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REVIEWED THIS MONTH:

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UPGRADE BOARD • MEGA ARCHIVE CD
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• FONTY • TWILIGHT SCREENSAVER
• BOOT SECTOR INSTALLER
• ROBINSON'S REQUIEM CD • ISHAR 3
CD • TAUTOLOGY 2 • EGALE 2.7
• SWITCH • XLATOR 2 and more...

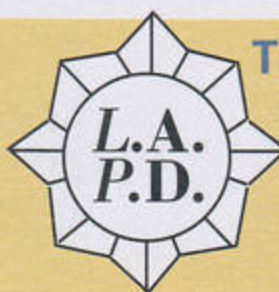
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games

• • ARCADE • • • • •

- G.417 STAR TREK - TNG: Intergalactic action - requires 2 joysticks *NEW* (1Mb) (2 disks/£3.00)
- G.413 COMBAT: Fast action military shoot 'em up in style of Operation Wolf *NEW*
- G.410 PACMAN ON E: One or two player classic 'Pacman' with sampled music *NEW*
- G.405 ULTIMATE ARENA: Beat 'em up in the style of 'Mortal Kombat' (S/W) *NEW*
- G.403 SQUARE OFF: The ultimate tumbling block 'Tetris' game (1Mb, STE) (2 disks/£3.00)
- G.398 ASTEROIDIA (STE): Classic asteroid blasting action - order G399 for STFM version (1Mb)
- G.400 FRANTICK (STE): Superb fast action kinetic combat simulator - order G401 for STFM (1Mb) (2 disks/£3.00)
- G.247 MEGAPEDE: The classic blast the caterpillar 'Centipede' game (1Mb)
- G.395 DYNABUSTER: Bomb laying and dodging arcade game (STE, 1Mb)
- G.366 DAVE MUNSIE GAMES: 9 games from the master programmer, including Frogger (1Mb)
- G.355 WING LORD: Aerial duelling game in the style of the classic 'Joust'
- G.380 STARBALL: Pinball game - arguably the best PD game on the ST
- G.381 MAX: Help Max find his girlfriend. A 'cute' arcade platform game (1Mb)
- G.333 SUPER PSYCHO KART: High speed platform game to rescue piglets (1Mb)
- G.286 ROCKFALL - SPECIAL EDITION: Tunnelling/diamond collecting puzzle game
- G.281 PSYCHO PIG: Platform shoot 'em up with Rambo-esque pig. (2 disks/£3.00)
- G.279 OPERATION GARFIELD: Frantic 'Operation Wolf' type shoot'em up action. (STE)
- G.80 TETRIS & PILE UP: Two very good versions of the 'Tetris' arcade game
- G.171 HACMAN II: 1 megabyte version of Pacman, 100 new levels!
- G.110 LLAMATRON: 100 levels of fast arcade action with wicked sound 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 *NEW* (2 disks/£3.00)
- G.412 NISHIRAN: Classic sci-fi, first-person view role-playing game. (1Mb) (2 disks/£3.00)
- G.351 TOWERS: First-person view role-playing fantasy adventure game (1Mb) (2 disks/£3.00)
- G.308 WALLS OF ILLUSION: The ultimate 'Dungeonmaster' clone with English instructions (1Mb)
- G.5 MORIA: A complex fantasy D&D based role-play game. (1Mb)
- G.370 MINDMELT: Fantasy adventure with an overhead view
- G.288 DARKLYTE: 'Space Crusade' type droids wargame
- G.262 ALIENS: Space Marines v Aliens strategy combat game
- G.115 MYSTIC WELL: Complete 'Dungeonmaster' style adventure game

• • PUZZLES • • • • •

- G.404 MEMORY RECALL: Challenging memory test with digi pics & sound (1Mb)
- G.387 SPACESWEEPER: A challenging 'Minesweeper' game in three dimensions!
- G.315 SKULLS: Addictive up to date reworking of Landmines/Minefield (1Mb STE)
- G.311 JIGSAW: A computerised jigsaw puzzle (1Mb)
- G.269 QUIZMASTER: Multi-choice answer general knowledge quiz (STE)

• • ADVENTURES • • • • •

- G.411 ROBOT REVOLT: A sci-fi text adventure *NEW*
- G.394 THE SECRET PARK: A text adventure with graphics for children
- G.225 CAILYNVORN: D&D type fantasy adventure set on a far earth-like planet
- G.321 INVESTIGATION: Graphic adventure in the style of Sierra On-Line (2 disks/£3.00)
- G.200 ANARCHY ACADEMY: 3D graphic adventure to blow up the school!
- G.140 A NIGHT ON THE TOWN: An adventure with the opportunity to meet the girl of your dreams and...well, the rest is up to you.
- G.222 GRANDAD AND THE QUEST...: 3D graphics adventure by Ian Scott. Shareware (1Mb)
- G.303 GRANDAD AND THE SEARCH FOR THE SANDWICHES: Graphic adventure (1Mb) (2 disks/£3.00)
- G.156 THE AWE CHASM: An adult adventure featuring Snatch and Crunch (over 18's only)
- G.167 SUSAN: An adult adventure (over 18's only)
- G.91 QUEST FOR THE HOLY GRAIL: Python-esque madcap humour
- G.202 UNKNULIAN UNDERWORLD: Highly rated large scale text fantasy adventure

• • STRATEGY & OTHERS • • • • •

- G.131 STAR TREK - THE GAME: Defeat the Klingon threat to the galaxy (1Mb)
- G.386 STAR TREK - KLINGON WARS: A Starship Enterprise battle simulation (1Mb)
- G.390 INTERNATIONAL MANAGER: European Nations/World Cup management game
- G.391 ANCIENT GAME OF GO: Two computer versions of the Oriental game (Gnugo, Amigo)
- G.344 CHESS-MATE: A chess/draughts game analysis tool
- G.332 CAESAR: Strategy game set around the Mediterranean in 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.237 CHAOS: Madcap game of battling wizards by Martin Brownlow (1Mb or 0.5Mb)
- G.324 IMPERIAL CONQUEST: Complex ancient Mediterranean game of conquest (S/W)
- G.325 SOCCER MANAGEMENT: A complex simulation of soccer management (S/W)
- G.217 THE MAZE: 3D adventure game loosely based on 'The Crystal Maze'
- G.173 PENGUINS: Move your penguins around the screen 'Lemming' fashion
- G.10 VEGAS: Roulette, poker, blackjack and slots, without the Nevada sand!

dave munsie games

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- S.144 EKSEQ 1: A 100 track, 240ppqn sequencer with many features
- S.145 OPTRONIX MUZAK: Rip and play music from other programs
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- 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.66 BEFORE DAWN: Animated screen saver that will use your own animations
- U.47 PROBE ST: Handy utility. Grabs music/graphics, disk/memory editor, etc
- U.52 VAULT & TURTLE: Fast hard disk back-up utilities

miscellaneous

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- M.177 LOTTERY COMPANION: Valued assistance with your lottery entries
- 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
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- M.19 AIR WARRIOR: Flight sim with World War II aircraft
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- M.100 GERMAN TRANSLATORS: Three programs to translate German text to English
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programming

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- P.44 GFA V2: Full version of language with tutorial & compiler! (N.B this disk is not PD - L.A.P.D. have permission to distribute it.)
- L.68 SPRITE WORKS: New commands for games writers using GFA V3+ (2 disks/£7.00)
- 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 help routines for GFA-Basic 3.0
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- M.167 DIABETES: For sufferers of Insulin Dependent Diabetes Mellitus
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- U.24 SHARES: Shares will display general trends
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- M.16 KIDZ COMPILATION: Kid Graph, Grid, Music, Notes, Piano, Publisher, sketch and story... all on one disk!
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licenceware



games

Possibly the best licenceware range on the ST

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

- L128 BLUDGEON V.2 (1Mb, £3.00) *NEW* by Seaton Shareware Co-operative. A computer moderated fantasy combat system developed so that fantasy wargame battles could be enjoyed by single players or multi-player groups. It can be used as a tactical fantasy adventure wargame or as part of a role-playing adventure. This licenceware version includes two ready to play solo adventures.
- L129 BLUDGEON ADVENTURES #1 (£3.00) *NEW*. Six additional solo adventures for the above BLUDGEON game.
- L124 THE SANDS OF MARS (£3.00) by IZ Software. A sci-fi game that involves you in controlling the events governing the operating of a Martian Mining Corporation facility. As your resources increase, additional installations can be built, but not far away an alien menace lurks resentful of your intrusion into their world. 3D 'Creatovision' view showing terrain, your colony buildings and alien cities. Use your resources to build vehicles and installations. Explore the Martian planet and deal with problems as they arise including meeting quota targets, overcrowding, plague, alien attacks, etc. A deep and challenging game.
- L105 CONQUEST 2 (1Mb, £3.00) by Ralph Effemey. The sequel to the immensely popular game CONQUEST. In this newer version you now have no less than five islands to conquer and rule. There are also more elements for you to control than in the earlier game and these include miners, weapon-makers, fishermen, boat-builders, lumberjacks, bakers, cattle, look-outs, knights, etc. This totally absorbing game was an ST FORMAT 'Game of the Month'.
- L104 WAR OVER THE REICH (£3.00) by John M. Fowlston. Become the head of Britain's World War II Bomber Command then plan and execute a campaign of raids against twelve German cities. Flak, weather and enemy fighters will take a steady toll of your Lancasters, Halifaxes and Sterlings as the game progresses.
- L98 WORLD AT WAR (£3.00) by Seaton Shareware Co-operative. A game of economic and military strategy on a grand scale for one to seven players. The objective is simple - total world domination. But to achieve it you'll need to build, arm and supply your military forces while attempting to capture the territory of your opponents. Played on a world map.
- L22 GRAND PRIX MANAGER (£3.00) by S. Fowlston. A simulation game that has you running a Formula One Grand Prix team through as many seasons as you wish. Select from one of 15 recognised teams to run, including McLaren, Ferrari, Benetton etc. Hire and fire your own teams of specialists, including experts in aerodynamics, engines, etc and drivers from a list of 40. Test your cars to get the best from modifications and fine tune them to perfection, then race them against the other teams and drivers in a full season of Grand Prix races. Both half meg and one meg versions of the program are available.
- L79 DARKLYTE II (1Mb, £3.00) by Howard Tilley. The sequel to the successful 'Darklyte' program on L.A.P.D. disk no. G.288. This one is bigger and better with nearly double the graphics, over 8 times more audio and double the equipment! It is a sci-fi space strategy game in which you must destroy the Darklyte forces. Reminiscent of the 'Space Crusade' game.
- L118 THEY SOLD SEVERAL (£3.00) by Ben Weston. The five games on the disk are: THE UNMAGNIFICENT 15, a simple Wild West shoot'em up game; CLAN, a Hamurabi type game where you must prove yourself a capable leader and help your clan grow and prosper; QUEST KNIGHT, a fantasy game played in plan perspective - recover the fabled 'Rose of Questoria'; LOGIC PROBLEMS, five challenging puzzles with electronic tagging to aid record keeping; LOGIC PROBLEMS II, more of the same.
- L42 OUTWORLD (£2.50) by Glyn Carey. An arcade/strategy game in which you take control of a space colony with the sole task of keeping at least one member of the colony alive until it can escape into orbit. Crew die slowly if they run out of water, oxygen or food and so fresh supplies must be continually shipped in. Add to this the ever present threat of alien vessels launching attacks on vital areas of the colony and you'll soon find your work cut out.
- L53 HOT DOG (£2.50) by A.A. Covell. A game of greyhound racing for 1 to 9 players which in practice gets more and more fun the more players are involved. Over 400 dogs permanently stored on disk. Study the odds, select your dog, make your bet, then watch them run.
- L59 ARTHUR OF THE BRITONS (1Mb, £3.00) by Ralph Effemey. A strategy game with arcade sequences in which you take control of King Arthur and his army of ancient Britons.
- L60 CONQUEST (1Mb, £3.00) by Ralph Effemey. A 'God' game in which your task is simply to survive for one year in the land of your choice. To do this you will need to rule wisely, strongly and efficiently. If you survive for the full year you'll be given the name of the next land you must conquer.

arcade games

- L130 DESERT HAWK (1Mb, £3.00) *NEW* by Michael Lundberg. Control a Black Hawk helicopter through different missions consisting of destroying various targets and collecting people and cargo which must be delivered to safety. The Black Hawk is joystick controlled and armed with rockets and cannon.
- L119 ASTEROIDIA (STE, £6.00) by Dave Munsie. The classic game 'Asteroids' revisited. This version features 3D rendered asteroids and a 360 degree scrolling playfield. It has good sound effects and digitised music. It is an arcade style game that requires little alien strategy but provides hours of fun. You are flying around in space trying to destroy all the asteroids that are heading towards your home planet. You'll also have to contend with little alien things that want to destroy your ship!
- L120 ASTEROIDIA (STFM, £7.00) The STFM version of the above.
- L121 FRANTICK (STE, £7.50) by Dave Munsie. Welcome brave warrior to the kinetic combat simulator Frantick. Here is where loyal soldiers sharpen their skills at operating the Empire's secret weapon. To facilitate training and boost morale, bombs and increased blaster power are available to the quick. Ample bonuses are supplied for those with a taste of higher gratification.
- L122 FRANTICK (STFM, £7.50) The STFM version of the above.
- L123 SQUARE OFF (£7.50) by Dave Munsie. Falling block puzzle game in the style of the classic 'Tetris'. This time though there is a melodic digitised soundtrack, fitting sound effects and a modern graphic display.
- L93 PROJECT PURIFY (£3.00) by Mikael Lundberg. Purchase equipment for your spacecraft then attempt to clear twenty sectors of space debris 'Asteroids' style.

- L87 STORM 94 (1Mb, STE, £3.00). As a member of an elite group of space marines you are designated to perform a one man reconnaissance mission of the space vessel LGH590 with which contact was lost 27 hours ago. It is expected that this will be mankind's first contact with non-human intelligent lifeforms and you are advised to proceed with extreme caution. On board the vessel you soon realise that the defective lift system is only working one way - downwards, and there are 31 decks to make your way through before you can escape! Alien lifeforms abound on the ship which you traverse using an overhead view, 'Gauntlet' style. This is a serious blasting experience with 8 way scrolling, 30 on-screen sprites, sampled sound, etc.
- L91 STORM 94 (1Mb, STFM, £3.00). As L87 above but for the STFM.
- L86 FLUFFIES (1Mb, £3.00) by Howard Tilley. A platform game across many levels as you guide a blue fluffy creature in an attempt to rescue his girlfriend who has gotten lost in one of the many castles and forests of Fluffyland. Careful though as there are traps and pitfalls along the way. Similar to the classic 'Rick Dangerous'.
- L80 MUNCHKIN (£2.50) by Digital Dreams. The perpetually popular Pacman pastime!
- L116 STREETS (£3.00) by 999 Software. Drive your armed motor-car around the streets of the city collecting diamonds so carelessly dropped by fleeing gangsters. Use your on-board cannon to blast your way through obstructions whilst avoiding mines and mobster cars. There are five areas of the city in all to navigate and each is more dangerous than the last.
- L117 FISH TANK (£3.00) by 999 Software. A game for younger players in which they take on the role of a little green fish in a fish tank populated by many larger, carnivorous fishes and other aquatic creatures. You must collect the poisonous food from the surface of the tank and drop it in the path of the other tank inhabitants to dispose of them. Keep your eye on the larger fishes though because they prefer the taste of little green fishes (like you) to the food you're offering!
- L70 CHRONIC INVADERS (£2.50) by Digital Dreams. The 'Space Invaders' return in this reworking of the all time classic computer game.
- L61 3D ASTEROIDS (1Mb, £2.50) by Ralph Effemey. Based on the classic 'Asteroids' game - but in 3D! Your task, using the latest spacecraft fitted with defence shields, is to clear the space-ways of junk and asteroids. Asteroids and other items tumble towards you and must be destroyed by your lasers. Unfortunately though, there are also a few space pirates who'll attempt to stop you in your task. The full STOS source code for the game is also included on the disk.

adventure & role-playing games

- L125 PATHS OF GLORY (£3.00) by IZ Software. A sword and sorcery role-playing game. Your task is to fulfill various quests by exploring dungeons, gathering treasure, slaying monsters and rescuing unfortunates in true fantasy adventure style. The game has a 3D isometric view of dungeon rooms showing all objects, characters and monsters in detail. It has multi character classes and hordes of marauding monsters. Three classes of spells (magical, priestly and elven). Locked and magical doors, traps and trapdoors, piles of treasure and magical items guarded by fierce monsters.
- L115 DEMON II (1Mb, £3.00) by Howard Tilley. A fantasy adventure game with an overhead view. Wander around towns, sewers, etc. Visit buildings and speak to the residents as you seek adventure. Choose from six different character classes: Warrior, Assassin, Mage, Thief, Oracle and Medic. Detailed point and click interface.
- L114 TIME MACHINE (£3.00) by PhantomsSoft. A classy text based adventure with over 100 locations and over 40 excellent graphic screens. The game involves you travelling through time to collect six crystals needed to destroy a threat against present day Earth. The game has a comprehensive verb and noun list which should all but abolish your need to try and find the exact word to describe what you want to do.
- L112 CRAGHAVEN (£2.50). An adventure in a fantasy land. After coming ashore in your rowing boat at the harbour town of Eyntown you set about exploring your new surroundings. It isn't long before you stumble across someone who sets you a mission that takes you to the desolate heart of the island and the castle of Craghaven.
- L97 STONE COLD SOBER (£4.00) by Organised Chaos. A traditional adventure game but with a point and click interface.
- L69 BIO-HAZARD (1Mb, £3.00) by L.J. Greenhalgh. A 'Dungeonmaster/Captive' style adventure set onboard a star-cruiser in the depths of outer space. From a first person perspective there are corridors to explore, puzzles to solve, aliens to blast.
- L21 DEAD OR ALIVE (£3.00). A large, complex and humorous text adventure game from Organised Chaos. Taking a short cut home you call into a strange shop where the owner shows you a strange crystal. It renders you unconscious and when you come to the shop has disappeared and your memory is blank!
- L31 THE CURSE OF AZRIEL (2 disks, £4.00) by A.A. Covell. A superb graphic fantasy role-playing/trading game. You start the game as a new captain of a merchant ship at anchor just outside the port of Aron's Bay. Your first ship is just a coastal vessel and unsuited to the rigours of travel across the vast oceans, but make a profit from your trading around the coastal ports and you'll soon be able to buy yourself and your men a larger, ocean-going vessel. Recruit and train men in the cities you visit. Visit inns, armourers, town mayors, fight pirates etc. Most of all though, you must try and restore law and order to the world of Lord Azriel (Now FALCON compatible).
- L41 MURDER ON THE ORION EXPRESS (£3.00) by Organised Chaos Software. A murder mystery game with an almost infinite variety of solutions, set on board a futuristic space-cruiser. You need to question other persons on the vessel, passengers and crew, to check out their alibis. If you take too long in tracking down the killer more and more murders take place eventually culminating in your own! The game has a graphic interface and is mouse driven.
- L50 DEMON (£3.00) by Howard Tilley. Trapped in a stone cell your first task is to escape before the resident demon gets back. 3D view, monsters, pits, teleports, secret walls, magic system. It's got the lot!

puzzles

- L110 QUICK FLIP (£3.00) by Nice Bytes. A mind-bending tile flipping game. Flip the tiles on a 4 x 4 grid in any of four directions to try and gain the maximum score. Bonus squares, magic squares and a timer all add to the suspense.
- L106 CRAZY LETTERS (1Mb, £3.00) by Dunces Cap. A word search game in which you try and find a seven letter word hidden behind a grid of squares (a variation of Hangman). Also on the disk is a program to assist in the selection of UK lottery numbers.
- L102 DCS COMPILATION #4 (£3.00). The fourth compilation disk from Dunces Cap Software. On this disk are BRAIN DAMAGE, eight very different games and fifteen stages to test your brain to the limit. SHAPES, make shapes from 16 different pieces thrown down at random on the monitor screen. LINK, join together the top left hand corner of the monitor screen with the bottom right hand corner by forming a chain from 16 playing pieces. QUIZICAL, a multi-choice question and answer game.
- L101 DCS COMPILATION #3 (£3.00). The third compilation disk of games from Dunces Cap Software. On this disk are: OUTRAGEOUS FORTUNE, a collection of logic and maths challenges to set your mind spinning. MATCH MAKER 2, four different games of matching symbols on hidden cards. FRAME OF MIND, a gambling game with five levels of play, including 'Wheel of Fate', 'Gambler', 'Gridstar', 'Pontoon' and 'Chopper'. CRYPTOGRAM, a two player game based loosely on the TV program 'Countdown'.
- L100 DCS COMPILATION #2 (£3.00). The second compilation of games from Dunces Cap Software. On this disk are: QUEST FOR KNOWLEDGE (1Mb), you must seek out 12 hidden icons from mazes five screens wide and eight screens deep, then answer questions to claim them. REBOUND, a bat and ball game requiring determination, skill, stamina and patience. GALACTIC FRUITBOWL, a combination of two of your favourite arcade machines, the fruit machine and the trivia quiz. GREY MATTER, a word game with hundreds of everyday words to guess.
- L99 DCS COMPILATION #1 (£3.00). The first compilation of games from Dunces Cap Software. On this disk are: ACECHASE, a gambling program in which you must find the ace from seven face down playing cards. THE WIZ, a fun program comprised of ten tests. MINDLOCK, a quiz program on general knowledge, mathematics and the English language. MATCHMAKER, match up hidden symbols from a hidden grid of squares. There are six levels of play.
- L96 TILES IN SPACE (£3.00) by Inspiration. A computer version of the sliding tile puzzle game, i.e. Slide the tiles to make a picture.
- L94 GRID MANIA (£3.00) by Nice Bytes. A word search game for 1 or 2 players. Each player attempts to find 15 words on grids of 324 letters. The game includes 'bonus words', 'magic scoring letters' and other extra features.
- L92 BAMBOOZLE (£3.00) by Nice Bytes. A puzzle game where you must turn all the symbols on a 25 square grid to higher scoring ones.
- L88 BIRDS OF TANKS (£3.00) by Esa Myllyla. Guide your tank via an overhead view through a battlefield, destroying hidden mines with your minesweeper. An avoid and collect game.
- L85 ZUFFERS (£3.00) by Terence Pearson. A puzzle game involving a race of microscopic creatures (the Zuffers) that you must rescue after a giant meteor has crashed into their planet. 30 levels of action as you attempt to guide them back to the safety of their shelters.
- L84 WORD WIZARD (£3.00) by Nice Bytes. A one or two player word guessing game with different levels of difficulty.
- L83 ZIGGY (£3.00) by Nice Bytes. A puzzle game that puts you in the role of 'Ziggy', an extra-terrestrial explorer faced with the problem of solving the 'Globes' puzzle - set for him by the Lords of Thorak. The idea is to click on a globe in a 5 x 5 grid which will then cause another globe elsewhere on the grid to change in colour. Success in eventually turning the globes into diamonds helps towards the solution.
- L75 FREAKED OUT (£3.00) by Chris Sharp. A joystick controlled puzzle game that sees you negotiating various screens in search of points and the quickest way to escape.
- L74 NICE BYTES MEGA-PACK #1 (£3.00). Four puzzle games on one disk. ATOMOMIX, place atoms of varying energies onto a grid whilst attempting to obtain the highest energy possible. Care though, too much energy and they'll all explode. PURE LOGIC, a game based on Boolean logic. REGA, a tile flipping game on a 5 x 5 grid. Convert all the tiles to the same colour. LOGICA, a three phase logic/puzzle game.
- L66 HEARTBREAK (£3.00) by Steven Rozwadowski. An infuriating and highly addictive puzzle game played on a 7 x 7 grid where the challenge is to place assorted blocks into the grid to form lines of seven. Each tile has its own picture which offers points, multipliers, bombs, magnets, etc., all of which affect the other tiles. It's a sort of 'Tetris' game with an overhead view and it's incredibly addictive. You have been warned!
- L11 PI SQUARED (£2.50) A puzzle game by Tony Martin. Starting with a square of random symbols you are challenged to turn them all to pi symbols within the given time. Increasing levels of difficulty.
- L13 TWO LETTER COMBO (£2.50) Game Maker Kit #1 by Tony Martin. If you have a printer linked to your computer this program will allow you to print out and make the cards for your own word game. The aim of the game is simply to make the longest words you can think of from combinations of two letters.
- L14 DICEY (£2.50). A challenging dice game by Tony Martin in the style of the classic 'Yahtzee'.
- L40 GRIDWORD (£2.50) by Nice Bytes. A word game in which you attempt to make the longest word possible from a 16 x 16 grid of letters. The game has a wide range of difficulty settings.
- L52 ENERGETIX (£3.00) by Nice Bytes. The year is 2070, ten years after the worst nuclear reactor explosion in history. Now the powers-that-be are pinning their hopes on a new source of power - the Active Fusion Resonance reactor. You are the test engineer given the job of proving the viability of this new reactor. However, first you must be sure of the exact procedures needed to run such a reactor... This is a puzzle game that challenges you to find those exact procedures. 1 or 2 players.
- L58 NICE BYTES #1 (£2.50). A compilation of two programs by Nice Bytes from our Licenceware range. They are: GRIDWORD, a word game for up to 4 players with various levels and options which enable players of varying abilities to play at their own level; REGA, a tile-flipping strategy game based on a 5 x 5 grid and including many extra features.

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ST FUTURE NET CD

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ST FORMAT

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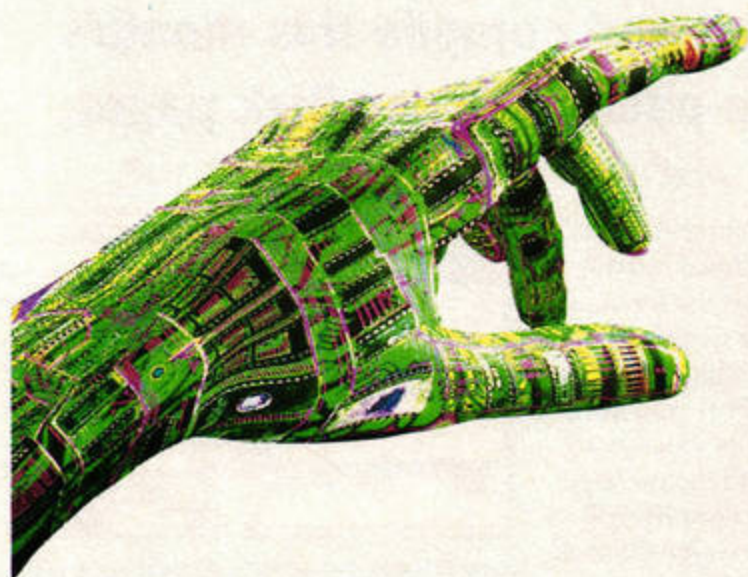
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LIFE IN THE THIRD DIMENSION



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After month's of speculation, the ST's first graphical Web browser is finally here. We take an inside look at this exciting new software.

COVER DISK 76

THIS MONTH...

XENOMORF 2 DEMO: A fully functional demo version of Lexicor's powerful raytracing package. For all 1MByte Ataris. Uncompressed size: 700K

REZRENDER: Complete raytracing and animation package for Cyber Studio files. Runs on all colour machines with 512K or more. Uncompressed size: 147K

STARIOLAND DEMO: An exclusive five-level demo from Top Byte's platform star! All colour Ataris. Size: 75K

SUBSTRAINER: Create powerful characters and even the score in UDS's *SubStation*. Size: 48K

3D FILES: Example CAD3D and *Xenomorf* files to accompany this month's cover feature. Uncompressed size: 529K

PLAY AVR: Play and display your sound samples on any STE, TT or Falcon. Includes an Accessory for STFM owners to listen to samples. Uncompressed size: 65K

BIC: Create eye-catching README files with this handy little utility. Size: 21K

HRAM DISK 2: Use any spare memory to create a blindingly fast virtual drive and revolutionise the way your Atari works. Size: 9K

FIMP/SOUNDS OF SUCCESS: The winning MIDI files, plus a MIDI file player for playing back tunes through your MIDI instrument or ST's sound chip! Uncompressed size: 209K

BACKUP: Use this to ensure you don't get the Cover Disk blues. Size: 12K



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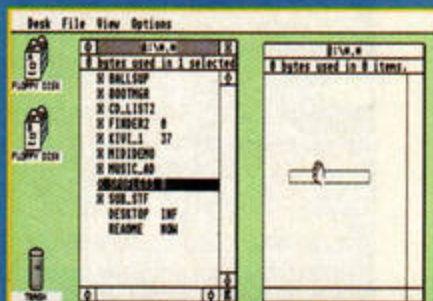
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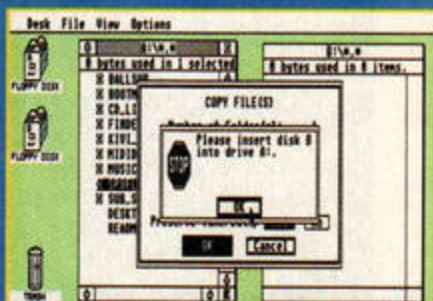
1 Assuming you have a single-drive system, insert your Cover Disk back-up into drive A. Double-click on the drive A icon to access it. Next, double-click on the drive B icon.



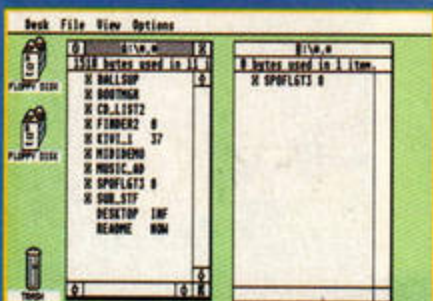
2 When prompted, remove the Cover Disk and insert your blank disk into drive A. Click on OK and a separate window should appear with the contents of the disk within it.



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.

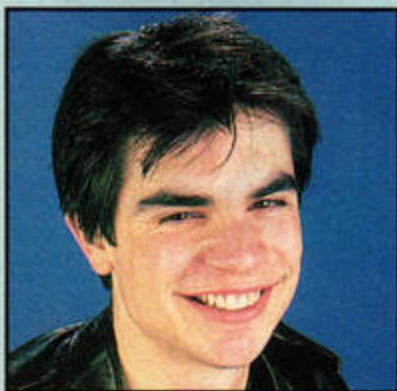


4 An alert box will tell you to insert disk A (your Cover Disk). Do so, click on OK and follow the on-screen instructions. You may have to swap disks several times during this process.



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.

Cover Disk



Still blubbing after the departure of Andy Ounsted to *PC Gamer*, Nick Peers tries to compose himself and compile this month's action-packed Cover Disk pages.

XENOMORF 2 DEMO

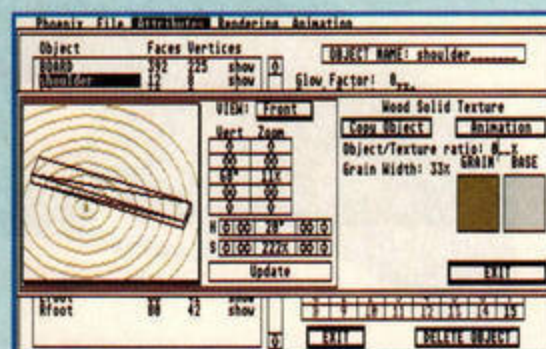
By: Lexicor Software
Machines: All Ataris
Memory required: 1MByte
Resolution: Any 80 column resolution (not ST low)
Uncompressed size: 700K

This highlight of this month's disk is a demo version of Lexicor's impressive image renderer. *Xenomorf* enables you to create stunning 3D images - see page 14 for details.

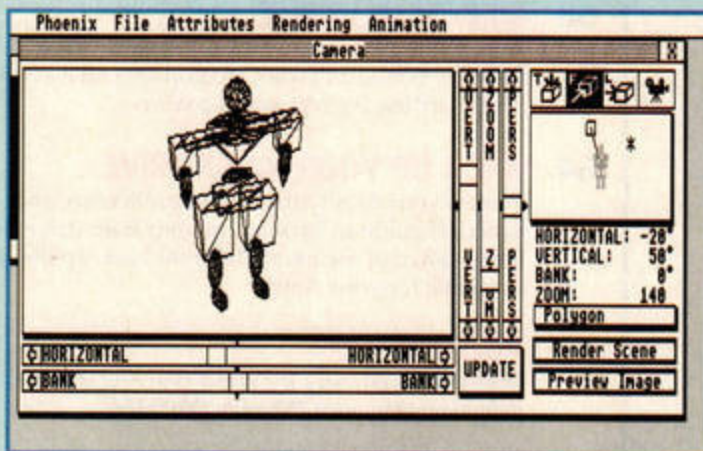
The *Xenomorf* demo is fully functional apart from the fact that the rendered images are displayed and saved with lines running through them. You get a good idea of what you can do with the package, but you'll need the full version to really show off your skills.

Getting started

The *Xenomorf 2 demo* includes lots of texture files, so the archive files are quite large.



Many of *Xenomorf's* powerful features are hidden away on sub-menus. Here we're giving our object a wood-grain surface.



The main screen, complete with the character Lex as provided with the demo.

You'll need to copy the two TOS files on to separate blank disks, the second of which should be formatted to 80 tracks and ten sectors. Double-click on the TOS files to dearchive their contents, then delete XENOMRF2.TOS and copy PH2_DEMO.PRGM from the first disk on to the second. Double-click on it to load and run the demo.

