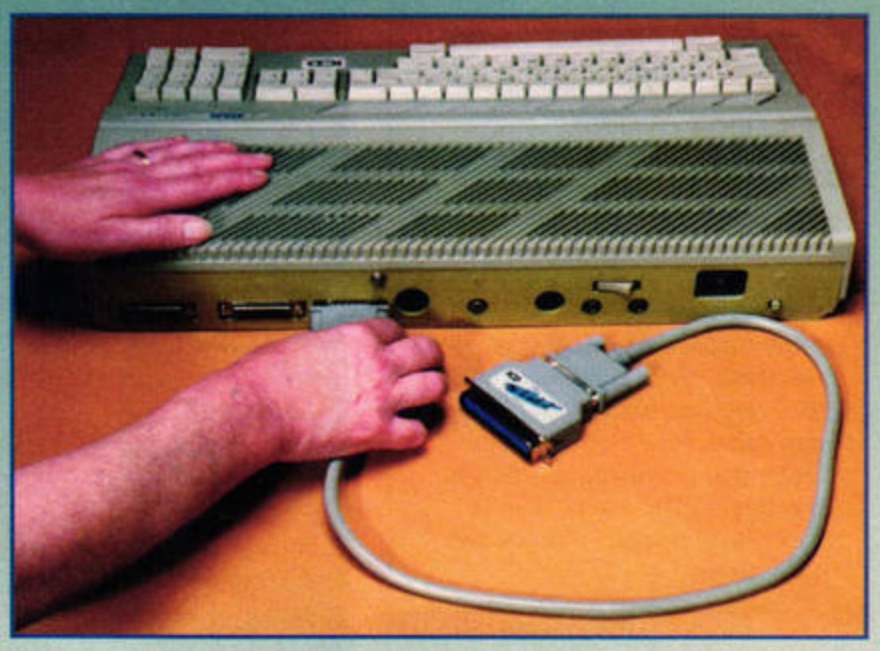
Many people prefer the speed and compatibility of a SCSI CD-ROM drive, even though it means integrating the new unit into your system. It is, in theory, possible to run a CD-ROM drive without first having a hard drive, but in practice it isn't advisable. Using a CD-ROM drive with a floppy-only system will not make you happy for long.

The reason for this is that many Atari CD-ROM disks contain large archived files which will need to be copied on to a hard drive before you can unpack them. It is better to think of the CD-ROM as an enhancement to your hard drive system, rather than as a standalone option. Even if the files aren't compressed, only a few programs will run directly from a read-only CD-ROM. Most need to be copied to a read/write drive, so that they can save their configuration files. This is very frustrating if the programs are bigger than your 720K floppy disks. In short, if you don't have a hard drive, make getting one your top priority, then start saving for a CD-ROM drive.

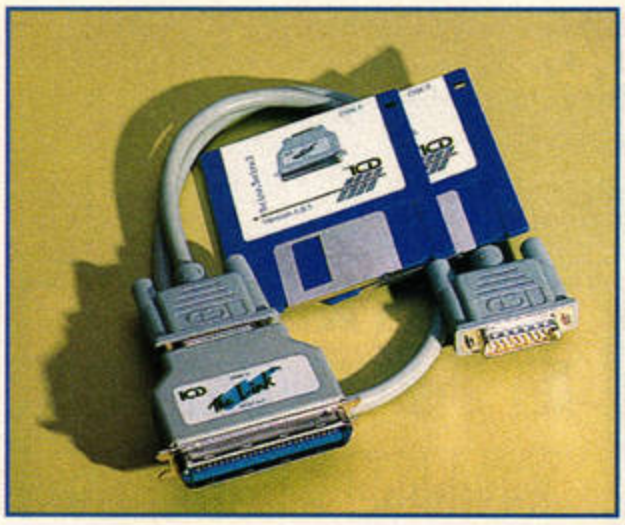
HOW TO CONNECT YOUR CD-ROM DRIVE



1 Here's what you need to add a CD-ROM drive to your system. The NEC CD-ROM drive (top left) is one of the many compatible SCSI drives. The Link 2 (centre) comes with its own software, but this is only intended for use with your hard drive. The CD-ROM drive will be controlled entirely by *ExtenDOS*. SCSI cables are often quite short, so you will need to give some thought to the placement of your CD-ROM drive. Ideally it should be placed alongside or behind your ST – and *not* just above the power supply, as shown here.



2 First, connect the Link 2 to the cable. Push the plug on and then tighten the screws till the join is firm. The other end of the cable fits on to your ST, to the left of the Drive B socket when you view it from the rear. Once again, you will need to tighten the screws until the plug is securely joined to your ST. Don't make the mistake of simply pushing the plug on, because you could end up with serious problems if it gets knocked out while you are conducting important hard drive operations. With the Link 2 in place, your ST is now ready to interface with a SCSI device.



The Link 2 is the best SCSI interface as far as compatibility with CD-ROM drives goes.

Hardware

When you do get a hard drive, you can pave the way for the easy addition of a CD-ROM drive by getting a modern one with dual 50-way centronics connectors. These hard drives need an external SCSI interface, such as the Link 2 from ICD. The beauty of this system is that it makes it very simple to chain on extra SCSI devices with a 50-way to 50-way SCSI cable.

If you have an old-style external drive, such as a Protar, Atari Megafile or Gasteiner Mega drive, it is a great deal more difficult to add a CD-ROM drive. These hard drives use a variety of different SCSI interfaces and generally don't have a 50-way SCSI Out port on their back panel.

These hard drives do, however, usually have a DMA Out port, and it is quite feasible to plug a second SCSI adaptor into this port to connect your CD-ROM drive. Alternatively, it may be time to sell your hard drive to someone with more modest needs and invest in a modern one with industry-standard SCSI ports on the rear.

Software

If you own a hard drive, you'll be familiar with the SCSI driver software which comes with it. You could be forgiven for thinking that it should also control a SCSI CD-ROM drive – but it doesn't.

CD-ROM drives use special SCSI commands for CD-ROM disc access. They are quite different from the commands needed for standard SCSI hard drive access. We recommend that you use a program called *ExtenDOS* (£39.95) to install drivers which support these commands, and to add the CD-ROM drive to your Desktop.

ExtenDOS is compatible with a very wide range of SCSI CD-ROM drives. Whichever SCSI drive you buy, there is an excellent chance that it will be supported by this program. If you are unsure, it may be worth a call to System Solutions (☎ 0181 6933355) to check that your proposed drive is on the list.

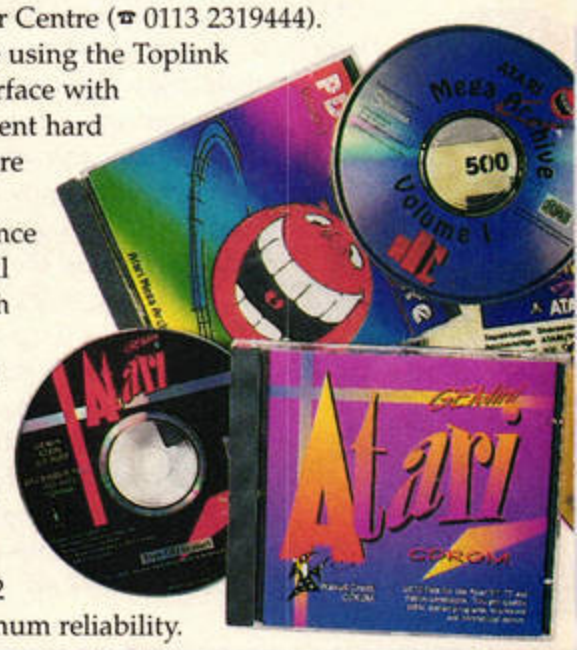
Whichever SCSI drive you buy, there is an excellent chance that it will be supported by *ExtenDOS*

Which drive?

If you are buying your CD-ROM from an Atari supplier it is even easier, because the drive will come with a copy of *ExtenDOS* and be guaranteed to work with an ST. HiSoft is offering two models, a 2.4-speed for £229 and a 4.4-speed drive for £289. These prices include ICD's Link 2, *ExtenDOS* and even two CD-ROMs to get you started. Call HiSoft on ☎ 0500 223660.

System Solutions also offers an Atari-specific SCSI CD-ROM kit, based on the Toshiba quad-speed (4x) mechanism. It includes *ExtenDOS* and the Link 2, and costs £319. Call ☎ 0181 6933355 for details.

If you buy a SCSI CD-ROM drive from a non-Atari retailer, you will need a copy of *ExtenDOS*, and you may also need the Link 2 host adaptor. *ExtenDOS* costs £39.95 from System Solutions and you can get the Link 2 (£69.99) from First Computer Centre (☎ 0113 2319444). If you are using the Toplink SCSI interface with your current hard drive, there is a very good chance that it will work with your CD-ROM drive as well; however, we recommend the Link 2 for maximum reliability.

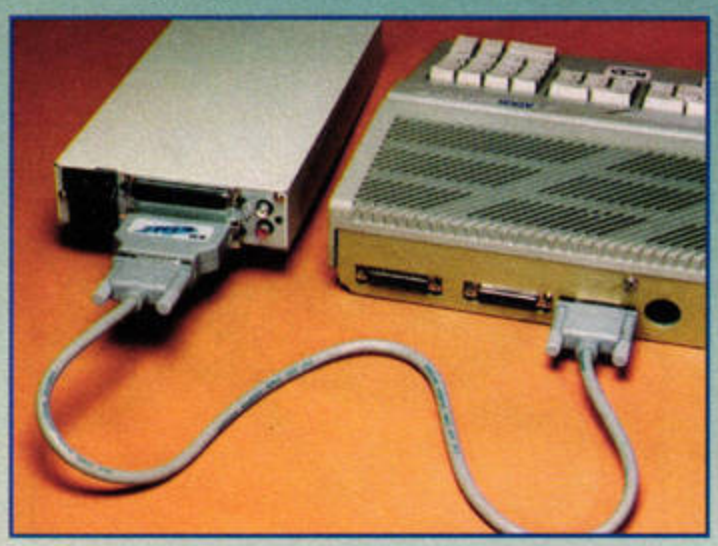


SPEED

The faster your CD-ROM drive can spin the disk, the more quickly you can access the data. Audio CDs were the first on the scene, and thus set the original standard for CD speed – 150K per second. All the faster CD-ROM drives state their speed relative to the original standard.

Therefore, a double-speed CD-ROM drive is twice the speed of the original, a quad-speed drive four times faster, and so on. Because the IDE standard is significantly slower in its data transfer rate than the SCSI standard, it is worth noting that a four-speed IDE CD-ROM player will not be quite as fast as its SCSI counterpart.

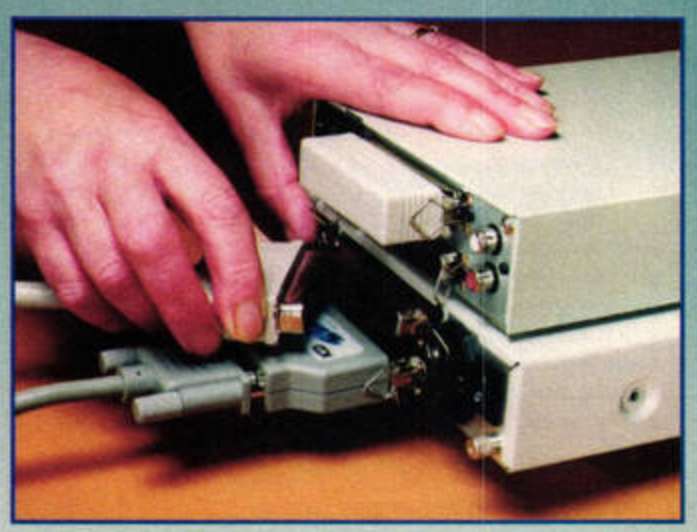
3 If you are using the CD-ROM drive without a hard drive – despite our advice to the contrary – this is how the SCSI connection looks when the cable is plugged directly into the CD-ROM drive. As you can see, the Link 2 just looks like an over-sized plug, but it actually contains a highly miniaturised SCSI interface. Because it has a standard 50-way centronics plug as its output, you can plug it into any modern external SCSI device, such as a hard drive, CD-ROM drive or tape drive. The extra SCSI socket on these drives means that chaining on further devices is very straightforward.

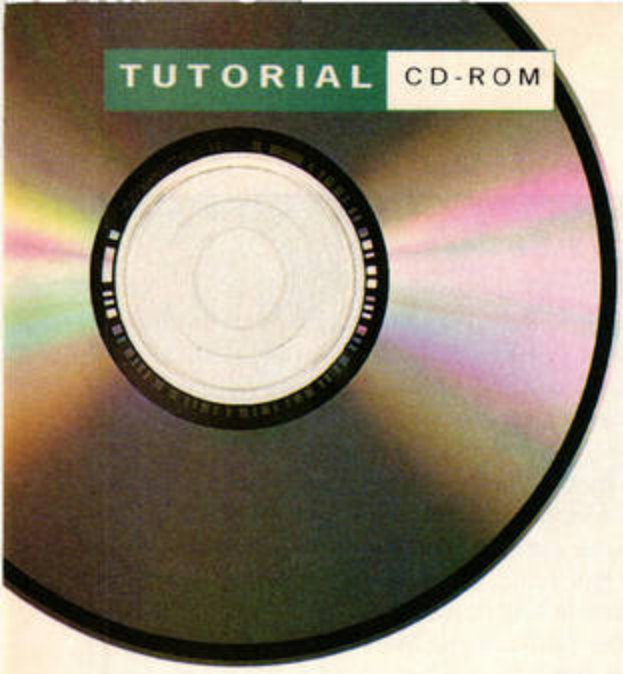




4 It's very easy to set the SCSI device number. Every SCSI device on your system must have a different device number, so that your ST knows which device to access. Sometimes the device number is set by manipulating DIP switches, but most recent units have a system similar to this one, where you use a small screwdriver or needle to click the counter round to the desired number. You can select any number that is not already used on your system. If your hard drive is device number 0, device number 1 is a good choice.

5 Here is a more realistic hard drive and CD-ROM setup. The Link 2 is fitted to the hard drive, which is first in the chain, and then a SCSI-SCSI cable is used to join the hard drive to the CD-ROM drive. The plain white block in the top socket on the CD-ROM drive is a termination block. This is required on some systems to close off the SCSI chain properly. Most CD-ROM drives are supplied with a terminator, and you may encounter problems if you don't use it.





Caring for your CD-ROMs

When CDs first became popular, one of their selling points was their relative strength compared to old-style records. It all sounded too good to be true, and so it was. While CDs are a little more resilient than records, a scratch or imperfection can render a data disc completely useless. The odd missed note may be acceptable on an audio CD, but the odd missed data bit on a CD-ROM is much more serious.

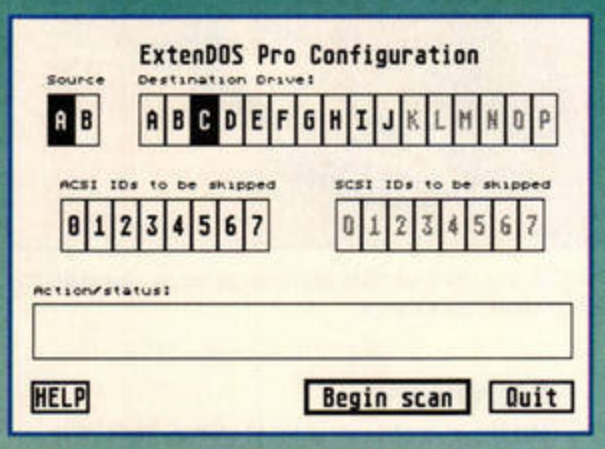
The usual rules apply: only ever hold them by their edges, and keep them in their cases. If you need to clean one, use a very soft, clean duster and wipe the playing side gently until the smudge marks disappear. If a disc falls on to the floor playing side down, try to pick it up without sliding it across the floor. Remember that CD-ROM discs can cost as much as £60 to buy, so damaging one is far more serious than damaging a £14 audio CD. *stf*



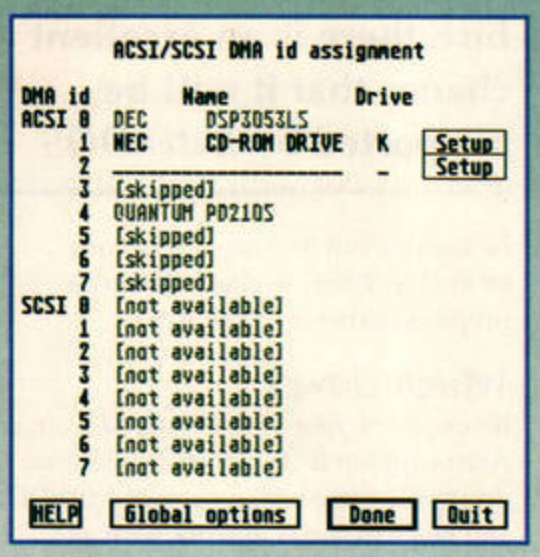
CONFIGURE EXTENDOS



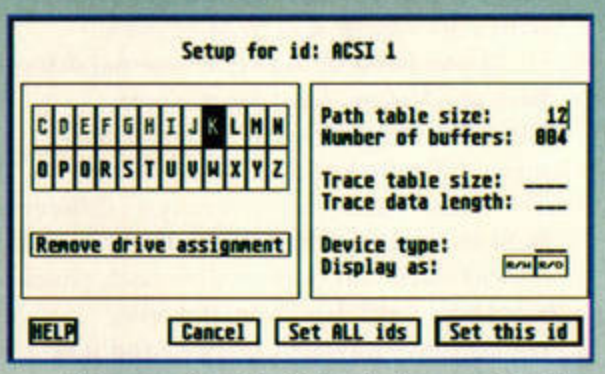
1 Place your *ExtenDOS* master disk in drive A or B, open it up and double-click on INSTALL.APP. When you see this first dialogue box, highlight the top option to install a new version from the drive. The other option enables you to install a further drive or customise the driver settings at a later date.



2 Next, you must choose the source and the destination drive for *ExtenDOS*. The source drive is the floppy drive you ran the program from, and we recommend you use drive C of your hard drive for installation. You can also highlight any device numbers you wish to skip to save scanning time. Now click on Begin Scan.

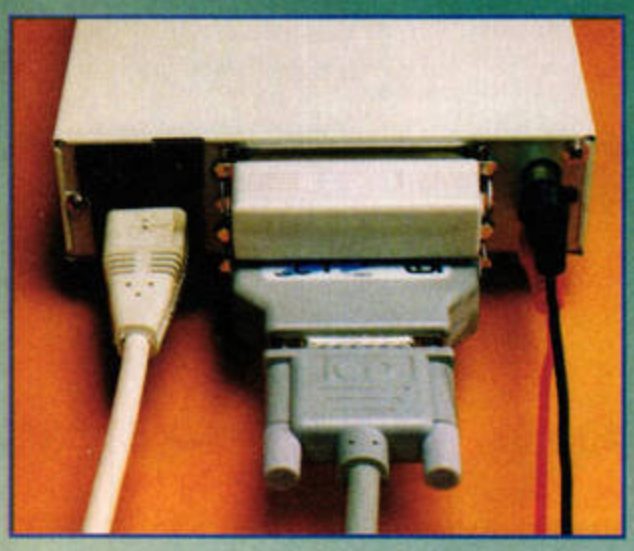


3 When the scan is complete, this dialogue should show your CD-ROM drive in bold type. Other devices show up in gray, because they don't concern *ExtenDOS*. Click on the setup button next to your CD-ROM slot to create a drive allocation. You can ignore the global options.



4 All you need to do in this box is choose a letter for your drive. This is the letter which will appear on your desktop to represent your CD-ROM drive. Simply click on Set this ID to complete the procedure – the files will automatically be copied and configured for use. Re-boot your ST to use your new CD-ROM system.

...continued



6 If the CD-ROM drive is your only SCSI device (highly unlikely) then the completed cabling looks like this. More commonly, the Link 2 would be connected to your hard drive and a standard centronics SCSI plug would be in the bottom socket of your CD-ROM drive. With the termination block fitted and the power plugged in you are almost ready to go, but don't forget the sound output ports. These standard RCA connectors are used to connect your CD-ROM drive to a pair of amplified speakers, or your hi-fi system, so that you can hear the music on audio CD-ROMs.



7 Now for the moment of truth. Once you've followed our *ExtenDOS* setup guide (above), it's time to load a CD-ROM into the drive (printed side up). Be careful not to touch the playing surface when you're handling the CD-ROMs – a good thumb smudge is quite sufficient to cause data errors. If you are experiencing file copying errors, it may be time to reach for a soft, clean duster and give the surface a gentle wipe.



8 There isn't a software command to close the CD-ROM tray. Instead, you will need to press the Close button, or simply give the tray a gentle push. Once the disc has disappeared into the drive, the LEDs should flash, indicating that your machine is accessing the disc briefly, and then it's ready for use. On your Desktop, click on the drive letter which you have assigned to the CD-ROM. A standard GEM window will appear, showing the root directory of your disc.

ST Answers

Frank Charlton shines a bright light full into the eyes of your ST-related problems, forcing them to reveal all. Mac Marsden writes down the answers.

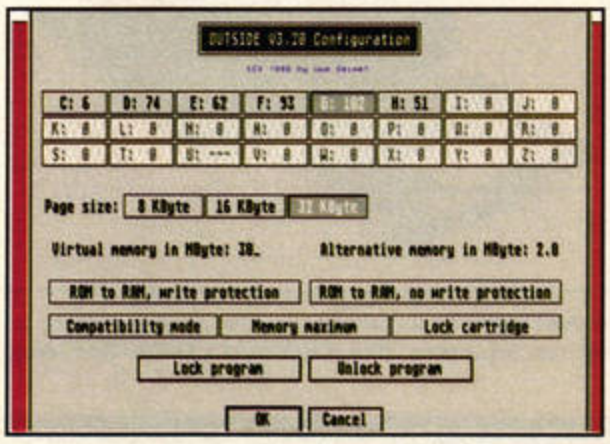


STEP OUTSIDE

Q I read with great interest the review of *Outside*, the virtual memory utility, in issue 82. I have an STE upgraded to 2Mb, a 40Mb hard drive and a second disk drive. This system is well suited to my needs, which mainly involve word processing, DTP and some comms.

Upgrading to 4Mb would cost about £47, more than £20 less than *Outside*. I know this is still cheap, but I don't really want to spend so much. My system is adequate for most of my work, and it isn't really worth my while to spend £50–70 on it.

However, I occasionally run into memory problems with large text files when I'm working with *That's Write 3*, especially if I'm using several fonts, and this does cause me difficulties printing. I am therefore writing to ask if you know of any shareware or PD utilities which would give me virtual memory capabilities – the concept sounds great. Or should I go for the upgrade?
Robert Stead, via e-mail



It's memory, Jim, but not as we know it. *Outside* won't run on an ST, though – you need a 68030 processor.

A *There are two things you need to consider here, Robert. First, however good virtual memory may sound in theory, it's never a substitute for the real thing. Even the fastest hard drive is significantly slower than a RAM chip, so performance always drops when virtual memory is working hard. However, virtual memory utilities can get you out of trouble when you need to go beyond the limits of your real memory, and* Outside *is best of the bunch.*

The second point is that virtual memory requires something a standard STE doesn't have – a protected memory management unit, or PMMU. The PMMU prevents the virtual memory system from clashing with real memory and hard drive accesses, and it isn't possible to use virtual memory without one. The STE's 68000 processor doesn't have this capability – Outside *was designed for the 68030 chip used in the TT and Falcon, and the PAK series of upgrade boards.*

The price you mention isn't too steep when you consider you're doubling your memory, and it does make a difference, especially to RAM-hungry programs such as That's Write.

RAM IT HOME

Q I own a Falcon, and as I live in New Zealand, I am finding it hard to get information about what my machine can do. I am not on the Internet at the moment, and there aren't many BBSs in my area that have Atari files.

I was intrigued to find out, from the Falcon manual, that you can put a 386SX chip in the Falcon for some impressive emulation. I would like to know a bit about this, including what it is capable of, the cost, and what it needs. Can you put a 486 chip in? What speed does it have to be? I presume there is a kit which plugs into the Falcon's expansion slot and has all the necessary hardware on board.

Is the Falcon limited to 14Mb solely because of the special Atari memory? I have a board for the memory, so I can use 72-pin SIMMs instead. I am wondering if I can put more than 14Mb of RAM in my machine.
Richard McKeown, Paraparaumu, New Zealand

A *Despite the potentially misleading information in the Falcon manual, you can't just add an Intel chip and turn your Falcon into a PC. The emulator boards included lots of custom circuitry, along with the Intel processor, and plugged into the Falcon's internal expansion slot. The only ones we know of were sold in the UK by the now-defunct Compo, and weren't really much good compared with*

HISOFT C CENTRE with Mac Marsden

If you have any questions about HiSoft C, send them to Mac at: HiSoft C Centre, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath BA1 2BW. Alternatively, send an e-mail to: mac.marsden@dial.pipex.com.

LIBRARY COMPATIBILITY

Q Can you please help me with the following questions? 1 Why do some programs written in, for example, *HiSoft C* not compile in other C programs? 2 Is the command `evnt_keybd()` only used by *HiSoft C*? Other compilers won't accept it.
Bert Holliday, Glasgow

A *Bert, thank you for your letter. I will answer your questions as best I can.*
1 HiSoft in its wisdom has mixed four C libraries: ANSI, UNIX, HiSoft C *and GEMDOS (the library is stated to the right of the command explanation in the* HiSoft C Interpreter *manual, pages 152–288). Mixing these libraries together will only work with the* HiSoft C *interpreter.*

If, for example, you want to write your program on the Atari and then compile it on a PC, there are two things you must keep in mind. All the commands used in your code must be ANSI compatible (unless you are going to use it on a UNIX system, in which case ANSI and UNIX commands may be used).

You must also declare your header files. These files have been put in the background in the interpreter, but need to be included when you're using compiled C. They tell the compiler which commands are to be included. For example, the `printf ("")` *statement is held in* `stdio.h`. *If we wish to use* `printf` *then the statement* `#include <stdio.h>` *must be added at the beginning of your program.*

This must be done for each statement within your program. It can be very frustrating initially, but eventually you learn which library contains which command.

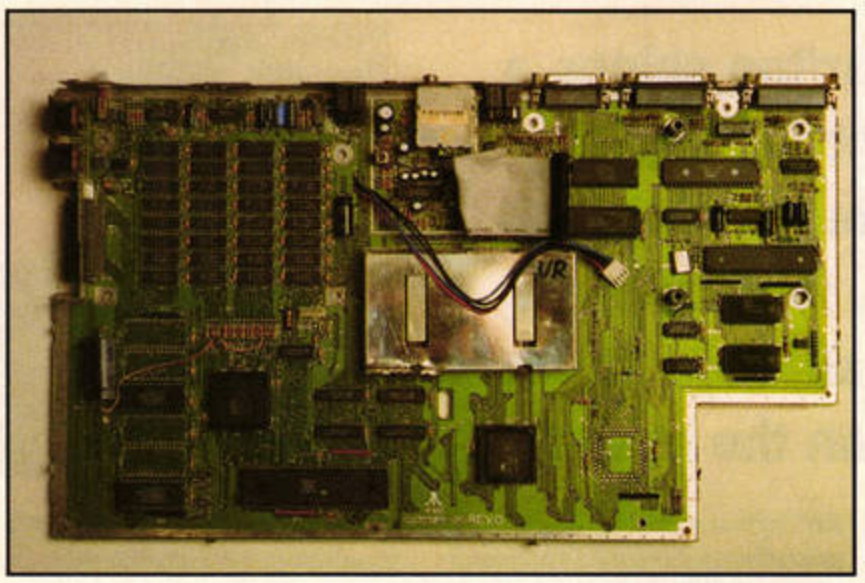
2 Bert, yes, `evnt_keybd()` *is a* HiSoft C*-only command. Similar ANSI commands include* `fgetchar()`, `getc()` *or* `gets()`. *These commands also wait for a key to be pressed; in the last case a string may be entered.*

ATARI TO AMIGA

Q My friends at school all have Amiga computers. We are doing Information Technology, and learning how to program in C. If I write a program using *HiSoft C*, can I give a copy to my friends so they can load it into their C programs and run it?
Brian Ord, Sheffield

A *Brian, what a can of worms you have opened. I must admit that I don't have any experience of Amiga machines.*

However, I do know that Amiga owners can use CrossDOS *or* MessyDOS *to read MS-DOS format floppy disks. If you save your C program as a text file and copy it on to an DOS disk, your friends should be able to access it. Alternatively, if you are all connected to the Internet, you could e-mail text files to each other.*



The STE's motherboard is a complex beast, with lots of chips and wires and stuff, and circuit diagrams are hard to come by these days.

the real thing. Considering how inexpensive secondhand 286 and 386 machines are now, they are a bit of a non-starter anyway.

As for the memory, the Falcon can take 16Mb of RAM, but can only address 14Mb due to the hardware design. If your board is a FalconWing or similar, you can only use four 4Mb SIMMs in it.

Even the BlowUp FX card from System Solutions (☎ 0181 6933355) doesn't enable you to access more than 14Mb, although future versions of its software should make this possible.

IN THE FIELD

Q I am an engineer working in electronics and computing and I own two 1040STE Atari computers. I would like to know precisely how the hardware works, and I am therefore looking for the electronic diagram of the 1040STE as well as the PCB layout plan. This sort of information would normally be available to Atari repair shops, in the form of maintenance documentation. Could you tell me where I could find this sort of documentation (if it is for sale), and how much it would cost me to buy it?
Thierry Sutter, Paris, via e-mail

A *What you're looking for is the old Field Service Manuals produced by Atari when the STE range was first introduced. These manuals were never sold to the general public, though, and seem to have long since disappeared. Most Atari repair outfits will have these manuals, but won't be able to provide you with copies for obvious copyright reasons.*

While there are still books and text files available which delve into the hardware, none of them offers the depth you're after in terms of circuit diagrams. If anyone does have an old manual they'd be willing to part with – or any other information which might help – drop us a line, and we'll put you in touch with Thierry.

ZIP ALONG

Q I own a 1040STE – a very old model, because in Singapore you can hardly find a Atari shop. Recently I brought a SCSI Zip drive (from Iomega Systems) on the recommendation of a friend.

I thought I could plug and play with my Zip drive until I discovered that the 1040STE hard drive port has only 19 pins. Is there a way to connect my SCSI 25-pin lead to this 19-pin port?
K-leb D'Cat, Singapore, via e-mail

A *The hard drive port on the ST and STE only uses 19 pins for a simple reason – it isn't a SCSI port. Atari didn't adopt the true SCSI standard until quite late in the day, and it used its own DMA system for hard drive access on the ST range.*

If you want to connect a standard SCSI device – and this applies to hard and CD-ROM drives, as well as the Zip drives – you need an extra piece of hardware called a host adaptor, which translates the drive's SCSI signals to DMA ones the ST can understand. There are several designs, but we recommend you go for the ICD Link 2, because it's the only one which works reliably with the Zip drives. If you can't find an outlet in Singapore, one of the UK dealers should be able to sell you one by mail order. Try either HiSoft Systems (☎ +44 1525 718181) or First Computer Centre (☎ +44 113 2319444).

IN PARALLEL

Q I have an Iomega Zip drive connected to the parallel port of my PC. Can you tell me where can I find a suitable software driver so I can use it with my



We don't know why it's called a Zip drive – you can't use it to hold your trousers up. *(I've always used a belt for that – Nick.)*

GRAPHICS STUDIO with Frank Charlton

You've probably already noticed that ST Answers has a new look and layout. We're also going to be introducing new individual columns on an irregular basis. This month, we're covering queries related to art and graphics. If there are any topics you'd like to see covered, drop us a line at: ST Answers, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath BA1 2BW.

BITS AND BOBS

Q Whenever I read anything which mentions graphics, I see you talking about the graphic in terms of how many bits it has, such as a 24-bit or 8-bit image. Can you explain these terms to me, and tell me how many bits the ST has for displaying graphics?
Phil Futers, Cardiff

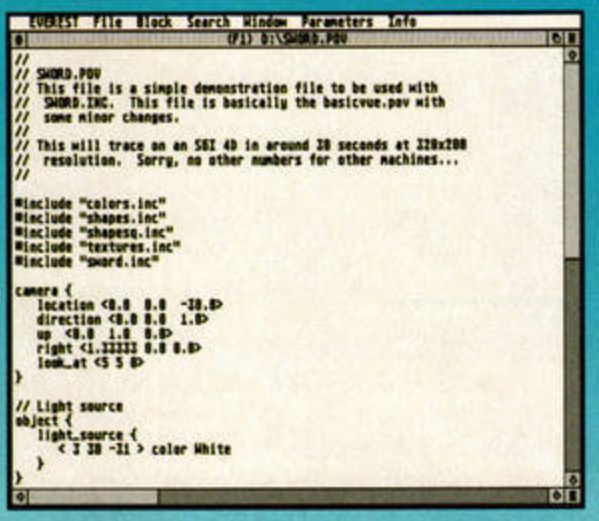
A ***It's a simple system once you know how it works, Phil, and can describe the colour depth of any graphical display. The table below explains the various options:***

1-bit	2 colours (ST monochrome)
2-bit	4 colours (ST medium resolution)
4-bit	16 colours (ST low resolution)
8-bit	256 colours
15-bit	32,768 colours
16-bit	65,536 (HighColour)
24-bit	16.7 million colours (TrueColour)

So, as you can see, a plain vanilla ST runs in either 1-, 2- or 4-bit colour depth, producing monochrome, four- or 16-colour displays respectively. Although Atari describes the Falcon as being capable of TrueColour, it really only has a maximum depth of 16 bits. Generally, though, when we mention TrueColour in* ST FORMAT*, we're referring to Atari's less colourful version.



***Persistence of Vision* can produce some totally jaw-dropping images, even on a standard ST. You need never raytrace in 16 colours again!**



```
EVEREST  File  Block  Search  Window  Parameters  Info
                    (F1) D:\SWORD.POV
//
// SWORD.POV
// This file is a simple demonstration file to be used with
//  SWORD.INC.  This file is basically the basicvue.pov with
//  some minor changes.
//
// This will trace on an SGI 4D in around 20 seconds at 320x200
//  resolution.  Sorry, no other numbers for other machines...
//

#include "colors.inc"
#include "shapes.inc"
#include "shapesq.inc"
#include "textures.inc"
#include "sword.inc"

camera {
   location <0.0  0.0  -20.0>
   direction <0.0 0.0  1.0>
   up   <0.0  1.0  0.0>
   right <1.33333 0.0 0.0>
   look_at <5 5 0>
}

// Light source
object {
   light_source {
      < 3 20 -11 > color White
   }
}
```

See this source file full of complex head-bursting maths? Feed it to *POV* and it'll produce a gorgeous 16.7-million-colour image.