Make your own

Turn to page 14 for our guide to creating and rendering 3D

THOSE MENUS IN FULL

Here's a quick guide to the commands on *Xenomorf 2's* drop-down menus:

File menu

Load/Merge 3D2: Load a brand new CAD3D file, or merge one into an existing file.

Load/Merge/Save RD1: Although you can import 3D2 files, you can only save out in *Xenomorf's* own RD1 format.

Configure: Alter the default image resolution and save format, and the object defaults. SAVE CFG saves this to disk.

Cycle: Cycle between all the open windows.

Full: Toggles between full and partly full windows.

Quit: Leave *Xenomorf 2*.

Attributes

Lights: Alter the light source for your rendered pictures. Three solar defaults are provided, and you can create point or spotlight sources yourself. These can be placed anywhere and set to varying angles and degrees of intensity.

Cameras: Set the camera position, angle and type for your rendered picture. You can also choose

between three cameras - orbital (default), universal and aeronautic.

Objects: Set the attributes of the individual objects, including whether or not they are visible and what kind of shadows they cast.

Positioning: Precisely position the camera, object and lighting sources.

Rendering

Polygon/Gouraud/Phong/Phong with shadows: Select a rendering method.

Fog/Background colour/Background image/No image: Pick a backdrop for your rendered scene to be placed on.

Render scene: Render the scene.

Animation

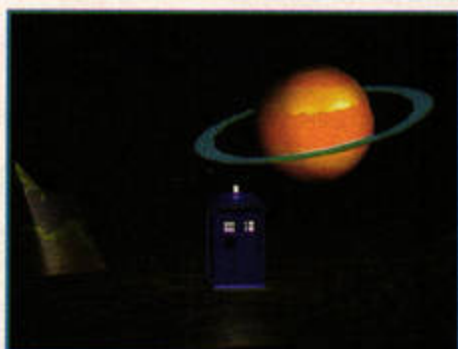
Begin/end animation: Create an animated sequence, which is subsequently saved as a PA1 file.

Render animation: Render each frame of a saved PA1 animation file.

3D STUFF

See that 3DSTUFF.TOS file? Dearchive it to a blank disk or hard drive to create a 3DSTUFF folder full of files produced by our very own Dug Armstrong to accompany his excellent feature on 3D modelling and rendering.

The main folder contains two further folders – one of files created in *Cyber Studio*, and one of *Xenomorf* files. Load them in to *Xenomorf* to get



One of the many files created by Dug Armstrong to accompany our cover feature.

an idea of its capabilities, or use them with *RezRender*.

objects and scenes. You'll find all the necessary templates and sample files on the disk – see the 3D Stuff panel for details. The demo also includes an easy-to-follow tutorial,

PH_DEMO.TXT.

The full version of *Xenomorf 2* can be obtained from 16/32 Systems (☎ 01622 710788) for £89. It scored a massive 94% in issue 62.

REZRENDER

By: Antic Software

Machines: All STs

Falcon compatible: Partially

Memory required: 512K

Resolution: ST low only

Uncompressed size: 147K

RezRender is a powerful image renderer and animation tool. It enables you to turn CAD 3D files into stunning 3D images.

Getting started

Once you've copied REZRENDER.TOS to a blank disk, double-click on it to dearchive it, then double-click on REZRENDER.PRG to run the program. It's as simple as that.

Lights, camera

RezRender enables you to manipulate objects created in *Cyber Studio* – see the cover feature for more details. It is similar to *Xenomorf 2* in many ways, but only works in 16 colours and ST low resolution.

Once you've loaded *RezRender*, you need to open a 3D2 file (you'll find several examples in the 3DSTUFF.TOS archive). After the program

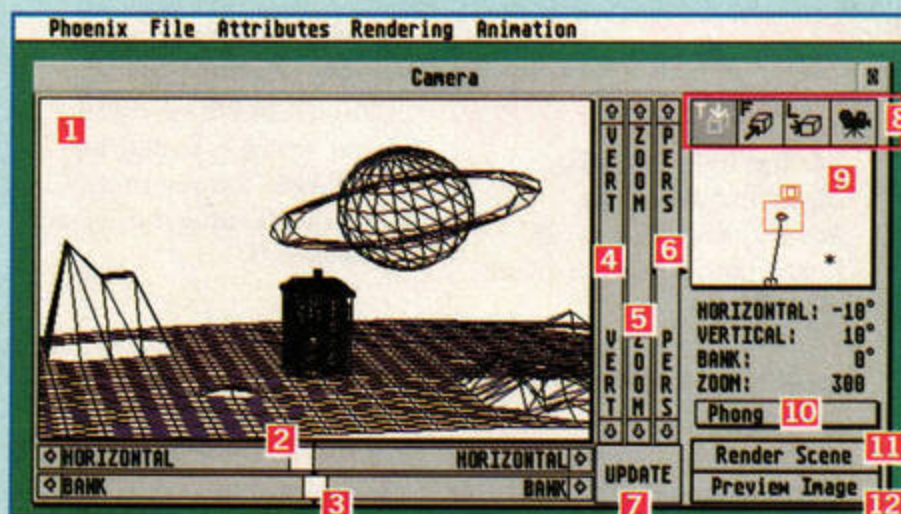
has optimised and projected the image, it will appear in the main display. If you've used *Xenomorf 2*, you'll notice that the camera windows are similar – the sliders correspond almost exactly.

Rendering a picture is as simple as clicking on one of the Superview options. You can wield more control over the result by accessing the Options menu (for a complete run-down of the features available, see below).

Completed scenes can be saved as 16-colour *Degas* images which, while not as colourful as those produced by *Xenomorf 2*, aren't crippled in any way.

Animation ahoy!

RezRender's Tween option enables you to create animations simply by selecting two camera points for your object and letting the program fill in the gaps. Select the number of frames you require, and the rendering method, then click on Preview to see how it hangs together. If you're happy with the result, click on Go to create the animation (each frame is



Xenomorf's Camera view enables you to position the camera and render the scene.

- 1 Current view from the camera position.
- 2 Alter the camera's horizontal position.
- 3 Tilt the camera left or right.
- 4 Alter the camera's vertical position.
- 5 Zoom in or out of the scene.
- 6 Alter camera's perspective up and down.
- 7 Update the image.

8 Alter the perspective shown in the Scene Outline View window.

9 The Scene Outline View window, which shows your object in relation to the lighting sources and camera.

10 Current render pattern.

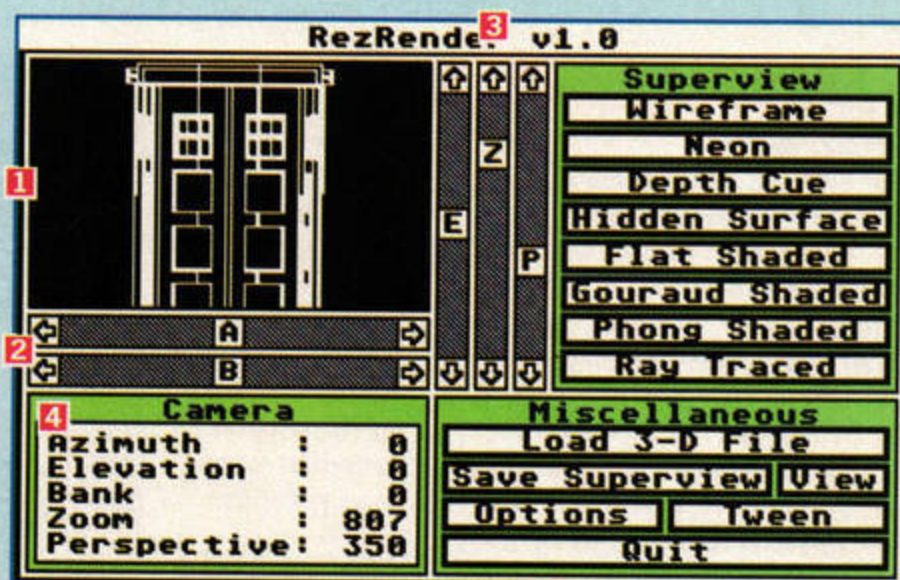
11 Render the scene.

12 Preview the scene on a full screen as a wireframe image.

stored as a separate *Degas* PI1 file). For more details on this, turn to page 20.

Unfortunately, there is no

documentation supplied with the program, but *RezRender* is relatively easy to use – so don't be afraid to experiment!



RezRender's main screen is quite similar to *Xenomorf's* Camera view screen.

- 1 Main screen. The currently loaded object is shown in wireframe.
- 2 Alter *RezRender's* camera's X and Y axis respectively.
- 3 Change the elevation, distance and perspective from the object.
- 4 Current slider positions.

5 Render the image (choose one of the eight methods).

6 Load a new CAD 3D file.

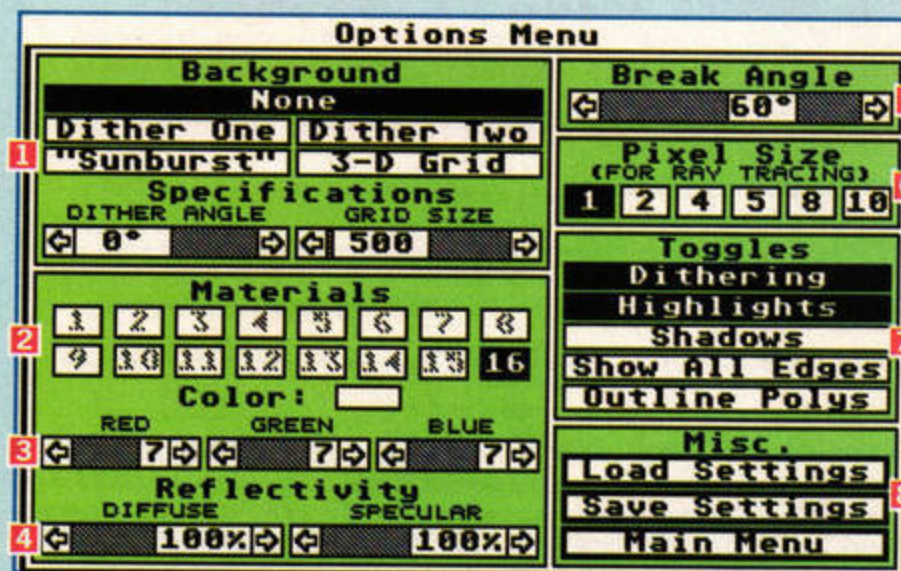
7 Save the Superview picture as a low resolution *Degas* image.

8 View the current Superview image.

9 Select options menu (see below).

10 Select animation options (see page 20).

11 (Cue fanfare) Leave *RezRender*.



RezRender's options screen.

- 1 Select a background.
- 2 Select one of the 16 colours assigned to the object.
- 3 Alter the selected colour (the default colour is white).

4 Alter the lighting on the object.

5 Select the number of materials.

6 Set pixel size for raytracing operations.

7 Toggles menu: select various effects.

8 Save the settings, load a set of options from disk, or return to the main menu.

REMEMBER

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

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

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

decompress the archives and extract their contents.

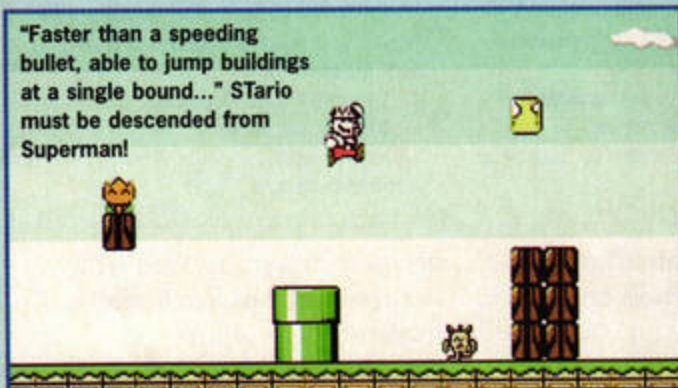
Read the instructions in these pages and in any document file that is on the disk. They're there for a reason.

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

SUPER STARIOLAND

By: Top Byte Software
Machines: All Ataris
Memory required: 512K
Resolution: ST low/medium
Size: 75K

Super STarioland is a fast and furious platformer in the style of the console classics. Hop, skip and jump through the five levels of this exclusive demo – it's a real treat.



"Faster than a speeding bullet, able to jump buildings at a single bound..." STario must be descended from Superman!

Getting started

Just double-click on STAR_DEM.PRG to run the demo, which is hard drive-installable. You can control STario with either the joystick or keyboard.

Help, help!

This exclusive *ST FORMAT* demo gives you the chance to try one of five levels (randomly chosen each time you play) from the full game, which boasts over 100.

You play STario, and you must rescue your girlfriend STacey from the evil Amowser. It's not as hard as it sounds – just keep moving to the right,

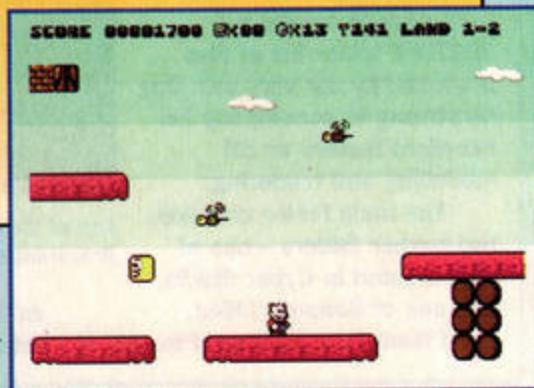
CONTROLLING STARIO

If you don't own a joystick, here's how to get STario moving with the keyboard:

[N]	Left
[M]	Right
[Control]	Jump
[Alternate]	Run or shoot
[Left shift]	Duck
[F10]	Pause

avoid the evil creatures and yawning chasms, and collect as many bonuses and power-ups as you can. You can kill most of the monsters by jumping on them, but beware the tortoises and crabs!

Your character can change direction while jumping, so it's easier than you might think. There are several power-ups scattered among the more common coin bonuses, including the ability to grow in size, and to spit fire at your enemies



All manner of unhelpful creatures are keen to end your adventures. Spoilsports, the lot of them.

(Very unsociable – Karen).

The full version is available from Top Byte for £19.99 (plus £1.49 P&P if you're ordering from outside the UK). Give Top Byte a ring on ☎ 01622 763056 for more details.

SUBSTRAINER

By: UDS
Machines: STE/Falcon
Memory required: 512K
Resolution: ST low/medium
Size: 48K

Having trouble getting through *SubStation*? You need *SubTrainer*, an indispensable character editor which enables you to build the ultimate warrior. You can also choose which level you start on, so if a mission is proving too difficult, you can move on to the next.

Getting started

Copy the SUBSTRNR folder to your blank disk or hard drive

and run STRAINER.PRG. Read the documentation for renaming your old save file very carefully, otherwise it will be overwritten. The new save file will be saved to your disk or hard drive partition.

Mo' muscle

Once you've saved your new statistics, you need to rename your old save file so that the new one can be placed in the DATA



Call it cheating if you must, but survival's a high priority in *SubStation*, so we'll take what we can.

folder on the *SubStation* disk. When you load a new game only one slot, entitled "STRAINER SAVE", will be available. Enjoy your new found power while it lasts...



BIC

By: Adrian Banks
Machines: All Ataris
Memory required: 512K
Resolutions: any
Size: 21K

Make your README files more eye-catching by inserting control codes to clear the screen, reverse out the text or make your machine beep.

Getting started

Read BIC.DOC to find out about the program and discover how *BIC* works. Run BIC.PRG when you are ready to insert the control codes into your document.

Beep, beep

BIC enables you to insert three control codes into any of your documents. When the document is displayed they will either clear the screen, reverse out the text, or make your ST beep. You can use the codes to

WE WANT YOUR PROGRAMS

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

Name _____

Address _____

Daytime phone _____ Program title _____

_____ Total size in K _____

On a separate sheet, explain concisely what the program does and why it's so brilliant.

Remember to: ■ Include on-disk and paper documentation ■ Write your name and address on the disk ■ Use a virus-free disk ■ Keep a copy of your program, contributions are non-returnable ■ Enclose an attractive bribe. An apartment in Prague would be nice... ■ Not that it makes a difference.

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

Signed _____ Date _____

PROBLEMS?

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

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

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

- Cover Disks are double-sided. If you have an old STFM and can't read the Cover Disk then you need to upgrade your ST to a double-sided drive.
- If you have other hardware or software queries, contact the manufacturer or publisher.

PLAY AVR

By: Timothy Raines

Machines: All Ataris (STE, TT or Falcon recommended)

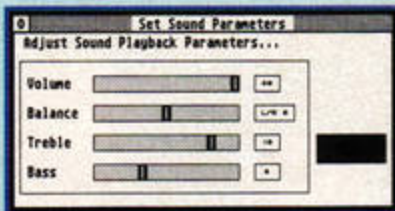
Memory required: 512K

Resolutions: ST medium/high
Uncompressed size: 65K

This excellent utility, produced by the author of *HyperGEM*, enables you to access and play sound samples.

Getting started

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

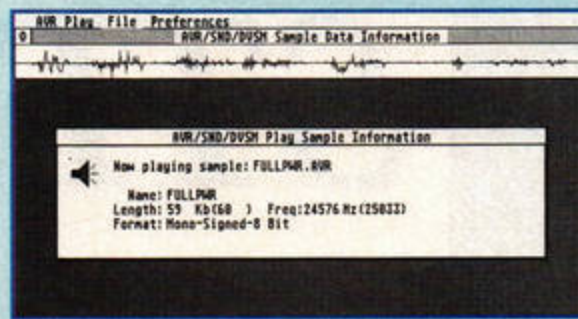


You can greatly enhance the playback of your samples by tweaking Play AVR's many options.

folder. STE, TT and Falcon owners can just run PLAY_AVR.PRG, but STFM owners should see the panel headed Can My STFM Play Too? Consult MANUAL.ASC for full instructions.

Music, maestro

Play AVR enables you to play AVR, SND and DVSM sample files. The main program only runs on STEs, TTs or Falcons, but there's also an Accessory which enables STFM owners to listen to their AVR samples.



You can view the sample's waveform as you play it back.

To play a sample, just load it. Any 16-bit samples are converted to eight bits and resampled to one of four playback frequencies, and unsigned

samples are automatically signed. Play AVR can show you a waveform representation of the sample, and you can alter its volume, balance, bass and treble, before saving the edited version.

A word of warning: don't select Sample looping. We haven't been able to work out how to stop the sample from playing continuously...

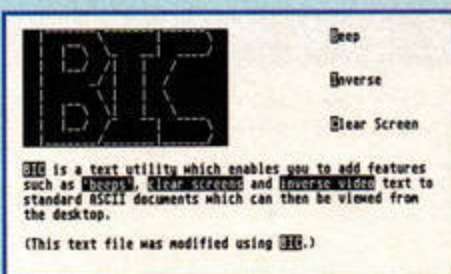
CAN MY STFM PLAY TOO?

If you have an STFM, you can use Play AVR to listen to your sample collection, but you don't get access to the editing facilities. It's a sort of 'look, but don't touch' arrangement, except that you hear rather than see.

Copy STFMPLAY.ACC to the root directory of your blank disk, then re-boot your machine. Click

once on the PLAY_AVR.PRG icon, and select Install Application from the Options menu. Enter 'AVR' in the empty Document Type field, and click on OK or Install.

Double-clicking on an AVR file will boot Play AVR and play the sample. The program then quits and returns you to the desktop.



Here's one page from BIC's accompanying documentation. Notice how the inverse screen effect has been put to good use. You can't, of course, hear the beep.

make your documents more readable – you could invert headings for example, or have your machine beep when an important piece of information is displayed.

BIC simply scans through any document that you feed it and converts specific characters (which you can specify) into the relevant control codes. And that's it!

HYBRISWITCH RAM DISK 2

By: John Eidsvoog

Machines: All Ataris

Resolution: Any

Memory required: 512K
(1MByte+ recommended)
Size: 9K

HybriSwitch enables you to use any spare system memory as an incredibly fast and reset-proof virtual disk drive.

Getting started

Either copy HRAMDSK2.PRG into your Auto folder and re-boot, or run it directly from your back-up copy of the Cover Disk. You'll find full details in the HRAMDSK2.TXT file, and you should read this carefully before attempting to set up a RAM disk. Also note

that a RAM disk will reduce the memory available to your machine for other tasks.

Fast and free

Recommended by Dug Armstrong (see page 69), HybriSwitch is a fully configurable RAM disk that enables you to set aside any spare memory as a kind of virtual drive. Because everything is held in memory, accessing a RAM disk is even quicker than using a hard drive. It is mainly useful for people with plenty of memory, but only a floppy disk drive.

HybriSwitch is fully configurable, so you can specify the size of the RAM disk and the drive letter (from A-P, but



Hmm. Which particular memory configuration should I go for? So many to choose from, and so little time...

don't select the letter of a drive that's already installed on your machine). Remember you can't create a RAM disk that's larger than your available memory, and 512K users should go no higher than the default 383K setting. stf

BACKUP YOUR DISK

You didn't notice the absence of the Back Up program from last month's Cover Disk, did you? Never mind, The Boy has been severely reprimanded, and he is currently backing up the ST FORMAT disk collection (which at last count ran to over 4,000 disks).

Anyway, Back Up is back this month. To use it, run CD_BACK.TOS from inside the BACKUP folder. Ensure the program is set to back up a double-sided disk of 80 tracks and ten sectors, and have a spare disk ready. Off you go!

THE SOUNDS OF SUCCESS WINNERS



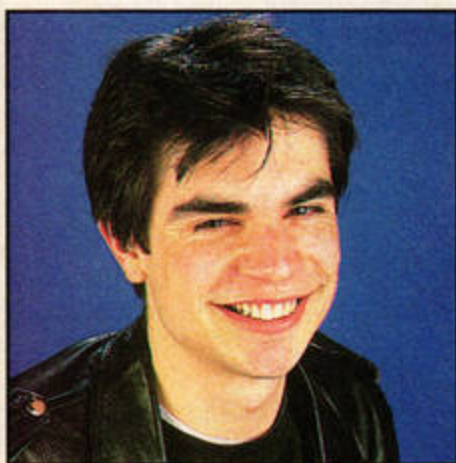
If you need to install FIMP.TTP as an application, just set it up as shown here. You should then be able to listen to MID files.

Back in issue 73 we ran a competition to coincide with the release of Cubase Score 2. Details of the winners can be found in The Score, which begins on page 60. The four entries that were singled out for special praise are all on this month's disk.

Also included is a small program called FIMP, which enables you to play MID files through your GM MIDI device or ST's Yamaha sound chip. While the ST's three-channel speaker can't do any of the pieces real justice, they'll give everyone who doesn't own a MIDI instrument a chance to get some idea of the winning tunes.

If you have at least TOS 2.06, or certain replacement desktops (including KAOSDesk, Thing and Ease), just drag any of the four MID files on to the FIMP.TTP icon. The program will run automatically.

If you have an earlier ST, you'll need to install FIMP.TTP as an application. Highlight FIMP.TTP and select Install Application from the Desktop Options menu. Set it up as shown to the left (TOS 1.02 owners will get the top box, everyone else the bottom one), and click on OK. To play a MID file, double-click on it to boot FIMP.TTP.



STF News...



Keep an eye on the cutting edge of the Atari scene with Nick Peers' news round-up.

SNIPPETS

Italian readers (or ST owners holidaying in Italy) may be interested in the **Atari Days Show**. It will be held in Torino on the weekend of the 10-12 November, and all the latest Atari clones – the Medusa, Eagle and C-Lab Falcon – will be on display.

For details, contact Manuela Esterni on ☎ +39 337 226379 or fax +39 11 4374311. Alternatively, e-mail the organisers at: emmesoft@applelink.apple.com.

ST games software dealers will be pleased to learn that **Budget UK** has just taken delivery of nearly 70 different titles. NASCR members can get further discounts, and Budget UK is on: ☎ 01204 846301.

Merlin is now selling the French Falcon-only racing game, **Moon Speeder** (STF 73, 79%) for just £29.99, a staggering £15 less than it will cost you to import the game yourself. Merlin is also distributing UDS's **Essential Games Collection** – which contains both *Obsession* and *SubStation* – for £24.95. Contact Merlin on ☎ 01452 770133.

Evolution Dino Dudes is now available for the Falcon. Contact 16/32 Systems on ☎ 01634 710788 for full details, and watch out for a review next month.

Users of **APEX Media v2.0** can upgrade to the latest version (2.13) for just £10. Simply return your installation and example disks to Titan, or call ☎ 0121 6936669 for more details.

FaST Club has just released **Gemulator 4.05** (version 4 scored 82% in issue 75). Call ☎ 0115 9455250 for more information.

The **STOW-A-WAY workstation** (£49.95) may be of use to those of you who've put your machine into a new case, such as the Desktopper. It enables you to store your keyboard on a shelf that tucks away under your ST and monitor. For more details, contact Premier Developments on ☎ 01487 823684.

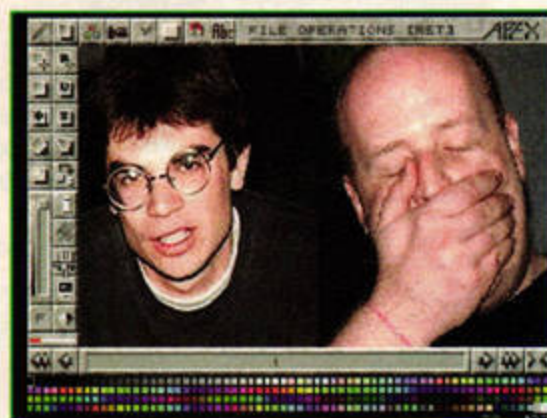
Cut-down version of APEX

Titan Designs has recently released **APEX Intro**, a streamlined version of **APEX Media** designed for first-time users. The *Intro* version includes the automatic multi-frame rendering system, but excludes the digitising interface, 'soft' airbrush and image masking, the film and image filters, and the morphing and distortion features.

APEX Intro is supplied on two 1.44MByte disks, and

comes with a 248-page manual, an installation booklet and a keyboard template. As with **APEX Media**, it requires a Falcon with 4MByte RAM and hard drive.

Intro costs just £39.95, and if you like it you can upgrade later to the full version for an extra £60. For more information, contact Titan Designs on ☎ 0121 6936669.



If you're undecided about investing £99 in the superb **APEX Media**, give the cut-down *Intro* version a try.

Alien's revenge

In response to our complaints about the easiness of *Alien Thing* (STF 75, 68%), 999 Software has produced 'expert'

versions of the game's 11 levels. The extra levels will be bundled with new versions of the game (existing owners can upgrade for just £3 including P&P). The new version of the game will also support the Jaguar Powerpad on the STE and Falcon.



We found *Alien Thing* too easy, so 999 Software has compiled expert levels for experienced gamers.

The game's sequel, *Alien Thing – The Director's Cut*, should be ready in the new year. 999 is promising a two-player option, even better sound and graphics, extra aliens per level, and more difficult DIY tasks. Like the original, *The Director's Cut* will require 1MByte of memory, and there will be discounts for existing *Alien Thing* users.

For more information, contact the game's distributor, Top Byte, on ☎ 01622 763056.

NET NEWS

Four new retailers have joined **CompuServe's on-line shopping centre**. CompuServe users can now view and purchase goods from Selfridges, Jaguar, Office World and The London Science Museum without having to brave the crowds.

Since its launch in April, the shopping centre has generated hundreds of thousands of pounds worth of revenue for the businesses involved in the scheme, helped no doubt by the fact that the centre is open 24 hours a day, 365 days a year.

CompuServe also has an Atari section – of course. You can get further information calling CompuServe's freephone information line on: ☎ 0800 289378. Net surfers can point their browsers at: <http://www.compuserve.com> instead.

US-based TOAD Computers has moved its on-line site to: <http://www.toad.net/>. Along with details of its range of Atari software, the site contains the first

official **MagiMac** page, complete with demo versions of the operating system and the Ease desktop, plus several small utilities for Mac users to download.

OXO Concept produces Atari hardware and software, including the raytracing package *Cloe* and *Let's Play Shanghai*, a Falcon-only Shanghai game. It has just launched a World Wide Web page with information on all of its products, at: <http://www.oxo.ch>

Malcolm Rowe, sysop of the Pyrotechnix BBS (0181 3904701) has asked us to point out that his board does not cater for the ST or Falcon. He's a bit tired of being asked where the non-existent ST files are.

Lexicor Software, publisher of *Xenomorf 2*, can be reached on the Internet by pointing your browser at <http://world.std.com/~Lexicor>.

UVK update

Version 6.6 of the *Ultimate Virus Killer* is available now from Douglas Communications for £12.95. Changes since version 6 include a slightly altered interface and, more importantly, the ability to recognise over 100 new boot sectors, including 20 new viruses.

Also available is the latest version of *OutBurST* (£29.95), the



The latest version of the *Ultimate Virus Killer* recognises 40 boot sector viruses.

printout accelerator. Douglas Communications claim that version 3.1 can reduce printing times by a factor of 20.

Finally the company is now acting as the UK distributor for *The Ultimate Virus Killer Book* (see News, issue 71). The book is priced at £14.95 and acts as a companion for the *Ultimate Virus Killer* software.

Douglas Communications is on ☎ 01625 850270.

Team news



Four months down the line, and we're still playing it. *Team* is one footballing experience you can't afford to miss!

Impact Software has just released *Team: New Season Edition*. It includes the latest Premiership sides, kits and players for the new 1995-6 season, and costs £24.95. If you've got the original, you can upgrade by sending your *Team* disk back to Impact, along with a cheque or postal order for £5.

Impact Software is at: 12 Bell Lane, Syresham, Northants, NN13 5HP. *Team* scored 94% in issue 72.

No more cables

Printer giant Hewlett Packard has announced a wireless printer, the HP Deskjet 340. It can print in resolutions of up to 600x300 dpi.

The portable HP340, which retails at £234, comes with a 30-page sheetfeeder and can be powered by an AC adaptor or battery. Extras

include the infrared connection (£35), a desktop 60-page sheetfeeder (£63), the HP ColorKit (£35) and a worldwide rapid recharger (£66). The recharger holds two batteries, each of enables you to print up to 100 pages per charge.

Hewlett Packard is on ☎ 01344 369222.

PD & SHAREWARE NEWS

The *STellar Atari club* is distributing Golden Dawn's *Legal Tools* disks. Each disk contains a number of 'serious' programs.

Volume 3 features *DB Writer 1.4*, *Munch 1.1* (STF 64, 93%), *GEMBench 4.01*, *Revenge Document Displayer 3* and six other utilities. Volume 4 contains seven programs, including *Idealist 3.50*, *Disk Edit* and *Enigma*. *STellar* is on ☎ 01386 840737.

Falcon enthusiasts will be glad to see the *Falcon Owners Group* back in action after a period of

relative inactivity. The first issue of its periodical newsletter, *Read Me*, is now available, and 15 new disks have been added to the library. Disks cost just £1 each.

Write to FOG at: 10 Oak Drive, Portishead, Bristol, BS20 8QS for more information.

Floppyshop (☎ 01224 312756) is distributing demo versions of both *Alien Thing* and *Team* on one disk – quote disk number DEM5216c when ordering. Both require 1MByte, and *Team* won't run on the ST or STFM.

SF2 ON THE FALCON

Yep, *Street Fighter 2*, which can be ordered through us for a mere £9.99 (see page 72), is Falcon compatible. You have to run the shareware utility *Backwards* first, though.

Set *Backwards* to emulate a normal STE with 1MByte of memory and *Street Fighter 2* will load with no problems. It even worked on our Memorex VGA monitor, although that's no guarantee it'll work on all VGA monitors. RGB monitors or



televisions are fine, however.

So what are you waiting for? Get bashing!

And in the US...

US-based Computer Dungeon is flourishing, according to its owner Al Horton. The family firm from Berkley, Illinois has reported an enthusiastic response from outside the US to our mini-feature in issue 73.

The Computer Dungeon is also doing well in the US. The Hortons attended the Mid Indiana ST (or MIST) Show at the end of July, and reported brisk business – neither Al nor his family had time to tour the rest of the show!

It sounds as if MIST '96 is a certainty, and The Dungeon's newsletter reports that two more American shows will take place before the end of the year, in Dallas and Maryland.

The Computer Dungeon publishes monthly newsletters, and copies of its catalogue can be obtained by writing to: The Computer Dungeon, 1440 Spencer Avenue, Berkely, Illinois, USA 60163. Please print your name and address as legibly as possible.

SPECIAL ISSUE!







WOLF JOINS DEEP SPACE NINE, PLUS YOUR COMPLETE GUIDE TO ALL THE NEW SF TV SHOWS!

AND! FOUR FREE ART PRINTS! MULDER, SCULLY & MORE...

ON SALE 26 SEPTEMBER

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



Reader Awards

Was it a good year for the ST, or a great one? Tell us about your favourite software, hardware, companies and services – and win yourself a free subscription!

Okay, we've spent the whole year giving you our opinions on the products and companies that grace the ST scene – now it's your turn. To cast your vote, just fill in the form below.

Don't worry if you don't have an opinion about a particular topic, just fill out as many sections as are relevant to you. When nominating items of hardware, please (please, please!) give the name of the company *and* the model name or number.