RAY OF HOPE

Q I'd like to get into composing and rendering 3D graphics like the ones I see in some of



The Jaguar CD-ROM drive is matt black, not much like any of the *Babylon 5* spaceships and occasionally prone to an irritating fault in the lid-locking mechanism.

Atari MegaSTE, too?
Anonymous, via e-mail

A Bad news, I'm afraid. Iomega produces two variants on its popular Zip drive mechanism – one for direct SCSI connections, and one for PC machines without SCSI controllers, which connects via the printer port. The parallel version uses special driver software written for the PC, and there isn't a version available for the Atari. To use the same Zip with both computers, you'd need the SCSI version and a SCSI controller card for your PC, as well as an ST host adaptor such as the ICD Link 2.

SEEDY ROM

Q I notice you've just done a review of the Jaguar CD-ROM unit, and I was wondering whether you've noticed a problem which I've just discovered.

If you flip open the lid, insert a CD, close the lid and then turn the power on, a loud scraping or knocking noise comes from the unit as the CD starts to revolve. I have found that the CD has to be pressed down quite firmly to rectify this problem.

Does your unit behave like this, or is mine faulty?
Mike Broadhurst, Leicester

A It's a fault, Mike. I remember quite a few users in the USA complaining about this problem when the JagCD was launched last year. It appears that a small batch of CD units slipped through Atari's quality control net with slight faults on the lid-locking mechanism.

As you've bought yours new, just return it to the retailer and ask for a replacement. It was only a small proportion of drives which suffered this annoying problem, so the replacement should be okay. Ours is fine – we would certainly have mentioned any problems like that in the review.

PORTABLE PAL

Q I'm a freelance guitar technician touring with a major musical production, and the proud owner of an Atari STacy with 4Mb of RAM and a 105Mb hard drive. I have encountered some problems, which I hope you may be able to give me some help with.

1 Is there any way to connect the STacy to external speakers? The output through its own internal speaker is quite low.

2 Similarly, is there a modulator I can use to connect it to a television?

3 Is there a colour emulator which will work on the STacy?

4 I have access to a Digital LA210 Letterprinter, which is a wide carriage serial printer. Is there any way I can connect this to the STacy?

5 I would like to increase the size of the hard disk on the STacy. Will it be possible to use the old hard disk in an STE? Also, as Compo – which originally supplied the STacy – seems to be no more, is it possible to do the job myself? If not, do you know of a company which can do the upgrade for me?
Steve Wollington, Basildon

A Okay, Steve, let's see what we can do to help. In order, the answers are:

1 There is, but it's a bit of a kludge. The STacy's monitor port supplies audio on pin 1. By connecting a plug with only the audio pin and the signal ground attached, you can hook up a mini-jack connection at the other end, and plug it into a pair of amplified extension speakers. You could also hook up a pair of phono cables and inject the sound into a hi-fi amplifier. Take a look at the diagram (overleaf) for details.

2 There were some modulators years ago, when the MegaST models were popular. Sadly, we don't know of anyone who still makes them.

3 Without having a STacy to try them on, we don't know for sure. Any of the limited batch of colour emulators should work, as long as they don't rely on STE hardware.

4 Without knowing more about the printer it's difficult to say for sure, but I doubt it. The ST uses the parallel port for printing, rather than the serial one, so all applications and printer drivers expect the printer to be hooked up to that port.

5 Yes, you should be able to have a bigger hard drive fitted to your STacy. Apparently the clam-shell case design is almost impossible to open fully without the right tools, so it's best not to try it yourself. Contact CP Rossiter on ☎ 0115 9681870 for more information about this upgrade.

Like Atari's original Megafile drives, the STacy's internal hard

my brother's PC magazines. I gather this technique is called 'raytracing'. Are there any programs for the ST which can produce high-quality images, or am I stuck with the dull 16-colour display yet again?
Anthony Carter, Yeovil

A You aren't restricted by the ST's limited palette at all, Anthony. There are quite a few raytracers which can render images in up to 16.7 million colours, even if you're running in a monochrome resolution.

The two I'd recommend for beginners are RayStart and Xenomorph 2, both from 16/32 Systems (☎ 01634 710788). RayStart is probably easier to get to grips with if you've never raytraced before. It also comes with its own 3D modelling package (Xenomorph doesn't – you need CAD-3D from the Cyber series to actually sculpt 3D objects).

King of all raytracers is the Persistence of Vision suite, which is freeware. The snag is that you need to learn a scene description language before you can create files which POV renders into images. It isn't easy to get to grips with, but it does produce some stunning photo-realistic images. Most PD libraries can supply POV.

COVER YOUR BASES

Q My father has a PC, and wants to send me some images he has stored in PhotoCD format as JPG files so I can view them with *Speed Of Light*. We're not sure what to do, though, because his software keeps asking him which 'base' he wants to load from the PhotoCD image. What's going on?
Mike Harrison, Doncaster

A PhotoCD images aren't stored like regular images. Each 4Mb file on the CD actually contains multiple copies of the same image at different sizes. These sizes are identified using the Kodak Base system. In other words, your father's PhotoCD software is just asking which version of the picture he wants to load.

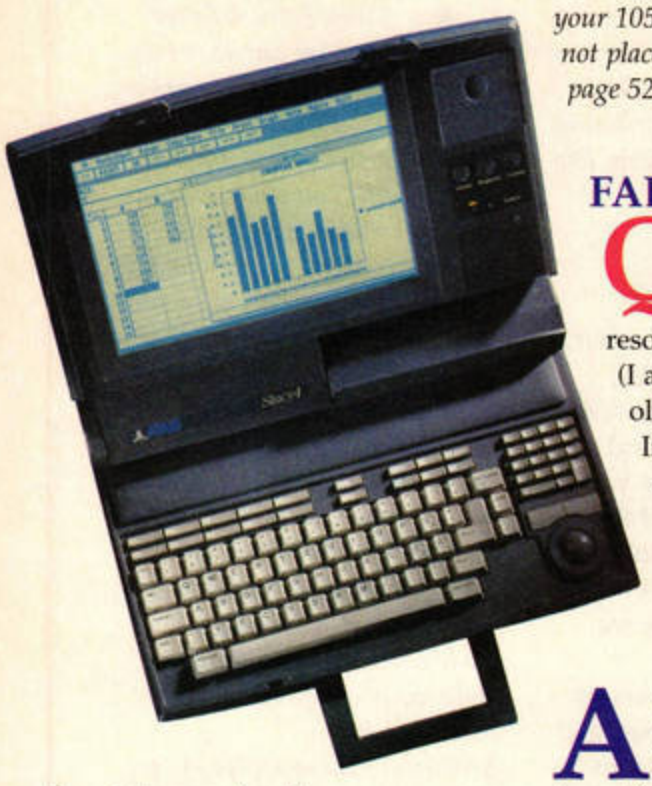
The sizes start at Base/64, a small 64 x 96 pixel preview size, and progress to Base 16, a mammoth 2048 x 3072 pixels. Since you want to view the results in Speed Of Light on a standard ST screen of 320 x 200 pixels, you probably want Base/4, which measures 256 x 384.

The next step up from that is Base, and it measures 512 x 768. As the name implies, this is the standard resolution. You'll need to use Speed Of Light's mouse scrolling to see the whole image if you choose this size.



PhotoCD is a great way to store digital photographs, thanks to Kodak's method of storing the image at several different sizes.

Alternatively, if you invest in a CD-ROM drive, ImageCopy 4 CD (£39.95, from FaST Club ☎ 0115 9455250) will load the images and convert them to JPG pics for you, so you can just borrow your father's PhotoCD. ImageCopy 4 was reviewed in issue 75, where it scored 94%.



drive uses the old RLL/MFM system rather than the newer SCSI standard, so you won't be able to hook it up to an STE. You might find a fellow STacy owner who is interested in your 105Mb drive, though. Why not place a free Reader Ad – see page 52.

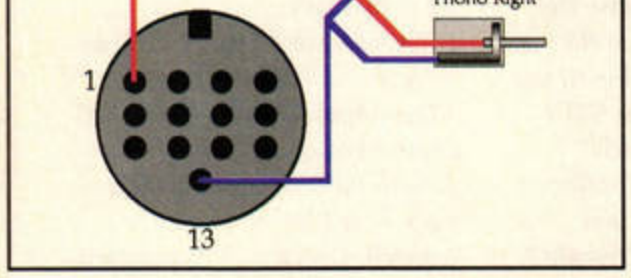
FADE TO GRAY

Q Is it possible to run STE games on a low to medium resolution mono monitor? (I already own a high resolution mono monitor). If so, how good or bad are the pictures compared to those on a colour television?
Chris Cairns, Glasgow

A *Chris, we're presuming you mean the black-and-white or grayscale monitors which accept low and medium resolution input from an ST, such as the ViewTek grayscale monitors sold by Silica Systems. If that's the case, then yes, you can play games, or use any other software which runs in low or medium resolution.*

These monitors are the computer equivalent of black-and-white tellies, and they display four or 16 shades of gray rather than colour. The image is sharper than that of a television, and they're better for serious activities such as word processing.

Quite a few games use colour to provide feedback, though. Elite *and* Elite 2*, for example, use different colours to separate enemies from friendly spacecraft in the radar scanner, so playing in shades of grey makes the game much more difficult. Unless your television is giving you eyestrain, we'd recommend you stick with it for games and use your high-res mono monitor for serious work.*



It isn't difficult to connect speakers to a STacy. This setup works for an STFM, too.

BOOTUP BLUES

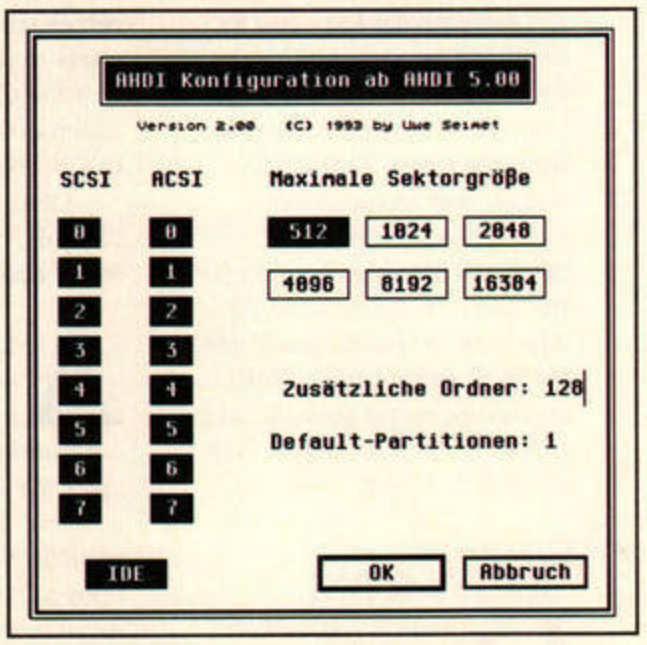
Q I have a 520STFM upgraded to 1Mb. I have just purchased a 20Mb hard drive which is connected externally. When I try to install it, a dialogue box appears telling me that the drive does not exist, and to change the drive identifier. When I try to do this, the same dialogue box appears. How do I install an external hard drive like this? It is an Atari SH205.
David Scriven, Wolverhampton

A *The SH205 is quite an old drive. It doesn't use the SCSI system to connect to your ST, relying instead on Atari's original DMA connections. Since the ST doesn't have the code to access a hard drive built into the ROM, it needs an extra piece of software, called a driver. In the case of the SH205, this was Atari's own software,* AHDI.

The AHDI software needs to be run before your ST can recognise the attached drive. If you didn't get a copy when you bought the drive, all isn't lost. Atari let AHDI *slip into the PD circuit some time ago, so you can pick it up from almost any BBS or PD library.*

SPEED DEMON

Q Is it possible to use an accelerator board to speed up my ST when



The old SH drives from Atari weren't SCSI compatible. You need the *AHDI* driver software to make use of them.

ALT.COMMS.STF@ with Frank Charlton

If you have any questions about comms or the Internet, send them to Frank at: alt.comms.stf@, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath BA1 2BW. Alternatively, send an e-mail to de18@dial.pipex.com.

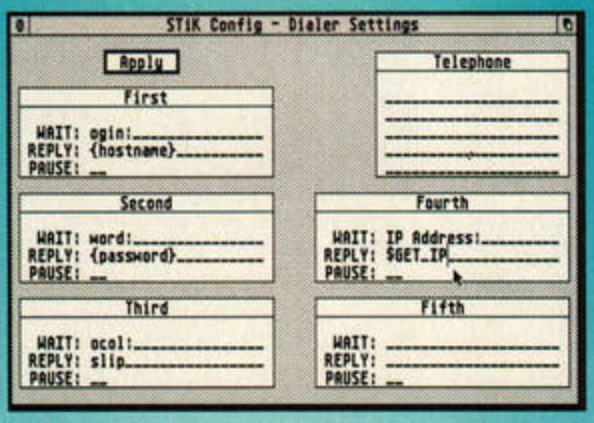
FUN WITH FLOATERS...

Q When I rang an Internet provider recently, I was asked if the Atari software supports non-static or floating IP addresses. I must confess I didn't have a clue what the salesperson was talking about, and I thought you would be the best person to check with. Does the usual Atari stuff support these addresses, and what exactly are they?
Bill Dexter, Chelmsford

A *Let's answer your questions in reverse order. Originally, service providers gave every customer a static IP address for their account (IP addresses are composed of four numbers separated by decimal points, and are used to identify computers on the Net). Static addresses never change – you have the same IP number each time you connect to the Internet.*

Since then Internet has taken off in a way most providers never imagined, and IP addresses have started to run out. One solution is to share the addresses among all customers – we aren't all connected at once, so the same number of addresses should go much further. Most providers are now taking this route, with the notable exception of Demon, which still supplies static addresses.

The original AtariNOS *kit doesn't handle floating addresses well at all. The software has to be able to receive and decipher the IP address from the service provider's machine at connection time, and* NOS *has no provision for this. However, the developers of* STiK *and* Oasis 2 *are working on full dynamic address support. Early versions are proving problematic on some machines, though – more news as we get it.*



STiK **supports the non-static IP addressing used by many service providers by using the $GET_IP variable to snatch your address when you connect.**

PPP CONNECTIONS

Q Could you please advise me on any software that would allow me to use a PPP connection, because CompuServe and many other good Internet providers are now changing to PPP with non-static IP addresses.
Brian Scott, via CompuServe

A *Oasis 2 is out now, and includes a full PPP connection driver as standard. At the time of writing, it seems as if the handling of floating IP addresses is less than satisfactory, though – a number of people have encountered all sorts of bugs. Since we haven't yet tested* Oasis 2 *properly, we can't say what could be causing the problems, but a fixed version should be available from all popular Atari FTP sites by the time you read this.*

STiK also handles floating IP addresses, and Dan Ackerman is busy putting the final touches to the STiK PPP driver. Watch this space.

GRAPHICAL GLOOM?

Q The company I work for runs a private BBS for employees only, which I need to access. The snag is that it runs on an Apple Mac, using a BBS system called *FirstClass*, and you need a special client program to access it. This client program enables you to access the

I'm running 3D vector games such as *Frontier*, which gets too slow when there is a lot of detail on screen? If so, is it possible to turn off the board when running software which doesn't need that extra zip. I can't imagine playing *Kick Off 2* any faster!
Sheldon Southworth, St Helens

A Yes, it certainly is. We ran a feature in issue 82 which included everything you need to know about accelerating your ST. If you missed it, flip to page 50 and order a back issue.

Most accelerator boards offer the option to switch your ST back to standard 8MHz mode, since some software relies on the CPU for timing purposes. Never mind Kick Off 2, *try playing* Vroom *in Turbo mode on an accelerated ST. Then you'll really see a game that's too fast!*

CABLE CRISIS

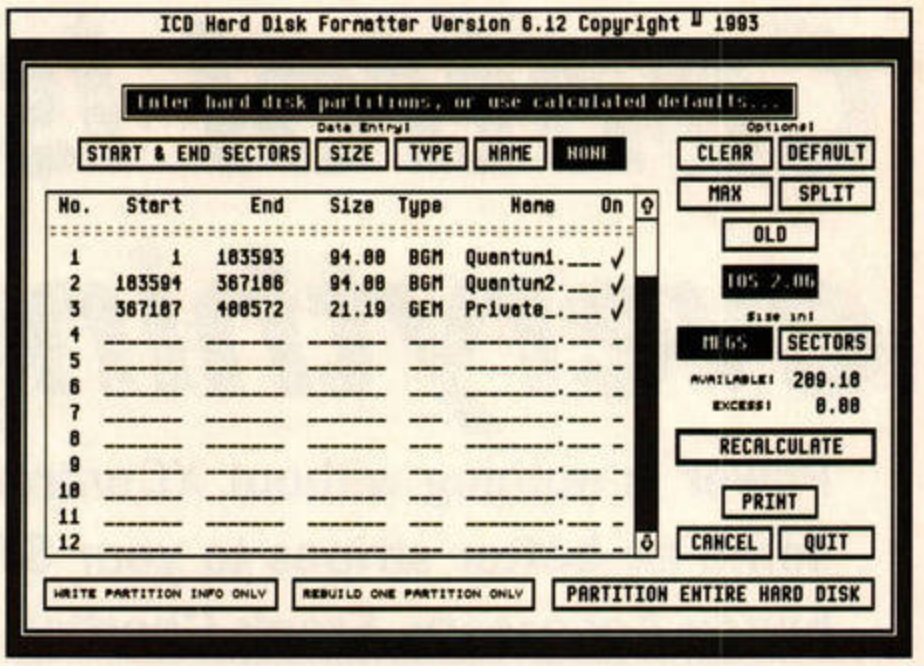
Q Since March I have been trying to get my Iomega Zip drive to work with my ST, using the ICD Link 2 host adaptor. I can't format the drive – when I click on the ZIP.ACC, it says "NO IOMEGA ZIP DRIVES FOUND" when it is connected. I was told to put the Zip drive before my hard drive, but I can't do this without buying more cables, and I can't run the Zip alone because there wouldn't be any power to the Link 2.
Frank Young, Canary Islands

A I have just spoken to HiSoft's technical support people, and they confirm that it's likely to be the cables which are at fault. Thanks to the low power produced by the ST's DMA port, you really need top-notch SCSI cables to hook up more than one device.

HiSoft says that you should either place the Zip first in the SCSI chain or replace the existing cable. Either option should alleviate the problem and enable the ICD software to see the Zip drive.

So, it looks as if you need new cables. It's worth noting that although you can pick up SCSI cables very cheaply from some sources – we spotted some for £5 recently – they're unlikely to work with more than one device on an ST.

You can call HiSoft from the Canaries on ☎ +44 1525 718181. It can also provide a power cable, enabling you to run the Zip drive on its own.



The ICD Link software will format a Zip drive, but you may need high-quality cables first.

RATS!

Q I need your advice regarding the *RATSoft* BBS software. When you want to write a message in a networked message base, you're given three choices as to how you want the mail routed – Crash, Hold or Free. What is Free?

Also, how do you address echomail in *RATSoft?* On PC BBSs the mailing software has separate lines for the person's name and their Fido address, whereas *RATSoft* only has one address line.

One more question: what mailer and tosser are you using with your BBS?
John Moon, Australia, via e-mail

A Messages posted in a public networked base on a system such as NeST don't need to be addressed to anyone specific. Echomail is simply passed from one BBS to another along the network, and can be read by all users. RATSoft *and the mailer software takes care of everything else for you. Only Netmail – direct private mail between two users – needs a destination address, and* RATSoft *prompts you for that.*

As for Ad.Lib, we use the BinkleyTerm *mailer and a registered version of the* JetMail *mail processing system.* **stf**

Troubled, traumatised or otherwise stuck for an ST solution? Send your questions to techno guru Frank Charlton at: ST Answers, ST FORMAT, Future Publishing, 30 Monmouth St, Bath BA1 2BW. Alternatively, send an e-mail to: de18@dial.pipex.com. Please put STA in the subject line.



The Mac's *FirstClass* BBS system can still be accessed from an Atari, even if you don't have the fancy client software.

BBS via a graphical interface.

As far as my system manager can gather, the client is only available for Macs and Windows PCs, and not for the Atari. Since I have a powerful Falcon, would it be possible to get someone to write a version for it, or can I get round the problem any other way?
Dave Simmons, Stirling

A Yes, we know the system you mean. FirstClass offers users a smart graphical front-end to save them from the command line interface dreaded by most Mac users.

There isn't a client for ST and Falcon users, and writing one could be difficult. SoftArc Communications, the company which produces the BBS software, is unlikely to release the source code, so porting the client to the Falcon would be 'challenging', to say the least.

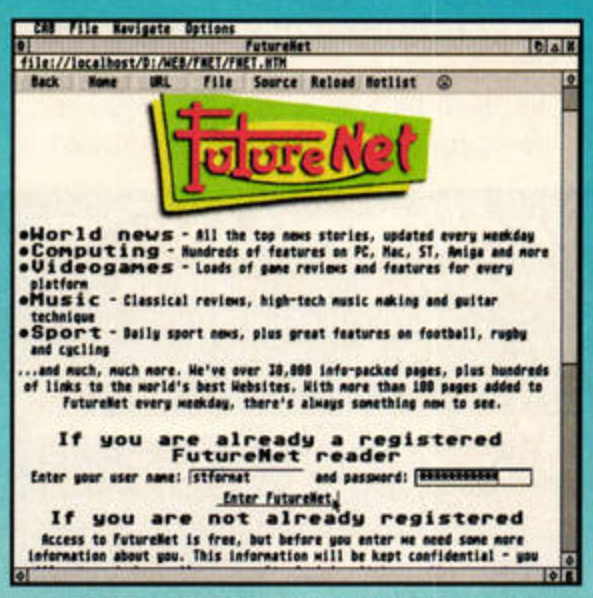
Thankfully, there's a solution. Ask your manager to contact SoftArc about its command-line interface add-on, which allows anyone with a normal text-based comms package to connect to the BBS. From your end, it looks like any other ASCII-based BBS, and you'll be able to use it as easily as anyone with the all-singing client software.

CALL A CAB

Q When I try to register with the Futurenet Web server so I can read the *ST FORMAT* pages, the form used to enter my name and password never works. I even got a friend to pre-register me using a PC browser, but *CAB* still can't access these pages.
Dozens of people, across the world

A Good news on this front at last. Thanks to the diligence of the CAB testing team, this bug has finally been spotted and thoroughly stamped on. The current beta version of CAB now supports forms properly, and can access any of the pages on the Futurenet Web server with no hassles.

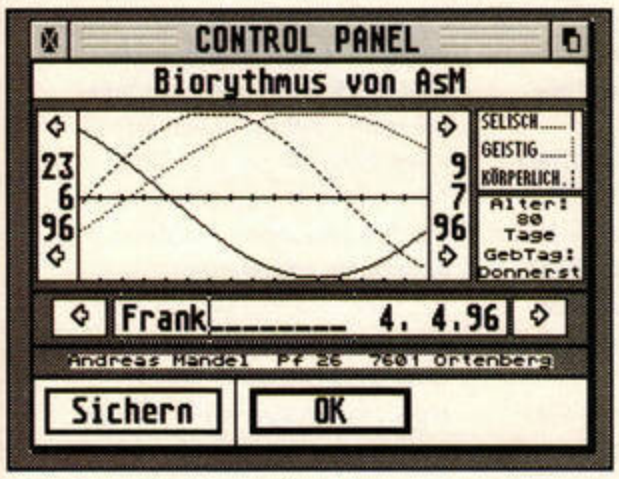
The latest version isn't on general release as I write this, but should be out very soon indeed – watch the News pages for details.



The next version of *CAB* will finally sort out those niggling problems with some HTML forms – including Futurenet's.

Control is everything

Power is nothing without *XControl*, so add some go-better stripes to your ST with this handy Accessory. Frank Charlton revs up.



This odd module claims to foretell your emotional state. Apparently, I was deliriously happy when I wrote this. Hmm.

Control Panels are small programs which you access via Atari's *XControl* Accessory. Most are configuration utilities or simple tools, but you can also get various gadgets and games. This system enables you to add all sorts of small-scale bells and whistles to your system.

History lesson

To understand how Control Panels fit into the scheme of things, you need to know a bit about the history of the ST. When it was launched, Atari was both criticised and applauded for adopting many of the more user-friendly features of the Apple Mac, including menus, icons, windows and Desk Accessories. It's the last of these, Accessories, which concern us here.

Desk Accessories are small utility programs which are available when you are working in a GEM application (see Absolute Beginners, *STF* 83, for a more detailed explanation). The snag is that you usually only have six Accessory slots, and you need to re-boot or switch resolutions to change Accessories.

With the introduction of the TT and TOS 3, Atari came up with a better idea. Since many Accessories are used to configure other programs, or are small but indispensable utilities, why not create a system which offers the same facility, but with fewer restrictions? Thus, *XControl* – the eXtensible Control Panel – was born.

XControl itself runs as an Accessory. However, unlike regular Accessories, *XControl* extends its basic functions using plug-in modules called CPX files – Control Panel eXtensions. Effectively, it provides additional slots from within. The biggest plus over standard Accessories is that *XControl* can load and unload CPXs as many times as you like in a session.

SHAREWARE

Both *ZControl* itself and a large proportion of the freely-available CPX modules are shareware. Always check the documentation, and stump up if you use a program or CPX regularly.

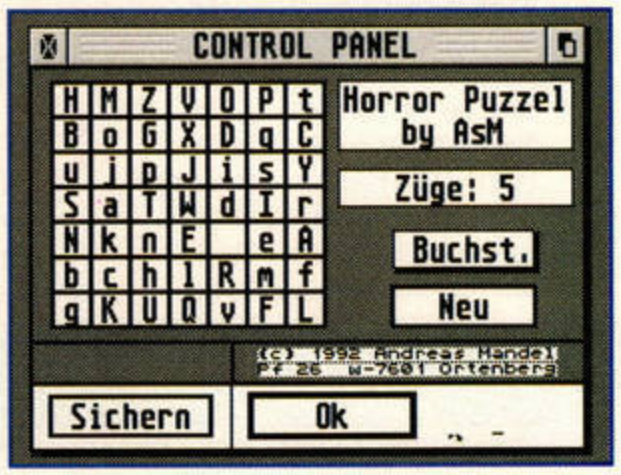
***ZControl* registrations in the UK are handled by Denesh Bhabuta. Write to: CyberSTrider, 203 Parr Lane, Unsworth, Bury, Lancashire BL9 8JW or send an e-mail to: dbhabuta@cix.compulink.co.uk. It costs £6 to register *ZControl*.**

Atari's original programmers' guidelines for *XControl* stated that CPX modules should be used for small programs, such as configuration utilities, rather than full applications. Since the window size of a CPX module is limited – it can't be bigger than *XControl* itself – there isn't much space, anyway.

Still, that hasn't stopped programmers from coming up with CPX modules of all flavours. As well as the configuration tools supplied with commercial programs such as *MagiC* and *NVDI*, you can get disk formatters, file tools, games and even a full-blown icon editor in CPX format.

Games

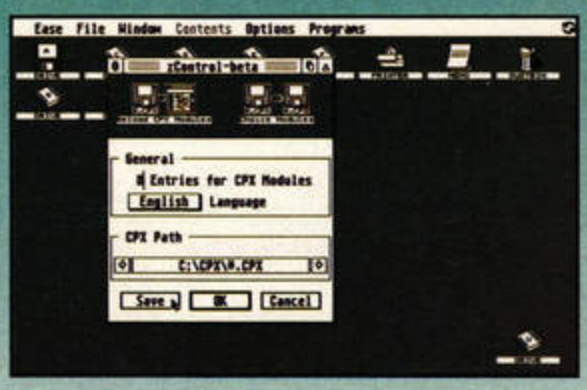
The size of the *XControl* window limits the type of games programmers can produce – you're not going to get *Obsession* as a CPX,



If ever you feel you have too much hair, have a stab at solving Andreas Mandel's *Number Puzzle*. It's guaranteed to have you pulling out fistfuls of follicles after an hour or so.

ZCONTROL AND STANDARD TOS

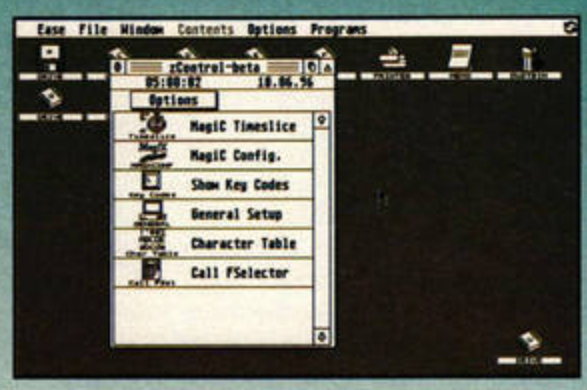
Earlier versions of *ZControl* were only really happy with a multitasking operating system. Under normal TOS, it couldn't load your selected CPX files at boot-up, so you had to force it to load them manually every time you switched on your ST. However, the latest version has a new command which enables you to force CPX loading even under standard TOS. You'll need to tweak the default *ZControl* setup to get it to work, though.



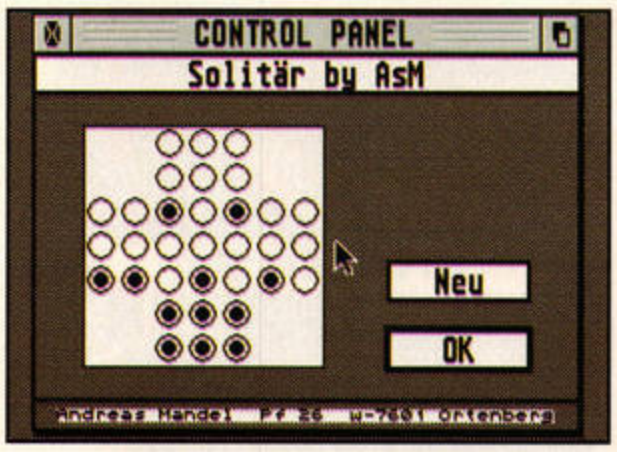
1 Copy ZCONTROL.ACC to your boot drive and re-boot, so the Accessory is loaded. Open the window and click on the Options pop-up menu. Select Setup to open the standard setup window, which is much like *XControl*'s. Don't fiddle with anything just yet – simply click the Save button.



2 Step 1 forced *ZControl* to create a ZCONTROL.INF file in the root directory of your boot disk. *ZControl* uses this file to store its settings. Open it in any ASCII text editor, nip to the bottom, and add a new line which reads SINGLELOAD = TRUE. This will force *ZControl* to load the current modules at boot-up.

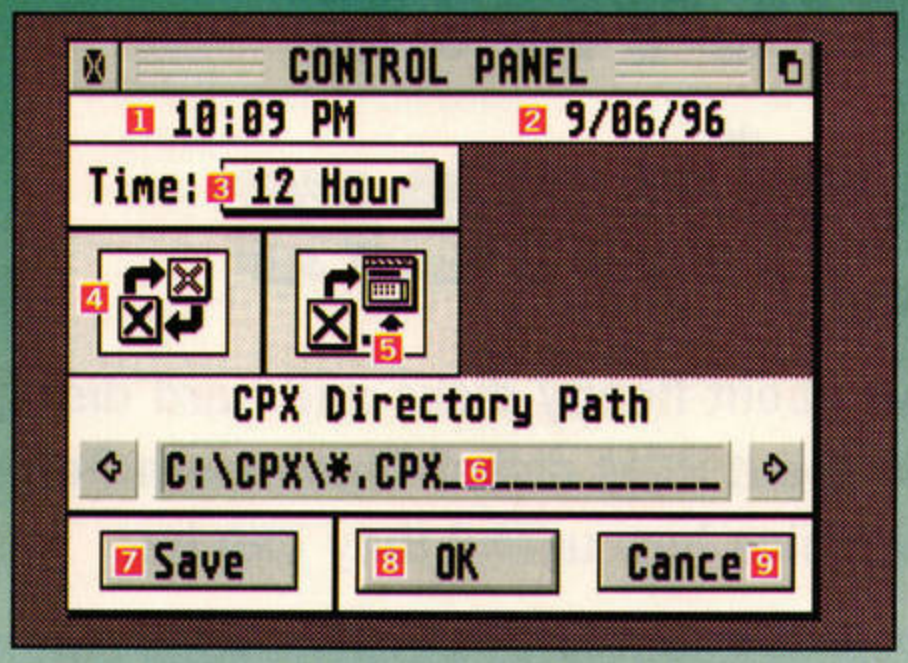


3 When you next re-boot your ST, *ZControl* should automatically detect and load any valid CPX modules in your CPX directory. You don't need the extra line if you have a multitasking system such as *MagiC* or *MultiTOS*, but it won't do any harm, either. And that's all there is to it, as they say.



It may be a simple game, but we spend far too much time trying to beat it. Er, and we always succeed, honest.

XCONTROL EXPLAINED



XControl may have a plethora of buttons and options, but it's easy to get to grips with. Note that *ZControl's* configuration screen is very similar to this, except that the icons are easier to interpret.

1 Current time. Click here to adjust the current system time.
2 Current date. As above, click here to change it.
3 Time format. Use this small pop-up menu to tell *XControl* to use either the 12- or 24-hour format for time display.
4 CPX setup. Clicking here brings up a screen where you can load and unload sets of CPX modules.
5 Reload. Click this icon to reload the current set of modules. Do this after tinkering with the CPX setup.
6 CPX Path. *XControl* looks in this path for your CPX modules. It's usually C:\CPX\ or A:\CPX\.
7 Save. Save all current changes.
8 OK. Activate any changes without actually saving them. Everything is re-set at the next boot-up.
9 Cancel. No idea. We give up.

that's for sure. However, you can pick up some nifty little puzzle games which will kill a few minutes while you're waiting for a large file to download.

Andreas Mandel's *Number Puzzle* is a simple sliding-block affair, using a grid filled with either numbers or letters. Simply sort them into order to solve the puzzle. Andreas has also created a compact version of *Solitaire*, and other CPX games include a few versions of *Othello*.

Utilities

LOCK is a useful tool if other members of your family are prone to fiddling with your ST while you're not watching. Enter a password, then open the CPX before you leave the room. Anyone wandering in can't shut the CPX down without the password, so your ST is secure.

FILEINFO, brought to you by *GEMView's* Dieter Fiebelkorn, is a must-have. As well as providing useful file information, it enables you to create new folders and copy, move and delete files.