We'll be announcing the winners and runners-up in our Christmas issue (STF 78), which goes on sale on Tuesday 12 December. And, as a further incentive, all the forms will be put into a prize draw and five lucky winners will get a year's free subscription.

Name:

Address:

.....

.....

.....

.....

.....

Are you a subscriber?

☐ Yes ☐ No

Hardware

Please take the price, bundled software, available technical support, ease of installation and durability into account.

1 Have you bought a CD-ROM drive in the last year?

☐ Yes ☐ No

If yes, what make is it:

.....

.....

Would you recommend it to other users?

☐ Yes ☐ No

2 Have you bought any DIY kits in the last year (TOS switchers, memory and TOS upgrades, graphic cards, etc)?

☐ Yes ☐ No

If yes, what is the make of your favourite one:

.....

.....

Would you recommend it?

☐ Yes ☐ No

3 Have you bought a hard drive in the last year?

☐ Yes ☐ No

If yes, what make is it:

.....

.....

Would you recommend it?

☐ Yes ☐ No

4 Have you bought an input device (mouse, keyboard, joystick, etc) in the last year?

☐ Yes ☐ No

If yes, what make is it:

.....

.....

Would you recommend it?

☐ Yes ☐ No

5 Have you bought a modem in the last year?

☐ Yes ☐ No

If yes, what make is it:

.....

.....

Would you recommend it?

☐ Yes ☐ No

6 Have you bought a monitor in the last year?

☐ Yes ☐ No

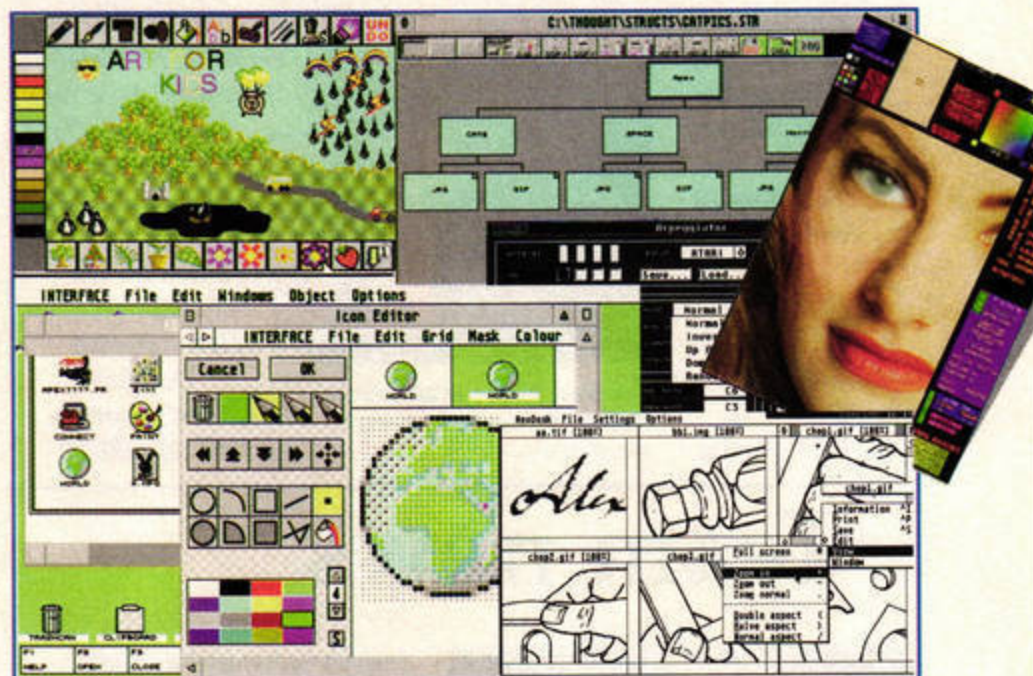
If yes, what make is it:

.....

.....

Would you recommend it?

☐ Yes ☐ No



1995, a fine year for ST software? Vote for your favourite programs today!

7 Have you bought a printer in the last year?

☐ Yes ☐ No

If yes, what make is it:

.....

.....

Would you recommend it?

☐ Yes ☐ No

8 Have you bought a second disk drive in the last year?

☐ Yes ☐ No

If yes, what make is it:

.....

.....

Would you recommend it?

☐ Yes ☐ No

Software

Please take price, support and ease of use into account.

9 Favourite business program:

.....

10 Comms package:

.....

11 Desktop publisher:

.....

12 Education package:

.....

13 Game:

.....

14 Graphics package:

.....

15 MIDI or music package:

.....

16 Programming package:

.....

17 Word processor:

.....

Services

18 Favourite BBS:

.....

19 Ftp/gopher site:

.....

20 Mail order company:

.....

21 On-line service provider:

.....

22 PD library:

.....

23 ST repair centre:

.....

24 User group:

.....

25 Web site:

.....

Just for fun

26 Favourite TV programme:

.....

27 Film:

.....

28 Album:

.....

29 Book:

.....

30 Star Trek character:

.....

Now post this page (or a photocopy of it) to:
Reader Awards,
ST FORMAT,
Future Publishing,
30 Monmouth Street,
Bath, Avon BA1 2BW
But be quick: you only have until Tuesday 31 October to get your nominations in. *stf*

Win! Win! Win!

Thanks to 16/32 Systems, we have ten copies of the Ishar trilogy to give away...

The Ishar series is one of the most in-depth adventure role-playing experiences available for the ST and Falcon. Beneath the detailed graphics is a trio of games which will take you months to explore and master, never mind complete.

All three games are set in the magical lands of Arborea. The first installment features a battle for the Tower of Ishar, while the second pits you

against an evil drug syndicate hell bent on wrecking the peace you've just finished constructing. The third and final game, *The Seven Gates of Infinity*, pits you against the big baddie from *Ishar 2*, proving that baddies just don't know when they're beaten.

The three games have virtually identical control systems, so veterans of the earlier chapters will soon feel at home in the later ones. One of the greatest strengths of the games

is the development of the characters: each has his own personality and goals, which don't necessarily match yours. Knowing when to kill your companions is as useful as knowing when to trust them.

The Ishar games run on

all Ataris with at least 1MByte of memory. You can also run it in colour or monochrome.

Win! Win!

The Ishar games cost £12.99 each, or just £24 for all three, but we've got together with 16/32 Systems to offer *ST FORMAT* readers the chance to win one of ten copies of the entire trilogy. All you need to do is correctly answer the following three questions:

1 Name 16/32's recent smash-hit Falcon pinball simulator.

2 For whom did Daze Marketing recently hold a requiem?

3 What mark did *Ishar 3* score in issue 62 of *ST FORMAT*?

Write your answers on a postcard and send it to: Ishar Competition, *ST FORMAT*, 30 Monmouth St, Bath, Avon, BA1 2BW, by Monday 13 November. The first ten correct

entries picked out of the hat will win a copy of the Ishar trilogy. Please note that the judges decision is final, and there is no cash alternative.



The Ishar series also features a number of trendy drinking institutions.



The second installment of the Ishar trilogy scored 90% in issue 70. That means it's rather good.

THE 16/32 RANGE

16/32 System's range of games includes *Stardust* (STF 68, 94%) and *Robinson's Requiem* (like *Ishar*, both were formerly marketed by Daze). Prices start from £12.99 for individual segments of the *Ishar* trilogy, and rise to £24 for the entire *Ishar* trilogy, *Stardust* and *Robinson's Requiem* (STF64, 89%).

It also markets a range of Falcon-only titles. *Pinball Dreams*,

Steel Talons and *Llamazap* have already scored highly, and *Evolution Dino Dudes*, available now, looks set to do the same.

16/32 also has its own PD library, and it distributes several serious software titles, including *Xenomorf 2* (the demo is on this month's Cover Disk) and a series of CD-ROMs. For more information on any of these titles, call 16/32 on 01634 710788.



"We don't like strangers round here." Ah, the dulcet, welcoming tones of a country lass. Perhaps the Armani suit of armour gave you away...

3D

Take your ST on a virtual journey through space and time... the galaxies are warm and the people are friendly. Along the way tour guide Dug Armstrong will explain the arcane secrets of 3D graphics, and you'll discover the lifelike world of rendered and raytraced images...

Every day we are bombarded with slick computer-generated imagery in films and advertisements, game shows and even news reports. These graphics attract the eye and stimulate the imagination, but behind the glossy presentation and bright colours lies a complex world of creativity and toil.

It takes a large team of artists, designers, directors and producers, and

equipment costing millions of pounds, to create state-of-the-art animated sequences of the type seen in the films *Who Framed Roger Rabbit* and *Terminator 2*, and in the TV series *Babylon 5*.

These productions all use 3D modelling to create apparent real-world objects which can be viewed from any angle and 'rendered' into final scenes.

The benefits of computer graphics over hand-drawn

animations are obvious. Once a 3D object has been designed, several people can work with it at once, so sequences can be produced more quickly. It's

Computer-generated graphics attract the eye and stimulate the imagination

also easier to make changes. Finally, computer animation is often cheaper, safer and more realistic than traditional special effects techniques like stop-motion model photography and live-action stunts.

This feature describes the

process of designing, creating and filming 3D graphic sequences with your ST or Falcon. A number of programs are discussed, including the *Cyber Studio* series, *RezRender* and *Xenomorf*, and there are several practical exercises. Don't worry if you don't have all the software - you'll find a demo version of *Xenomorf 2*, a copy of *RezRender*, and a number of 3D models on the Cover Disk. Work through the step-by-step guides on pages 18-21, and hopefully you'll be pleasantly surprised by how much your machine is capable of.

Tools of the trade

Trading in your pencil is all very well, but what exactly should you be trading it in for?

Although you might imagine that the term '3D graphics' is self-explanatory, there are several ways to create 3D models on the ST.

Games programmers use low-level programming tools, such as assembler or C compilers, to draw and animate shapes in real time. This is a very esoteric and complex discipline, but the results are often stunning. Games such as *Carrier Command*, *Sentinel* and *Zero-5* all contain fine exam-



Xenomorph 2 can produce impressive images on both the ST and the Falcon.

ples of graphics created with low-level tools.

The only problem, apart from the difficulty of programming in assembler or C, is the strain placed on the poor old

ST. Millions of calculations per second are required to generate 3D models that move in direct response to input from the mouse or joystick. This limits the detail which can be applied to the graphics, and the number of shapes which

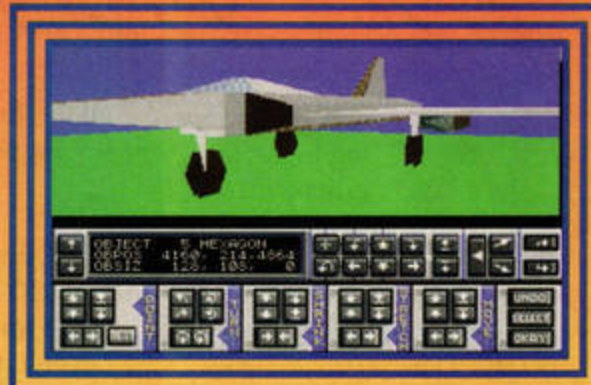
PLAYING IN THE ROUND

Real-time graphics can also be designed interactively, using utilities like *3D Construction Kit*. *3DCK* allows you to create an environment by specifying the properties, position and attributes of your shapes, without worrying about how they will be drawn.

Many great games, such as *Driller* and *Castle Master*, are built around *3DCK*'s FreeSpace system, which provides functions for creating 3D 'walk-through' adventures. It even allows you to include sound effects. The only

snag is that your objects are locked within the FreeSpace universe, which is geared up for rapid movement rather than high-quality display.

Alas, like many ST software titles, *3DCK* is no longer available.



3D Construction Kit: once an environment for creating 3D games, now sadly departed. We knew it well...

can be on the screen at one time. For example, you have probably played 3D games which slow to a crawl when the enemy's main battle fleet jumps out of hyperspace.

However, you don't have to learn assembler or C to produce 3D models and animations. The *Cyber Studio* range of programs enables you to design shapes interactively, and output the results in a variety of graphic formats. The *Cyber Studio* programs also provide flexible animation facilities.

Cyber Sculpt is probably the most powerful 3D object

The *Persistence Of Vision* raytracer is available for many computer platforms, and you'll find scripts and examples on many BBSs. It's somewhat complicated to use, but the results are stunning.

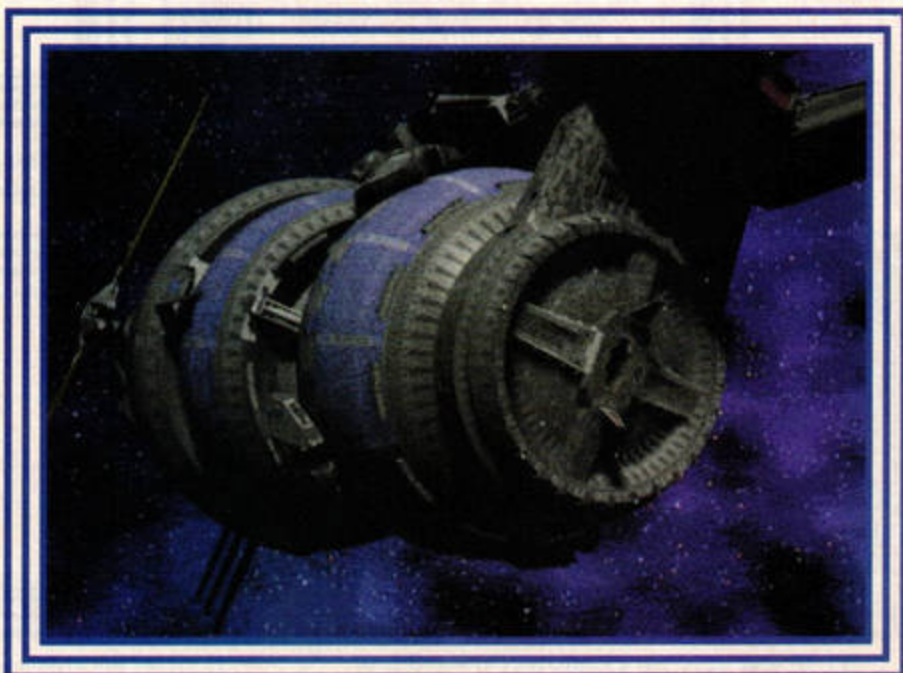
editor available for the ST and Falcon. Over the page we show you how it can be used to create a set of 3D shapes. You'll then be able to make up a complete scene using CAD 3D and *Xenomorph 2*, and finally we'll cover the animation and post-processing facilities offered by *Cyber Paint* and *APEXMedia*.



Zero-5 proved that 3D games on the STE are alive and kicking.



State-of-the-art rendering with Autodesk 3D Studio and a budget of thousands...



Babylon 5 uses 3D rendered models for its space scenes. And it's better than *Star Trek*.

Doctoring the Tardis

Your journey through cyberspace begins with an exploration of 3D construction...

When you are trying to get to grips with 3D modelling, it's always best to have a definite goal in mind, rather than just experimenting with abstract shapes. Here we're going to construct a London police box, as used by a certain Time Lord. The police box was chosen partly for its symmetrical, angular shape, and partly for its ability to 'appear' in many different settings. Example templates and models can be found in the 3DSTUFF folder

on the Cover Disk (see pages 6-7 for details).

Need to know

You will need *Cyber Sculpt* and *CAD 3D* from the *Cyber Studio* range for this exercise (if you haven't got them, don't worry - you'll still be able to join in later on). If you are using an ST, a 1MByte machine is all that's required. Falcon owners can run *Cyber Sculpt* in ST High emulation mode, but unfortunately *CAD 3D* won't run on your machine. At this stage only the shape of your

objects is important, so you don't need a colour display.

There are four basic ways to create shapes in *Cyber Sculpt*. Spin creates a vertically symmetrical shape, such as a vase or goblet. Extrude stretches a 2D shape to create regular solids, such as a rectangular slab or an elliptical tube. The Cross Section tool is similar to Extrude, but objects can have sections of varying shape along their length. Primitives are pre-defined

standard shapes which can be automatically created from some simple parameters.

Squeeze it out

The first object to create is the Tardis base. Enter the Extrude tool, and load TBASE.TMP.

The Extrude control panel enables you to determine how your

'squeezed out' shape will look. For the moment, all you need to enter is the length, number of segments and name, so specify a length of 100, 1

segment and a name of 'base', then click OK.

Now enter the 3D Editor, where you should see your very first 3D object. To prove it really is

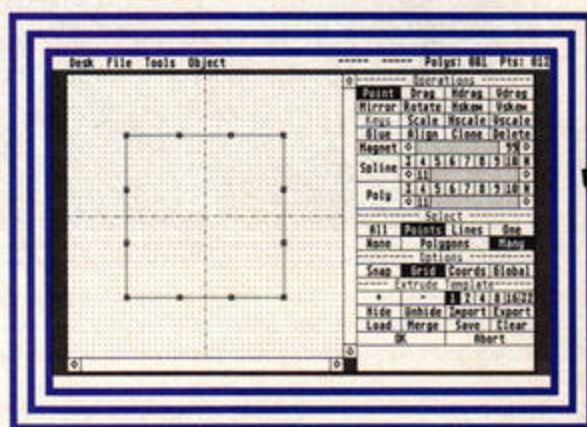
three-dimensional, click on 3D View. Move the mouse while holding down the left button to rotate your object.

Objects created with long lines and few points have a tendency to break up when you render them in high resolutions. Good object design is a compromise between detail and simplicity, and very long, straight edges are best divided into at least two smaller segments, even if no other lines connect at that point. That's why there are two extra points on each side of the template.

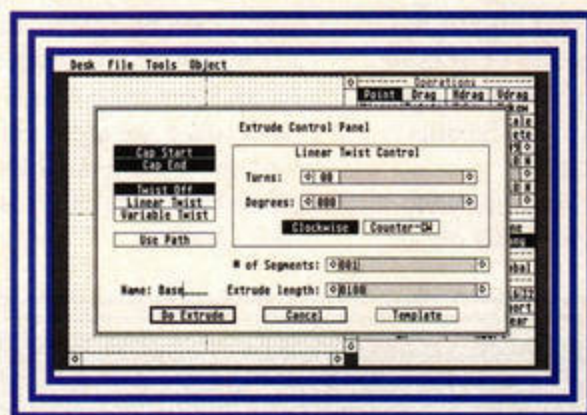
Now that you've mastered the art of extrusion, we'll use it again to create the main trunk of the Tardis. Load up TRUNK.TMP and extrude it to a length of 5,000 units. Click OK, and the basic trunk shape will appear in the 3D Editor.

Use the Vdrag and Hdrag commands to position the trunk so that it just sits on top of the base. The two objects should not overlap, because overlapping objects can cause problems during rendering.

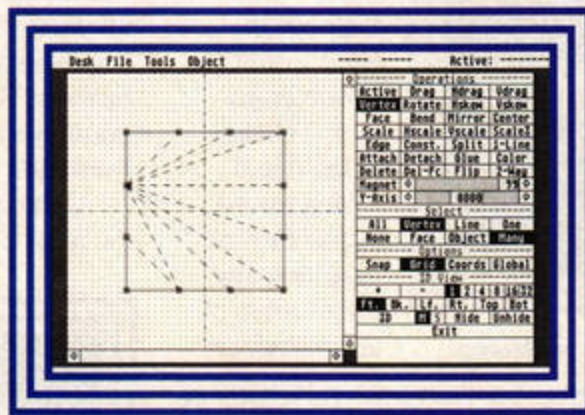
BUILD A TARDIS



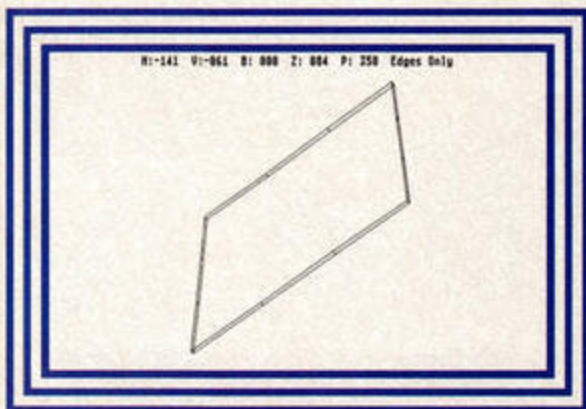
1 To create the base, load TBASE.TMP (which is on the Cover Disk) into the Extrude tool...



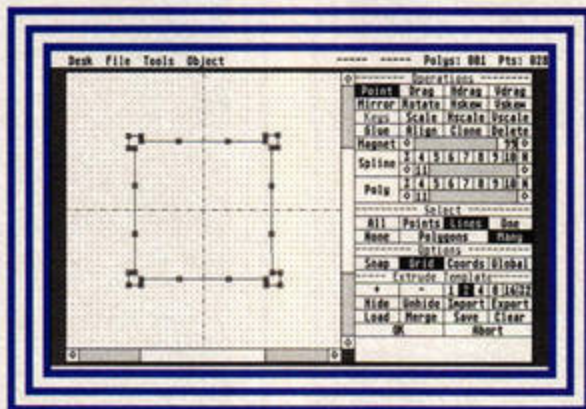
2 Define the final shape by entering these settings into the Extrude control panel, then Do Extrude.



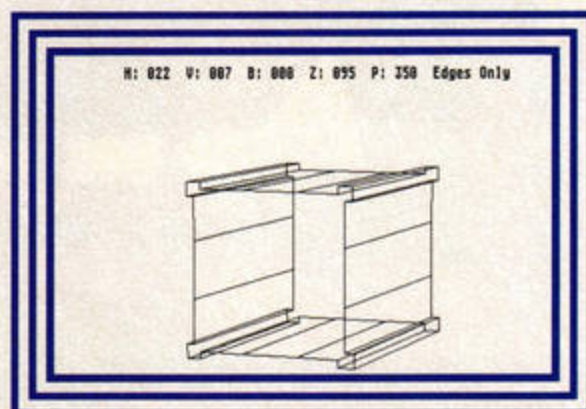
3 Enter the 3D Editor, where the shape of the Tardis' base is revealed. Yep, it's a flat slab of... stuff.



4 The 3D view gives you a better idea of the object's shape. Use the mouse to rotate it.



5 To create the main section of the police box, go back to the Extrude tool and load TRUNK.TMP.



6 Raised or bevelled edges can be achieved simply. This kind of detailing adds a lot to the final image.

The whole object should also be rotated on the Left or Right views so that it appears upright on the Front view.

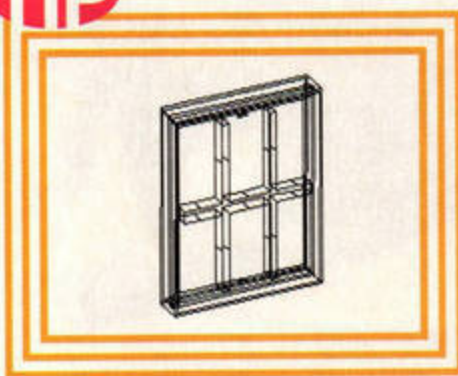
Cutting it close

Unfortunately, *Cyber Sculpt* lacks one very useful feature: the ability to 'subtract' two shapes. In effect, subtraction enables you to use one shape to cut a pattern into another.

The cut-out panels on the trunk were created by loading the model into *CAD 3D* and using the *Dsign* object to perform a Subtract join. Effectively, we cut holes in the solid trunk to produce recessed panels. If you want to recreate the trunk object, try working out how to achieve the same effect using *Cyber Sculpt* alone. If you succeed, write and tell us how it's done!

The remaining objects in the model can be created very easily from the basic templates and shapes available. The roof, for example, is simply a stack of five flat panels, four of which are just re-sized versions of the base. The lamp is a simple cylindrical tube, created with the Tube primitive. Even the windows were created from variations of the basic rectangular template.

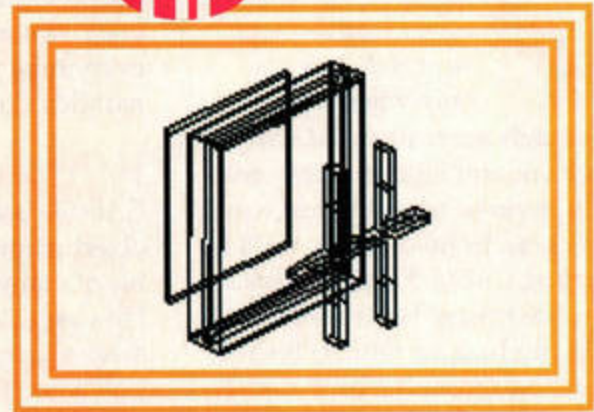
You'll find two Tardis models on the Cover Disk: TARDIS4 is the complete, detailed model, while TARDIS3D is an optimised version for use with *RezRender* (see pages 18-19).



The three parts of each window are separate objects, so they can be coloured independently when the image is rendered.

Setting the scene

It's time to step further into the universe. Let's make a planet...



Cut down on re-draw times by viewing only the objects you are working on. The Object View menu allows you to select the objects you want by name.

No matter how good your object looks, it will need to be placed into an overall scene to get the best effect. We're going to start by making a base for all the other models to sit on.

The objects SURFACE and SURFC3D are both examples of 3D surfaces, created in entirely different ways. SURFC3D is optimised for ST owners using *CAD 3D* and *RezRender*. It is a simple rectangular slab, generated from the SURFC3D template, using the Extrude tool with a length of 3000 units and 10 segments.

The Bend function was used to give it a two-degree incline to the left and right, creating a slightly curved appearance.

This landscape isn't very interesting, so let's add a couple of surface features as separate objects. The templates PEAK.TMP and CRATER.TMP, when loaded into the Spin tool, produce basic mountain and crater shapes to add to the scene – just load them in and do a Full Spin with eight segments. You can use the Scale3 and Drag functions to position them on the surface.

SURFACE is optimised for rendering with *Xenomorf*. Load the template SURFACE.TMP into the Extrude tool, and generate a shape of 5000 units and 12 segments. When you switch

to the 3D Editor, you'll find that you get a long, flat rectangular prism.

Now use the Faces selection type to select all the faces except the top surface. Using one of the side views, and [Control]-drag a box which encompasses the whole shape, apart from the very top edge. Check this by switching to Top view, where the entire surface from

this angle should appear solid black. Press [Delete], and you should be left with a 'sheet' only one face thick.

Now comes the sneaky bit: if you select various small groups of faces on the surface, the Magnet tool can be used to repel and attract these areas to form peaks, troughs and craters – without the need for separate objects.

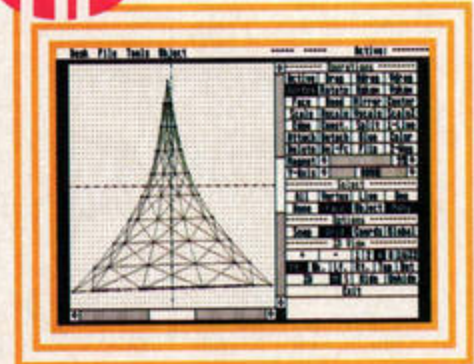
It's in the bag

Now that you have all the building blocks of your final model, you can use the Merge option on the File menu to combine your objects and produce the final scene. Your scene doesn't have to be the same as ours

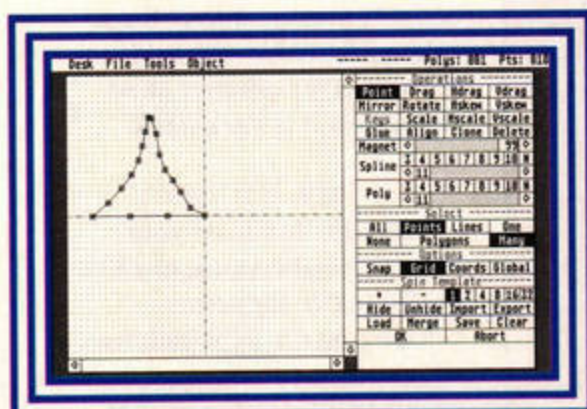
– experiment with different arrangements of the objects.

There are two example scenes on the Cover Disk. TSCENE3D is a *CAD 3D*-ready model, while TSCENERZ is an optimised version for use with *RezRender*. See if you can work out how the planet object was created (hint: we used a Sphere primitive and a ring-shaped template).

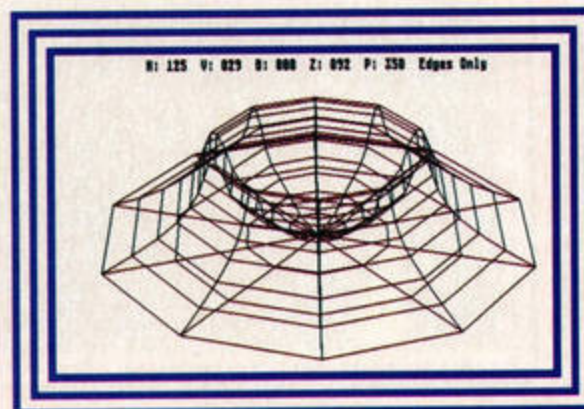
Now turn the page to find out how your models can be brought to life with light, colour and texture...



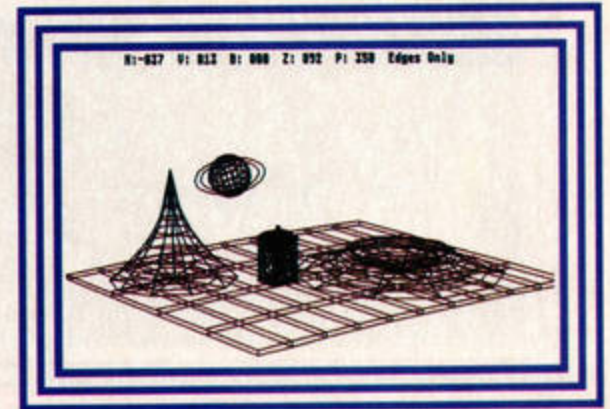
Spun objects, such as the peak and crater, look better when you select All faces and convert them to 2-Way. This improves their appearance when rendered.



7 This sneakily-placed template CRATER.TMP (also from the Cover Disk) can be spun...



8 ...to create an effective circular crater. Be glad you didn't have to dig it out by hand.



9 To cut a long story short, here's one we prepared earlier. This is the final scene, TSCENE3D.

Solar power

The far reaches of the galaxy are vast, dark and apparently empty... until you switch on the lights.

Producing 3D wire-frame models is all very well, but it's only when these models are made solid with colour and light that they really begin to resemble real world objects. In this section, we'll be using CAD 3D and RezRender (or Xenomorf 2 on the Falcon) to produce (or render) lifelike pictures from the bare models.

If you didn't go through

the previous section and create your own models, fear not – everything you need is on this month's Cover Disk.

Polygons or pixels

CAD 3D is a very powerful object manipulation tool, capable of many different effects.

However, it only renders shapes using 16-colour polygons. The RezRender utility takes this a step further, by offering pixel-level shading and raytracing operations.

Let's load our 3D scene, TSCENE3D, into CAD 3D. Each object in the scene can be coloured with one to 15 different colours or shades, but since you have only 16 shades to play

with, some subdivision is required to realistically colour several different objects. If you select Set Colors from the Colors menu, you will see the three bracketed colour sets used in the scene. Each represents a finite range of hues, within which each object will be shaded.

You can create your own sets by highlighting the Set Colors button and dragging a box across the range you want to bracket. A smooth colour

gradient is achieved in two steps. First, create a bright colour with the slider bars and click on it with the pointer. Next, create a dark colour further down and click on it while holding down [Alternate]. You should get a smooth range of hues, stretch-

The RezRender utility offers pixel-level shading and raytracing

ing from light to dark.

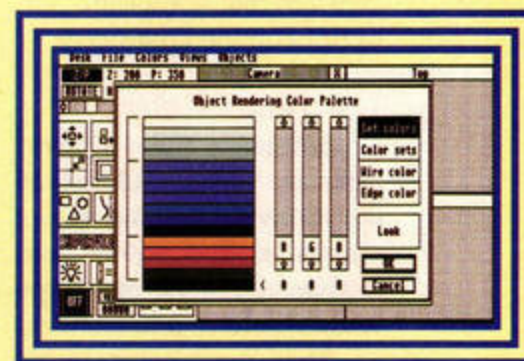
All this becomes clearer when you switch to the Recolor option on the same menu. Select the Next button repeatedly to see how the sets

have been allocated to the objects. The greyscale set consists of four shades, and is used for the bulb, wpanes and planet objects. The set

of blues has more shades and is used for most of the Tardis body. The reds are for the surface, peak and crater objects.

Normally, the pointer should be placed on the top shade of each range. This allows all the colours in the set to be used. Moving the pointer down the set excludes the colours above it, effectively darkening the object

ADD A LITTLE



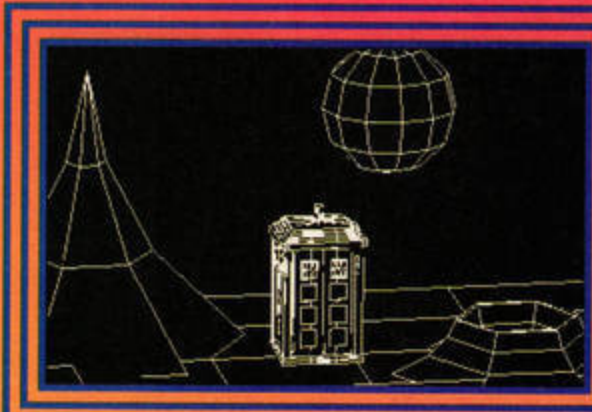
Before rendering your scene, you must bracket 3D CAD's palette into colour sets using Set Color.

FOLLOW THAT STAR, ROMANA

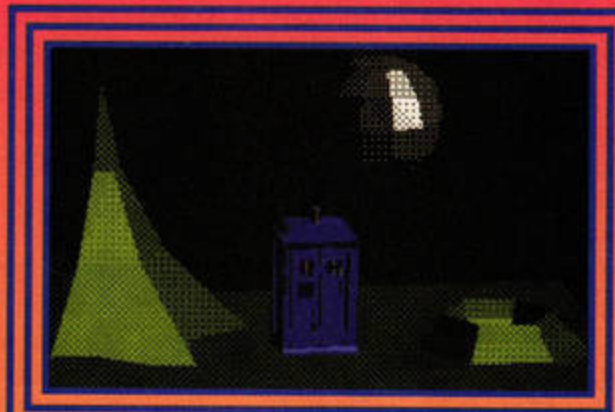
Raytracing involves calculating what would happen if you bounced light particles around a 3D modelled environment. The results are stunning, but raytracing is very, very slow.

Light-source shading is vaguely similar, in that it involves working out the angle of each plane relative to the light source, and making it lighter or darker as appropriate. Light-source shading is so much faster than raytracing that the results can be calculated in real time, making it practical for games.

SO MUCH DETAIL, SO MUCH TIME



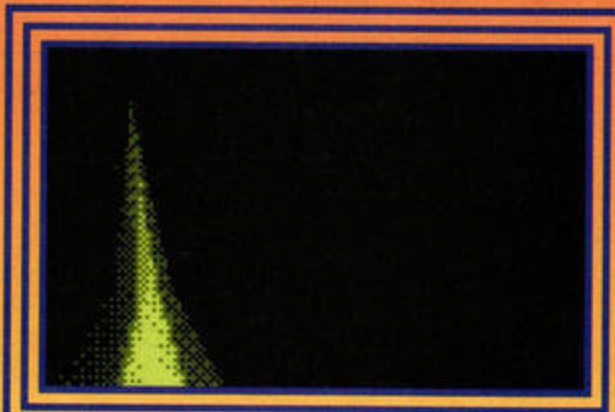
RezRender's hidden option produces the crudest results. In effect, it colours the scene with solid black faces.



Polygon or flat shading only affects faces, but enables you to produce images shaded in 16 colours quickly.



You might not guess from the name, but Phong shading is the best compromise between speed and quality.



Raytracing works at the pixel level to produce the best results, but it's very slow. Patience is a virtue...

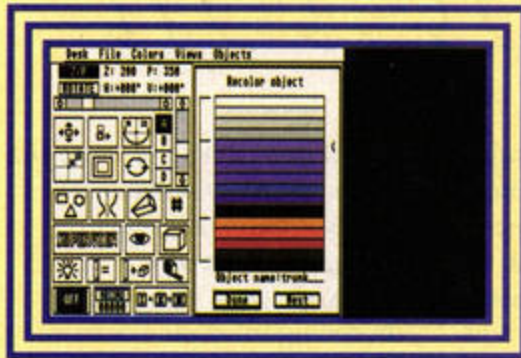


(assuming the colours go from light to dark). This effect was used to make the door and roof signs look blacker than the rest of the body. However, at least three colours should be available to any object for effective shading, unless it is very small.

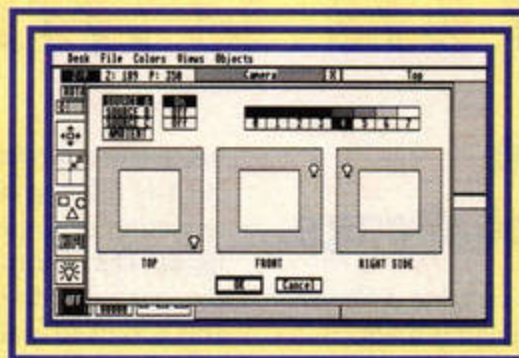
Lighting the way

In order to illuminate your colours, a light source must be placed inside the scene. Clicking on the light bulb icon allows up to four sources to be switched on, positioned and turned up or down. Our example scene uses a single distant

LIGHT AND COLOUR



Next, use Recolor to assign a set of colours to each object. Here we are making the trunk blue.



Set up a light source (outside the white box, ideally) to illuminate the objects and provide shadows.



To view the final scene, click on the Superview button. You can then save the image.

source, simulating the light from a nearby star. It is always better to place light sources outside the central white box, as this reduces rendering times and potential errors. Note also that the Ambient light is special – it illuminates the entire scene evenly.

Now the results of your efforts can be appreciated. Clicking on the Superview button will produce a 16-colour polygon view of the scene in either wireframe or solid mode, depending on the view in the Camera window. Using the rotate and zoom functions, you can position the camera at any angle and see the result in full colour. The Superview can be saved as a *Degas P11* or *Neochrome* format image for touching up

too complex, and it won't render the more detailed TSCENE3D or TARDIS4 files in Raytrace mode.

RezRender is very easy to use: just load up a file, set the viewpoint with the surrounding sliders, and click on a shading method button. Again, the final image can be saved as a *Degas* or *Neochrome* picture, and there are lots of other settings lurking behind the Options button.

Quantum shift

There's no disguising the fact that some of the images shown in the introduction couldn't be produced on an ST. Or could they? Perhaps that myth might

be exploded by *Xenomorf 2*, one of the new generation of Atari rendering systems.

This stunning program works best on a Falcon, but it will also produce great results on an ST – you'll just have to be a little more patient. You'll find a demo version on this month's Cover Disk, so you can try rendering the Tardis scenes for yourself.

Xenomorf's interface is an enhanced *RezRender*-style viewer, with object manipulation facilities to rival *CAD 3D* and a huge range of features, including texture and image mapping, 24-bit rendering and optimised versions for 68881/2 FPU-enabled machines.

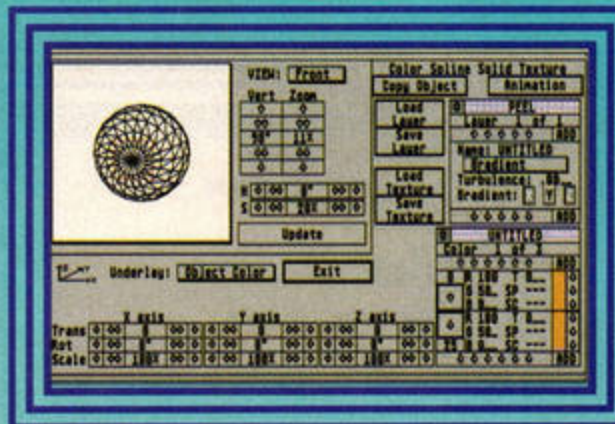
The Cover Disk file TSCENE.RD1 can be loaded directly into *Xenomorf*. We have also included some texture image GIFs, which should be copied into the TEXTURES folder before starting. These files demonstrate the huge leap in quality provided by the extra colours and surface effects. In fact, since the program also imports 3D2 files, any of the objects on the Cover Disk can be loaded.

Xenomorf is too big a program to describe in detail here, but let's risk a cliché and say that no serious 3D modeller should be without it. In the next section, we'll look at how it can be used for animation.

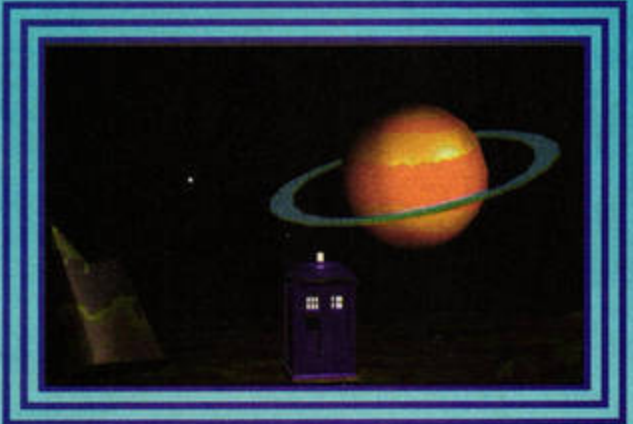
SURFACE FEATURES

Texture mapping in *Xenomorf* gives objects the colour and roughness of different materials, by applying a set of

parameters or wrapping a picture round an object (or both). The examples show how it can transform your objects.



Colour splines are solid patterns of colour which can be applied to the surface of an object...



...to produce some very exotic results. DayGlo planets, anyone? Perhaps we should have stayed home...

POLICE PUBLIC CALL BOX



Image files, such as these GIFs, can be 'tiled' across a surface or used as backgrounds...



...enabling you to create realistic images. Tiny GIFs were used for the signs.

POLICE TELEPHONE
FREE
FOR USE OF
PUBLIC
ADVICE & ASSISTANCE
OBTAINABLE IMMEDIATELY
OFFICER & GARS
RESPOND TO
URGENT CALLS
PULL TO OPEN

later. At this point, you may be wondering why you bothered. After all, 16-colour polygons aren't exactly state-of-the-art. However, the beauty of the 3D2 shape format is its compatibility with other software. *CAD 3D* is essential for basic colouring, lighting and positioning, but good quality rendered images are best produced by other means.

RezRender is a 16-colour raytracer capable of producing much more sophisticated images, using a range of shading methods. The objects TARDIS3D and TSCENERZ have been specially optimised for use with this superb utility, which works in much the same way as the Camera and Superviews in *CAD 3D*. Alas, it doesn't like objects that are

The fourth dimension

Now you've mastered three dimensions, here's a new challenge...

While still pictures of your 3D creations are appealing, it's only when the dimension of time is added that the full benefits of 3D modelling are apparent. Fortunately, it's not difficult to add motion to your 3D scenes and record animated sequences. Hollywood, here we come!

CAD 3D, as you can tell from the vast array of options, is far more than simply an object colouring utility. It also enables you to create basic animations by saving successive Superview pictures of your

objects, viewed from different angles, and joining them together in sequence.

This process is slow, however, and involves a great deal of effort. You have to set up all the aspects of a frame by hand, save the result, move to the next one and so on. Luckily, there's another Cyber utility which can make life much easier.



Take control

Cyber Control enables you to control most of CAD 3D's functions with your own simple programs. It enables you to build up animations very

quickly, using sequential sets of instructions or complex mathematical motions. You can even use Cyber Control to develop

macros for standard operations such as rotating object groups or setting up general purpose lights. The example shown on this page uses looped rotates and zooms to make the Tardis spin through space.

Xenomorf 2 can make use of Cyber Control programs in much the same way, although some of the commands produce different effects.

If you

don't fancy writing programs to generate your animation, RezRender's Tween function provides an easy-to-use alternative. It enables you to set the Before and After positions of the camera view, and specify the number of animation steps or frames required.

RezRender then does its stuff, creating each intermediate frame as a separate PII format picture. The Preview button draws a nifty wire-frame preview of all the frames which will be created, giving you a good impression of the movement the final sequence

will depict. If it's not what you want, at least you haven't wasted hours rendering the complete sequence...

Xenomorf 2 also offers a tweening function. It's more flexible than RezRender's, but a bit more fiddly to set up.

Instead of just setting the camera view, all of the Xenomorf settings are used to calculate the 'in between' portion of the job.

For example, you could simulate the Tardis' flashing light by varying the strength of the Lamp light source from 0 to 100 and tweening over 10 or 20 frames.

It must be remembered, though, that tweening is a crude substitute for the complex motion effects which can be created with Cyber Control. If the object you wish to animate has moving

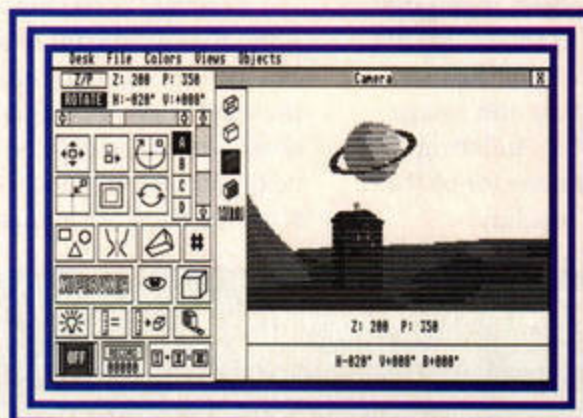
parts, such as the spinning blades of a helicopter, you must either use Cyber Control, or reposition the object manually between each frame.

Production values

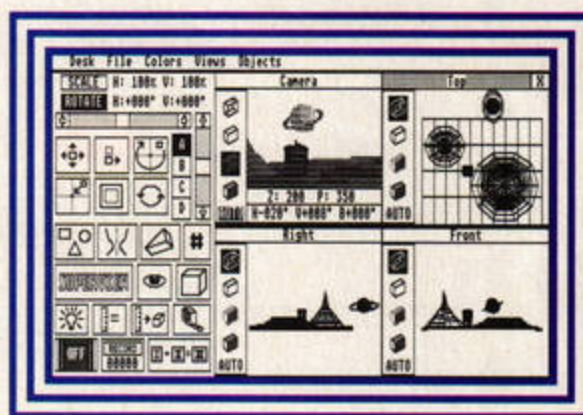
All the rendering programs we have looked at have one thing in common: animated sequences are produced as a series of still pictures. In order to combine these into the finished animation, and touch up any of the rendering errors which can sometimes creep in, a good bitmap art program is invaluable.

Falcon users need look no further than the classic APEXMedia, which can tart up

TARDIS IN FLIGHT



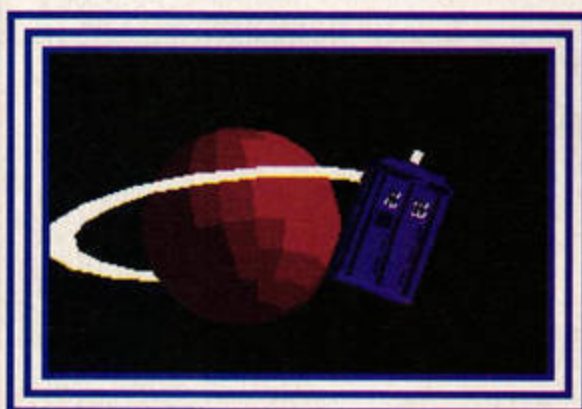
1 To create an animation, set the Camera view to the starting position and save the Superview.



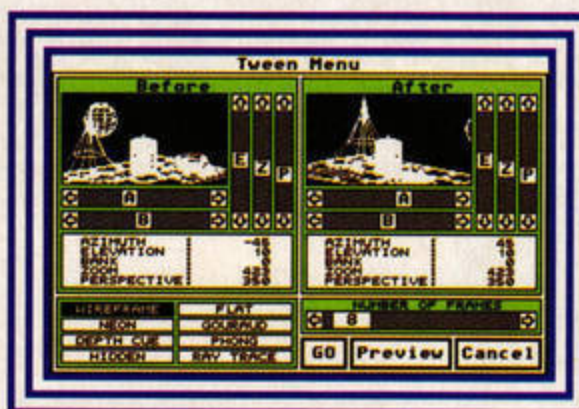
2 Now use the CAD 3D view windows to reposition objects and repeat the process.



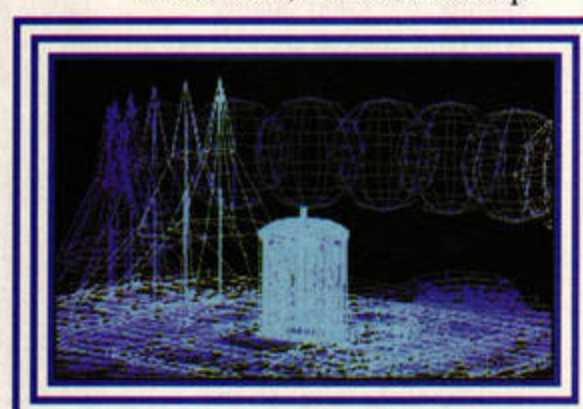
3 However, programming CAD 3D with the Cyber Control language is much less strenuous...



4 ... and simple motion effects can be achieved with Zoom and Rotate combinations.



5 Alternatively, RezRender's tweening function enables you to create a set of rendered frames...



6 ...and the animation preview gives you a good idea of the end result in wireframe mode.

your work no end with special effects and create industry-standard FLC format animation files. However, ST owners are also well served with *Cyber*



Paint, which works in much the same way as *Degas* or *Neochrome*, but has the ability to apply effects over a number of frames. It saves the results in the SEQ format, enabling you to play them back with the standalone ANIMATE4 run-time player. The Post Processing Techniques

A dematerialisation effect can be created without any further 3D work

panel shows how a dematerialisation effect can be created using this type of program, without any further 3D work.

And finally

This feature has hopefully given you plenty of ideas for 3D design and animation, regardless of which machine you have, and a few juicy objects to try out. We look forward to seeing some of your 3D images, and if we get enough submissions, we'll display the best ones in a special edition of *Pixel Painting*. *stf*

SOFTWARE

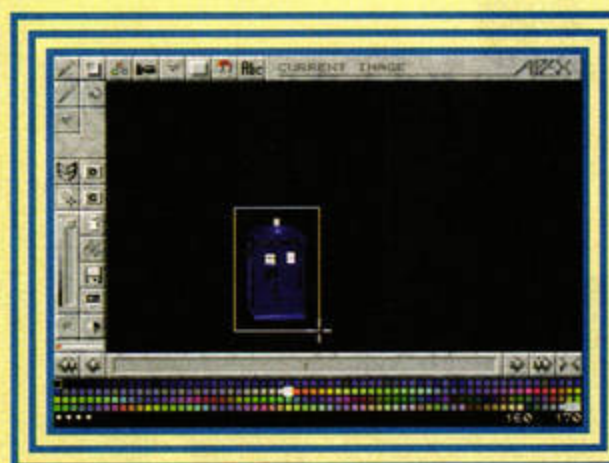
Cyber Studio	£15
CAD 3D 2	£15
Cyber Sculpt	£10
Cyber Paint	£25
Cyber Control	£15
Xenomorf 2	£89

All of the above programs are available from 16/32 Systems (☎ 01634 710788).

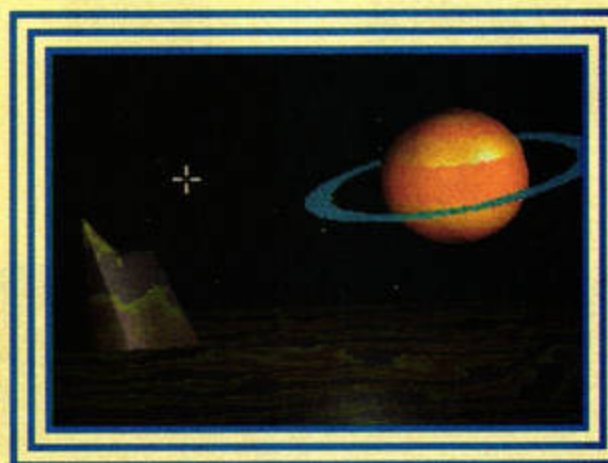
APEXMedia £99
Available from Titan Designs
(☎ 0121 6936669).

POST PROCESSING TECHNIQUES

Animation effects can be created using bitmap processing tools, such as *APEXMedia*, without the need for any further 3D work. Take a look...

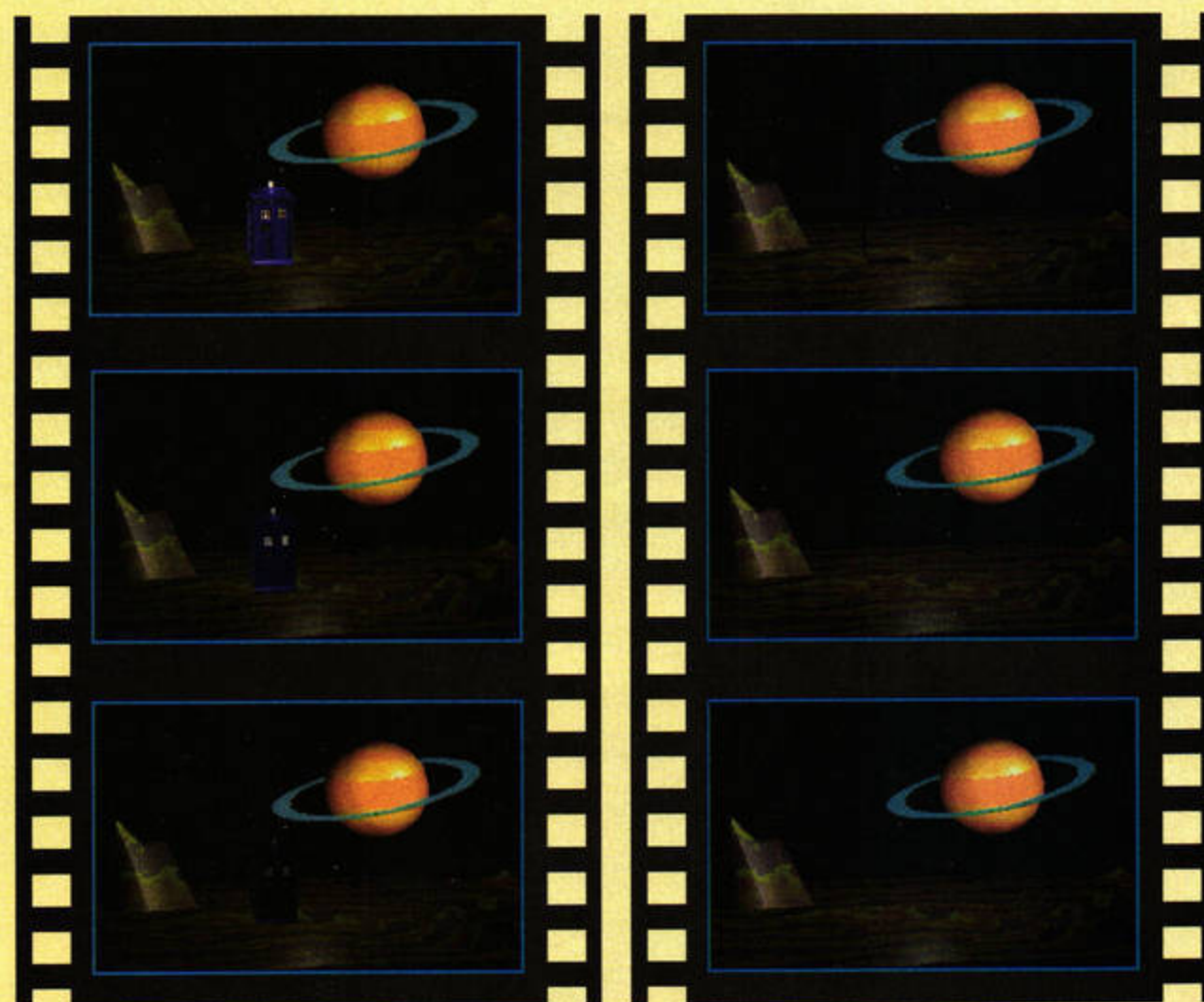


Separate renderings of the Tardis and the surface were used to create two six-frame sequences.

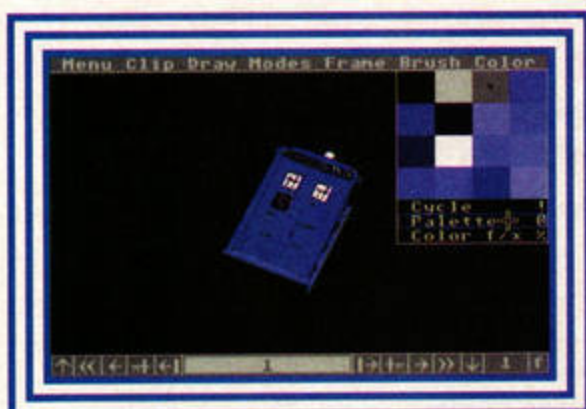


The Darken ink was applied to successive frames of the Tardis sequence to gradually fade it away.

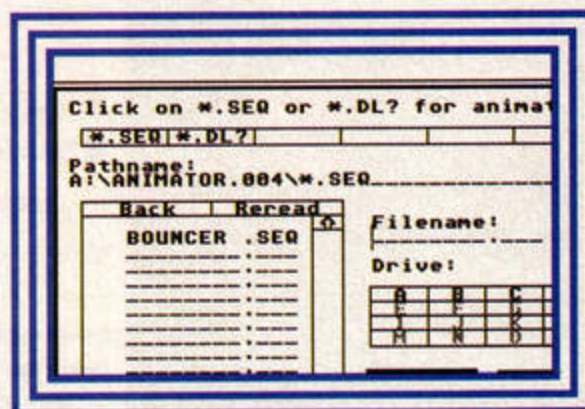
HEY, WHERE DID OUR TARDIS GO?



No you see it, now you don't. Although this six-frame sequence doesn't provide much in the way of character development (or plot, for that matter), it does effectively dematerialise the Tardis. Next stop... well, who knows?



7 *Cyber Paint* provides post-processing effects, and enables you to create a SEQ file from the frames.



8 The run-time utility *ANIMATE4.PRG* will play SEQ files independently of *Cyber Paint*.



9 Finally, this is the end of an astonishing sequence in which a giant cat swallows the Tardis. Honest.

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SARA for Grolier

The PC CD-ROM market is packed with great discs. Wouldn't it be great if you could use them on your ST? Well, now you can...

The capacity and durability of CD-ROM makes it the perfect platform for massive multimedia reference works, but we've yet to see a disc-based encyclopedia for the ST. However, almost all of the PC discs are essentially just collections of graphics, animations, text and sound, wrapped up in a flashy front-end. Surely ST users ought to be able to make use of this material, even if we can't run the front end? Proton Solutions certainly thinks so – hence the new SARA series.

From the top

Proton's basic idea was to create an Atari display engine which would be capable of accessing the information on a specific CD-ROM. Hence, each CD-ROM title needs its own specific version of SARA. The first of the series to arrive accesses the famous *Grolier Multimedia Encyclopedia*.

SARA needs a pretty powerful machine, and it's not

without limitations – see the Requirements panel for more details. It's a standard GEM application, and makes full use of windows and menus. As such, it's very easy to use, if a little drab looking.

Sex appeal?

To be fair, the authors realise this, and don't present it as an all-singing, all-dancing multimedia affair. As the manual says, "There's no excitement, no gloss and no sex – just like marriage." Hmm...

The *Grolier* CD itself is a mammoth reference work, comprising all 21 volumes of *Grolier's Academic American Encyclopedia* on disc, along with pictures, maps, animations, videos, sound and text written specially for the CD. SARA can only access some of the information – specifically, the still images, text entries, and sampled

sound. No provision is made for the animated multimedia material.

Considering that the animations and video footage are stored as 256-colour AVI (*Video for Windows*) files, it's sad that you can't access them with SARA. With the addition of a freeware program by GEMView author Dieter Fiebelkorn, you can view these files in 256 colours on a Falcon

(should you want to try this, the program you need is *AVI_PLAY*). It's a shame that the team behind SARA hadn't thought

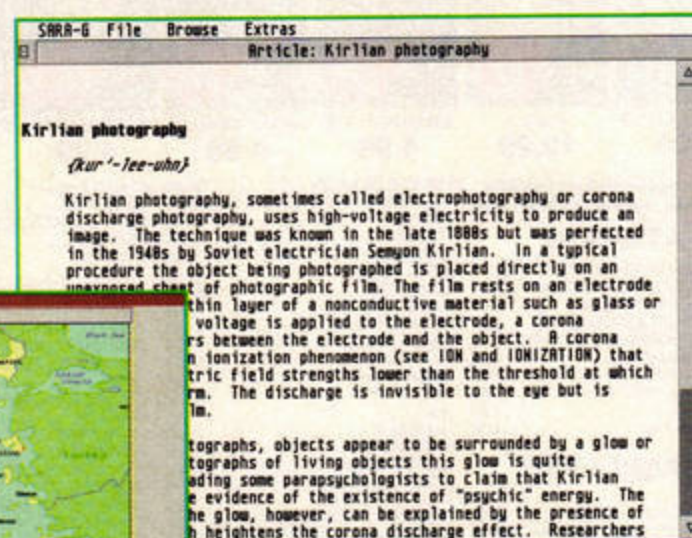
of this, though – we suggest they get in touch with Dieter before programming any future releases.

Still, you do get over 33,000 articles to read, all indexed by category, title or location on the timeline. A useful search facility helps to find the information you need, and the texts are both entertaining and useful.

Background music

Sound samples range from animal noises through to snatches of famous classical works. Sound is played in the background, so you can continue browsing as you listen. Almost all samples are at 11KHz, so they sound a little hissy in places.

While SARA may not be especially flashy – and the



The maps all look reasonable in 16 colours, and are pretty useful for planning your hols.

SARA for Grolier enables you to access the text, images and sounds on the *Grolier Multimedia Encyclopedia*. The text is presented in a window, and is easy to read.

REQUIREMENTS

You will need an Atari with a screen resolution of 640x480 pixels at 16 colours to access the images on the *Grolier*. In reality, that means a Falcon with a VGA monitor, or a MegaSTE or TT with graphics enhancements (you can run SARA under ST high res, but you'll lose the pictures).

Add to that the memory requirements – 4MByte for full access – and the recommendation to use TOS 2.06 or later, and SARA turns out to be aimed at a small percentage of the Atari market. You'll also need a CD-ROM driver, such as the ICD/MiNT ones, or the recommended *ExtenDOS Pro*.

lack of animation is a definite minus – the usefulness of *Grolier* can't be denied. The interface won't impress PC users, but it does unlock vast quantities of information, and would be a boon to anyone with school-age children. *stf*
FRANK CHARLTON

Product: SARA for Grolier
Price: £45 (includes Grolier disc)
Contact: 16/32 Systems
Tel: 01634 710788
Min system: Any Atari with 640x480x16 resolution, CD-ROM drive required

GRAPHICS

SARA can load still images and display them in GEM windows. While the system requirements state a 'minimum resolution' of 16 colours, attempting to run SARA in the Falcon's 256-colour mode presented us with a dialog telling us to run in it 16 colours.

This is SARA's biggest failing – some of the photographs look all right in 16 colours, and the maps are excellent, but renditions of famous works of art lose a certain something in this mode.



Some images look passable in 16 colours. Look who we found!

VERDICT • STIF VERDICT • STIF VERDICT

SARA for Grolier

HIGHS

- It's unique
- Good educational tool

LOWS

- No access to animations

In short...

A useful educational tool, but it could have been so much more powerful.

60%

Aiwa ACD-300

Aiwa's first CD-ROM drive certainly stands out from the pack, and it's a great buy for beginners.



There's now no shortage of inexpensive CD-ROM drives, so you could almost be forgiven for dismissing yet another one with a barely stifled yawn. Hold that mouth shut though – this one's just that little bit different.

The ACD-300 CD-ROM drive is the first computer peripheral from big-name audio equipment manufacturer Aiwa. Famous for its reasonably priced, well-specified hi-fi and video gear, Aiwa has now brought its knowledge of CD systems to bear on the CD-ROM market.

The ACD-300 is a double-speed SCSI drive, with an average data transfer rate of 300KByte per second. It's housed in a very stylish, well-manufactured metal/plastic case, and it feels as if it's built to last, without looking like something the Ministry of Defence would use.

The rear panel is home to the standard set of connectors: two SCSI sockets enable you to daisy-chain multiple devices easily, then there's the SCSI ID selector, phono connections for audio output, and a small set of dip switches. The dip switches are unusual, and can even switch the drive down to single-speed.

The ID selector isn't the usual push-button type though – it's a tiny rotary wheel control which needs a small screwdriver to tweak. Amazingly, Aiwa has included one – full marks. A good point is that it's impossible to jiggle the selector when moving the drive – set it, and it stays set.

The upper SCSI connector should be used to connect to the ST. Normally there's no

The Aiwa comes with neat controls for play, stop, skip forward and reverse

difference, but Aiwa has included another innovation

here – the lower socket can be switched to function as a SCSI terminator, so you don't need separate plug-in terminators.

On display

The Aiwa's front panel has an informative backlit LCD display. In normal use this displays the SCSI ID and tells you whether a disc is audio or CD-ROM format. If you're accessing a multi-session disc, such as a PhotoCD disc, it will also show how many sessions are stored on the disc. In audio mode, it acts just like a standard CD player's track display (see the Now Hear This panel for details).

The ACD-300 works very well, and accepted every disc we fed it. Occasionally it ejected very badly scratched CDs, but re-inserting the offending platter solved the problem. Beyond that, we had no problems whatsoever with the drive. The external controls for audio playback are an



Aiwa's ACD-300 is a well-constructed, double-speed CD-ROM drive with a number of novel features, including extra controls for audio playback.

NOW HEAR THIS

The biggest difference between ordinary CD-ROM drives and the Aiwa is the addition of audio controls to the front panel. Other CD drives require you to run a special program or Accessory to play audio CDs, but the Aiwa comes with neat controls for play, stop, skip forward and reverse. It even provides a shuffle-play mode that chooses tracks at random.

There is also a front-mounted headphone socket with an



independent volume control, and a set of line-level phono connectors on the rear. These enable you to inject that smooth digital sound into your favourite hi-fi amp.

excellent idea, and save you the bother of messing about with player programs.

If you're thinking of getting into CD-ROM, the ACD-300 is an excellent start, and with everything included, it's great value.