There are literally hundreds of disk tools available in CPX form. It seems every programmer has cut his coding teeth by knocking out a CPX to format floppies – there are tons of them in German, English and French. If you have a hard drive, there are numerous modules which can tell you how much free disk space you have across all your partitions and supply information on available memory.

Miscellaneous

Despite Atari's recommendations on CPX usage, there are some modules which certainly don't fit into any normal category. *Biorhythms*, for example, is a tiny tool which predicts when your life and emotional state are likely to reach high and low points. It's another Andreas Mandel program and, despite being in German, is fairly self-explanatory. We aren't sure it's based on any scientific fact, but it's quite amusing and demonstrates the versatility of CPX modules.



Use *LOCK* to protect the blueprints for the flying saucer made from washing-machine parts. Trust no-one.

As well as configuration utilities, you can get disk formatters, file tools, games and even an icon editor

Alternatives

As you know, Atari gave up on the ST and Falcon side of its business long ago, so *XControl* hasn't been updated in quite a while. It does have a few bugs, and you can only open one CPX window at a time.

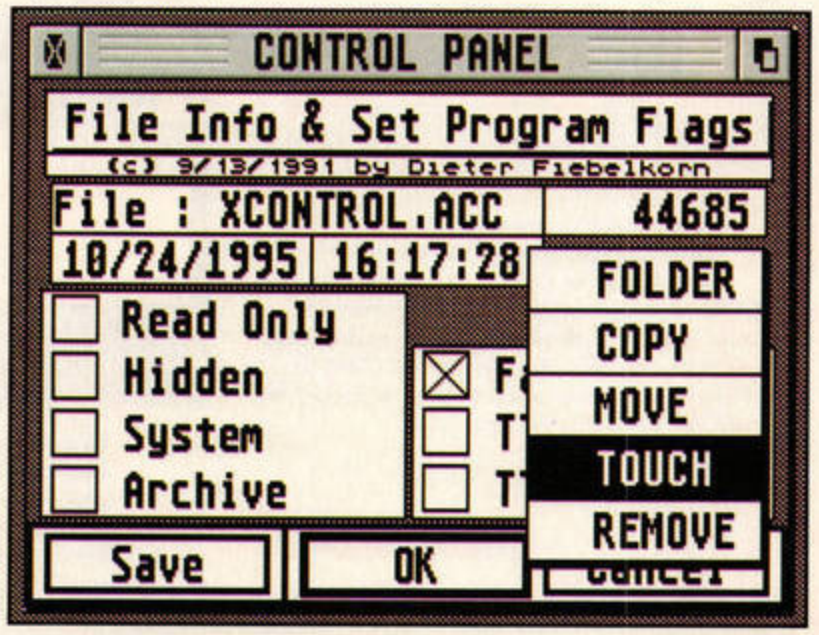
Programmer Ralf Zimmermann decided to do something about this and created an *XControl*-compatible replacement called *ZControl*. It's on this month's Cover Disk, and you should certainly take a look at it if you use CPX modules regularly. It's a more recent application, and therefore much happier under modern TOS versions and multitasking operating systems, and it has a number of worthwhile extra features. For starters, *ZControl* can open up to four CPX modules at once.

One of *ZControl's* smarter functions comes into play if you're running a multitasking environment which supports drag and drop, such as *MagiC*, or *MultiTOS* fitted with *AES 4.1* or above. If you want to try a new CPX module, you usually need to place it in the CPX directory and tell *XControl* to load it. With a drag and drop system, you just pick up the CPX module's icon and drop it into the open *ZControl* window. It then fires up immediately.

If you're going to use the module regularly you'll need to move it into the CPX folder later, but this feature is very handy if you're wading through a huge collection of CPXs. This also works if you're using a replacement Desktop which supports the AV protocol, such as *Gemini*.

If you're using the standard TOS fitted to your ST, without an alternative Desktop, simply install ZCONTROL.ACC as an application for the file type *.CPX. Double-clicking a module from the Desktop will then pass it to *ZControl* in much the same way.

So, there you are – power and control. All you need now is the software, which you'll find on this month's disk... *stf*



With so many useful tools packed into one small window, *FILEINFO* is one CPX you should certainly put at the top of your shopping list.

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Absolute beginners

You know about floppy disks and hard disks, but what about RAM disks? This month Peter Crush explains how useful they can be.



You'll find *MaxiDisk* on this month's Cover Disk.

You've probably heard of RAM disks, but not many ST users know exactly what they are, or how to set one up. If you fall into that category, you're missing out in a big way. We aim to put that right, and we'll show you exactly how to create and use a RAM disk. They're easy to set up and cost nothing, but can be invaluable.

RAM rage

All STs have random access memory, known as RAM for short. Memory comes on chips inside your ST and is measured in bytes. The more you have, the better. If you have plenty of memory you can reserve part of it for a 'virtual drive', or RAM disk. Although this RAM disk only exists in your ST's memory, and disappears when the computer is switched off, you can use it as an extra, temporary disk drive in the interim. Don't forget, though, that the memory used for the RAM disk isn't available to other programs.

Using a RAM disk is just like using a floppy drive – you can copy, load and save files and programs. It's even faster than a hard drive, so all operations will be much speedier, but you can't use it for permanent storage. When you turn the ST off, anything in the RAM disk is lost.

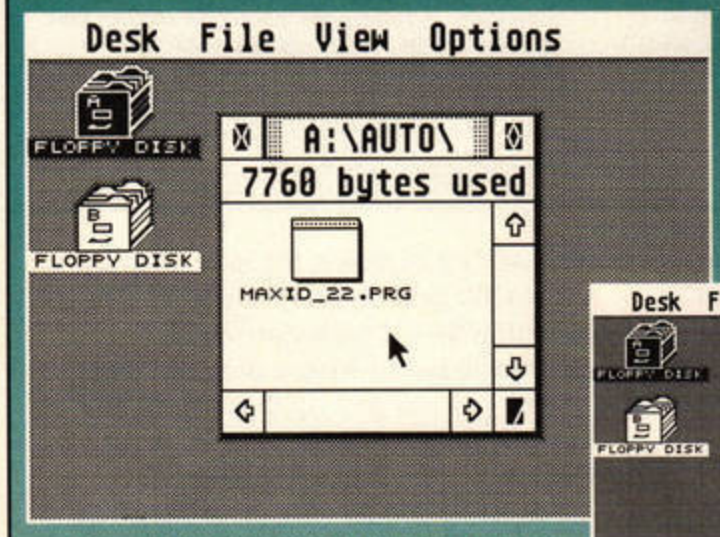
There are plenty of ST programs which establish RAM disks, but *MaxiDisk* is one of the best, so we've put it on this month's Cover Disk. It works with any ST and you can set the size to whatever you want. It also compresses the files, so a 500K *MaxiDisk* RAM disk can hold up to about 800K of stuff. It compresses and decompresses them as necessary, and the whole thing is carried out automatically.

What can it do?

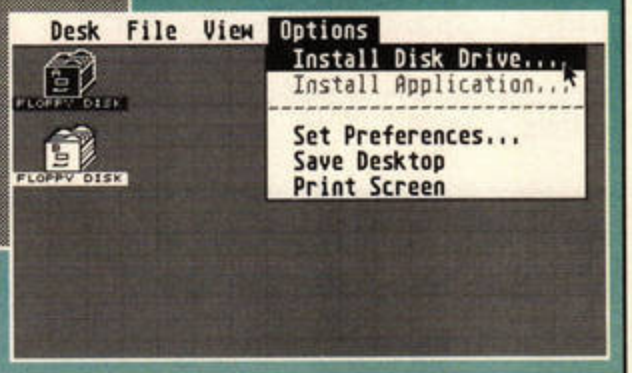
There are 101 useful and exciting things you can do with a RAM disk, and we'll be covering some of them next month. We'll also show you how to set up *MaxiDisk* so it establishes itself automatically, and even copies programs into the disk for you.

Meanwhile, here's a great use for it. Take any ST game that you can run by double-clicking on the program name (this doesn't work with auto-running games). Copy the program and all associated data files into a suitably sized *Maxidisk* RAM disk, then run the program from there. It will operate faster and more smoothly, with none of those usual long delays while the next level is loaded. See you next month for even more useful tips and tricks with *MaxiDisk*. ***stf***

SET UP A RAM DISK



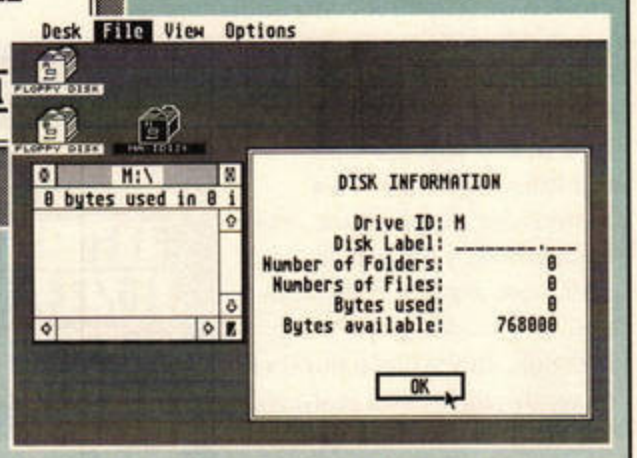
1 Copy MAXID_22.PRG into your Auto folder, then reset your ST to run it (see *STF* 82's Absolute Beginners page if you don't know about Auto folders). You will see a message showing how much free memory you have, and you'll be asked how much you want to use for the RAM disk. Type in the size you want, say 750, and press [Return]. When you are prompted for a partition, type [M] and press [Return].



2 The information you have just entered tells the program to set up a 750K RAM disk (make sure you have enough memory for this!), call it Maxidisk and assign the drive identifier M. However, you will need a drive icon for it on your Desktop before you can use it. Click on the icon for floppy disk A, turning it black, then select Install Disk Drive from the Options menu.



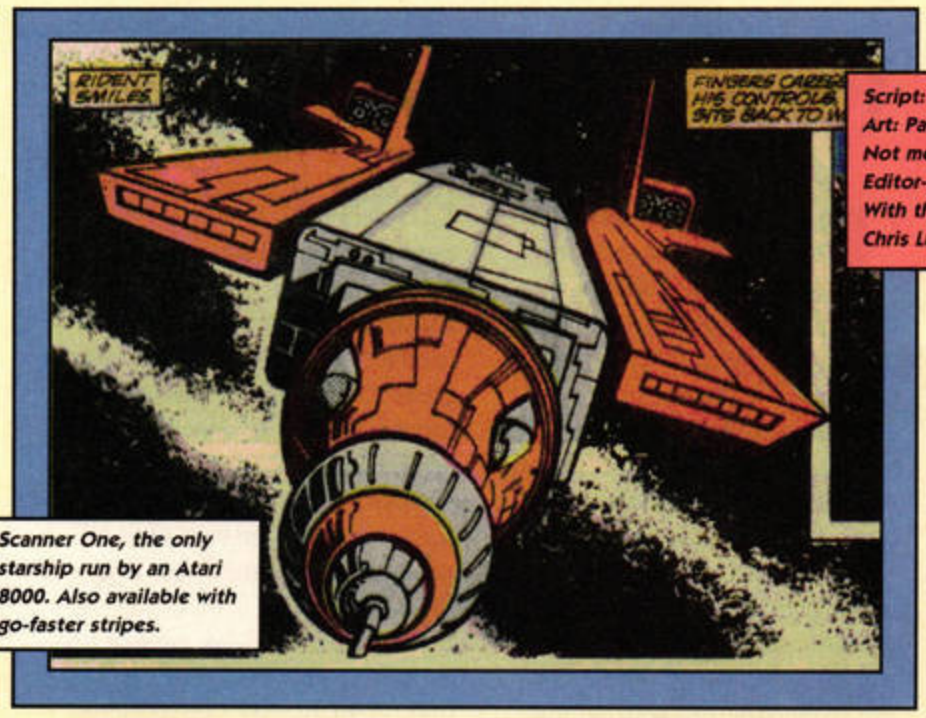
3 The Install Disk Drive dialogue appears on your ST's screen. It will be showing the information for drive A. Use your mouse pointer to position the cursor in the appropriate places and delete all the current references. Next, type M next to Drive identifier and MAXIDISK next to Icon label. These names will be used to display your new RAM disk on the Desktop.



4 Bingo! Your new virtual drive appears on the Desktop. Double-click on it and a GEM window appears, just like when you open a 'real' drive. At the moment there is nothing in the drive, but you can drag files or programs into it and use it as if it were a real floppy or hard drive. To ensure that your new MAXIDISK icon always appears when you boot up, go to the Options menu and select Save Desktop.

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Truth, Justice and the Atari way



Scanner One, the only starship run by an Atari 8000. Also available with go-faster stripes.

Script: Cavan Scott
Art: Paula Mabe
Not mentioned: Mary Lojkine
Editor-in-Chief: Nick Peers
With thanks to:
Chris Lund and Lee Seitz

Time traveller Cavan Scott meets Atari's superheroes.

It is the year 2005. The world of tomorrow is one you and I would barely recognise. Much of the planet has been decimated by a five-day war which makes every war in the 20th Century look like a school-playground skirmish. America, once the land of liberty and free thought, is now a cinder and at the hands of the all-powerful, and yet mysteriously nameless, Enemy.

Yet do not fear, true believer, all is not lost. Like a phoenix rising from the ashes, a group of scientists devises a brave plan to save the human race. Believe it or not the fate of our planet lies in the hands of the ATARI institute!

That's right, our old friends at Atari have achieved the kind of world domination Bill Gates can only dream of. In this universe Atari fought off the rise of the Amiga, forgot about dead-end projects like the ST Book, continued to develop the ST and dismissed JTS, laughing at the very idea of a merger. Now, thanks to a handy war which wipes out the opposition, Atari has leapt from mild-mannered video-gaming company to saviour of the universe.

The best of mates

Atari groups together the world's finest for Project Multiverse. Lead by Martin Champion, a Polish-American former Marine, the team includes Champion's colleague Dr Lucas Orion; Lydia Perez, a former astronaut; Li-San O'Rouke, a half-Irish, half-Chinese UN peacekeeper with the martial arts skills of Bruce Lee; and Mohandas Singh, a former New Delhi street urchin who is now Atari Force's resident genius. Together, they form the crew of Scanner One, a nifty starship with the ability to cross dimensional barriers to parallel universes.

Their awesome mission is to explore strange new worlds, seek out new life forms, and boldly go where no.... well, you get the idea. Atari hopes that Champion's team will discover a planet which they can colonise before Earth dies from the radiation unleashed by the Enemy's snappily-titled Death Bombs.

While not winning any awards for originality, the Atari Force comics of the early '80s were a ground-breaking marketing ploy. Atari joined forces with DC Comics and produced five mini-books, printed in full colour on glossy paper, and included them with various Atari 2600 game cartridges. The first issue, edited by DC veteran Dick Giordano, appeared with *Defender*, and the saga continuing in *Berzerk*, *Star Raiders*, *Pheonix* and last, but not least, *Galaxian*.

Not quite the best of mates

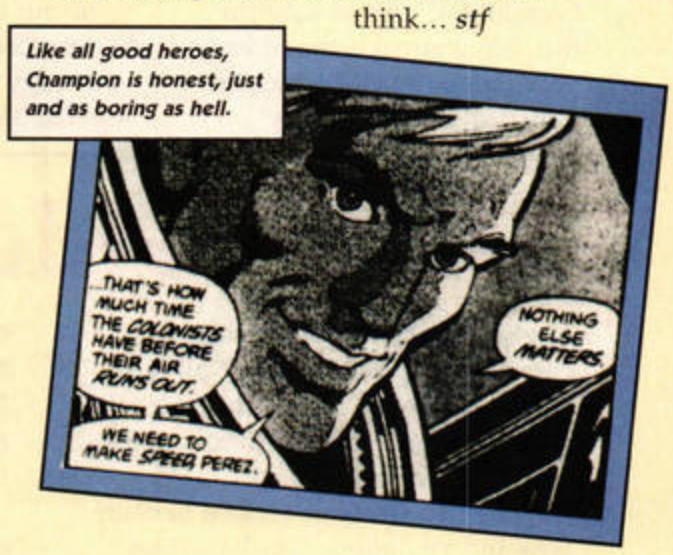
Unfortunately, the books only played lip-service to the games they were distributed with. In defence, writer Gerry Conway has said that DC originally wanted to link the cartridges to the comics, but the wildly incompatible production schedules made it impossible. The decision about which game the issue was going to be included with was only made after the artwork from artists Ross Andru and Gil Kane had been completed.

The mini comics only lasted five issues. After shooting in and out of parallel universes, stopping only to liberate the odd planet, Atari Force finally found a planet which would support human life – only to discover that it was owned by someone else.

However, after saving the landlords from the Dark Destroyer, a particularly nasty, mind-controlling octopus, humanity is granted permission to colonise planet 11485-18-2, which is thankfully rechristened New Earth. All that is left for Atari Force is to nip back home, pick up the colonists and pop back to New Earth in time for the happy ending. As the sun sets, Champion pops the big question to Perez and Atari Force disbands, its mission accomplished. Or so the members think... *stf*



The Atari Force team jogs through the cosmos every morning to keep themselves trim.



Like all good heroes, Champion is honest, just and as boring as hell.

COMING NEXT MONTH:
ATARI FORCE: The Next Generation.



The Score

Opera, classical, jazz, rock, hip hop, jive, salsa, jungle, Gregorian chants. Andy Curtis changes the program and concentrates on program changes.