FRANK CHARLTON

Product: Aiwa ACD-300 CD drive
Price: £175 for drive, £250 with host adaptor and software
Contact: HiSoft
Tel: 01525 718181
Min system: Any ST/STE/TT or Falcon030

BUNDLES AHOY!

ExtenDOS Pro Installation Program
Version 2.1

Install new version from drive
Reconfigure existing version
HELP Continue Quit
Copyright © 1995 Roger Burrows
All Rights Reserved

This installer program makes the ExtenDOS Pro software easier than ever to use.

HiSoft supplies everything you need in one package, including the ICD Link host adaptor to connect it to STs, and ExtenDOS Pro (STF 71, 92%). The latest

version of ExtenDOS has a GEMmed installation program, making it very easy to unpack and connect the drive – it took us no more than ten minutes.

VERDICT • STIF VERDICT • STIF VERDICT

ACD-300

HIGHS

- Everything you need in one package
- Superb audio control
- Well designed and built

LOWS

- We can't find any...

In short...

An excellent drive with novel features, presented as an attractive all-in-one bundle.

92%

STE TOS upgrade

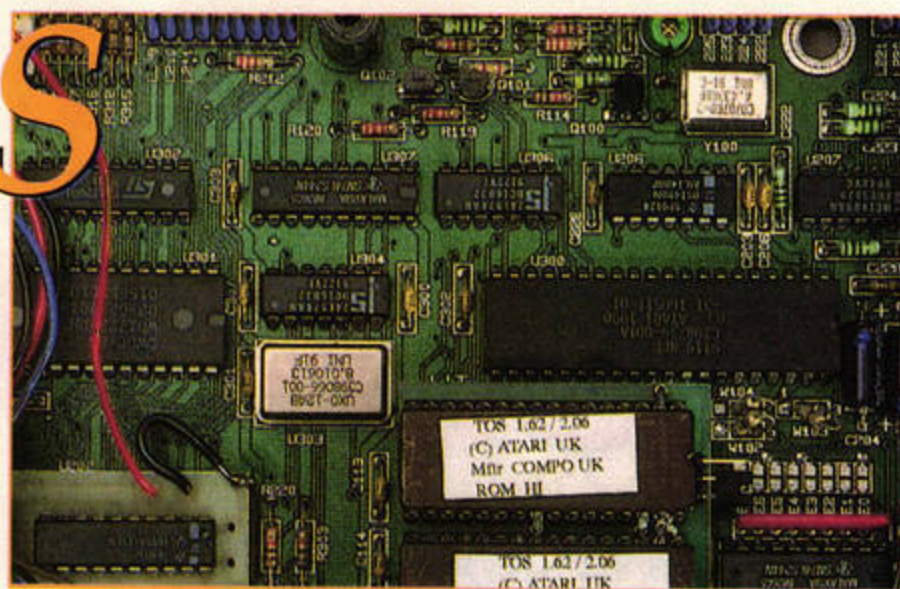
The Upgrade Shop has just released the ultimate TOS 2.06 upgrade for the STE. **ST FORMAT** checks it out.

Over the years we've seen numerous pieces of hardware for upgrading your STE to TOS 2.06, but without exception they have all required you to

attach wires to your STE's motherboard, either with clips or, even worse, by soldering. All that changes now, however, with this innovative new board from hardware specialist The Upgrade Shop.

There are two main differences between this board and every other TOS upgrade. First, The Upgrade Shop has received permission from Atari to include TOS 1.62

on the new TOS 2.06 chips. This means that the upgrade doesn't require you to re-use your old TOS 1.62 chips. Second, the board is tiny – it occupies only slightly more space than your original TOS chips. Consequently, it can be fitted without complete-



Unlike other TOS 2.06 upgrades, The Upgrade Shop's new board simply slots into position, so there's no need to fumble with clips or soldering irons.

ly stripping down your ST.

There is nothing at all daunting about doing this upgrade yourself. Simply remove the top cover of your STE, and unscrew the disk drive mountings. Flip your disk drive over and rest it on the power supply, upside down. This will give you access to the relevant area of the circuit board.

On the inside

The TOS chips are easy to spot because they sit together as a pair, one labelled HI and the other LO on the board. There are two types of chips used on STEs: one has 28 pins, and the

other 32. The 28-pin chips leave a small gap at the end of the socket, while the 32-pin chips fill it completely.

Make a note of which type of chip you have, then ease the chips out of their sockets with a small, flat-headed screwdriver. Carefully position the new board in their place – the legs fit exactly into the old sockets. Now gently push the replace-

ment board into the sockets.

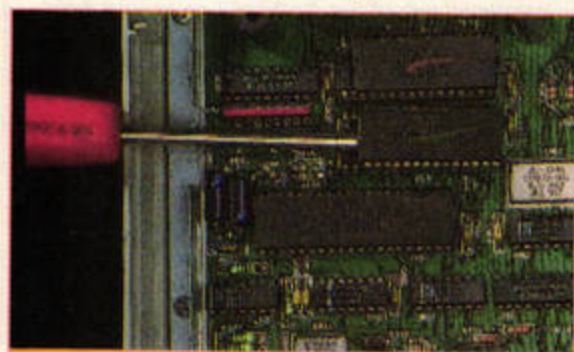
All that remains is to drill a small hole for the switch and set a jumper to the 28- or 32-pin setting. You won't require any electronics knowledge, just common sense and a steady hand.

Read it and smile

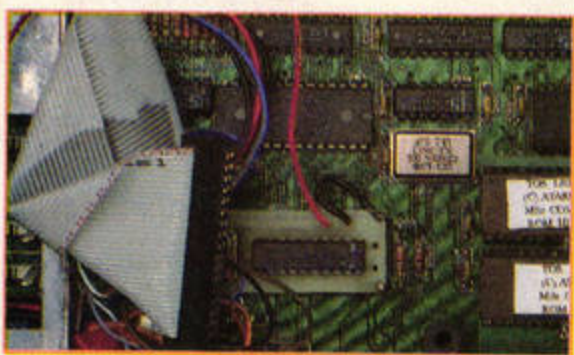
The manual is The Upgrade Shop's best ever instruction booklet. The fitting procedure is clearly explained, with the assistance of three full colour photographs. If you have any doubts whatsoever about doing the upgrade yourself, the manual should completely dispel them.

The manual also makes it very clear that this upgrade is for STE computers only. Many STFMs can be upgraded to TOS 2.06, but the procedure is a little more complex, and it involves a completely different upgrade board. *stf*

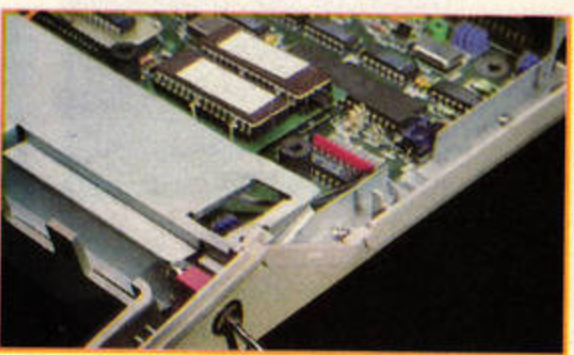
ANDY CURTIS



1 After removing the top cover and keyboard, unscrew the disk drive to reveal your TOS chips. Gently ease them out with a flat-bladed screwdriver.



2 Carefully position the new board exactly over the existing chip sockets and gently push it into place. Make sure the jumper on the right-hand side of the board is set correctly, at either the 28- or 32-pin setting.



3 The final job is to mount the switch on the right-hand side of the casing, next to the joystick and mouse sockets. Make sure the hole is low enough down to enable the keyboard to rest in its correct place.



There is nothing at all daunting about doing this upgrade yourself

WHY UPGRADE?

TOS 2.06 is a major upgrade for STE computers. It adds many new features to your STE, as well as fixing bugs in the operating system.

The file selector is enhanced, compatibility with accelerator boards is improved, extra icons can be used, a flexible integrated desktop system is added and the whole environment works faster. There are a few powerful

upgrades which will only work if you have TOS 2.06, notably the Extra RAM 8MByte system.

Despite horror stories, TOS 2.06 is compatible with most existing software. Most STOS programs can now be made to work with the new operating system, and the few other programs that still struggle under 2.06 can be run by switching back to TOS 1.62.

Product: TOS 2.06 Upgrade Board
Price: £48
Contact: The Upgrade Shop
Tel: 01625 503448
Min system: Any STE

TOS 2.06 Upgrade

HIGHS

- Absolute ease of use
- Clear, illustrated manual

LOWS

- Nothing at all

In short...

The hype is justified: this board is the ultimate TOS 2.06 upgrade for STEs.

94%

VERDICT • ST FORMAT • STIF VERDICT • STIF VERDICT

Mega Archive

Software, the universe and everything: the Mega Archive CD-ROM is back, giving you a vast PD library on a shiny silver disc.

The University of Michigan has one of the world's largest collections of Atari software. The software is available for download, but not everyone has a modem and, even if you have, downloading the whole archive would take forever. Enter the *Mega Archive 2* CD-ROM.

Back to university

Released by System Solutions, the original *Mega Archive* CD-ROM contained a mirror image of the University of Michigan archive. However, a filebase as huge and well connected as the Michigan archive naturally grows and changes quite quickly, so it is good to see this new CD with

an updated selection of software being released.

It is important not to be misled by the 'Volume 2' on the cover. A large proportion of the files were also on volume 1, so you should think of volume 2 as an update, rather than as a completely new set of files.

However, there are two significant new file sections on the disk. The first is an extensive set of files to support

Atari 8-bit machines (such as the 800XL). Second, a file section has been introduced to support the Linux operating system. In most sections there

If you expand everything, you will find about 2GByte of software

are significant additions, and a commendable effort has been made to ensure it includes recent versions of many of the programs.

Compression

As with the first *Mega Archive* CD-ROM, virtually all the files have been compressed. If you expand everything, you will find approximately 2GByte of software in total.

The important change for volume 2 is standardisation of the compression



The *Mega Archive* Volume 2 CD-ROM is packed with an estimated 2GByte of Atari software. Surely that's enough PD and shareware to keep you quiet for a while.

method. Volume 1 contained several types of archive, including GZip, ZOO, ARC and LZH file, whereas on volume 2 you'll only find ZIP and MSA (*Magic Shadow Archiver*) archives. A simple UNZIP.TTP utility is provided, together with an uncompressed version of MSA V2.3 in the archivers folder.

Magic Shadow Archiver makes a complete mirror image of a floppy disk that can be expanded back on to a floppy with the minimum of fuss. ZIP files are common on most computer platforms, and are very easy to work with. You can unpack

them with STZIP 2.6, which is also in the archivers folder, as a self-extracting file.

Layout

A single large text file details every file on the CD, but it refers to the original University of Michigan archives, so the filename suffixes are often wrong. Thus, a file listed as SAUSAGE.ZOO would be SAUSAGE.ZIP or SAUSAGE.MSA on the CD itself. You'll also find smaller index lists in each of the 31 file sections.

To upgrade or...

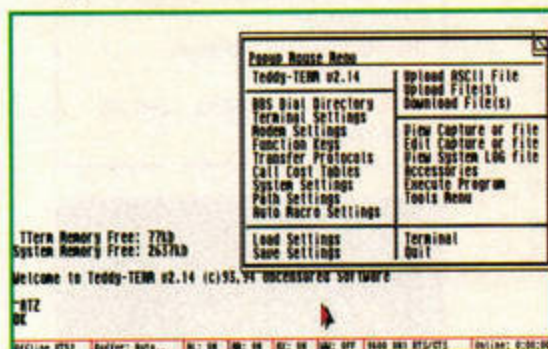
Given that the disc is relatively inexpensive, owners of the original *Mega Archive* CD-ROM may want to take advantage of the many additions. You'll see a great many familiar files, but there is sufficient new material to make it a good buy. The simplified archive formats also make it a more attractive resource.



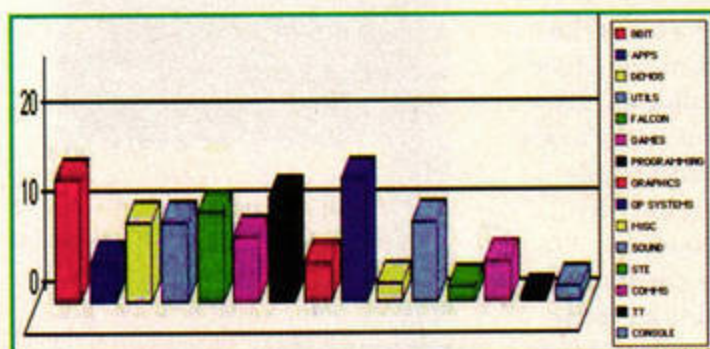
Crackart is one of the finest ST art packages around, PD or otherwise. Naturally, it's on the CD-ROM.

If you haven't got the original, this is a must. It's a wide-ranging collection, and there are so many programs that it will take you an age to wade through them all. It is best, initially, to view it as a resource. Before you phone a PD library or call a BBS, check the CD for the program in question. It will probably be there. *stf*

ANDY CURTIS



TeddyTerm is probably the best PD comms terminal there is. You'll find it on the *Mega Archive 2* CD-ROM.



As you can see, there is a wide range of programs on the CD-ROM, with something for everyone.

Product: Mega Archive 2 CD-ROM
Price: £24.95
Contact: System Solutions
Tel: 0181 6931919
Min system: Any ST, CD-ROM drive required

Mega Archive 2

HIGHS

- Vast range of programs
- Great value for money
- User-friendly archive formats

LOWS

- Some empty folders
- Many programs repeated from volume 1

In short...

An essential resource, assuming you have access to a CD-ROM drive.

88%

Transmission CD-ROM



Transmission: that lump down the middle of your car, or a compilation of Falcon PD and shareware? The choice, as they say, is yours.

Transmission is the first Falcon-only CD-ROM from Delta Labs. We eagerly await its successors, Gearbox, Differential and Big End.

Transmission is the latest CD-ROM from German CD specialists Delta Labs.

Unlike Delta Labs' other CDs, though, *Transmission* is aimed at Falcon owners, although there is some generic stuff which could be used on an ST.

Transmission is sensibly arranged, with files grouped into specific directories for easy use. Unlike the recent Whiteline *Gamma*, though, it doesn't have a front-end menu program with search facilities, so you have to peruse the directories manually.

All full up?

You may suspect that there isn't enough Falcon PD and shareware available to fill an entire disk, and you'd be right. Although *Transmission* weighs

in at just over 530MByte, it contains a lot of generic files – soundtracker MODules, pictures, animation files and the like. Although these may look or sound better on the Falcon, they're still perfectly usable on the 'lesser' machines.

The tracker tunes come in three main formats: MOD, S3M and DTM. MOD tunes will play on the ST, but as far as we know there's no specific player for S3M and DTM tunes, both of which can contain more than the standard four tracks.

Thankfully, *Transmission* includes the demo version of Frontier's *Digital Tracker 030*, which plays these tunes very

Transmission covers everything you could want from Falcon PD software

Transmission has the most exhaustive collection of Falcon demos we've seen so far, covering everything from the very first small demos through to the most recent megademo releases from groups like Avena and EKO. The highlight is the inclusion of everything from the second and third 'Fried Bits' Coding

well (the full version, incidentally, scored 90% in issue 74).

The VOLLVERS directory contains full, registered versions of two shareware programs. The screensaver *TurboBlacker* only works with VGA monitors. It switches off

video output to make your Falcon run slightly faster while the screen is blanked, so it's great for processor-intensive activities, such as raytracing.

Also included is a registered version of a CD-ROM enhanced game called *Golden Island* – a good-looking game which involves shunting little trains about. Sadly, we couldn't get into it because although the program is English, most of the documentation is in German.

The PACKED directory duplicates quite a bit of the disc's content in archived formats, which is ideal for BBS SysOps to put on-line. There's no English description file though, so you'd have to knock one up yourself.

Transmission covers everything you could want from Falcon PD software, and then some. A lot of the documentation is German, but most pro-

grams include an English option. Unfortunately, some of the files have been duplicated – we spotted three instances of the same animation appearing twice under different file-names in the MPEG section alone. That aside, this is an excellent platter, and it's certainly cheaper than buying or downloading the equivalent software. Go on, give your Falcon a treat. *stf*

If you're after the definitive Falcon demo collection, look no further than *Transmission*. With 191MByte of material, it should keep you happy for ages.

FRANK CHARLTON

Product: Transmission CD

Price: £29.95

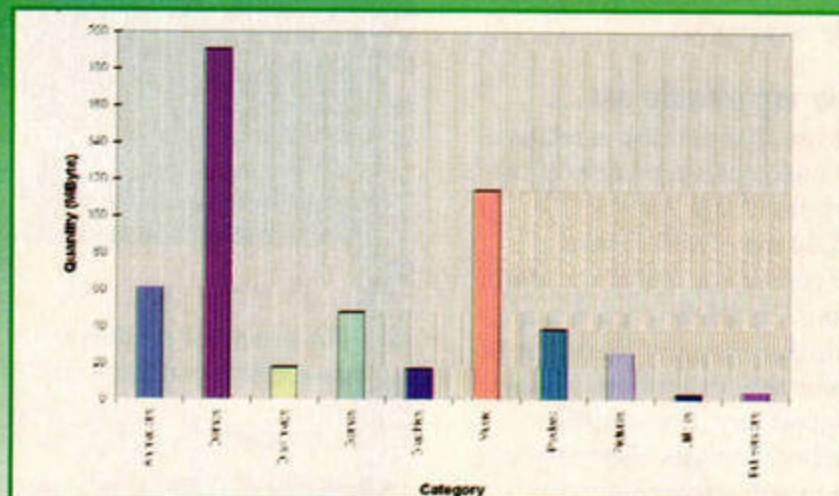
Contact: System Solutions

Tel: 0181 6933355

Min system: Falcon030, CD-ROM drive required

BREAKDOWN!

The chart below shows you just how the content of *Transmission* is distributed. Unsurprisingly, the Demo and Music sections dominate – the Falcon really shines in these areas. The Games directory has a healthy selection of amusements, but the Animations area is a cop-out, with lots of generic MPEG and FLI files.



VERDICT • STF VERDICT • STF VERDICT

Transmission

HIGHS

- Falcon-specific
- Superb demo collection

LOWS

- Some duplication of files

In short...

An instant CD-ROM software library, including great demos, for Falcon users.

80%

Fonty

**A fully featured Calamus font editor
for less than the price of most
commercial games – surely not?
ST FORMAT investigates.**

Font design and creation has often been looked upon as something of a black art. Part of the reason for this is the complex nature of the programs needed for the job — font editors aren't usually the easiest pieces of software in the world to get along with, especially when you're dealing with mathematically-described vector typefaces.

Matthew Carey's *Fonty* aims to change all that. It enables you to design and edit

Calamus fonts, and its intuitive interface and on-line help files make it very different from traditional font editors. It also sneaks under the wire at a low enough price to make it easily affordable.

Editing existing fonts is very easy. Badly defined curves can be cleaned up swiftly, and there's even a

kerning algorithm that can be applied globally to an entire font. This takes a lot of the hard work out of the job, although you'll probably need to tweak individual character

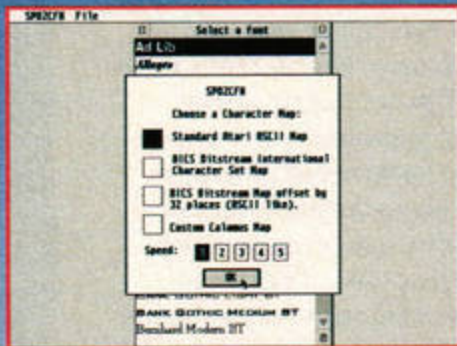
Fonty's intuitive interface makes it very different from traditional editors



CONVERSIONS

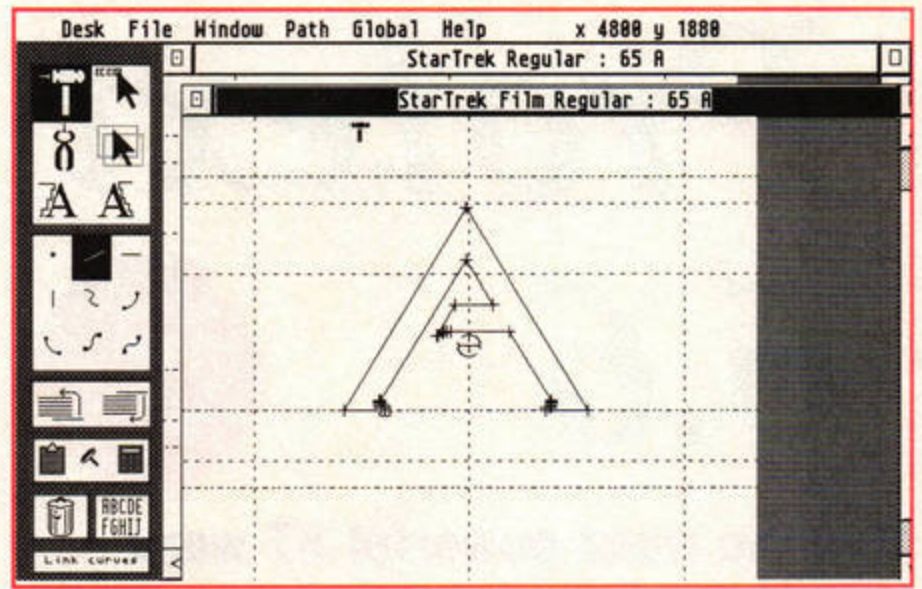
Fonty also provides tools for converting fonts in various formats to Calamus's CFN format. You can analyse and convert PostScript Type 1 vector fonts, for example, either one at a time or in batches. This conversion works extremely well, but the program uses a default set of kerning parameters, so the converted fonts do need tidying up in Fonty.

You also get an early version of a new program which professes to convert the protected *SpeedoGDOS* font format to *Calamus CFN*. We found the results a bit hit-and-miss – it couldn't convert anything when



Fancy using those smart Speedo fonts in Calamus? This program could be the answer.

NVDI3 was installed. When SpeedoGDOS itself was running, we had varying degrees of success. It's very promising though, and we look forward to seeing future versions.



Font editors are traditionally intimidating and unfriendly, but *Fonty's* simple interface does much to dispel the propeller-head image associated with font design.

SCANNING FONTS

If you've got access to a scanner, you can grab fonts from printouts. All you have to do is create a high-resolution Degas picture file, which you can then use as a tracing template. You could use this method to convert unsupported font formats, too – simply take a screen grab, or better still, create a page full of fonts and print it to a picture file on disk. Break it up into individual P13 files, and Bob's your uncle.



After five minutes with a scanner, you can start converting your chosen font into Calamus format – but, as always, beware of copyright restrictions!

pairs to get perfect spacing.

Fonty also enables you to open several fonts at once, so you can cut and paste individual characters between typefaces. Many PD *Calamus* fonts are missing some characters, such as the pound symbol, so this is a very handy feature.

Even if you never intend to design your own fonts, *Fonty* is useful for cleaning up poorly finished fonts. Load a few PD fonts into *Fonty*, and you'll see how badly constructed some of them are.

If you want to create a font from scratch, *Fonty* is the tool for the job. If you're not feeling terribly artistic, you can load existing GDOS bitmapped fonts or PI3 images and use them as templates. The tools are superb, and the pre-defined bezier curves make it easy to create smooth characters. It takes very little time to get used to the vector drawing tools, and you can learn a lot from tracing existing fonts just for practice. Cut and paste is also useful, as it enables you to re-use certain shapes for other characters – O as the basis for a letter Q, for example.

Fonty is a superb tool, and you should certainly consider

adding it to your software library if you use *Calamus*, or programs which support *Calamus* fonts. The very gentle learning curve and the handy on-line help take a lot of of the grief out of what is still a complex process. *Fonty* is a winner, especially at this price. *stf*

FRANK CHARLTON

Product: Fonty
Price: £11.95
Contact: FaST Club
Tel: 0115 9455250
Min system: Any ST/STE/TT or Falcon030, 512K required

Fonty

HIGHS

- Very easy to use
- Extremely good value
- Enables you to clean up and/or convert fonts

LOWS

- Nothing

In short...

The essential tool for
creating, converting and
tweaking
Calamus
fonts. **86%**

Protext

6.6



Has the most powerful ST word processor reached the end of the line? Peter Crush reports on the latest version of Protext.

Protext is the most feature-packed, professional word processing program available for the ST. There are lots of newer, more graphical word processors, but when it comes to pure text crunching, Protext out-crunches them all. It provides a superb dictionary system, thesaurus and macro facility, plus a built-in programming language that enables you to do anything you want.

All was looking rosy until Arnor, Protext's publisher, suddenly ceased trading a few months ago. Luckily for all concerned,

Compo Software has stepped in, and is now supplying version 6.6 of Protext, the last version ever to be released by Arnor.

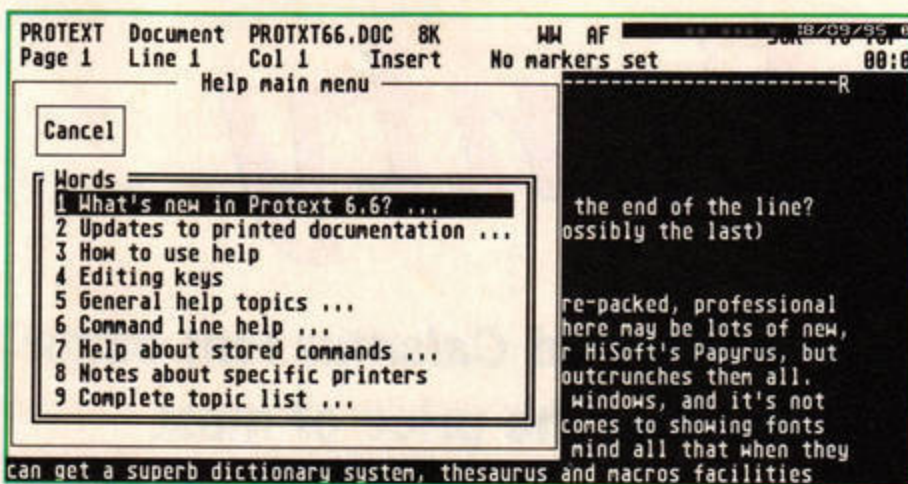
Getting going

The last time we looked at Protext was in issue 63, when



Although Protext doesn't have standard GEM windows, you can access its many features via the menus.

version 6.5 received an 85% rating. This was the first release of Protext capable of importing graphics, and of giving a page preview indication of the final appearance of your work. The programmers at Arnor were obviously still working on further improvements, and Protext 6.6



The latest version of Protext has a neat on-line help system, which features nine different topics. If you get stuck just press [Help] for assistance.

incorporates a number of tweaks and extra features.

Getting up and running is easy enough, as Protext has a built-in installation routine. Alternatively, you can copy the files from the four floppies to your hard drive manually.

Protext 6.6 doesn't look much different from previous versions – you still get that rather sober, business-like

white text on a black background, although if you have a colour monitor, you can choose less funereal colours.

Protext is great for straight writing, and many an ST journalist swears by it, rather than at it – reliability is its middle name. A file conversion utility enables you to import and export your text in a variety of file formats, and if you have a modern laser printer with scalable fonts, output quality is excellent.

However, if your printer is a humble dot-matrix machine, you may not be quite so impressed. Unlike *That's Write* or *Papyrus*, Protext cannot print graphically, so whereas these other word processors can give you fancy fonts in various sizes even on a dot matrix printer, Protext can only work with your printer's built-in fonts. This may not be a problem for you, especially if you have a fairly capable printer, or don't need to use fancy fonts.

Hip hoorah

First of all, three cheers for Compo for rescuing Protext from an untimely demise. In

the short term it's still available, and at this price any serious writer should snap up a copy.

Compo was not sure of the longer term position at the time of writing, but indicated

that there might be further development work. We at ST FORMAT have always liked Protext, and all the little changes make 6.6 the

best version ever. We hope this word processor will live on to a grand old age under its new proprietor. *stf*

PETER CRUSH

UPGRADES

Version	Price	Components
6.5	£15	Disks and upgrade sheets
6.0	£30	Disks and upgrade sheets
5.0	£40	Disks and manuals
Cover Disk	£55	Disks and manuals

Product: Protext 6.6
Price: £74.95
Contact: Compo Software
Tel: 01487 773582
Min system: All STs, TTs and Falcons (1MByte), hard drive recommended

NEW FEATURES

Here are some of the improvements to be found in version 6.6. Some of them are a bit techie, but they add up to better results and greater ease of use.

Colour graphics: To select colour printing, click the 'Print in colour' button in the import graphic dialog. Supported printers include DeskJets, Epson-compatible dot matrix printers and PostScript printers.

Compression: Protext 6.6 uses compression to greatly speed up the printing of graphic images.

Greyscales: The new version offers accurate grey shading in all printer resolutions. Brightness and Contrast options enable you to make images lighter or darker.

Graphics and multi-column printing: Graphic images can now be printed within the separate columns of a multi-column section of text – if you have a laser printer.

Measurements: Millimetres are now used instead of centimetres on the status line and in document settings. Inches are still available as an alternative.

Autosave: Autosaved files can be recovered more easily using the File menu (Restore autosaved file) or the command RESTORE (RAS).

Protext 6.6

HIGHS

- Extremely powerful
- Very fast and smooth

LOWS

- Non-standard interface
- No Speedo font support

In short...

Love it or hate it, Protext is a classic word processing program.

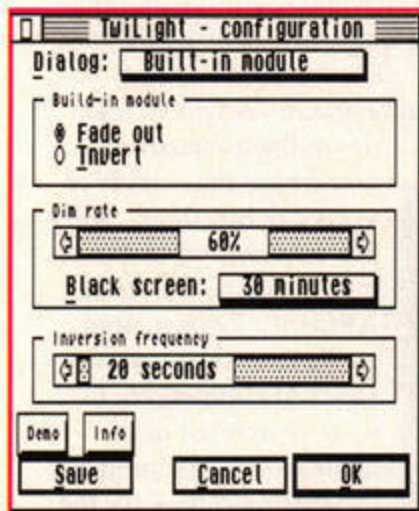
We all love it.

90%

Twilight

Protect your monitor with JCA's colourful, animated screensaver.

You may be sick of hearing your PC and Mac owning friends wibbling on about the *After Dark* screensaver, which provides a whole host of animated modules and sound. At last, help is at hand:



The straightforward configuration boxes make *Twilight* a breeze to install.

Twilight is every bit as entertaining and expandable as its lofty counterpart.

The easy-to-use installation program places all the files you need on your hard drive. You can then call up the Accessory and work through the configuration options.

There is only one screensaver module built into the program. All the others are external, and extra modules can be created by any enterprising programmer, as the full source code is provided. In addition to the supplied modules, there are already several PD offerings. Call LAPD on ☎ 01773 605010 to order them.

You should look out for the DOS emulator if you fancy a giggle

USS-DOS Version 08/14 - Date 04/05/06
Using UltraKwik™-BIOS v8.9
(c)1978 Gill Bates-Systems inc.
licensed for Delirium Arts

Supercolor-BIOS by Colorshock inc. is active

Memory Check (Press ESC to Abort):
Please wait... 87%

There are a number of modules available for *Twilight*. The automated DOS emulator module is very amusing. It's just a shame that some of the text is in German.

Twilight is great fun to use, mainly because the supplied modules are well programmed. Many are gently

humorous, and you should certainly look out for the DOS emulator if you fancy a giggle.

The program works on almost all Atari computers, from the ST upwards, although one of the modules is for the Falcon only. There is a little German text to negotiate, particularly in some of the modules, but most of

the program is in English.

As a screensaver, *Twilight* is reliable and effective. It is also a great piece of entertainment software. At £29.95, it's not particularly cheap, but commercial screensavers on other platforms cost far more. If animated screen saving is your thing, you're going to love it. *stf*

ANDY CURTIS

Product: *Twilight* Screensaver
Price: £29.95
Contact: JCA Europe
Tel: 01734 452418
Min system: ST/TT/Falcon, hard drive required

STF RATING: 88%

Boot Sector Installer

Give yourself a virus with this not very useful utility. Erm, yes...

Rarely do we receive a program of such colossal and overwhelming awfulness as the *Boot Sector Installer*. On the upbeat side, we must say that it plays a rather nice MOD file while it is running. Sadly, there's nothing else to recommend it.

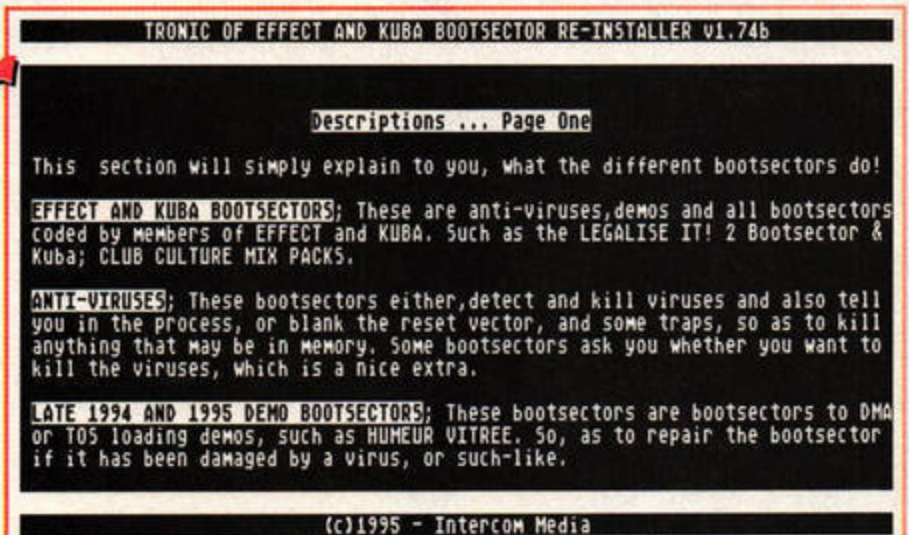
In essence, the program provides a set of boot sectors which can be written to any floppy disk in the internal drive of your ST. There is also a very rudimenta-

ry built-in virus checker.

The option to display information about the program crashed every machine we tested it on. It will also crash your machine if you forget to boot it in low or medium res.

The remaining section enables you to install viruses on to your floppy disks

The supplied boot sectors are mostly for ST demo programs, although there is a section for games, virus protectors and viruses. The selection of game boot sectors for games is limited to a single entry: *Animal Mine Invertix*. This is highly



It's awful, and it's dangerous. This is one boot sector program that you don't need.

disappointing: there would need to be at least 50 game boot sectors for *Boot Sector Installer* to be really useful.

The virus protection boot sector selection is better, although you may wonder why you need so many different examples. The remaining section, which enables you to install viruses on to your floppy disks, contains four items - including the Ghost and Signum viruses.

We must make it clear that *ST FORMAT* disapproves of any product that facilitates the propagation of viruses.

Distributing viruses is not only anti-social, it's also illegal. Needless to say, we do not recommend this software for any purpose.

If you need virus protection and games boot sectors, we strongly suggest you buy *UVK 6.6* (£12.95) from Douglas Communications (☎ 01625 850270) instead. *stf*

ANDY CURTIS

Product: *Boot Sector Installer*
Price: £5
Contact: Intercom Media
Tel: 019983 867377
Min system: ST/TT/Falcon

STF RATING: 3%

Ishar 3 CD



Some scenes from the introduction found on CD-ROM. If you suffer from vertigo, keep well away from this one.

You can buy *Ishar 3* on disk, in a compilation or on CD-ROM. Look out for the 7inch single soon.

Role-playing games have been around since the year dot, and the computer versions have been justifiably popular. Silmaril's *Ishar* series, for example, is renowned for its complex and believable worlds, gorgeous presentation and tremendous depth of play.

Originally released last year, *Ishar 3: The Seven Gates of Infinity* scored a healthy 84% in issue 62. The original came on five floppy disks, but now Silmaril has added a few extras, including a longer animated introduction, and released it on CD-ROM.

The basic plot follows on from *Ishar 2*, surprisingly enough. Although you vanquished the generic Bad Guy last time, he's attempting to return in the form of a black dragon, and you can bet it's not just to see how you're keeping. In fact, your party of characters is the last (best, etc) hope of stopping Shandar before he gets hold of some serious power.

If you've played either of *Ishar 3*'s predecessors, the game will allow you to load your winning party of characters and send them back into the fray. Failing that, you'll have to knock up a set of brand new heroes to sally forth and wreak havoc.

Generating your party is quite amusing. You can have up to five party members, each of which is drawn from a possible five racial types: Human, Elf, Dwarf, Orc or Lizard-Man. Each race has a number of occupations open to it, from the obligatory barbarian and magician to the more unusual clerk. Clerk? Er, he won't instill much fear in Shandar...

Each character's statistics are allocated from a central

'points pool', enabling you to give higher strength levels to warriors, or maximise the brain power of your magicians. Here's a tip: if you don't include a magical type in your initial party, you might have some difficult battles early on. Each character then gets a



Bit dodgy this bloke. Bears an uncanny resemblance to Peter Stringfellow in a blue plastic mac. Run!

portrait, and a name to take out with them into the big bad world of *Ishar*.

A wonderful world

Ishar's game world is displayed in sharp 3D. Unlike *Robinson's Requiem* (reviewed on page 34), it doesn't rotate and move smoothly. Instead, everything is pre-drawn with the streets at 90-degree angles.



Turning around moves you a full 90 degrees, just as in the old classic, *Dungeon Master*. The graphics are exquisitely drawn and digitised, and the lighting varies during the day.

The sound is superbly atmospheric. As you wander down the town streets, you'll hear the sounds of everyday life: doors opening, a horse and cart passing by, and so on. As in *Robinson's Requiem*, the well-planned use of samples adds immensely to your enjoyment of the game, and helps build a convincing setting for the game world.

Movement is controlled by a set of icons for the four directions, plus two for rotating left and right. The pace sometimes slows when new scenery is loaded in from the CD-ROM – when you enter a building, for example – but it's not too big a distraction. A map of the locale is available, with all of the streets shown, and significant buildings that you've visited are marked. It's easy to find your way back to a tavern when you need that pint of Wibble's Olde Thugge (*Is that a Bath beer then? – Nick*).

To begin with, you're dumped in the town of Koren-

THE INTRO

If you flick briefly to the *Robinson's Requiem* review on page 34, you'll see that we liked the expanded introductory animations a lot. Sadly, *Ishar*'s new introduction is nowhere near as long or complex. The extra footage consists of just one sequence – a raytraced red dragon in flight across a landscape festooned with snow-

capped peaks and valleys.

Okay, so it's extremely well rendered, and the animation of the dragon is beautifully fluid, but it doesn't really mean anything. *Robinson's Requiem*'s introduction sets the scene for the ensuing game, while *Ishar*'s is nothing more than a smart-looking title sequence and does nothing to justify the CD-ROM's £60 price.



Generating your party of characters is a doddle, and fun at the same time.



The local tavern, with serving wenches who look like characters from *Mortal Kombat*. Young Nick has been told to keep well away, but knowing him like we do...

Bahnir with nothing more than a handful of pennies and a single weapon for your first character. As you move about the city, you'll find shops of various types: armourers, weaponsmiths, general suppliers and taverns. Entering these emporia gives you the chance to buy what's on offer – but you'll need some cash first, and this is where combat comes in.

Your world is populated with various other hoodlums, all out to gently part you from your possessions – or your life. Combat is again reminiscent of *Dungeon Master*, with each character having a fist icon. Clicking it delivers a blow to any handy enemies, and you need to cycle rapidly between team members to effectively dispatch any bad guys.

Chop-socky!

Even from the outset, combat can be difficult. Armed with nothing more than clenched fists, you're supposed to wallop the life out of various armoured and hooded thugs,

and you can take a lot of damage in the process. Magic skills are a plus here, as a sleep spell will put your enemies into a doze, enabling you to chop them into tiny bits. A healing spell comes in handy after a fight, too.

Cocking an ear to the tavern gossip frequently reveals possible adventures

Killing off your enemies usually nets you a handy bag of treasure, enabling you to nip off to a tavern for a meal and a kip to recuperate. As your cash increases, you

can purchase armour, supplies and nice big pointy weapons.

Ishar 3's gameplay isn't as linear as most traditional adventure games. There's none of this 'open wooden door with lilac key' malarkey, and

you're often left wondering what you should be doing. The answer: explore, get to know the town, think, and look for challenges. *Ishar 3* presents its final goal – the 'removal' of Shandar – as if it were real life, so you can indulge in a spot of wander-lust any time

you feel like a break from saving the world yet again.

Cocking an ear to the tavern gossip frequently reveals possible adventures. More often than not, you'll find hours have flown while you peep around corners looking for more desperadoes to bash. This is *Ishar's* beauty – the non-linearity makes for a more satisfying game. There's little

feel too left out – you're not missing a great deal (see the CD Extras panel for full specs). One of our comments in the original review was, "There's

only so much you can fit on five disks".

Given the vast storage capacity of CD-ROM, it's a shame that Silmarils hasn't made

any real effort to increase the game's ambience. The basic gameplay is identical to the floppy version, and the graphics and sound don't seem to be any different. Granted, the new release is as fine a game as the original sword-fest, but it's no better for being on CD-ROM, and the price is frankly scandalous. *stf*

FRANK CHARLTON

Your party of characters is the last (best, etc) hope of stopping Shandar



Careful, some of the 'roads' are nothing more than folds and cuts in the map...

possibility of getting stuck behind an insurmountable problem – a welcome change from many adventures.

There's no doubt that *Ishar 3* is a vast, sprawling monster of a game, and it certainly has many challenges for the hardened role-player. If you've never dipped your toes into this genre before though, the non-linear approach may find you tottering about aimlessly for quite a while. Stick with it, as greater rewards come as you progress towards the end, no matter how convoluted a route you take.

Ishar is such a deep game we get the feeling we barely scratched the surface, and it could well provide you with months of sword 'n' sorcery fun. However, if you haven't got a CD-ROM drive, don't

Product: *Ishar 3* CD
Price: £59.95
Contact: System Solutions
Tel: 0181 6933355
Min system: 4MByte Falcon, CD-ROM and hard drives required

CLEVER STUFF

There aren't exactly millions of Falcon owners with CD-ROM drives, so Silmarils has done something rather clever. The PC and Falcon versions of *Ishar 3* use the same data files for graphics, music, sound and so on, and the disc actually contains both versions of the game. By including the executable program in both PC and Atari format, Silmarils has created a dual-format game, proving that the Atari scene needn't be without CD-ROM entertainment.

Here at ST FORMAT we'd love

to see other programmers take note – surely the extra expense can't be that high? Just think, the Falcon could play host to versions of CD-ROM classics like *Myst* and *Wing Commander*... Slower adventure-type games like Virgin's best-selling *7th Guest* could easily run on the Falcon.

Even though the Mac uses a different disc format, it shares the 68000 series of processors with the Falcon, so porting existing titles shouldn't be too hard. What do you think? Drop us a line and share your thoughts...

VERDICT • STIF VERDICT • STIF VERDICT

Ishar 3 CD

HIGHS

- A vast game
- Beautiful to look at

LOWS

- Much the same game as before
- Ridiculous price

In short...
A classic roleplaying game, but the silly price is way too much for so little extra.

70%

Robinson's Requiem CD



This is the first guy you'll meet, and he's none too pleasant. So get ready with those fisticuffs, 'cos it's clobberin' time!

You too can suffer hideous diseases while fighting off wandering dinosaurs in the enhanced CD-ROM version of Silmarils' space epic!



The Medicomputer provides loads of information about your health and environment. It's just like Clive Parker's digital watch, in fact, only less expensive.

Rather than being a casual game of exploration, like *Ishar 3* (reviewed on page 32), *Robinson's Requiem* is geared towards survival. As it states on the back of the box, "If you have to amputate one of your own limbs to survive, then that's what you must do." Er, quite.

As the game opens, your character sadly manages to prang his expensive spaceship, and ends up stranded on a hostile world with nothing to help him but his wits, a Medicomputer and a rather fetching yellow shirt.

Your first priority is to sniff about the wreckage of your ship, and salvage what

you can. A careful search reveals some useful tools and materials, as well as a first aid kit stuffed with some rather worrying drugs and devices.

Hypochondria

Robinson's Requiem is a complex game – there are over 100 variables, including body temperature, stress, pain levels and charming little maladies like coughs, gangrene, fractured limbs, malaria... Anything can make you ill – going swimming in your yellow skivvies may produce a hacking cough, for example.

If all of this gets too much for you, though, you can simplify matters by switching 'malady control' off. It's worth

leaving it on though, if only to see how much is quietly going on behind the scenes as you plod about.

The game world is visually spectacular. Fully texture-mapped in 3D, it works out at about three square miles – and you'll need to shuffle your way through most of it to complete the game.

Shuffle is the operative word here. There are two detail levels, and two possible 3D-window sizes, but using the default settings – high detail with a big window – slows movement to a crawl. The controls are slow to react, and you'll often find yourself overshooting the mark or rotating too far. Making progress across a flat, featureless plain can be real pain, although switching to the lower detail level improves matters considerably.

Once you get to know an area, you can move about quickly via the helpful map screen. Be careful if you're exploring an uncharted area, though, as it's all too easy to run into trouble.

Clobberin' time

You're not the only inhabitant of the world, though – numerous computer-controlled characters are knocking about. You'll come across everything from mere humans through to wild animals and aliens, and wandering up to one of them usually starts an atmospheric

PC/FALCON

The market for Falcon-only CD-ROMs is considerably smaller than the equivalent PC market, but *Silmarils* has used a little ingenuity to produce a dual format PC and Falcon CD-ROM version at little extra cost. For more details, read the *Clever Stuff* panel in the *Ishar 3* review (page 32).

sequence with full-motion video and sampled sound. More often than not these cinematic interludes involve a threat to your well-being.

Combat has a major role to play, and you'll often find yourself fighting the other characters. Depending on your weapons status – you begin with your fist – clicking the weapon icon will smack the

enemy. The combat isn't quite as frantic as in *Ishar 3*, but with a little perseverance you will soon pick up some more

destructive fire power.

Picking up items like sticks and wire might seem like a waste of time, but *Robinson's Requiem* lets you invent new things by using one in conjunction with the other, and you'll need them if you're

going to survive.

The game manages to generate an incredible amount of atmosphere. The samples don't just sound good, they also manage to increase the tension. As well as the constant chirping and war-



Combat is simple, and you get the chance to loot the body for weapons, tools and half-eaten Chewits.

THE INTRODUCTION

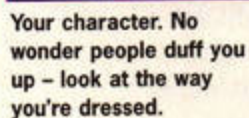
The intro sequence to *Robinson's Requiem* is far more than a simple sequence of showy graphics. The superb raytraced graphics set the scene for the game perfectly, depicting the tale of the unfortunate clash between your space vehicle and a handy M-Class planet.

The sequence appears to run at ten frames per second, and is very, very smooth. It's accompanied by sampled sound, and an odd-looking geezer pops up half-way through to explain some of your character's history. The whole thing is worth watching three or four times.



- 1 Main 3D view window: this is where the action takes place. Er, it's raining.
- 2 Status line: messages and object descriptions appear here.
- 3 Object Window: shows objects you're carrying, and changes according to the currently selected icon.
- 4 Activates the overhead map.
- 5 Switch to Medicomputer display.
- 6 Use an object.
- 7 Carry out specific tasks, such as repairing something.
- 8 Equip your character with clothing, armour and so on.
- 9 Perform first-aid on yourself, if you have the right equipment.
- 10 Eat or drink.
- 11 Have a swift kip.
- 12 Combat screen: this is where you smack the other characters.
- 13 Calculate the weight of individual items, so you don't slow yourself down.
- 14 Compass to help with navigation.
- 15 Move your character – as well as moving in the four compass directions you can rotate and take side-steps.

bling of the jungle wildlife, you'll hear a hostile predator before it gets to you. The stereo effects even tell you where the bad guys are lurking – excellent stuff.



character. No
er people duff you
look at the way
e dressed.

of thought. Short of sitting in the Cheviots in your vest with the SAS, this is as close to a survival course as you're ever going to get. It's slow to begin with, but by the time you've fought off a few predators and recovered from a plethora of gooey illnesses, you'll be so deeply involved that the hours will fly by.

Robinson's Requiem makes better use of the CD medium than *Ishar 3*, but it's still not quite the barnstormer it could have been. The game engine, wonderful though it is, is basically unchanged from the floppy version. If you already

have *Robinson's Requiem* on disk, there's no point getting the CD-ROM.

Even if you've never experienced Silmarils' deep and thought-provoking games before, you still need to think about that price – the floppy version is much better value. Now if you'll excuse me, I'm off to sit in a lake in my underpants again. Oh, all right, just one more game first... *stf*

FRANK CHARLTON

Product: Robinson's Requiem CD
Price: £59.95
Contact: System Solutions
Tel: 0181 6933355
Min system: 4MByte Falcon030,
CD-ROM and hard drives required

Robinson's Requiem

HIGHS

- Hugely complex game
- Should last for ages
- Excellent intro sequences

LOWS

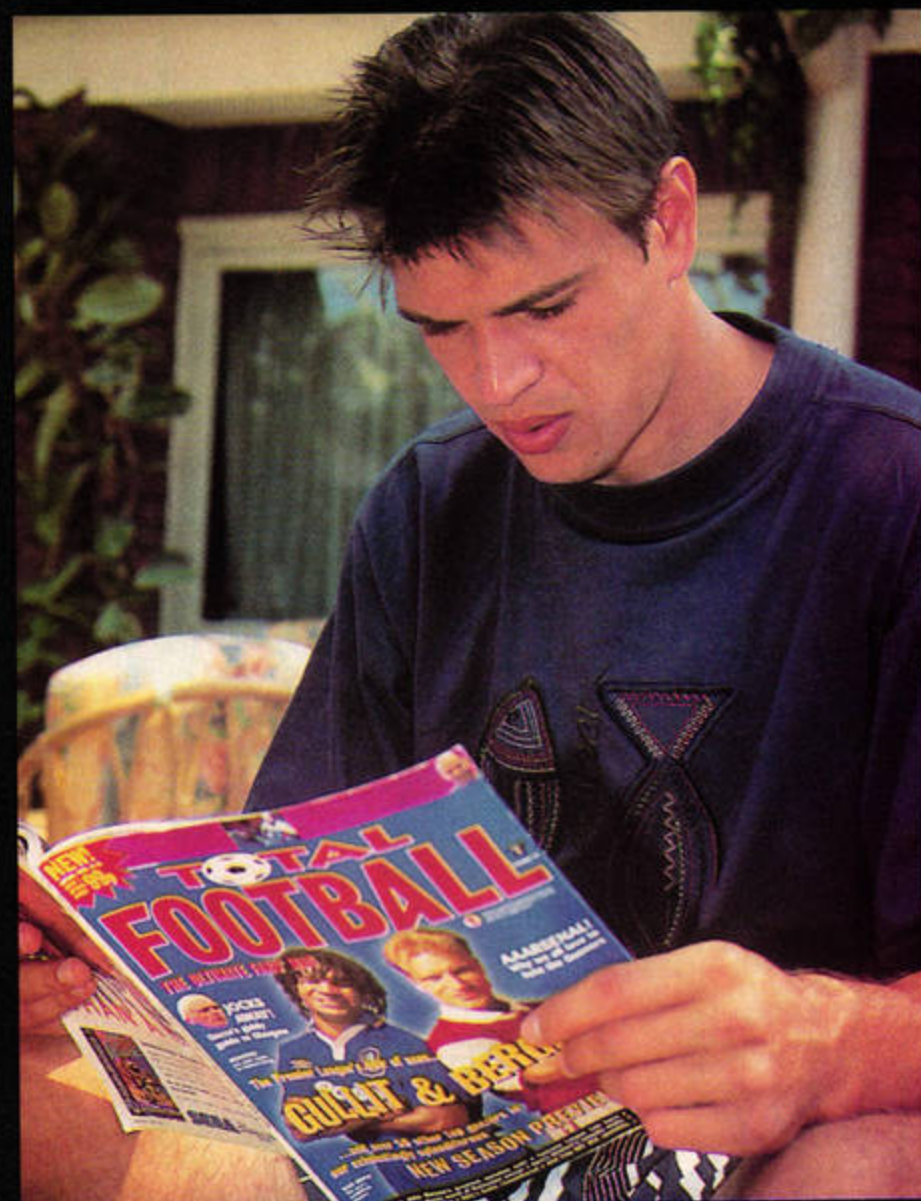
- Maybe too complex
- Silly price

In short...

An engrossing adventure, with an unjustifiably high price for a CD. **72%**

72%

**TOTAL FOOTBALL:
AS READ BY ALL
DISCERNING
SERBIAN ASTON
VILLA STRIKERS
(CALLED SAVO)**



WARNING!
This mag contains
naughty words!

**ISSUE 2
OUT NOW
STILL
ONLY 99p**



FONTS

The right fonts, used alongside an efficient font handler, can turn a scruffy printout into an elegant letter or eye-catching poster. Frank Charlton gets you started.

Fonts, otherwise known as typefaces, are just sets of characters in particular styles, but there are many thousands to choose from, ranging from plain, readable workhorses to exotic prima donnas. A good font handling system and careful use of quality typefaces can turn a grubby leaflet into a printed masterpiece, so it's definitely worth getting to grips with font technology.

Your ST has access to some of the best fonts available, along with some killer font software. However, there's more than one system, and the number of font handlers, coupled with the wide

range of font formats, can make setting up your ST or Falcon a minefield.

If you've ever wondered which fonts are the fastest, smallest and most compatible, then wonder no more – this feature provides all the answers. It also covers the different programs you can

use to access fonts, and looks at typeface sources and font conversion.

Your ST, TT or Falcon can produce

pin-sharp results, even on the humblest of dot-matrix printers, so don't be intimidated by the desktop publishing big-boys. With the right software, you can get at almost any font available, and we're about to show you how...

Your ST has access to some of the best fonts and font software available

Aurora Baker Signet **BANK**
GOTHIC Bookman ITC
BREMEN *Brush* *Script*
 Calligraphy *Cataneo*
Cooper **Black** Dom
 Dutch **EMPIRE** **FIR2+GRADER**

As you can see from the 17 typefaces shown here, fonts can be classic, formal, regular, casual or downright slapdash. Choose your fonts carefully to get the effect you want.

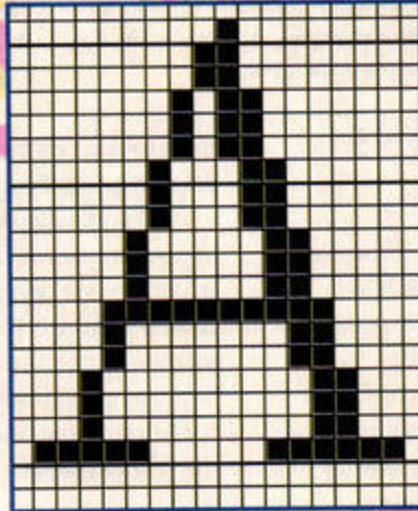
FONT FORMATS

The main font formats are:

- GDOS
- Bitstream Speedo
- TrueType
- PostScript

GDOS fonts are bitmapped; the other three are vector fonts.

Of the three scalable formats, Speedo is



Bitmapped fonts are composed of tiny dots. Coo.

generally regarded as being the fastest and most efficient at rendering to screen and printer. There aren't any Speedo fonts available from non-commercial sources, though.

TrueType fonts originated on the Apple Mac, and were adopted as the default format for Windows PCs, too.

There are lots of TrueType fonts available, both commercially and as freebies, and you can guarantee there's one suitable for your job.

PostScript Type 1 fonts are looked upon as the slowest of the bunch, but they give very good results. As with TrueType fonts, a wide choice of typefaces is available from many different sources.

Font systems

Before you start choosing fonts, you need to choose a font handler. We take you through the big four.

The system software which enables us to get at all this wonderful font technology is often referred to as a font handler or font driver.

Scalable vector fonts produce the best output (see the Vectors vs Bitmaps panel), but bitmap systems – such as Atari's original GDOS – still have their place. If you're using an ST with 1MByte or less, or if you only use a few different fonts, bitmaps can still provide excellent results.

Generally, where a program can use GDOS for printing, you can use it with SpeedoGDOS or NVDI 3, both of which are rather better than their predecessor. Popular word processors, such as AtariWorks and Papyrus, work with Speedo or NVDI 3, as does desktop publishing software like Easy Text Pro Vector or the latest version of Timeworks 2. Even PD text editors, such as Edith or Everest, can use these font handlers for enhanced screen displays.

Atari GDOS 1.1

£2.95, FaST Club
☎ 0115 9455250

The last release of the plain vanilla bitmap system, GDOS 1.1, was distributed as part of many other programs, including HyperPaint, HyperDraw and the original Timeworks DTP. It runs on the most hum-

ble Atari, but be warned, it's veeeeery sloooow.

If you engineer your fonts carefully (converting from Calamus vector fonts to the exact size you need is a good idea), GDOS can still produce some extremely fine results. If you don't have it, contact the FaST Club (☎ 0115 9455250) for further details.

NVDI 2.5

£29.95, System Solutions
☎ 0181 6933355

This early incarnation of our favourite font handler and screen accelerator replaces the GDOS routines for bitmapped fonts. It's considerably faster, and produces sharp results with the right fonts. By far the biggest bonus, however, is the lightning-fast accelerator which kicks GEM displays into overdrive. Cheap, very capable, and worth it if you don't need vector fonts.

SpeedoGDOS 4

£40, HiSoft
☎ 01525 718181

Speedo 4 was the first commercial scalable font driver for the ST, and it's still worth a look if your budget's tight. It's the slowest of the vector systems, but it produces crisp results on all printers, and the fonts look good on screen. It's biggest fault is that it only supports bitmapped GDOS and Speedo vector fonts.

VECTORS versus BITMAPS

Bitmap fonts are constructed from lots of single dots, like the images on your ST's screen. Expanding a bitmap font to produce a larger point size involves scaling up each dot, creating a blocky 'stepped' effect.

Vector fonts, on the other hand, are built up from 'paths' – each character is defined by mathematical descriptions of its lines, points and curves. When a vector font is enlarged, only the distance between the vector paths is expanded, producing an ultra-smooth result no matter how large you go.

Consequently, bitmap fonts require a separate file on disk for each point size, whereas a single file of mathematical information can produce vector fonts in any size on any printer. Overall then, vector fonts are smaller and of higher quality, and one file suffices for all screen and printer resolutions.

The above images show enlarged bitmap and vector characters on an high resolution screen, while the two below show them after they've been printed on a 360dpi 24-pin printer.



A vector font stays smooth, no matter how much you enlarge it.

Bitmap 18-point
 Bitmap 28-po
 Bitmap

A bitmap font loses resolution as it increases in size, though, producing nasty 'jaggies'.

Bitmap 18-point
 Bitmap 28-point
 Bitmap 48-point

Vector 10-point
 Vector 20-point
 Vector 40-point

Vector fonts produce much smoother printouts than bitmap fonts.

ST FORMAT

FONT Q&A

Q Please could you explain what the terms 'serif' and 'sans serif' mean?

A Serifs are the small cursive 'tails' at the tops and bottoms of letters. For example, the font we use for body copy, and for the big Qs and As, is a serif font.

The text you're reading now is printed in a sans serif typeface. Sans comes from the French for 'without', so sans serif means 'without serifs' – the characters have no cursive elements.

Palatino is a serif font
News Gothic is a sans serif font

Q Is it possible to use TrueType fonts from an Apple Macintosh or PC?

A PC TrueType fonts can be used on the ST, but Mac typefaces have a header at the beginning which causes problems. As far as we know, there's no conversion program available.

Q Please could you tell me whether it's possible to change the default screen font on my ST?

A Yes, using NVDI version 2 or 3. Both include the Mac-like Monaco font, which you can replace with any monospaced font at 8, 9, 12 and 20 point sizes. The replacement fonts must be in standard GDOS bitmap format.

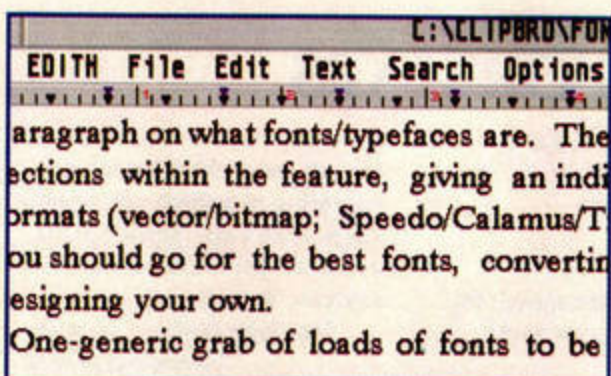
Q What exactly does monospaced mean?

A In a monospaced font – such as your ST's screen font – all the characters are the same width. Most Speedo and TrueType fonts aren't monospaced, so wide characters like 'W' are much wider than skinny characters like 'I'. You need to use a monospaced font for your screen fonts, as each letter must occupy the same amount of space.

www Courier is a
iiii monospaced font
www Palatino is not
iiii monospaced

Q What does dpi mean? Is a high dpi better than a low one?

A Dpi stands for Dots Per Inch, and it's a measure of the density of a font or printer image. The higher the dpi, the more dots are used in a given area, and the better your output looks. Most 24-pin printers operate at 360dpi, while some inkjets and laser printers offer resolutions as high as 600dpi.



The proprietary Speedo font format renders and prints very quickly, and the output is sharp and clear.

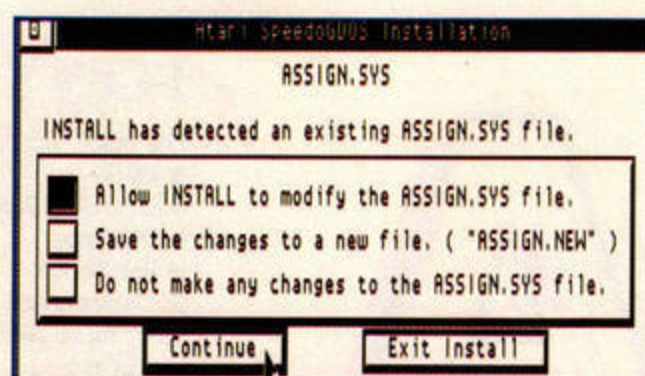
SpeedoGDOS 5

£59, Compo
☎ 01487 773582

Produced by a new programming team, SpeedoGDOS 5 offers the best font format support of all systems. In addition to traditional GDOS and Speedo vector fonts, it can cope with the more readily available TrueType and PostScript Type 1 formats. If you want the widest font support, Speedo 5 is the program to look at.

As an added bonus, Speedo 5 can hook directly into NVDI 2.5 to speed up your display.

As with NVDI 3 (see below), Speedo requires you to give careful consideration to



This simple program enables you to install SpeedoGDOS 5 painlessly, so you can get on with the business at hand.

the amount of memory devoted to font caching.

Speedo also enables you to set caches for bitmap fonts. If you're not using any old GDOS bitmaps at all, you can safely reduce the bitmap cache to zero, effectively freeing up some memory and speeding up your system.

NVDI 3

£49.95, System Solutions
☎ 0181 6933355

NVDI 3 adds a Speedo-compatible font scaling engine to the award-winning display accelerator, producing an extremely rapid and very desirable package. It lacks the PostScript support of Speedo 5,

but outperforms it in the speed department. Printouts are gorgeous, and it is certainly the best option if your budget allows.

If you're using Speedo and TrueType fonts with NVDI 3, try playing around with the memory cache. Using either the XControl CPX or the Accessory provided with NVDI itself, just adjust the cache value so it's high enough to cope with multiple fonts, but not so high as to waste your ST's memory.

On a 1MByte STE, for example, a setting of 250K will reduce the disk access time every time you decide to use a new font.

CALAMUS FONTS

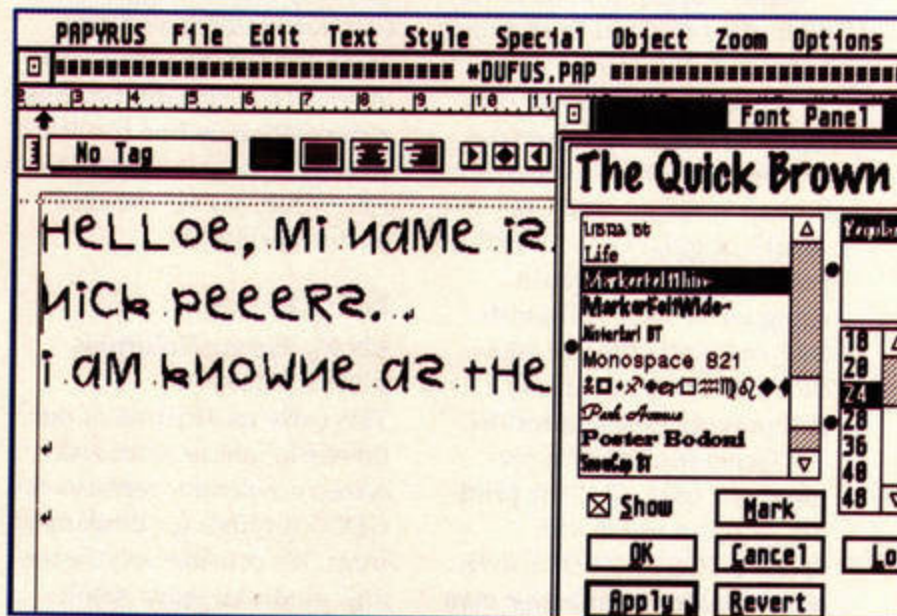
DMC Publishing, creator of the hugely successful DTP program Calamus, was the first company to produce a vector font standard for the ST. Like other vector formats, it requires one file per font, and the file format is available to programmers.

Today there are thousands of Calamus fonts, even though the only desktop publishing program which accepts them is Calamus itself. Numerous PD utilities, and some commercial programs – notably APEX Media – can also use the Calamus format.

Note also that Calamus can't use any other font format – you're stuck with the CFN fonts.



Popular DTP package Calamus uses its own vector font format.



NVDI 3's TrueType support enables you to use some excellent fonts – and some bizarre ones. It's odd how this First Grader font mirrors Nick's handwriting so well.

JARGON BUSTERS

Bitstream: A major font-design house. Bitstream is responsible for the Speedo font format used by SpeedoGDOS and NVDI 3.

Kerning: The spacing between characters. A badly kerned font will often have large gaps between some letter pairs. This is a sign of sloppy design.

Font handler: The software which sits in your Auto folder and interacts with your word processor or DTP software, enabling you to both use the fonts on the screen and send them to the printer.