Pro 24 price mayhem



Despite what you might read, £14.95 is still the lowest price you can expect to pay for a new copy of version 3 of the *Pro24* sequencer.

Our thanks to the many people who e-mailed us with the news that the First Computer Centre was selling copies of *Pro24* (*STF* 84, 91%) for just £9.95, £5 less than the Goodman's price quoted in the review. We called First Computer Centre to confirm this, but it appears that it had very limited stocks, which have now sold out completely.

So, if you want to enter the fabulous world of *Pro24*, your best bet is to call Goodman's, and shell out the full £14.95 for it. Far be it from us to accuse anyone of penny-pinching, but is that really such a high price? There is, currently, no better value out there for newcomers to the world of sequencing. For your copy, call Goodman's on ☎ 01782 335650.

Patch Shifting

This month I'm going to deal with a question we are asked with alarming regularity, albeit in a number of different guises. Patch shifting, or, more accurately, program changing, is a system whereby your MIDI sequencer sends out numbers to your synths to tell them which sound to play.

Each sound in your synth is assigned a number so that patches can be accessed remotely via MIDI. Since people have different setups, the patch changes that work for you may not work for everyone else. This creates the problem of unwanted program change events in sequences.

The opposite problem applies if you don't know how to insert program changes into your sequences. You may need to change a patch half way through a piece to make best use of single-MIDI-channel synths, or you might want to change the patch on your effects unit in order to create a special effect at a specific point in your music.

Whatever your problem with program changing, you should find an answer in this tutorial. We have included examples in both *Cubase* and *Breakthru*, but the same general rules apply to most competent sequencer packages.

QUESTIONS

Sandra Blake, Huntingdon: *My friend sends me his songs as Cubase arrangements, but I have to adapt them to play on my setup. Despite changing the program number in the Cubase arrange window, my friend's tracks keep changing back to his original setting every time I restart the sequence. He doesn't know why this is, do you?*

Bob, via e-mail: *Can anyone tell me how to insert program changes into tracks, please? I spent hours trying last night, to no avail. I'm using a Korg i4 keyboard and want to change patches for the second half of a song… can I do it?*

ANSWER

Both these questions are related to the way in which program changes are embedded within tracks.

Cubase uses a two-level system for program changes. The first is a compositional aid for setting up the patches you wish to use quickly. It is accessed via the track info column, which pops up next to your track list when you click on the square box at the bottom of the arrange window.

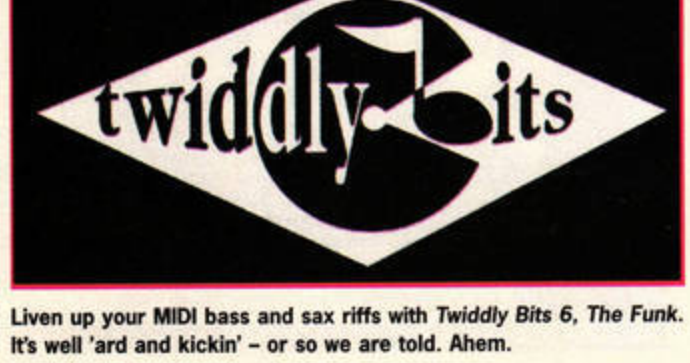
The values set in this box are used to set up your sequencer, and they can be changed at any time. If you have a part selected, the

More Twiddly Bits

Keyfax Software is continuing its crusade to provide you with all the MIDI soundbites you need. *Twiddly Bits 6* rejoices under the delightful name of *The Funk* and costs £24.95.

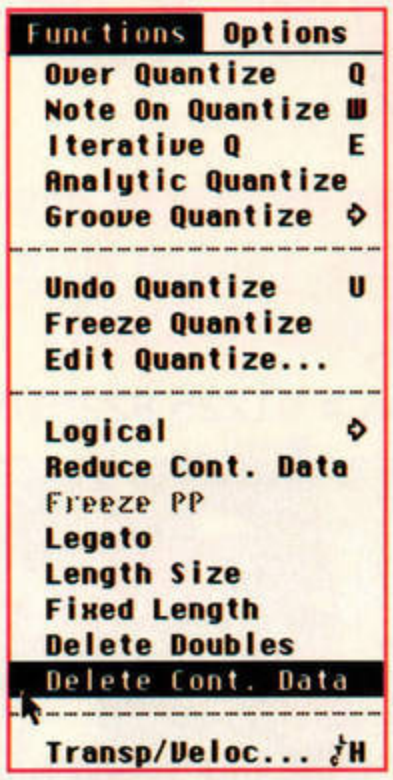
The two elements tackled here are bass and saxophone. The bass lines are performed by *Freakpower's* Dale Davis and the sax riffs are courtesy of *M People's* Snake Davis. Every soundbite is performed live and converted to MIDI using advanced wind and guitar MIDI interfaces. In other words, you need look no further than this disk for that convincing bass or sax riff.

All the sequences are held as standard MID files and load directly into Cubase or any sequencer which can import standard MIDI files. Call Keyfax Software on ☎ 01734 471382.

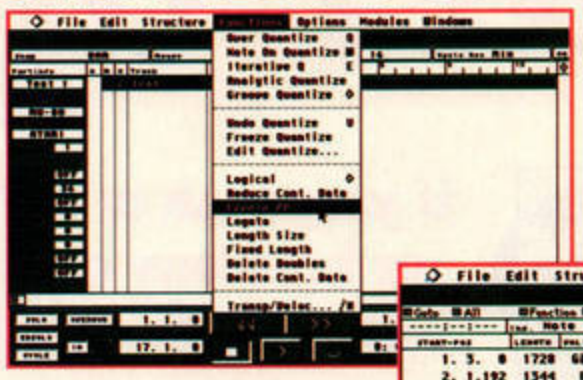


Liven up your MIDI bass and sax riffs with *Twiddly Bits 6, The Funk*. It's well 'ard and kickin' – or so we are told. Ahem.

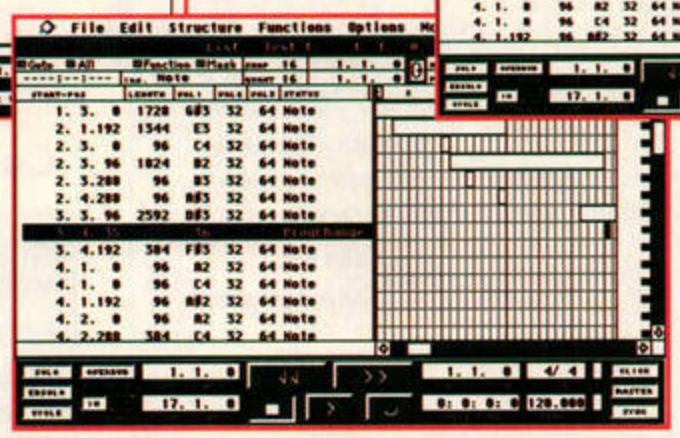
PROGRAM CHANGES IN CUBASE



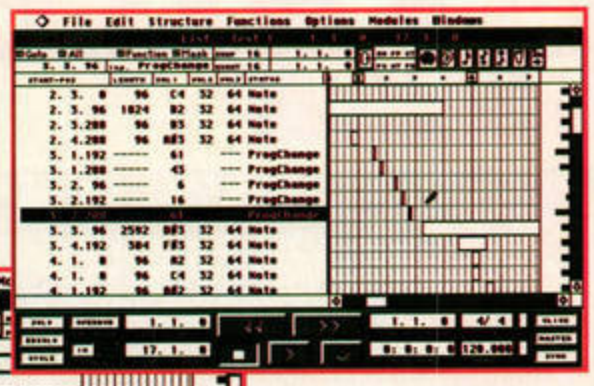
1 This is the Cubase 'quick and dirty' way to remove program changes and any other controller data from a part. Select the offending part and choose this menu option.



2 When you select Freeze Play Parameters, all the settings in the Track Info column are embedded into a part. This is an excellent way to tidy up your *Cubase* sequences.



3 Freeze Play Parameters puts the program changes at the beginning of your part. To change patch in the middle, use the mouse buttons to change the value of the display in List Edit.



4 To add events in List Edit, click on the Ins pop-up menu towards the top of the page and select Program Change. Use the pencil tool to paint in program change events. You can change the patch numbers once the event has been inserted – click in the VAL1 box for each event.

program change value you enter will only affect the selected part; if no part is selected, the parameters set affect the whole track.

So far so good, but what if you experience Sandra's particular problem and your program change number appears to be overridden by a more powerful instruction? This happens because there is program change data embedded in the part.

NO CHANGES

The quick way to get rid of embedded program changes in *Cubase* is to select the part by clicking on it, then choose Delete Cont Data from the Functions menu. This may not be the best way, though – other controller information embedded in the part, such as pitch wheel data, will also be lost.

The only way to remove the undesired program changes without affecting other data is to use List Edit. If you choose List Edit from the Edit menu with the offending part selected, a list of all the MIDI events in that part is displayed. Scroll though the events until you find the desired program change event, click on it and then press [Backspace] on your Atari keyboard. Once all the embedded program change events have been deleted, your settings in the Track Info column will take full effect.

ALL CHANGE

Because data entered in the Track Info column is only meant to be used during composition, it is necessary to embed this data when your sequence is completed. The easiest way to do this is to use the Freeze PP option in the Functions menu. This embeds all the data in the Track Info column into your track.

As you do this, you will notice that all the values disappear from the Track Info column, and you will now find these events in the event list for each part. This method puts program changes right at the start of a part.

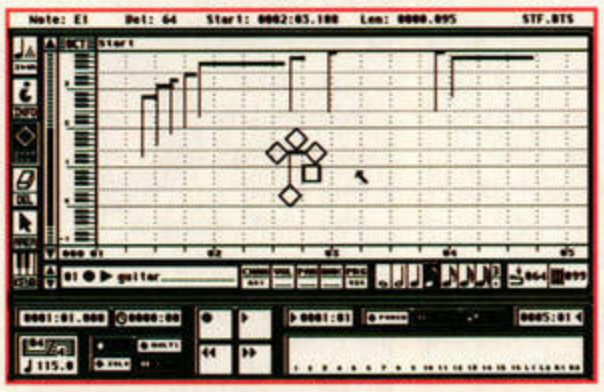
If you want to place them in the middle of a part, as Bob does, you will need to add the program change to the event list directly in List Edit (see the walk-through above). Note, though, that Program Change events aren't instantaneous, so it is better to place your program change at a point where the instrument is not playing to make sure that the patch is changed in time. *stf*

ANY QUESTIONS?

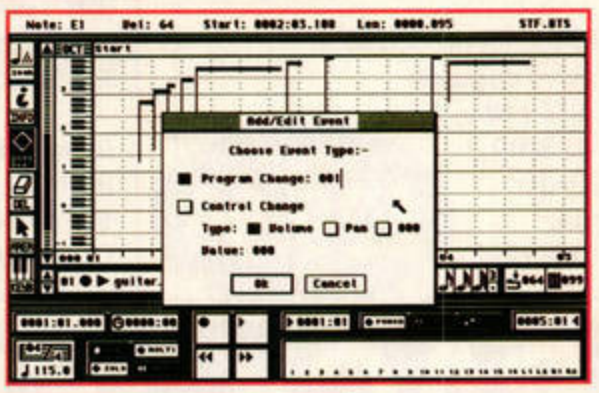
Please send your MIDI and music-related questions to: The Score, *ST FORMAT*, 30 Monmouth St, Bath BA1 2BW, or e-mail them to: andy@adlib.co.uk.

Don't forget to state your full name and your town when sending questions by e-mail, just so we know who you are.

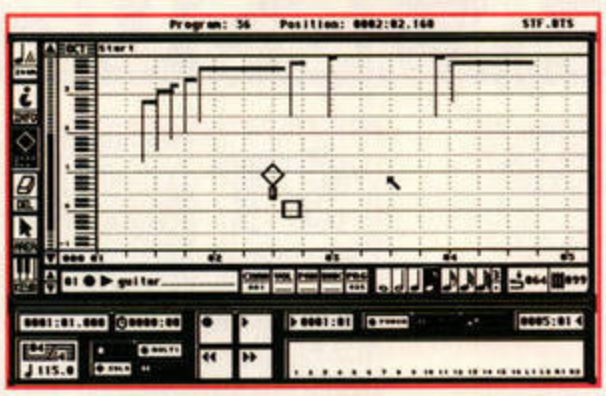
PROGRAM CHANGES IN BREAKTHRU



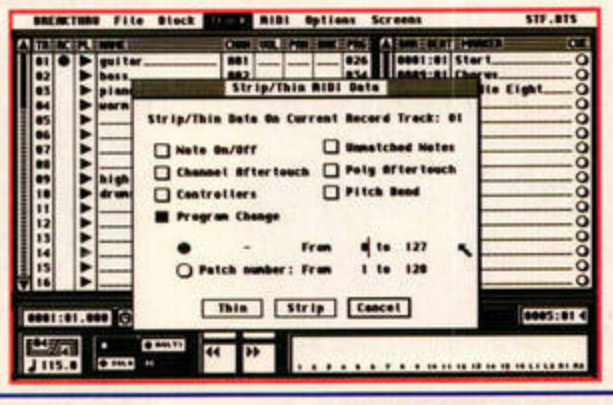
1 *Breakthru's* Diamond Drag editing makes adding program changes simplicity itself. In Edit mode, click the mouse on the grid and then click in the 'square' of your new event. Choose Cont to transform your new object into a Controller event.



2 Now all you have to do is click on the Program Change box and enter the new patch number. The new program change is installed on to the grid when you click on OK. This number can be changed at any time.



3 Your new program change event looks like this. You can slide it back and forth to any position in your sequence.



4 *Breakthru's* controller data deleting system is actually better than *Cubase's*, because you can opt to delete only program change data, instead of the whole lot.

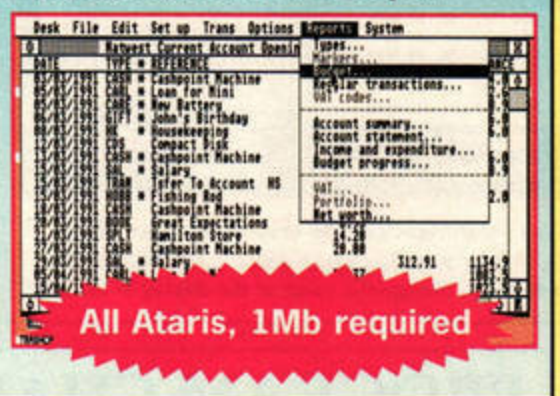
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Local stores rarely carry ST software and hardware, so you'll often have to buy by mail order. Here's how to shop safely.

1. 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.
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7. 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.
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The 'cheats never prosper' introduction has been arbitrarily discontinued. Simon Forrester hangs his head and carries on regardless.

Gamesbusters

Ishar 3

Mike Kirwan and David Chong provide us with the second installment of our *Ishar* solution, flitting back and forth through time with, well, not all that much ease.

Last month, we left you heading towards Mather's house, collecting as much food and armour as you could on the way. When you arrive outside the house, you should be able to find a scroll with a message from his servant, Erkh Moltus.

If you go to the Silver Wolf Inn, north of the house, and listen, you should see Erkh arrive and ask for a meal. Click on Yes and buy him a meal, then listen again. He'll offer to take you back to Mather's house, so agree and he'll take you there.

Mather will order you to leave, but you should keep refusing until he shouts "OUT!!" At this point, give him the playing cards that Typhus gave you. Agree to wait when he asks you to, and a time gate will soon appear. If you don't have supplies, you should go back to the town to find some, but if you had the sense to stock up before you came, you can click on the time gate to go through.

Lawks a lummy, that'll be the marvel of time travel, then. Sorry, that should be ymmul a skwal *(Oh please – Nick)*.

You've been thrown backwards into the past, and find yourself standing in a forest. To the south you'll find some black mushrooms which are well worth picking up, because they can be sold in the town when you get there.



"Now gents. I never meant to compare you both to a pair of old turtles. Can't you take a joke?"

If you go back to the north and follow the relatively clear forest paths to the east, you'll come across a way through the bushes (you may have to do a bit of searching) which is plagued by dangerous insects – kill them before they kill you. Your next obstacle is a bear which is a tad tougher to kill than the insects, what with it being a bear and all.

You survived? Oh well. Take a few paces further east, then turn south and head along the rough path in the ground. When you get to the end of the path, turn east and enter the enclosed area, to the far east of which is a racoon sitting on a rock. He hands you a scroll, too. Read it, then retrace your steps right back to the time gate (killing any of the insects you left alive). When you get to the place you appeared at and can't find the gate, don't panic – it's a little further to the northwest.

You should find yourself back, safe and sound, in Mather's house. If you give him the scroll, he'll provide you with a bit of a monologue, a key and the recipe for a potion – 2 x salamander oil, 2 x dried mistletoe, 1 x rat brain, and 1 x kelonia powder. Classic hubble bubble stuff, there. Leave quickly.

Take a look at your map. There's an arrow to the south of the centre which points to a house – go along to it and wander in. You'll find a magic flask and a necklace on the chair, and you should take them both. Put the necklace on one of your team members before heading over to the centre of the map, the poor town.

Make your way to the street that runs along the southern wall of the rich town. You should come across an armourer's (stock up), a potion shop (where you'll find the first three ingredients), and a tavern called the Big Troffer. Go in wearing the necklace and listen. You'll be presented with the kelonia powder.



You pays your money and you takes your choice. This street map is obviously in the single copper coin price bracket.