NVDI 3: A German alternative to

SpeedoGDOS. NVDI 3 is fully compatible with Speedo, but is much faster. If a program supports Speedo, you can use NVDI 3 instead.

Point: A font measurement. A point is 1/72nd of an inch, so a 72-point font should print out at exactly an inch high. Speedo and NVDI both offer a maximum size of 144 point.

SpeedoGDOS: A vector font handler, originally produced by Atari to replace the original GDOS. Version 4 uses Speedo fonts, while 5 can use Speedo, TrueType and PostScript fonts.

Font compilations

Make your documents stand out with stylish or unusual fonts. Here are six of the best collections.

There are thousands of fonts out there, both commercial and PD, so there's no excuse for sticking with boring old Monaco.

Let's deal with the freebies and cheapies first. There are masses of shareware and PD fonts available for little more than the price of a disk. You won't, of course, find any shareware Speedo fonts (see the Top Secret panel for the reason why), but Calamus users have a positively silly quantity of freeware fonts to play with. These are a legacy of the capable CFN font editors kicking around since the early days.

Free and true

Because TrueType fonts come from the big PC and Mac platforms, there are plenty of them about, too. If you've got access to a CD-ROM drive, the telephone directory-like objects which pass for PC mags often include TrueType fonts on their cover-mounted CDs. PC PD libraries will have a wealth of fonts too, but most will only supply high-density disks, so you'll need an appropriate drive. Some ST libraries carry TrueType faces as well - Floppyshop has a particularly good range.

GDOS bitmaps aren't as well catered for, the exception to the rule being the FaST Club. As well as a selection in its PD catalogue, it carries a range of very cheap semi-commercial disks called FontPacs, which contain hand-crafted GDOS fonts at various sizes. Most are optimised for high-resolution printers.

Bear in mind, however, that PD fonts are often of lesser quality than commercial offerings. Some may have a restricted character set - a lot of Calamus fonts are lower or upper case only, for example. Many also suffer from the annoying absence of the

pound symbol (£).

They may also be poorly designed - again, the ready availability of editors for Calamus types has led to some shoddy conversions. Check out any PD fonts carefully before you use them for anything serious.

Commercial fonts are always professionally designed. Prices can be anything from affordable to astronomical - we saw a CD containing Bitstream's complete type library advertised for a whopping £5,000. Fonts of all types are available commercially, and the CD solution gives you a massive collection in one fell swoop.

The Bitstream 500 Font CD

£49.95, System Solutions
 ☎ 0181 6933355

This excellent collection provides 500 fonts in both TrueType and PostScript Type

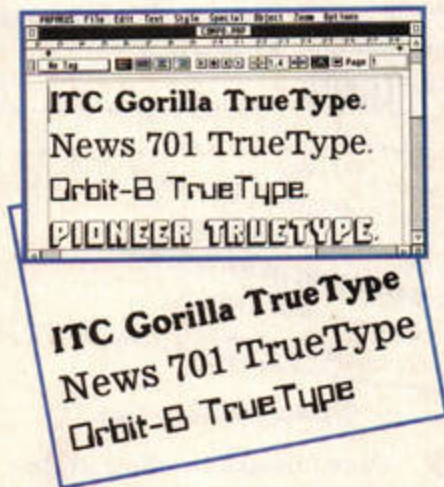
TOP SECRET

Some font formats are open standards, while others are heavily guarded and the exact details known only to the font manufacturers. The companies say this prevents amateurs from releasing badly constructed fonts, but it does limit the availability of fonts.

Bitstream's Speedo format is protected, so you can't find editing or conversion software for the ST. Speedo fonts only come from Bitstream, whereas TrueType fonts are available both commercially and as PD or shareware, so the choice is considerably wider.

1 format. The fonts are all superbly put together, and can be used with both Speedo 5 and NVDI 3. A handy poster gives you an example of each typeface, and helps you locate them on the CD-ROM.

The font styles range from crisp body fonts useful for letters, essays or other formal work through to more esoteric headline styles useful for eye-catching banners and notices. These high-quality Bitstream fonts form a superb starter kit, and you could easily find



The Bitstream 500 Font CD

you'll never need to buy another font again.

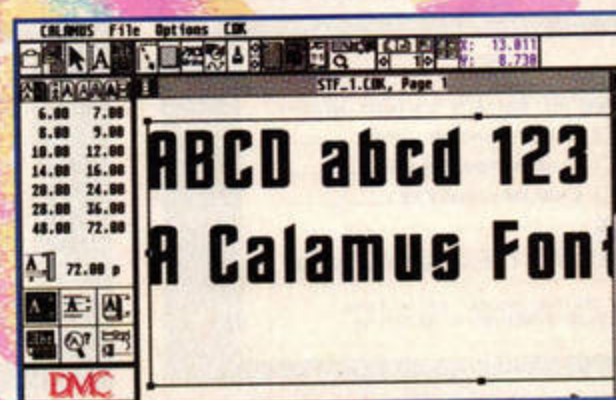
OxieWare Calamus Fonts

£99, JCA Europe
 ☎ 01734 452416

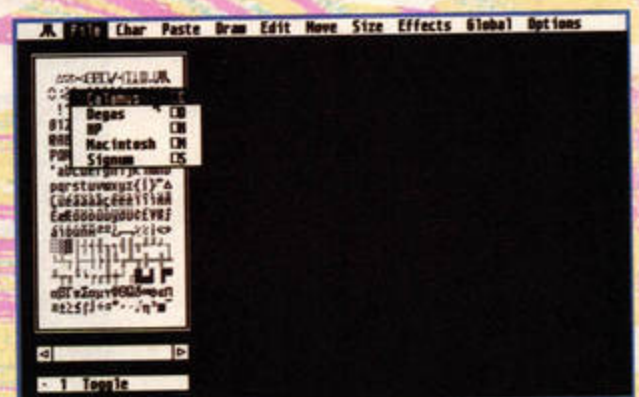
This extensive set of high-quality Calamus fonts comes on 16 floppy disks. Almost every font has a full character set, including the pound symbol, and they have been carefully constructed to print well even at smaller point sizes. Buy the complete set, or purchase the individual discs at £7.50 each.

The OxieWare font collection includes a few formal typefaces nestling among the

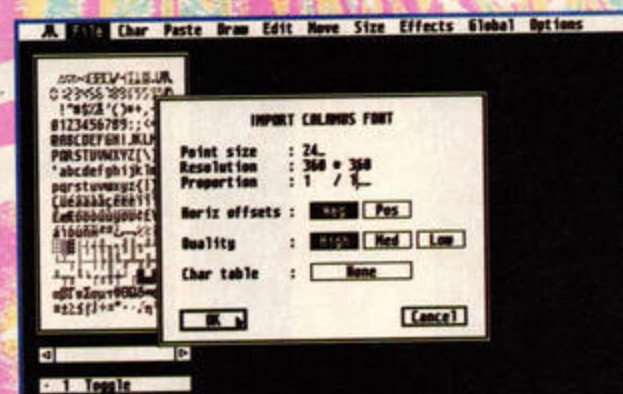
CONVERSION: CALAMUS TO GDOS



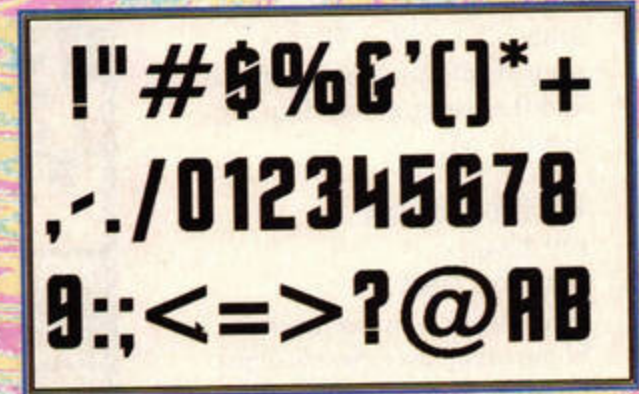
1 Here's the font to be converted, still in Calamus format. It's Star Trek TV Regular, oddly enough.



2 The program you need to convert it is FontKit Plus 4 from the FaST Club. It can handle other formats, too.



3 Tell FP4 what size your new bitmap font will be, and specify the resolution. Use 360dpi for a 24-pin printer.



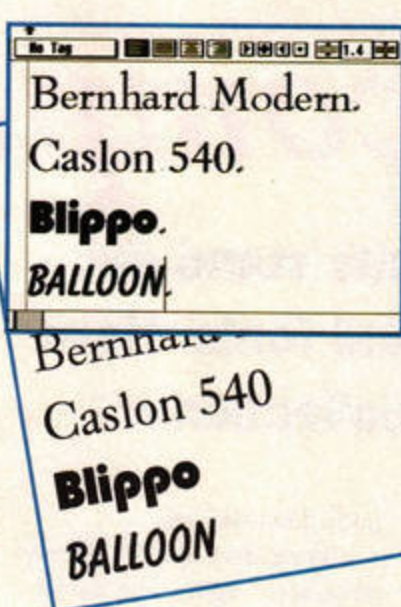
4 Use FP4's 'Show Font' option to display the bitmap. You'll need a screen font at the same point size, too.



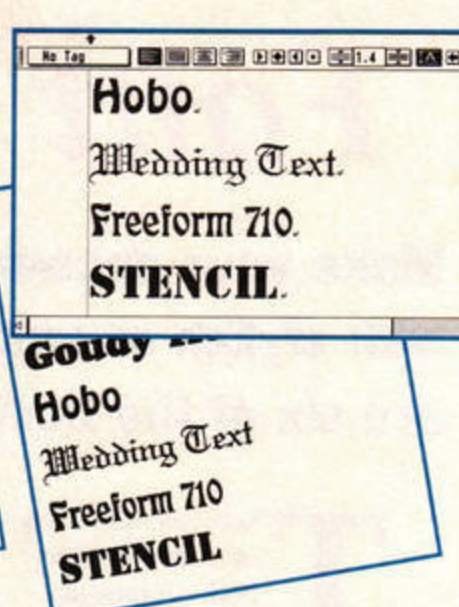
Oxieware Calamus Fonts.



Whiteline Gamma CD



Office Pack.



Speedo Gold Pack.

more unusual headline or display fonts, so it's suitable for most purposes. It scored 89% in issue 75, and is well worth the cash.

Whiteline Alpha CD-ROM

£30, System Solutions
☎ 0181 6933355

Whiteline Alpha is stuffed to the gills with general shareware programs, but is included here thanks to the presence of over 300 GDOS and 500-plus Calamus fonts.

None of the fonts are commercial offerings, and the Calamus fonts in particular can suffer from the half-finished font syndrome. Still, every style from serious to frivolous is covered, and the CD costs a lot less than downloading 800 fonts from a bulletin board.

Whiteline Gamma CD-ROM

£30, System Solutions
☎ 0181 6933355

Delta Labs' second offering again contains masses of shareware and PD software, plus over 100MByte of fonts, mostly in Calamus format.

As before, the fonts are all freeware, so you take your chances as to their quality and completeness. Some look like conversions from other formats, and you might need to tidy them up with *Fonty* or some other editor. There's some duplication between this and the *Alpha*, so we'd go for just this one.

Office Pack

£49, Compo
☎ 01487 773582

A font pack is aimed at the home office user, *Speedo Office* presents 26 fonts in TrueType format. Some fonts come in several variations, so the disks

contain 95 fonts in total.

All the fonts are well designed, and they're ideal for serious work. You also get one or two headline fonts for the times when you need something a little less strict in style. *Speedo Office* is an excellent pack for *Speedo 5* and *NVDI 3*

users, but the *Bitstream* CD-ROM is better value.

Speedo Gold Pack

£49, Compo
☎ 01487 773582

The *Gold Pack* is designed for general DTP use, and supplies some more unusual fonts for

ads, greeting cards and the like. It contains 41 TrueType fonts in over 80 variations.

Again, it's not as good value as a CD-ROM, but if you're going positively font-happy, Compo sells the *Office* and *Gold* packs together for the reduced price of £89. *stf*

CONSTRUCTION KITS

With the exception of *Speedo* and TrueType, you can buy a font convertor or editor for all the major font types. Calamus users are well served with the FaST Club's superb *Fonty* (£11.95, ☎ 0115 9455250), a font conversion and editing suite that runs on all STs.

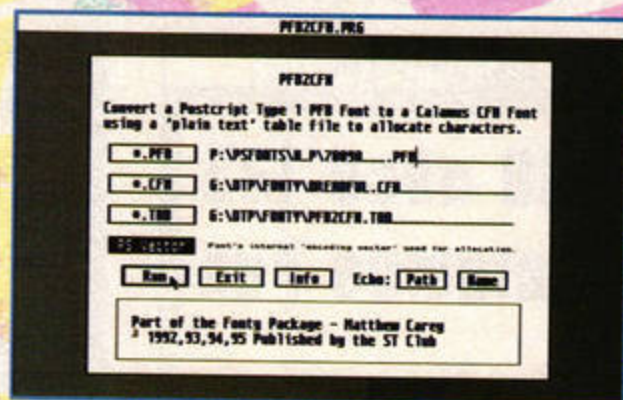
Fonty can import P13 images and existing GDOS bitmap fonts

to use as tracing templates, convert PostScript fonts, and carry out all necessary editing and cleaning up on the resulting Calamus font. Turn to page 29 for a full review of the very latest upgraded version.

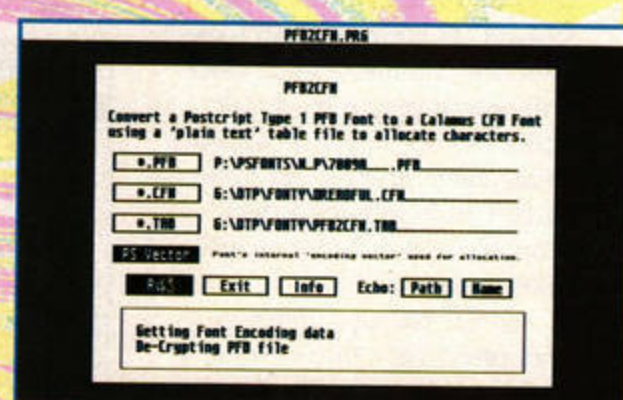
There's only one real contender for manipulating bitmap fonts – FaST Club's *Fontkit Plus 4* (£24.95). An

efficient editor, it can also import and convert Calamus, Signum, Mac bitmap and HP DeskJet fonts, as well as many of the downloadable fonts provided with specific printers. It runs on all Ataris, but 1MByte is recommended for serious work. *Fontkit Plus 4* also includes lots of useful font utilities and some excellent documentation.

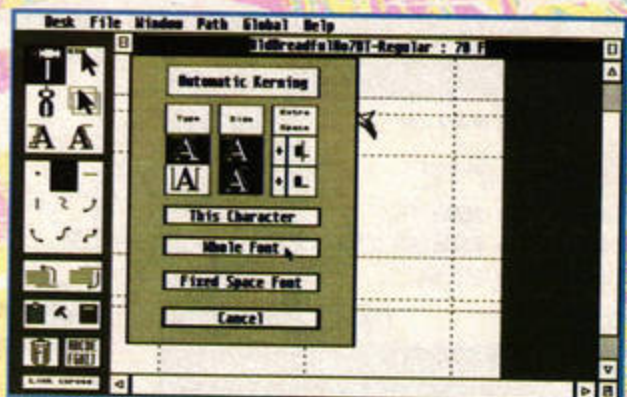
POSTSCRIPT TO CALAMUS



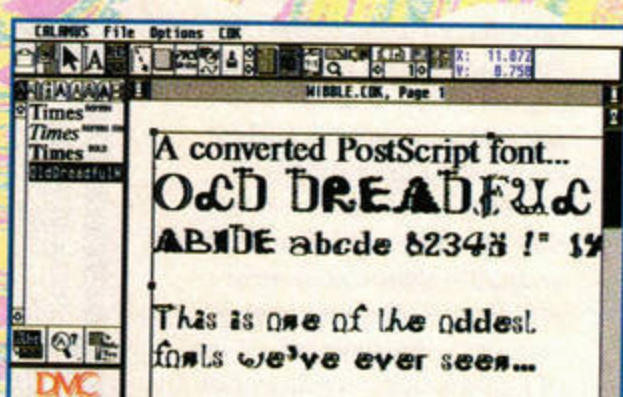
1 *Fonty* comes with a separate program for converting PostScript Type 1 vector fonts to Calamus CFN ones.



2 The convertor takes 30 to 40 seconds to read a file off a CD-ROM and convert it to Calamus format.



3 The converted font needs tidying up and kerning. Fortunately *Fonty* can do it all automatically.

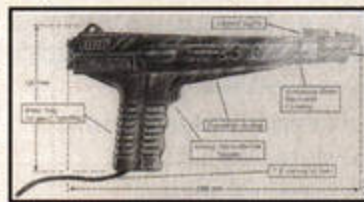


4 The finished result in Calamus – Old Dreadful is definitely the weirdest font we've ever seen.

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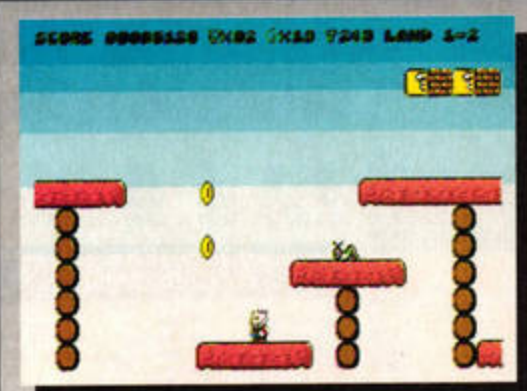


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PD & Shareware

Holy budget software, Batman! Dynamic reviewers Boy Wonder Peers and Caped Crusader Charlton take on all the latest PD.

Tautology 2

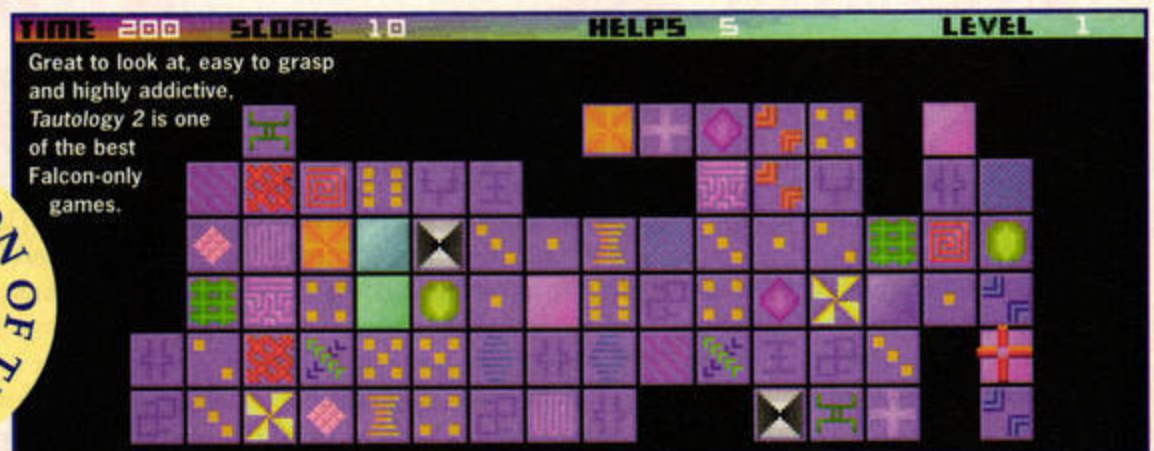
AdLib PD
Falcon only

Tautology 2 is a puzzler loosely based on an old Irem coin-op machine you've probably never seen. However, if you've played *Shanghai* or *Drachen*, you'll know what you're in for.

Tautology presents you with a board of tiles, each of which has a picture on the top.

The idea is to remove tiles by matching up pairs. In

order to do this you must connect the tiles with no more than three horizontal or vertical



lines, but without crossing any other tiles. It sounds complicated, but anyone who's played *Match It* (STF 68, 78%) will recognise the format. Once you've cleared the board, you're on to the next level.

Like that classic puzzler *Tetris*, *Tautology* is based on a simple premise and is addictive as hell. You're up against a tight time limit for each board,

although thankfully you can turn the clock off for practice games. You can also press [Help] when you're stuck, but only a limited number of helps are available.

Tautology 2 takes a simple idea and gives it the Falcon treatment, with crisply-drawn TrueColour graphics and stereo music. The music is heavy rave stuff, and although

it builds the tension, it gets on your wick when you're losing.

Tautology is shareware, and the suggested fee is a mere £3, although sending £5 or more gets you the full assembly language source, too. Even if you're not into puzzlers, you should pick this up and treat your machine to a great Falcon game. *Frank Charlton*

STF RATING: 93%

Egale 2.7

Wonder Disk 76, or try HENSA
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Egale is an incredibly useful program that is best known for its ability to list the differences between two files. If the program you've copied refuses to run, or you've updated a document but can't find

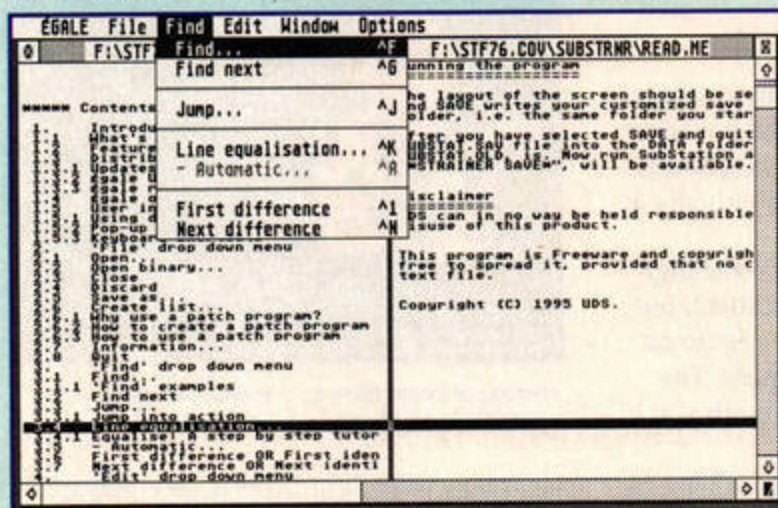
the changes, *Egale* can compare the two and locate the differences.

Simply load in the files one at a time, and

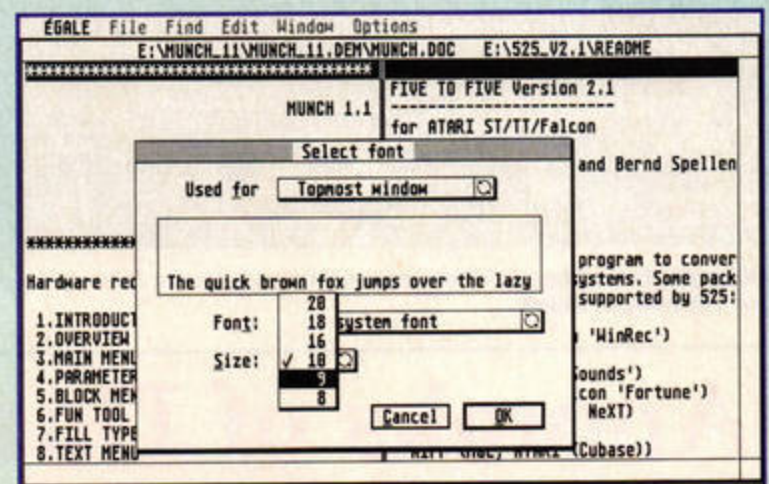
Egale will tell you whether they're identical. It then enables you to view them side-by-side.

You can search for key phrases or words, highlight differences between the files, and edit either file.

The registered version offers additional features, including the ability to create a simple patch program from two different versions of the same program. This is a handy feature for programmers who regularly update their software, because rather than distributing the whole



Egale makes finding discrepancies and differences between files really easy.



Egale is one classy piece of software. It has all the configuration options we've come to expect from shareware.

program, you can just send out the patch. Users then simply run it, and, hey presto, suddenly they have the updated version.

Registering also gives you access to Interactive's UK support and update service, plus the ability to search for similarities between files and save them in sections. *Egale* is a tool that programmers cannot do without and subscribers can check it out on this month's Wonder Disk. *Nick Peers*

STF RATING: 90%

Xlator 2.0

Merlin PD, Disk
All Ataris, 1MByte required

Xlator enables you to translate text files, and comes complete with French-English and German-English dictionaries. It is probably the most comprehensive translation program available for the Atari.



Xlator is easy to set up and use, but the major test for any translation program is the size of its dictionaries. Xlator's French dictionary is a reasonable 60K, but at nearly 600K the German dictionary is far superior.

Multiple translations are available, so one word in German could generate any number of appropriate words in English. Although the grammar of the translated text isn't perfect, the results are usually good enough to enable you to work out what's going on.

Any words unrecognised by the program are stored in a separate file for you to translate manually, and you can add new words to the dictionaries as you go along. English text can be translated back into either German or French, and all the utilities have been combined into one easy-to-use program. Xlator is currently the definitive translation program for the ST, and at only £5 to register, it's good value too. Nick Peers

STF RATING: 86%

Demon 2.2

Floppyshop, Disk FWG42c
All Ataris

The original *Demon* was just a poor man's *Dungeon Master* with a viewscreen so tiny you needed magnifying glass to see it; thankfully, version 2.2 takes a different approach. Although it's still a role-playing game, *Demon 2.2* employs a side-on view of your environment and a tiny character which you move around

by clicking on directional icons.

All the usual statistics are there, and you can interact with other characters as well as bash them around the head. It's standard RPG fare, let down by the tiny graphics and the lack of keyboard shortcuts. Although it's quite an improvement over the original, it won't appeal to those of you who hate swords and sorcery adventures. Nick Peers

STF RATING: 71%



Bashing ghosts over the head is one way to progress in *Demon 2*. If only the graphics were a little larger, though...

Morphing demo

Floppyshop, Disk DEM5215c
All STs (TOS 2.06 or Falcon with STOSFix)

No surprises here. As you may have guessed from the name, this disk contains a selection of images being morphed into one another. The best sequences include a tiger morphing into a lion and a cowboy morphing into a miner – mainly because the shapes are quite similar in both cases.

The Morphing demo provides a reasonable intro-

duction to the subject matter, but the morphs themselves are a little on the jagged side, and more insight into the techniques involved, such as being able to view the various steps a frame at a time, would have increased its value no end. Nick Peers

STF RATING: 59%



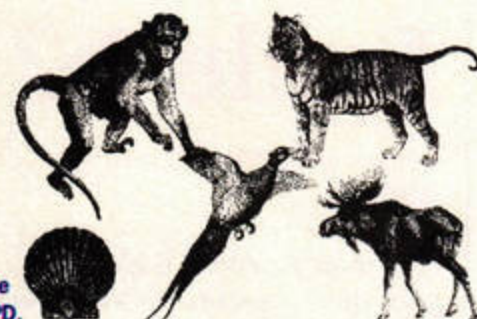
Animal clip-art

STellar PD, Disk CLIP9
All Ataris

The latest clip-art collection from STellar features 24 large, superbly drawn IMG files. The range of animals is a little strange: a scorpion, camel, goldfish and ostrich rub shoulders with two turkeys, a skunk and no less than six 'cute' bunnies. Nevertheless, if you're

after one of these creatures, this disk should more than meet your needs. Nick Peers

STF RATING: 76%



All these IMG files are included in the latest clip-art collection from STellar PD.

Anoraks of Doom

The Computer Dungeon,
All colour Ataris

In the role-playing adventure *Anoraks of Doom* you control four characters, to which you assign a name, sex and picture, and then dump in the middle of a deserted town with the 'simple' job of clearing it up. In short, it's very much in the style of those golden oldie adventure games, *The Bard's Tale* and *Pools of Radiance*.

You forage around looking for baddies to beat up, thus gaining gold and experience, which enable you to improve your

skills and equipment. Rather than forcing a character to declare him or herself a warrior, wizard or bricklayer at the very beginning, you can mold each character individually as his or her skills develop.

The graphics vary in quality – the digitised and scanned images are excellent, but the hand-drawn examples leave a lot to be desired (as the author freely admits). The music gets a bit tedious too, although you can turn it down.

Although wandering around looking for monsters to bash can get a little monotonous, the keyboard shortcuts and general



Anoraks of Doom features a simple but effective combat screen. Blast it or hit it – marvellous.

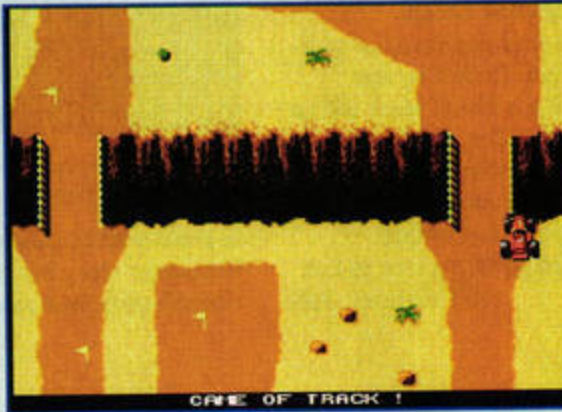
feel make *Anoraks of Doom* a very playable game. Nick Peers

STF RATING: 83%

Racer and Slug Blast

STellar PD, Disk DEMO1
All STs (except those with TOS 2.06)
Not Falcon compatible

Part of the *Sprite Works* demo collection, *Racer* is a simple but effective overhead racing game. You must steer your car carefully to avoid wasting fuel, pick up as many flags as you can in order to get a maximum bonus and collect fuel pods to boost your flagging petrol reserves. To keep things interest-



Vroom, vroom! *Racer* is a good demonstration of the capabilities of *Sprite Works*, but as a game it needs further development.

ing, the game also features several tracks for you to throttle your way around.

Racer was written to demonstrate *Sprite Works*' smooth vertical-scrolling routine, and as a demo it is a complete success. As a game, though, it's limited.

Slug Blast, on the other hand, is much closer in style to *Sparky's World*, the game currently being developed by



Pest control. Why not? Because if you're as bad as Nick at it, you wouldn't last long in this particular vocation.

Ninth Wave Software. It's a simple 'see-it-shoot-it' game, featuring large well-drawn and well-animated sprites, along with some excellent sound effects. *Nick Peers*

**STF RATING: 50% (Racer)
70% (Slug Blast)**

Switch

Merlin, Disk MPD2135
Falcon only, joystick required

Switch is a slick arcade puzzler for the Falcon. Produced by French coders Megabusters, it takes full advantage of the Falcon's advanced sound and graphics capabilities.

The game traps you in the Dungeons of Samos, forcing you to traverse the levels to escape. Unfortunately, the only way out is through the Labyrinth of Switches...

Each level consists of a board of tiles, viewed from above. One-way tiles, which are marked with coloured arrows, only allow you to

move in the direction the arrow is pointing. The arrows' directions can be changed by operating switches and buttons, but careful thought is needed to trip the right switches and reach the exit.

You must also collect colour-coded keys to open locks, and there are tiles which vanish when you walk over them, teleporters to jump gaps and a very strict time limit for each level. The result is an extremely addictive and infuriating game which will last you ages. Thankfully, level codes are provided to continue a game later.

The graphics and sound are superb, with each level having its own Manga artwork backdrop. Great music thumps away steadily as you struggle to find your way out.

Switch is highly polished and an excellent game, vying closely with *Tautology 2* for Game of the Month. If you're into challenging puzzle games, *Switch* is certainly for you. *Frank Charlton*

STF RATING: 92%



A slick and solid-sounding game, *Switch* is devilish fun, and only just missed our Game of the Month award.

Pixikrome

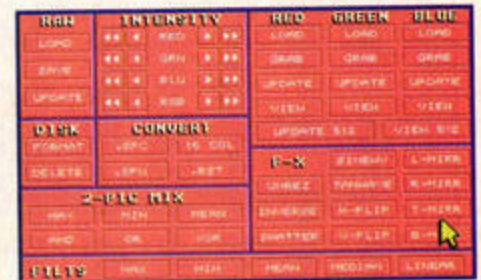
Floppyshop, Disk Art 5110
All Ataris, 1MByte required

Pixikrome is a freeware utility for processing and manipulating 320x200 images in 24-bit TrueColour. Brought to you by Obnokshus Software, it runs on any Atari with a minimum of 1MByte of memory.

Pixikrome can load in the 16-million-colour RAW format, as well as *Spectrum 512* and *NeoChrome Master* rastered images, plus all standard ST 16-colour formats. It can also interface with Rombo's VIDIST video digitiser, but only the old version (with separate RGB splitter) is supported.

Pixikrome is written in STOS, and the main bugbear is that you can't display 24-bit pictures due to the ST's limitations. You can preview them on the screen though, using a quarter-sized 512-colour option. Images are handled internally at 24-bit precision, and saved as such.

The image processing tools are quite advanced – as well as



Pixikrome's main menu offers a host of image processing options.

enabling you to adjust brightness, colour intensity and contrast, *Pixikrome* has tools to warp and distort pictures. You can even blend two images together effectively. The Special FX menu offers clever effects such as shattering images and bending them across sine waves. A good set of filters is also provided, and *Pixikrome* cleans up noisy or badly coloured images very well, too.