A drinking establishment. You've been charged with a highly important quest and you want to go off for a night out with the lads?



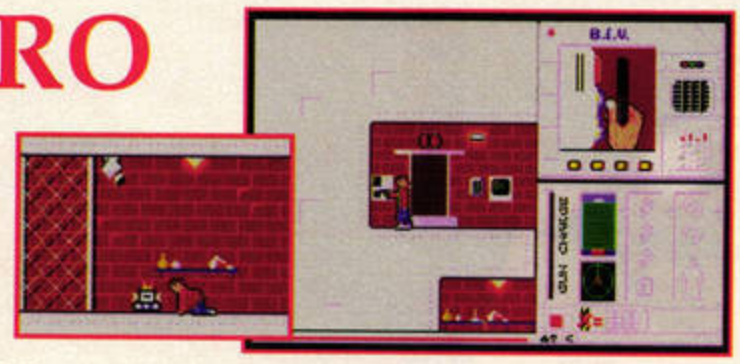
Wearing rose-tinted sunglasses isn't going to make your quest any easier you know.

Remember the racoon in the past? Go back to Mather's house, through the time gate, through the bushes and down the path, into the clearing and to the rock at the far east. Mix the potion in its correct measures and give it to the racoon. This transforms him into Green Dahilim, the wizard. He gives you a talisman before vanishing, at which point you have to make your way all the way back to the rich town.

Go past the first set of guards, take the first turn to the east and then head to the south. In the southern area of the rich town you'll find a theatre. If you enter at dusk, you'll be greeted by Gulnar Dahilim. Give him the talisman and he'll take you to another time gate that's only open between two and three o'clock. Step through, and you'll find yourself in the swamps of the past...

...where we'll leave you fighting for your life until next month, when we go leopard hunting, and travelling far into the future. What japes, eh?

HERO



Go on, do it. Crack your head on the shelf. You know you want to.

His gun recharged, our man in *HERO* resists the urge to electrocute himself.

Paul Strugnell recently bought the freeware version of *HERO*, and has come up with a cheat which enables you to skip through the levels. To make your time as easy as possible, though, only use this cheat on a backup copy of the game – it involves altering the disk, and any mistakes could prove fatal.

You'll need a text editor that copes with straight ASCII, such as the excellent *Protext*. If you use the program to open up the SAVED.DAT file on the first disk, you'll find that the first line of the file contains a number (preceded by a space – very important, that) and the second line contains either RSRCH, STORE or BIO, surrounded by backslashes (\). These are the things you're going to change, depending on the level you want to get to. Remember – leave that space in front of the number, folks...

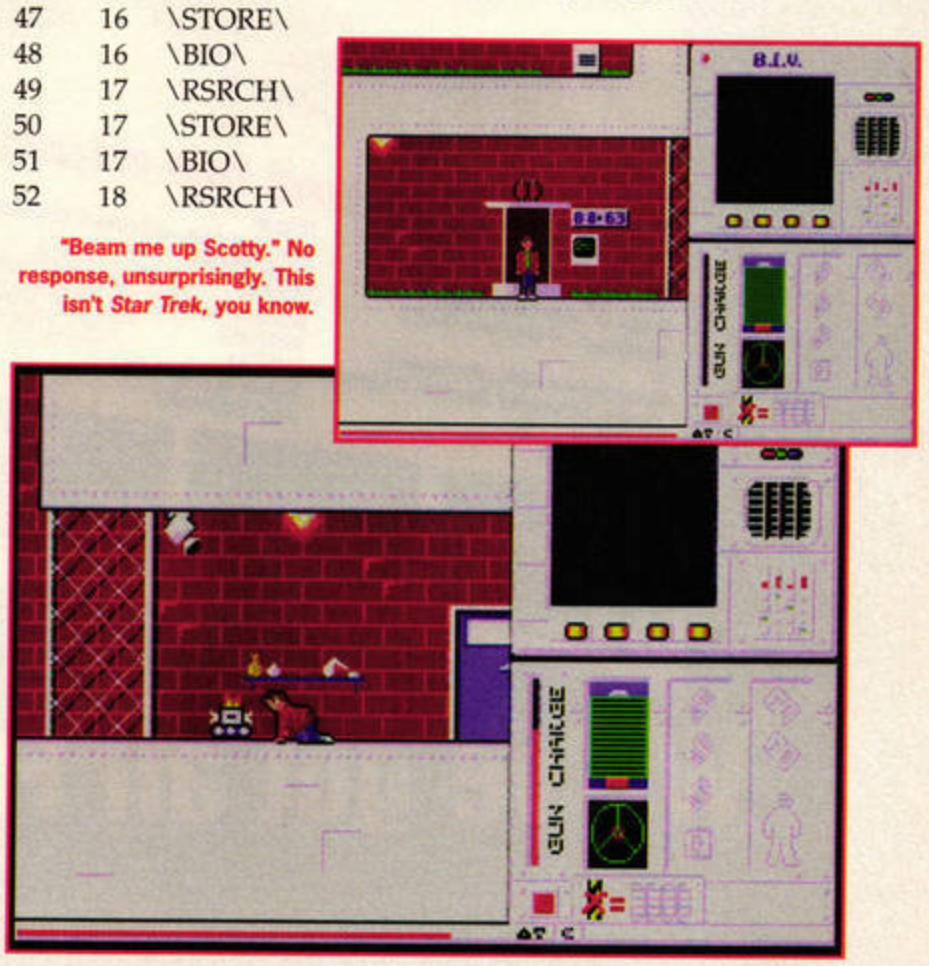
Level	No	String
01	1	\RSRCH\
02	1	\STORE\
03	1	\BIO\
04	2	\RSRCH\
05	2	\STORE\
06	2	\BIO\
07	3	\RSRCH\
08	3	\STORE\
09	3	\BIO\
10	4	\RSRCH\
11	4	\STORE\
12	4	\BIO\
13	5	\RSRCH\
14	5	\STORE\
15	5	\BIO\
16	6	\RSRCH\
17	6	\STORE\
18	6	\BIO\
19	7	\RSRCH\
20	7	\STORE\
21	7	\BIO\
22	8	\RSRCH\
23	8	\STORE\
24	8	\BIO\
25	9	\RSRCH\
26	9	\STORE\
27	9	\BIO\
28	10	\RSRCH\
29	10	\STORE\
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52	18	\RSRCH\
53	18	\STORE\
54	18	\BIO\
55	19	\RSRCH\
56	19	\STORE\
57	19	\BIO\
58	20	\RSRCH\
59	20	\STORE\
60	20	\BIO\

EVOLUTION DINO DUDES

It's with mixed emotion that I can announce, exclusively to *ST FORMAT* readers, that Mr A Marsh, of Lancashire, is having marital problems. Fear not: he remains very happily married, but his dearly beloved is tearing her hair out over level 51 of this highly rated Jaguar game. If anyone can provide either a code for level 52 or a solution to the offending stage itself, we can restore Mrs Marsh to her usual stable condition.

Indeed, 'A' is so eager to find an answer he has provided every password from level two onwards, stopping, of course, at the Big Problem. Here we go, then:

2	Liberty Island
3	Stone Wall
4	G Men
5	Wild West
6	Lemon Entry
7	Wagon Wheel
8	Oil Drum
9	Moon Orbit
10	Hard Rock
11	Trip And Fall
12	Alarm Clock
13	Big Country
14	Hog Tied
15	Can Can
16	Cute Mouse
17	Spark Plug
18	Pony Express
19	Padded Cell
20	Log Plume
21	Canvas Sail
22	Golden Era
23	Wide Seat
24	Bad Karma
25	Crash Barrier
26	Lime Glass
27	Surfs Up
28	Penal Colony
29	Relief Art
30	Tribal Dance
31	Soda Fountain
32	Parking Space
33	Pizza Dude
34	Crow Flies
35	Tiled Roof
36	Slate Missing
37	Opening Time
38	Inner Peace
39	Bad Dog
40	Sour Belly
41	Large Mug
42	Half A Bet
43	Sing Sing
44	Brown Cow
45	Iron Horse
46	White Whale
47	Box Office
48	Corny Fur
49	Atom Cat
50	Free Wheeling
51	Bush Fire



"Beam me up Scotty." No response, unsurprisingly. This isn't *Star Trek*, you know.

"Quiet! I'm playing hide and seek with my friend, and if she finds me I've got to buy her a packet of sweets."



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Feedback

Nick Peers casts an eye over the latest batch of mail known to the ST world only as Feedback.

That's better

I would like to praise *ST FORMAT* for its recent articles on the WWW and HTML coding which I found to be both informative and interesting. However, some of us are not on the Internet and so cannot contact you via e-mail and your WWW site. Do you have a standard modem line through which we can contact you, or are we just left with Royal Mail?

I also liked the upgrade article. However, although you mention that hardware upgrades require rehousing of our machines there is no mention of the power supply. It can only supply so much current and will fail if demand from these add-ons exceeds the supply.

Stephen Moss, Cambridge

stf: Thank you for your comments, Stephen. Unfortunately, my modem is refusing to co-operate with the one which runs Ad.Lib (0191 3702659), the official ST FORMAT *BBS. However, you could try one of the new Internet cafés which are springing up all over the place and contact us from there.*

Your comments concerning the power supply are thankfully largely redundant. As it stands, you can safely run (with the correct add-ons) a second disk drive, hard drive and monitor through your ST's single power supply. However, you don't necessarily need to do this. My ST at home, for example, is housed in a Desktopper replacement case (contact System Solutions on ☎ 0181 6933355 for details). It only has a second disk drive attached to the main power supply – the hard drive and monitor both run from their own supplies.

Fight back

The news in your June issue of Compo's demise should shock every good Atarian into leaping to the ST's support. Having used *Write On* since it appeared on issue 33's Cover Disk, I can testify to what a class piece of software it is. Please let it, and its big brother *That's Write*, be saved from an undeserved end.

But it is on the hardware front that the battle will surely be won or lost. At present, the only alternative to second-hand machines is the Amiga 1200. Isn't there someone out there who can design an Atari-compatible machine with a bottom-end 680x0 processor? One which, unlike the GeSoft Eagle and Medusa T40, great machines as they undoubtedly are, can be afforded by the home user?

Barry Gowland, Milton Keynes



Cavan Scott and Nick Peers. Would you buy a used Atari from these people? More fool you, then.

stf: First, although the collapse of Compo UK is a big blow to us all, other companies are moving swiftly to take up distribution of Compo's software range. Titan already has the rights to Gribnif's software range (see STF *84). Other products, including Compo Germany's products, should be snapped up soon.*

The problem with designing a new machine for the Atari community is that it could never hope to compete with secondhand STs. These can be bought for very low prices, often with extra hardware and software thrown in. If your ST is coming to the end of its life, keep an eye on the Reader Ads page – there are plenty of bargains to be had!

A thought

I have been a staunch Atari supporter for many years, but it would appear that other machines have taken over my life. I am typing this on a PC. I now play games on a Sony Playstation. I haven't used my ST in months and the Jaguar is a dust trap.

The only thing that the PC doesn't have is a decent magazine. I still find *ST FORMAT* more interesting than any PC magazine I can find. Maybe this is because Atari

PIXEL PAINTING

£25 winner

This month's winner hails all the way from Gdansk in Poland. Pawel Kaznowski sent us a disk stuffed full of excellent (if gory) pictures, and we have a selection here for you to admire. Pawel created them with *Deluxe Paint* from Cover Disk 77 and wins himself £25.









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NEXT MONTH

Clone zone
We profile the Atari clones of the future and ask whether the 680x0 series of computers can compete with today's technology.



Video titling
With the help of exclusive Cover Disk software, we show you how to add titling effects to your movies.

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Discover whether all the hype has been justified as *Positive Image* finally gets a full release, and a full in-depth review.

Plus
Reviews of the latest versions of *NeoDesk*, *Convector Pro*, *Arabesque* and *Geneva*. Also, will *Player Manager* finally be on the disk? Turn on, tune in and find out!

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SPECCY HEAVEN

Two knights in shining armour have come to the rescue of ex-*Your Sinclair* reader John Cheseldine (*STF* 83). First, Michael Escritt of Batley writes: "*Spectrum Monthly* is a new Spectrum fanzine written with former *Your Sinclair* readers in mind. I have been writing Speccy magazines for almost two years now. It costs £1.75 per issue."

Second, Nicholas Mills of Oxford points out that "one of the oldest and most reliable Spectrum groups, Format, publishes a monthly magazine. It can be contacted at 34 Bourton Road, Gloucester, GL4 OLE." Thanks to both for the information about that wonderful old machine (it brings back memories), which we've duly passed on to John.

computers have character, whereas PCs are just bland. *PC FORMAT* isn't a patch on *ST FORMAT* – any ideas?

Anyway, keep up the good work. I'll keep my subscription going for as long as you are still printing the magazine, and hopefully my ST will be in use again.
Nic King, via e-mail

stf: *Thanks for the comments Nic – you're obviously an advocate of the content over the size argument! I still think the ST can do most of the things a PC can. That's why I haven't upgraded from my ST, anyway.*

If you want a PC magazine which is similar to ST FORMAT, *try* PC Answers. *The fact our very own Mary writes for it is just a coincidence – I believe it is the PC magazine most similar to* ST FORMAT *(ask the editor, Sue Grant – I told her this five times in as many minutes during a recent trip to the pub).*

'Expert' witness



I have recently purchased a secondhand STE, and I have read about the Jaguar, Atari's latest console. The games look fabulous but the machine is far too expensive at £220. I was wondering if I could put the games into my STE's cartridge port and play them using a control pad.

My friend has an Amiga CD32 and reckons it is better than the Jaguar. He is really annoying me!
Richard Clarke, Devon

PS: I think your magazine is great because it contains stuff for the beginners and technical stuff for the experts like us.

stf: *Unfortunately you can't run Jaguar games on an STE, Richard. The hardware is completely different. However, the good news is that you can pick up Jaguars for ridiculously low prices these days – around a third of the price you've quoted here.*

I know someone who has a CD32 and loves it to death, but you can't do half as much with it as you can with an ST. It doesn't even enable you to painfully transcribe entire Queen *songs into MIDI, for example.*

A few questions



I am writing to say how much I like your magazine and I hope you will continue supporting the ST. I have a few questions to ask.

1 Is there any program which will play the PC's AVI files, and how much will it cost? **2** The program *UDO 4* from Cover Disk 82 is meant to work on a 520ST, but when I try to run it it says I haven't enough memory. What's wrong? **3** When I upgrade to 1Mb I am thinking of getting a Zip drive. Do I need ICD's Link 2 to connect the drive to my STFM?
Richard Lancett, Worcestershire

stf: *Taking your questions in turn:* **1** *Ask for* AVI-Play *from any good PD library – it will only cost you the price of a disk.* **2** *Unfortunately,* UDO *requires 1Mb of memory to run, something that isn't mentioned in the documentation. Sorry about that – but it is another good reason for upgrading!* **3** *Yes, you need the ICD Link (or a similar interface). See ST Answers for more details.*

Send your letters to the editor, Nick Peers, at: Feedback, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath, Avon, BA1 2BW or e-mail: npeers@futurenet.co.uk. You can also reach him via our Web site at: http://www.futurenet.co.uk. Note: letters may be edited for length and clarity.

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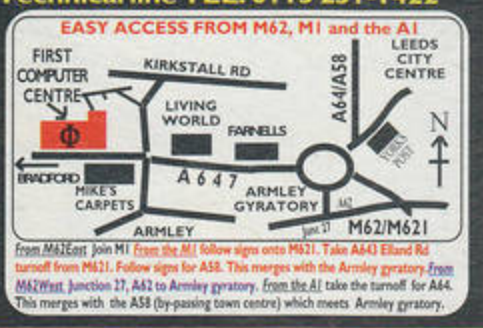
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- 33,600 Data/14,400 Fax £166.95

SupraFAXModem 288

- Up to 115,200bps (v42bis)
- Silent & Adaptive Answer
- V34 Standard
- NComm Software
- Class 1 & 2 Fax
- Unique LCD Display
- Flash ROM
- 5 Year Warranty

Down in Price



only £188.95

SupraExpress 288

Only £153.95



- Up to 115,200bps (v42bis)
- LED Display
- V34 Standard
- NComm Software
- Class 1 Fax
- 5 Year Warranty

New!! Straight Fax 2.5

Updated Version...£59.95

CourierV34+

If you thought V32bis was fast try V34

£287.95 BABT Approved

33,600 bps.





RENO Portable CD ROM

- SCSI-2 connector
- 320kb/sec data transfer.
- Battery or Mains powered
- Kodak multi-session CD
- Stereo headphones supplied
- 180ms Access Time
- Audio CD operation buttons

Req. SCSI controller

£99.95



PRIMA AM1423V Now Only £99.95

Hi-Res Mono Monitor

High resolution 14"mono monitor. 640 x 400 resolution. Stable image and razor sharp quality. Comes with built in tilt & swivel monitor stand. All Cables Included.



Iomega ZIP Drive

- 100Mb removable Media
- High Transfer Rates
- Atari Zip Tools Inc.
- SCSI-II Interface
- Lightweigth Portable Design
- 12 Month Warranty

Req. SCSI controller

£185.95

ICD Link II

£69.99

Probably the best investment you'll ever make for your ST.

Syquest EZ-135 SCSI

"Hard Drive performance with a removable cartridge"

£194.95

Memory/Hard Drives



Marpet ST/FM RAM Expansion

4Mb Expansion 0Mb Pop.	£24.99
4Mb Expansion 512k Pop.	£34.99
4Mb Expansion 2Mb Pop.	£59.99
4Mb Expansion 4MbPop	£104.99

ST/E RAM

512k Expansion	£9.99
2Mb Expansion	£39.99
4Mb Expansion	£75.99



PRIMA

The PRIMA range of Hard Drives use very high quality mechanisms, ensuring high speed disk access and Transfer Speeds. Standard warranty 1 year.

ST/FM/E/Falcon SCSI Hard drives

Prima 245Mb	£179.99
Prima 540Mb	£229.99
Prima 1.1Gig	£319.99

Prices exclude SCSI controller and connecting cables.

Memory Modules

1 Mb 72 Pin SIMM	£19.95
4 Mb 72 Pin SIMM	£36.95
8 Mb 72 Pin SIMM	£69.95
16 Mb 72 pin SIMM	£134.95
32 Mb 72 pin SIMM	£254.95
1Mb 30 pin SIMM	£19.95
4Mb 30 pin SIMM	£54.95
256x4 DRAM (each)	£6.95

Part Exchange Available on your old Memory

Internal Hard Drives

540Mb SCSI	£154.95	540Mb IDE	£139.95
1080Mb SCSI	£242.95	853Mb IDE	£160.95
2000Mb SCSI	£394.95	1090Mb IDE	£161.95

Software

UTILITIES/ PROGRAMMING	
Diamond back 3	£35.95
Diamond Edge	£35.95
Xboot 3	£25.95
ST Straight Fax 2.1	£69.95
Hisoft Devpac 3.10	£44.95
Hisoft DSP Falcon	£45.95
Hisoft Basic 2.02	£54.95
Lattice C 5.6	£74.95
Personal Pascal	£25.95
VIDEO AND GRAPHICS	
Flexi Dump 3	£29.95
True Paint	£12.95
True Image	£12.95
Paint+Image Bundle	£24.95
Video Master ST	£79.95
Video Master Falcon	£89.95

MUSIC	
Replay 16 Digitiser	£89.95
Stereo Master	£25.95
Clarity Falcon	£69.95
Playback ST	£22.95
PRODUCTIVITY	
Calamus 1.09n	£59.99
Papyrus Gold 3.66	£84.95
Twist 2 (Database)	£44.95
Papyrus+Twist Pack	£149.95
Atari Works	£49.95

Classic Games

Proflight £10	Powermonger £5
Flight/Intruder £10	Blood Money £10
Sensible Soccer £10	Baal £5
Team Yankee £10	F10 Stealth £10
F15 Strike Eagle £5	Xenon £5
Falcon £10	Ultima IV £5
F29 Retaliator £5	Fighter Bomber £5
Elite £5	Midwinter II £10

Scanners

Power Scanner ST only £99.99

This scanner comes with the latest version software, allowing you to scan up to 400 DPI in real-time greyscale, with autoscan rate detect. The scanned image can then be edited and manipulated.

Alpha Scan Plus ST only £139.99

New version of this famous 400 DPI scanner. Includes Touch up, Merge-it and OCR software enabling you to alter and manipulate high resolution images. Needs 1 Mb of RAM and runs in mono only, HD required to use OCR software.

Epson GT-5000 Flatbed Scanner

- A4 Flatbed scanner
- 2400 dpi output resolution
- 300 dpi optical scan resolution

£399.95

New!! Mouse

Wizard 560 dpi

3 button Mouse

Only £12.49



400 dpi Mouse	£11.45
3 button version	£12.95
Crystal Trackball	£34.95

Steinberg

Cubase Lite	£84.99
16 track, score printing	
Cubase Score V.2	£379.99
Pro 128 track sequencer	
Cubase Audio Falcon	£679.99
Digital Audio/Midi/Scoreprinting V2	

Disk labels 500	£6.99
Disk labels 1000	£9.99
10 Capacity Box	£0.99
50 Capacity Lockable	£3.99
100 Capacity Lockable	£5.49
*90 Capacity Banx Box	£10.99
*150 Capacity Posso Box	£20.99

*add £3.00 delivery if purchasing just one Posso or Banx box. Normal delivery when purchased with other product or when buying 2 or more.

Accessories

Power 720P 3.5" Drive	£69.99
This 1 meg external drive, Includes external PSU.	
Atari Int. Drive compat.	£39.99
1 meg replacement internal disk drive for ST/FM/E, direct replacement, case modification is required.	
Roboshift MK-I	£9.99
Automatic Mouse/Joystick switcher	
Forget-me-Clock 2	£21.99
Real time clock that plugs into the cartridge port. Software for setting time & date. 2 year guarantee.	
Zy-Fi Speakers	£26.99
8 Watts per Channel	
Zy-Fi Pro 16 Watts	£57.99
16 Watts per Channel	
Atari Joystick	£7.95
Zipstick Joystick	£11.99
Saitek Megagrip II	£12.99

Cables

Modem Cable 9-25/25-25	£9.95
Null Modem Cable	£9.95
Atari-VGA Monitor	£9.95
Atari-TV Cable	£2.45
Atari-CM8833 Monitor	£9.95
Atari-Scart Cable	£9.95
Printer Cable (1.8 metre)	£4.95
Analogue J.stick Adapt.	£7.95
Mouse/Joystick Extension	£4.95
Mouse/Joystick Autosw.	£9.95
MIDI Cables 3 metre x2	£9.95
Centronics-Centronics	£9.95
SCSI D25-50 way Cent.	£11.95
SCSI D25-50 to Micro-D	£15.95
SCSI Adaptors from..	£15.95
SCSI Terminators from...	£19.95
Internal SCSI Cables	£9.99
2.5" IDE Hard Drive Cab.	£5.95

Software Bargains

Atari Family Curriculum softw pack £9.95 Super Value

Includes, Business computing module, Junior School, Creative Computing, Play & Learn and GCSE revision module.

Parallel Port Sharers



2 Way	£12.99
3 Way	£18.99
4 Way	£21.99

Price includes connecting cable

Monitor Switcher Box £17.99
Switches between mono & colour monitors, such as Prima Mono Monitor & 8833 MK2

Printers

Canon

Canon BJ30	£169.95
Portable mono printer, 30 page ASF built in.	
Canon BJC70Colour	£223.95
Portable colour printer, 30 page ASF.	
Canon BJ200ex	£183.95
High quality mono printer, virtual 720 dpi.	
Canon BJ210	£187.95
Mono printer, 720x360dpi, col. upgradeable	
Canon BJC4100Col.	£256.95
High quality col./fast mono printing 360 dpi.	
Canon BJC610 Colour	£410.95
720 x 720 dpi, near photographic quality	

Star Micronics

Star LC90 9 pin mono	£104.95
ASF built in, push tractor optional.	
Star LC100 9 pin Colour	£118.95
180 cps draft, 45 cps NLQ, Amiga drivers.	
Star LC240 24 pin mono	£117.95
192 cps draft, with ASF built in.	
Star LC240C 24 pin Col.	£130.95
ASF built in, 4 LQ fonts.	
Star SJ144 Colour	£225.95
Colour thermal transfer printer, low running costs, 3 p/p/m mono, 1.4 p/p/m colour.	

CITIZEN COMPUTER PRINTERS

All Citizen printers have a 2 year warranty

ABC Colour printer	£129.95
Simple (as easy as ABC) to use 24 pin printer. Comes as standard with 50 sheet Auto sheet feeder. Tractor feed optional at £34.99	
Citizen Printiva 600c	£379.95
600 dpi colour, 1200 dpi mono printer, Dedicated Amiga driver software, use's advanced Micro Dry print Technology.	

HEWLETT® PACKARD

HP340 Portable	£220.95
Colour upgradeable portable printer	
HP600	£189.95
Colour upgradeable mono inkjet/ Col. Kit £34.95.	
HP 660 Colour	£284.95
New colour inkjet from HP.	
HP850 Colour	£423.95
600x600 dpi up to 6 p/p/m mono, 3p/p/m colour	
HP 5L Laser printer	£436.95
4 p/p/m 600 dpi	
HP 5P Laser printer	£743.95
6 p/p/m 600 dpi	

EPSON

Stylus Colour II	£291.95
720 dpi, 4ppm Black, 2ppm Colour.	
Stylus Colour IIs	£196.95
720dpi, 2.5ppm Black, 1ppm Colour.	
Stylus 820	£169.95
720 dpi, 2.5ppm Black, Colour Upgradeable.	
Stylus Pro	£445.95
720x720 dpi, Photo-Real quality output.	
Epson LX300	£124.95
9 Pin Dot Matrix, Colour Upgrade Kit £34.95	
Epson LQ300	£139.95
24 Pin Dot Matrix, Colour Upgrade Kit £37.95	

Miscellaneous

Printer Switch Box 2 way	£12.95
Printer Switch Box 3 way	£17.95
Printer Stands (Universal)	£4.95
1.8 Metre printer cable	£4.95
3 Metre printer cable	£6.95
5 Metre printer cable	£8.95
10 Metre printer cable	£12.95
Parallel port ext. cable	£9.95

Flexidump New version

"If you want to get the best possible results from your printer, get a copy of Flexidump".

£29.95 or £24.95 when purchased with a Printer.

Consumables

Ribbons

Citizen Swift/ABC mono	£3.95
Citizen Swift/ABC colour	£12.95
Star LC90 mono ribbon	£4.95
Star LC10/100 mono	£3.65
Star LC10/100 colour	£7.95
Star LC240c colour	£13.95
Star LC240c mono	£8.95
Star LC240 mono	£5.95
Star LC24-10/200/300 Colour	£13.95
Re-Ink Spray for mono ribbons	£11.95

We stock a wide range of consumables for all Lasers, Dot Matrix and InkJets old and new.

PREMIER-INK Cartridge Refills

Save a fortune in running costs with your ink/bubble jet. Compatible with the HP Deskjet series, Canon BJ10/20/80/130/200/300/330, Star SJ48, Citizen Projet and many others. Full range of colours avail.

Single refills	(22ml)	£6.95
Twin refills	(44ml)	£12.95
Three colour kit	(66ml)	£19.95
Full colour kit	(88ml)	£27.95
Bulk refills	(125ml)	£24.95

Printer repair specialists. Free quotes available

Ink Cartridges

Canon BJ10/Star SJ48	£17.95
Canon BJ200/230	£18.95
Canon BJ30 (3 pack)	£12.95
Canon BJC 70 mono (3 pack)	£10.95
Canon BJC 70 colour (3 pack)	£17.95
Canon BJC 4000 colour (single)	£16.95
Canon BJC 4000 mono (single)	£6.95
Canon BJC 4000 mono high cap.	£28.95
Canon BJC 600e mono high cap.	£8.45
Canon BJC 600e colour	£7.95
Citizen Printiva Std. colours	£6.45
Citizen Printiva Metallic colours	£16.45
HP. Deskjet 500/550 Mono	£22.95
HP. Deskjet 500/550 Colour	£24.95
HP.Deskjet 660 double mono	£23.95
HP.Deskjet 660 colour	£25.95
Epson Stylus mono	£13.95
Epson Stylus colour	£27.95
Epson Stylus Col. II/S/820 Mono	£17.95
Epson Stylus Col. II/S/820 Colour	£24.95
Star SJ144 mono/colour (single)	£8.95

Paper

Fanfold (tractor feed) 500 sheets	£6.95
Fanfold (tractor feed) 1000 sheets	£12.49
Fanfold (tractor feed) 2000 sheets	£21.49
Single sheet 500 sheets	£6.95
Single sheet 1000 sheets	£12.49
Single sheet 2000 sheets	£21.49
Epson Stylus 720 dpi paper pack	£13.95
H. Packard Glossy Paper 10 Pack	£9.95
High Quality Inkjet Paper (500)	£9.95

Disks



Bulk DSDD

10 x £3.45	100 x £26.95
30 x £9.95	200 x £49.95
50 x £14.95	500 x £114.95

Branded DSDD

10 x £4.95	100 x £41.95
30 x £13.95	200 x £76.95
50 x £21.95	500 x £175.95

Bulk DSHD

10 x £3.95	100 x £29.95
30 x £10.95	200 x £55.95
50 x £16.95	500 x £129.95

Branded DSHD

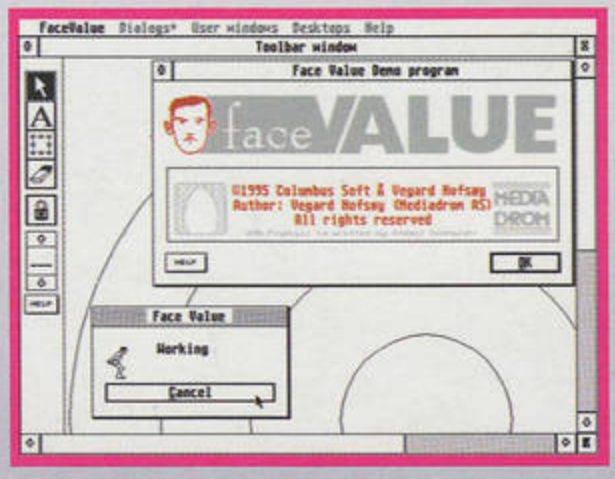
10 x £5.95	100 x £44.95
30 x £15.95	200 x £82.95
50 x £23.95	500 x £189.95

Disk labels x500 £6.95
Disk labels x1000 £9.95

www.stformat.com

ST FORMAT

This month's COVER DISK

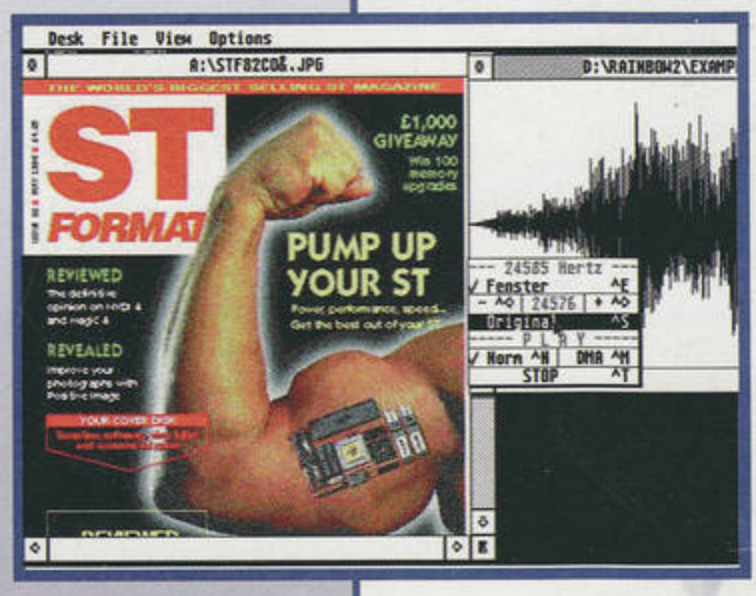


FACE VALUE

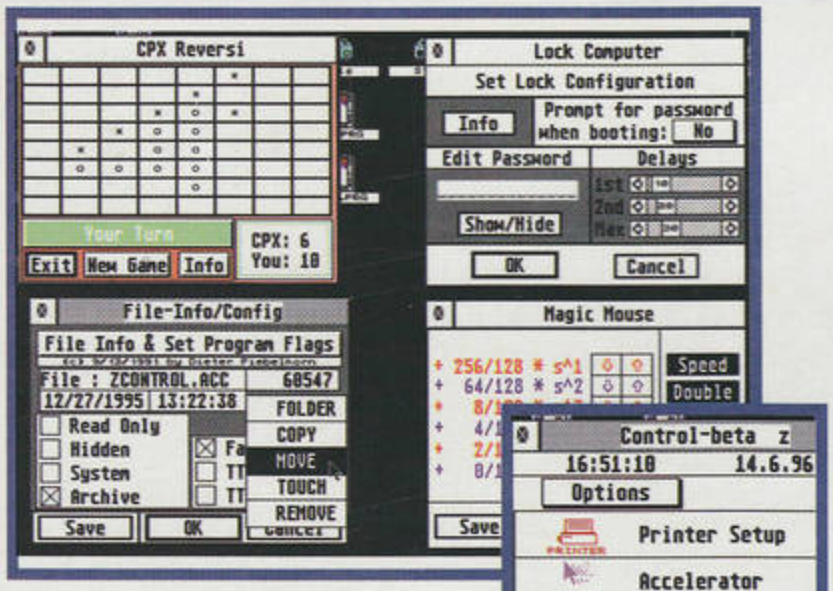
Two demos created with System Solutions' new utility for *GFA Basic* users. All Ataris, 1Mb required.

1ST GUIDE

New version of this image, sound and text viewer with hypertext support. All Ataris.



ZCONTROL



Combine several utilities, games and configuration programs in one Accessory slot! *ZControl* is the 1990s answer to Atari's control panel Accessory, *XControl*. Runs on all Ataris, minimum resolution 600x400 pixels.

ISLAND STRIKE

High-flying shoot-'em-up action from the author of *HERO*. Take on a billionaire megalomaniac in your well-armed helicopter! Runs on all Ataris, 1Mb required.

Exclusively on the *ST FORMAT* disk



PLUS 3 MORE

- **Marcel 2.3.4** *The latest version of this excellent word processor. Runs on all Ataris.*
- **MaxiDisk 2.2** *RAM disk utility to accompany our Absolute Beginners feature. All Ataris.*
- **CPX Modules** *Loads of CPX modules to accompany ZControl, including* FileInfo, Reversi, Lock *and* Magic Mouse *accelerator. Suitable for all Ataris.*