Pixikrome is an excellent tool for exploring the world of 24-bit image processing, even on a 16-colour ST. It's well written and thoroughly researched, and well worth the price of a disk. *Frank Charlton*

STF RATING: 80%

Chain ST

Merlin PD, MPD2317
All Ataris (TOS versions before 1.06 require AUTOGEN.PRGR)

Chain ST enables you to configure up to ten Auto slots for GEM programs, rather than just one. The ten slots are then called in turn when you

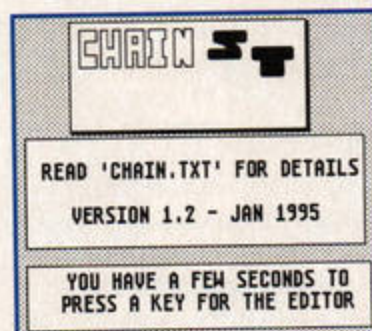
first boot-up with CHAIN.PRGR inside your Auto folder.

The program also enables you to configure your system to boot up at either 50Hz or 60Hz, and with the keyclick, key repeat and bell turned on or off. A RAM disk option enables you to configure *Chain ST* to automatically create a

RAM disk on boot-up and copy certain files into it. The editor program is easy to get around and makes the whole process extremely straightforward.

Chain ST only accepts PRG, TOS or TTP files, so it cannot be configured to run, for example, the shell program for *LHarc*. This is a GEM restriction, and no fault of the program. Further restrictions include only being able to save one DAT file to each disk. Nevertheless *Chain ST* is a useful, if not indispensable, program. *Nick Peers*

STF RATING: 71%



Chain ST was coded by Tony Harris, who wrote *Rescue ST* (see last month's Cover Disk).

DISK MAGAZINES

FOG UPDATE 9

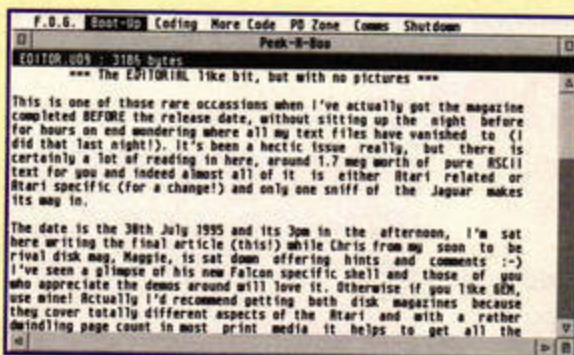
Falcon Owner's Group

Falcon only, hard drive required

At long last, the ninth issue of the Falcon Owner's Group diskzine has arrived. It's a bit of a mixed bag - articles range from press releases about Positive Image and the Zip drives through to some very good programming stuff, including a very technical section on the DSP. Due to the time it took to arrive, a few of the articles are already out of date - the reference to Mark Smith's WWW pages is wrong, for example.

The shell looks a little tired, especially when compared to the Maggie diskmag's new O30 version, but is fast and easy to use. There's a lot to read, and Update 9 even includes an encrypted copy of SpeedoGDOS 4. Falcon owners who didn't get it free of charge can contact FOG for the password to decrypt it. Overall, a good read, let down slightly by the age of some of the text.

STF RATING: 75%



FOG Update 9: the shell isn't flashy, but it's simple to use.

MAGGIE 18

Ad.Lib PD

All Ataris

Diskmags often don't reach their first birthday, let alone their fifth, but that's what Maggie has just done. It's doing very well under the current British editorial team of CiH and Felice.

Maggie 18 marks the first appearance of a separate Falcon version, too. Coded by the talented Reservoir Gods, it's a visual feast with a neat and fast control system. The articles are well written, informative and often amusing, and both the ST and Falcon reader shells are easy to use. If the authors maintain this standard, Maggie may well have another five years in her.

STF RATING: 79%

NOVADISK 8

Send £2 plus SAE to: James Bird, 91 Elm Tree

Ave, Kilburn, Belper, Derby DE56 0NN

All Ataris (except those with TOS 2.06)

Not Falcon compatible

Novadisk 8 is a bit of a Babylon 5 special, including an interview with the show's creator plus all the latest news. This issue's pictures are all 512-colour, Babylon 5-related ones, although some are of dubious quality.

Trek fans can delight in some articles on Deep Space Nine and Voyager, including the latest episode guides. There's also the



Another issue of the impressive Novadisk takes flight, and the rivalry between it and Warp continues to hot up.

second part of a Next Generation/Quantum Leap crossover story but, on the whole, issue 8 doesn't quite match up to issue 6 (STF 71, 92%).

STF RATING: 85%

The Third Dimension issue 15

Floppyshop, Disk DMG5269c

All Ataris

Another issue of the friendly and informative

magazine for users of Superscape (3D Construction Kit) is now available, complete with the usual heady mix of articles and example files. There's no text reader for the articles, which is a bit of a let-down, but the example files enable users to share ideas and techniques. Highly recommended.

STF RATING: 83%



Just one of the many example files provided in the latest issue of The Third Dimension.

Avena/DC demo

Floppyshop, Disk F5252

Falcon RGB only, hard drive required

This demo won second place at the recent Fried Bits 3 coding convention, and while it's not terribly original or entertaining, as a showcase of the

Falcon's abilities it's fairly impressive. A crisp stereo MOD soundtrack plays continuously as the demo moves through some impressive screens, including a rapid square tunnel, a melting and shifting Avena logo, and a smooth 3D flight across a vec-

tor landscape, culminating with your ship blowing the head off a giant robot. By far the best effects are the water ripples and wave distortions, including a picture of the programmer's girlfriend which ripples with stunning speed and fluidity.

The end message states that none of the effects use the DSP - if that's the case, we'd



Catch the waves with Avena/DC. love to see one of their demos that does. Frank Charlton

STF RATING: 73%

Super Hacker

LAPD, Disk L111 (£3.00)

All Ataris, low or medium resolution

Super Hacker enables you to search program files and extract or replace any pictures they contain. You simply load the file or disk sectors into memory, then manually search

through it/them to locate the pictures. Once you've found and fine-tuned a piccie, you can either save it to disk or insert another Degas or Neochrome picture in its place.

Finding the pictures is fairly simple, but displaying them with the right palette can be rather problematic. The interface could be a little more helpful, too - it's very easy to make a mistake and be forced back to the main menu to start again.

You should also bear in mind that it is illegal to use Super Hacker to redistribute copyright images, making it an amusing, if not especially useful, program. Nick Peers

STF RATING: 61%



Super Hacker makes it easy to extract pictures from program files. However, if they haven't been created with the standard Degas or Neochrome palette, you're in trouble.

PD & SHAREWARE ROUND-UP

You know the drill: if it was reviewed in the last four months and scored 80% or more, it's listed here.

TITLE	PD LIBRARY	TYPE	ISSUE	RATING
ST Guide 1.3	HENSA	Hypertext	73	95%
GEMBench 4.03	HENSA	Benchmark utility	72	93%
Warp 2	Keefy's PD	Disk magazine	73	92%
Skyduel	Floppyshop	Game	75	92%
MultCAD	Floppyshop	CAD package	72	91%
Bombzai	Comp Dungeon	Game	73	90%
Freedom 1.14	HENSA	File selector	71/74	90%
Power 26	Power PD	Disk magazine	72	89%
Backward 3	Merlin PD	ST emulator	75	88%
The Lost Blubb	Floppyshop	Falcon demo	75	88%
Asteroidia	LAPD	Game	72	86%
Thing 0.54E	Floppyshop	Desktop	74	86%
KIVI 1.41	HENSA	Off-line reader	74	85%
OASIS	Demon	Internet shell	73	84%
Square Off	LAPD	Game	73	84%
525 v2.1	HENSA	Sample converter	73	84%
ESSCode 6.4	HENSA	File converter	74	83%
Cartoon Capers	Power PD	Game	74	82%
Stone Cold Sober	Floppyshop	Game	72	81%
Counter Atak	Floppyshop	Game	75	80%

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COOL WORLD	OPERATION FORMULIZ	SPORTING TRIANGLES	W.W.F.
CYBERBALL	OUTRUN	ST DRAGON	W.W.F. 2
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ST Answers

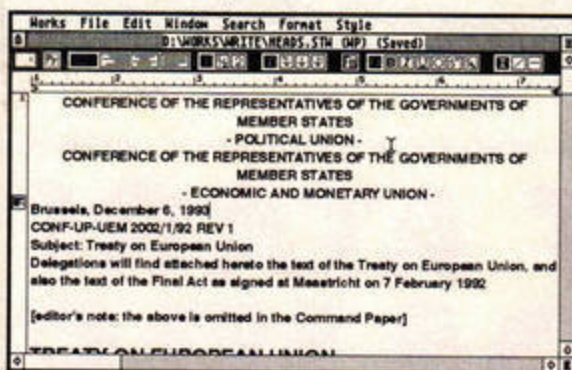
Striding purposefully across the barren plains, ST technical guru Clive Parker is ready to tackle your troublesome problems once more. Probably.



THAT'S RICH

Q I use an Epson PC to do my course work, using Microsoft Works. I know that I can transfer ASCII files from my ST to the Microsoft program on a PC-formatted disk. The computer technician has told me that if I save my work at home in RTF format then I can load the files into the PC software correctly formatted. Is there a program to do this on my STE?
Martin Jones, Slough

A To produce RTF (rich text format) files on an ST, you must use a word



AtariWorks is a very versatile document processor, and it can save documents in RTF format.

processor that saves text in this format. Fortunately, AtariWorks from HiSoft/AVR saves files in RTF format; however, it costs £99.95 and you need at least 1MByte of memory to use it on your ST. Give HiSoft/AVR a call on 01525 718181 for more information on AtariWorks.

SPOOL? WHO HE?

Q ST Writer Elite keeps asking me if I wish to print to a printer spooler. What is a printer spooler, and what does it do? Is there any advantage in using one when printing?
Garry Pring, Wellington

A A printer spooler sets aside an area of memory to store a file while it is being printed. This area is also known as the print buffer. The advantage of this is that once the file has been transferred to the print spooler, you are

returned to the editing screen of your word processor. This means you can start work on something else while the file is being printed. You can get printer spoolers from any decent PD library – turn to the Directory (page 71) for full contact details.

AT THE ROOT

Q The instructions for some of the ST FORMAT Cover Disks tell you to copy the files in a folder to the root directory of a blank disk. For example, Baby Jo (Cover Disk 30) has to be copied on to a blank disk.

I am a beginner, and I do not know what this means or how to do it. Could you describe the procedure? The older disks don't have the Cover Disk Menu program on them to make things easier.
John Poulter, Weymouth

A Copying to the root directory means that the files are not inside a folder on the destination disk. If

they are in the right place, you should be able to see them as soon as you click on the icon to open a floppy drive window.

Remember to use the Cover Disk Backup program supplied on all ST FORMAT Cover Disks to make copies of all your disks, and always use a back-up copy, not the original Cover Disk.

Here's how you copy to the root directory using an ST with only one disk drive.

1 Format a blank disk and mark it Disk B. Go to the Options menu of the Desktop and select the Preferences command. Now select the Medium Resolution box and press [Return]. Get the back-up copy of your Baby Jo Cover Disk, mark it as Disk A, and put it into the drive.

2 Double-click on the Drive A icon so the disk drive window opens and you can see the folders. Now double-click on the BABY_JO folder so that it opens and you can see the files inside it. There should be 37 files in the folder totalling 193471 bytes.

3 Click on the box at the top right corner of the window. The

WHERE CAN I PUT MY NEW DESK?

I'm not sure how to boot up the new Desktop in NeoDesk 3? Do I have to put it in an Auto folder? If so, which files do I copy into it?
John Barnsworth, Glasgow

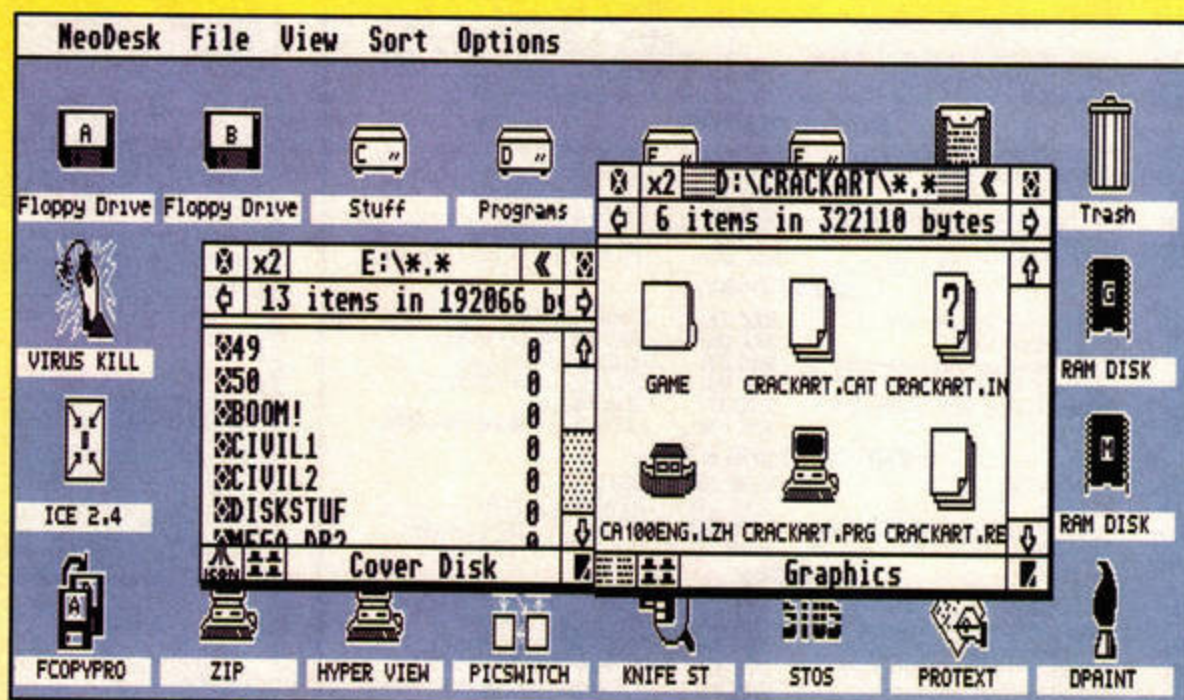
stf: To set up NeoDesk 3 on a floppy-based STE system, you copy the file called NEOLOAD.PRG into the Auto folder of a disk. Now copy all of the NeoDesk Accessories and their RSC files to the root directory of the disk (in other words, don't put them inside a folder). All the other files should be in a folder called NEODESK3. Start your ST with this disk in the drive and NeoDesk will automatically load and run.

Is there any way to run NeoDesk 3 without having to use a hard drive?
Michael Kahn, Bradford

stf: Yes, both NeoDesk 3 and NeoDesk 4 can be run from floppy disk, although a twin-drive setup is highly recommended. If you have more than 512K of RAM installed in your ST you

can make NeoDesk memory resident. That means the program loads into memory, so you

don't have to keep swapping disks to put the NeoDesk boot disk back into the drive.



You can run any version of Neodesk from a floppy drive, although it runs more efficiently on a hard drive.

DRIVING ME TO DISTRACTION

I am going to buy a second drive for my ST. How do I install the new drive on to the Desktop?
Steve Drummond, Warrington

stf: Because of the way the Atari operating system works, GEM always shows two disk drive icons on the Desktop – even if there is only one floppy disk drive connected.

To install the disk drive, you simply plug it into the floppy drive port on the rear of your ST. Once the drive is connected, it is accessed by clicking on the Drive B icon on the Desktop and a Drive B window opens. The operating system of your ST automatically detects the second drive and will direct disk accesses to it.

I have a 520STE and I am thinking of getting a 1MByte external floppy drive. If I do, will I be

able to play 1MByte games with it?
David Brown, Newton Abbot

stf: No. Games marked "1MByte only" require 1MByte of memory installed, not a double-sided (1MByte) disk drive. Your STE already has an internal double-sided disk drive, while a 1MByte memory upgrade is now very cheap (under £10).

All STs automatically display two disk drive icons on the screen, even if you only have one disk drive.



window expands to fill the screen. Use the small box in the bottom right corner to make the window slightly narrower, and move it slightly to the right, so that you can see both the Drive A and Drive B icons.

4 Move the pointer to the top left of the window just above the first file. Press the left mouse button and, keeping it pressed, drag a box over all the files in the window (there should be 28), then release the button. All the files should turn black. This means that they are selected.

5 Move the mouse pointer over the file nearest the Drive B icon and press and hold down the left mouse button. Now move the pointer over to the Drive B icon, dragging the outline of the files, then release the button. Your ST starts copying the files. It will tell you when to swap disks – just follow the on-screen instructions.

6 Once all the files have been copied to Disk B, click on the long bar running down the right of the screen. All the files will scroll up. Drag a box over the bottom two rows of files and drag them to the Drive B icon in the same way you did before. Once again, follow the on-screen prompts to complete the transfer of the 37 files.

DISK SAFETY

Q I am new to the STE, and I have a few questions that I hope you can help me with.

I keep my floppy disks on a small desk with the colour TV positioned about a foot away from them. Is this far enough away, or am I risking wiping my disks clean by keeping them too close? What is a safe distance?

My word processor's

working disk started to produce gibberish, but fortunately I had a backup copy of everything. I formatted the disk and copied everything back on to it and it seems to be fine now. Is this disk likely to cause me problems again?

Sandra Wilton, Ottery St Mary

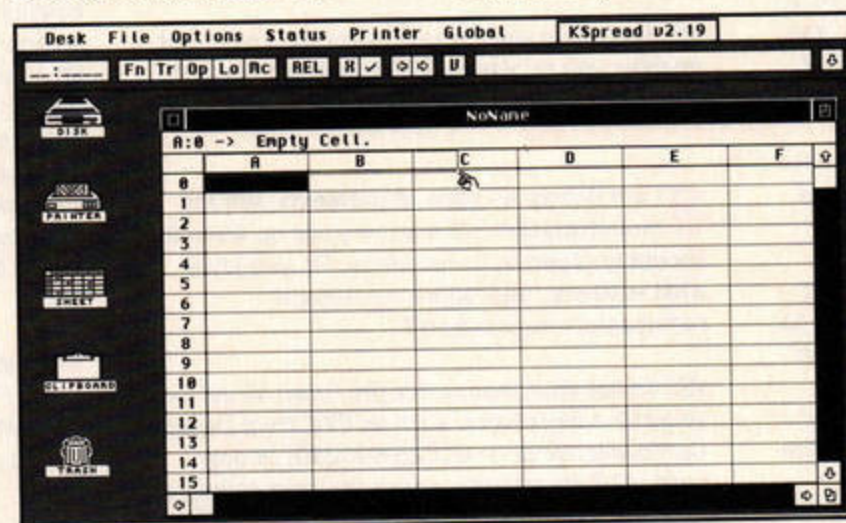
A Keeping your disks a foot away from your TV should be sufficient to prevent any problems from the magnetic field. Still, it's always a good idea to err on the side of caution, so the farther away you keep them from the TV or any source of magnetic interference (such as a stereo system), the better.

If you have a disk which has failed once, it is more likely to fail again. Prepare a new working disk and destroy the old one.

MAKE IT WIDER

Q I have been using K-Spread 2 since you gave it away on Cover Disk 36, and I find it very good except for one problem: I cannot adjust the width of the columns. How is it done?

Steve James, Southampton



To widen a column in K-Spread 2, just click on the right-hand line and drag it across as shown in the above screenshot. It's as simple as that!

A The solution is actually very simple. Each pair of columns is separated by a vertical dotted line. To widen column A, click and hold the mouse pointer over the line between columns A and B and drag it to the right. Release the mouse button when column A is wide enough.

Note that you must make the adjustment at the top of the spreadsheet, between the column markers – you cannot widen columns from within the spreadsheet grid itself.

DRIVEN CRAZY

Q I have just been given an old 520 STFM with a single-sided drive, and I want to upgrade it to a double-sided drive. Gasteiner Technologies supplies one for £45, which is more than I expected it to cost. Is there anywhere I could get one for less than this?

I would also like to get a memory upgrade, preferably solderless, for my machine. Which would be the best upgrade to get?

Phil Inman, Chelmsford

A You're not going to get a replacement drive for much less than the price you have been quoted by Gasteiner (☎ 0181 3456000), so you might as well buy it. Alternatively, Power Computing (☎ 01234 843388) can provide the official Atari internal drive for £45. If you go for the Atari drive, you don't have to modify the case in order to install it.

Memory upgrades can be tricky to install because STFMs don't all have the same circuit-boards. The XtraRAM Deluxe board is one of the best, and can be obtained from Marpet Developments (☎ 01423 712600) for about £35. If you are not very good at techy stuff, you may be better off sending the machine to Marpet for the upgrade – installation costs about £20, plus the cost of the return courier.

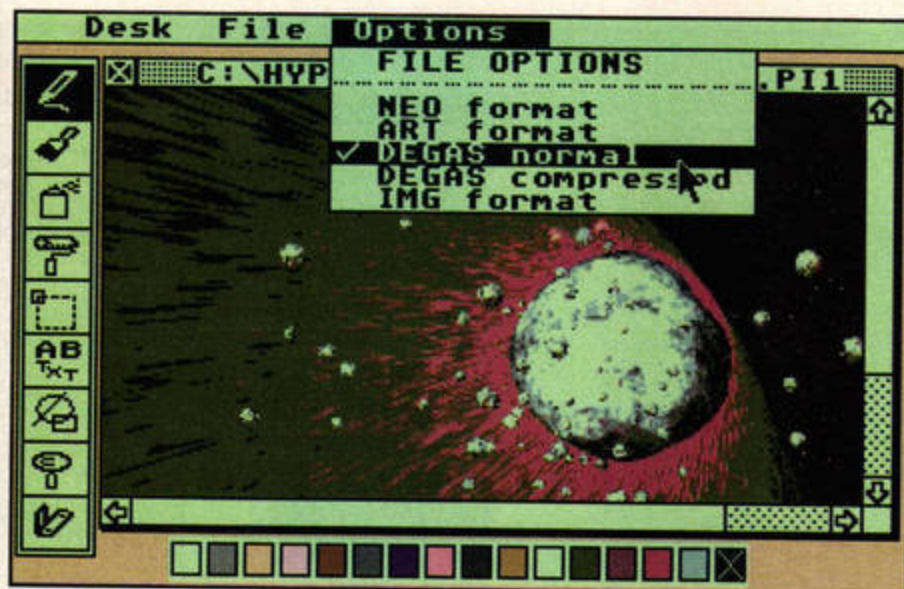
SAVE ME

Q We have bought a 1040 STE Family Curriculum Pack for my son. We are having difficulty working with the Creative Computing Module – we can't save any pictures in Hyperpaint 2, for instance, and we can't find any instructions for doing this.

Ian Grimes, Cullompton

A If you can't fathom out the instructions in the Hyperpaint 2 manual, follow the steps below to save your pictures. See the file management chapter for more details on using disks with your ST.

You will need to prepare a separate disk to store your pictures on. Get a new blank disk and format it using the Format floppy disk command from the Desktop File menu. Load



It's not as hard as you think to save images in Hyperpaint 2.

Hyperpaint, then eject the disk from the drive and insert the blank formatted disk. Draw a few lines on the screen, and then go to Hyperpaint's File menu and select the Save as... command.

The File Selector box appears on screen. Enter the name of your picture in the Selection: line, which is near the top – you can call it anything you like, up to eight letters in length – and click on OK. The last three letters of the file name are automatically added by the program and are

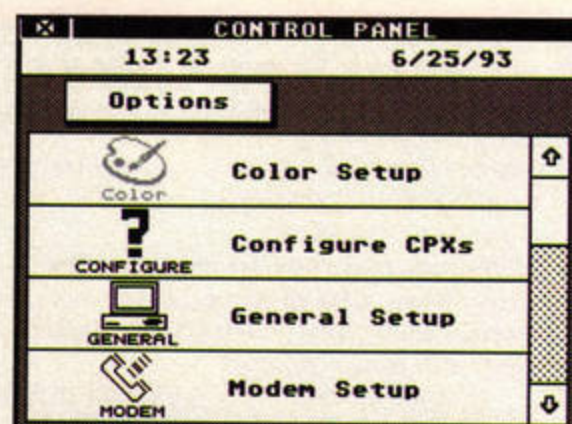
determined by the format (such as Degas) and resolution your picture has been saved in.

PIRATE WILLY

I have read in *ST FORMAT* that it is illegal to copy or back up games software. However, in games like *Populous 2* the manual tells you to make a backup copy. If I do this, will I be breaking the law in any way?

Marcus Welby, Cranbrook

It is illegal to copy or back up software unless the documentation specifically gives you permission to do so. In your case, the manual instructs you to make backups, so you aren't breaking the law. However, it is illegal to make copies and pass them on to someone else. Backups are strictly for your own private use only.



The relatively new Xcontrol Accessory enables you to control all your ST's functions with amazing ease.

MORE CONTROLS

I have noticed in articles in *ST FORMAT* that there are 16 possible levels of brightness for each of the red, green and blue sliders. The disks I received with my STE have a Control Panel Accessory supplied, but the sliders are only numbered 0 to 7. The shop where I bought my machine has now closed, so where can I get the new Control Panel Accessory from?

Sue Lloyd, Plymouth

You can get a replacement Control Panel Accessory from a PD library. Most libraries can supply the new Xcontrol Accessory, designed for use with TOS 2.06. This Accessory also runs happily on the STE and Falcon without any problems at all.

E-mail your questions and tips to Clive at: cparker@futurenet.co.uk or clive@netmag.cityscape.co.uk (please put 'STA' in the subject line), or post them to: ST Answers, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon, BA1 2BW.

THE TEN MOST FREQUENTLY ASKED QUESTIONS

1 Is there a hardware upgrade that turns an STFM into an STE?

stf: No, there are too many major differences between the two to make an upgrade possible.

2 Is there an Amiga emulator for the ST that will let me play Amiga games?

stf: No, the only way you can play Amiga games is on an Amiga.

3 Where can I get SCART and audio leads to connect my ST to my TV monitor and hi-fi?

stf: Meedmore can provide every lead you could possibly require. All you have to do is tell the salespeople what type of ST you have, and the make and model of your TV or monitor. If Meedmore doesn't have a ready-made lead in stock, its technicians will make it for you. You can contact Meedmore on 0151 5212202.

4 I have bought a second-hand Fujami printer from a friend/at an auction/at a car boot sale. Can I use it with my ST?

stf: Any printer with a parallel interface, also known as Centronics interface, can be used to print text from the Desktop. Whether you can use it with your word processor or graphics software depends on whether it has Epson or IBM Proprinter emulation – all serious software has printer drivers for machines supporting these standards. Always make sure you get a manual with a second-hand printer.

5 I have been given a CGA monitor from an old PC. Can I connect it to my ST?

stf: No, I'm afraid not. The ST provides analogue RGB signals, whereas PC CGA monitors require TTL (digital) signals.

6 I am going to upgrade my STE to 2MByte of RAM. Can I use the two 256K SIMMs already in my STE with my new 1MByte SIMMs to give me 2.5MByte?

stf: No, you'll find that the only acceptable RAM configurations for the standard STE are: 0.5MByte (2x256K), 1MByte (4x256K), 2MByte (2x1MByte) and 4MByte (4x1MByte).

7 My friend said that I can play PC, Amiga and Spectrum games on my STE. Is he right?

stf: There is a software emulator available that enables you to play Spectrum games (try a PD library), but there are none for the PC or Amiga.

8 I am having all sorts of problems with my mouse pointer – the arrow goes up when it should go down and vice-versa. Do you know what is wrong, and where can I get a replacement mouse from?

stf: It's not your mouse, it's the Ghost Virus. Get yourself a virus killer, such as UVK from Douglas Communications (01625 850270). It only costs £12.95 and can safeguard your software. However, you should never use a virus killer on a commercial game disk, because it may

mistake a protected bootsector for a virus and wipe it, irretrievably damaging your game disk.

9 How do I copy files from the ST FORMAT Cover Disk to a blank disk to unpack them? I don't have an external disk drive.

stf: Just follow these four steps to copy your ST FORMAT files to a blank disk:

- 1 Format a new disk and mark it as Disk B. Now put the Cover Disk in the drive and ensure that it's write-protected (you should be able to see through the little hole). The Cover Disk is Disk A. Open the Drive A window by double-clicking the Floppy Disk A icon.
- 2 Open the folder you wish to copy files from by double-clicking on it. Press and hold the [Shift] key, then single-click on each of the files until they are all highlighted. Release the [Shift] key.
- 3 Click on any of the highlighted files, and, holding the mouse button down, move the pointer until it is over the Floppy Disk B icon. When the disk icon turns black, release the mouse button.
- 4 An alert box appears telling you that you are copying files to drive B. Click on OK. Your ST now asks you to put disk B into drive A – do this, and select OK. Follow the instructions until all the files have been copied to your new disk.

10 With the takeover of ST Review, is ST FORMAT going to change its name to ST FORMAT incorporating ST Review, incorporating ST User, incorporating ST Action, ST World?

stf: No. Just ST FORMAT, as you can tell by looking at the cover.

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Can't get your MOD collection in order? Don't fret, Mac Marsden's guide to storing and sorting text strings will soon get you straightened out.

GFA Workshop

MUSICAL SORT

Q I am currently writing a database for music files. The information in the database is stored in arrays, and is arranged so that, for example, song_title\$(1) corresponds to song_filename\$(1).

Is there an easy way to sort the song_title array alphabetically, and then sort the song_filename\$ array to match? For example:

```
song_filename$(1)="A:\BEATLES.MOD"
song_title$(1)="I am the Walrus"
song_filename$(2)="A:\MUFFIN.SNG"
song_title$(2)="A Wandering Muffin!"
```

The result should be:

```
song_filename$(1)="A:\MUFFIN.SNG"
song_title$(1)="A Wandering Muffin!"
song_filename$(2)="A:\BEATLES.MOD"
song_title$(2)="I am the Walrus"
```

For the moment I have put the song_title string in front of the song_filename string, for example: Song_filename\$(1)="A Wandering Muffin!A:\MUFFIN.SNG", and I sort each string using the QSORT command. However, this is slow, and not very neat. Also, I have ten different strings, so the code is massive.

Pip Miseldine, via e-mail

A GFA Basic's QSORT feature is very good for single arrays, such as your Song_filename\$(1)="A Wandering Muffin!A:\MUFFIN.SNG" array. However, QSORT does not handle multiple arrays, so you have to sort these out yourself.

The principle and coding is quite simple once the concept has

been grasped. Work out what you want to do on paper first, and you'll probably end up with something like the pseudo code in Panel One. This pseudo code, in turn, would produce the GFA Basic code in Panel Two. This checks which record has the higher ASCII value and moves it down the data list. Be careful when entering the data, though, Pip, as you will get different ASCII values for upper and lower case characters.

You also need to consider is how you are going to look for a record. If the record set is large, the quickest way to find a particular record is a binary sort.

Consider a database holding one million records, and assume that the record you are searching for is the final one:

for f=1 to 1,000,000
compare search record
with database record (f)

next f

Consider starting this search at 09:00 hours and coming back a week later to see if the record has been found...

With a binary search (which can only be used when the records have been sorted) you can find any file within the one million records after only 20 'hits' in a couple of seconds. Once again, the method is simple once you grasp the concept.

1 Find middle record (500,000)

2 If records above 500,000 are greater than the ASCII value of the record to be found, discard them; otherwise discard all records less than 500,000.

3 Set pointers to new values. Repeat operations 1 through 3 until either there are no records left through which to search or the record has been found.

PANEL ONE

```
create temporary array (temp$)
outer loop through the array (y)
inner loop through the array (x)
REM compare dbase(1,x) with dbase(1,y)
if dbase(1,y) has a higher ASCII value than dbase(1,x) then
    temp$=dbase(1,y)
    dbase(1,y)=dbase(1,x)
    dbase(1,x)=temp$
end if
end loop (x)
end loop (y)
```

PANEL TWO

```
temp$=""
for y=1 to end_of_loop
for x=1 to end_of_loop
REM Compare dbase(1,x) with dbase(1,y)
if dbase(1,y) > dbase(1,x)
    temp$=dbase(1,y)
    dbase(1,y)=dbase(1,x)
    dbase(1,x)=temp$
endif
next x
next y
```

As to your point about having massive strings in ten dimensioned arrays, I think the solution is to put them all in the same array, for example: dim dbase\$(10,number of records to be held). In your case, dbase\$(1,x) would hold the name of the MOD file, dbase\$(2,x) would hold the song title, and so on. Incidentally, no matter how you code your program, text manipulation, display, saving and loading will eat away at memory and disk space. It is the nature of the beast, I'm afraid.

The above arrangement would minimise the number of arrays required, and enable you to create neater and more compact code. I would also suggest that you cut down the size of the array names (song_filename\$ and song_title\$), because you will get tired of typing in long array names. Work out on paper which of the ten arrays holds which

piece of data, for example:

dbase\$(1,x) holds your title
dbase\$(2,x) holds the original
song title
dbase\$(3,x) holds...
dbase\$(4,x) holds...

Another point to consider is: do you load in all the data at the beginning of the program, or load it in as it is required? The latter will require less memory, but all the loading and saving will slow your program operation down. Loading all data in at the beginning will certainly speed up searching and printing. You will have to decide which trade-off (speed/memory, memory/speed) works best for you.

If you have any GFA Basic questions, no matter how simple or complex, write to Mac at: GFA Answers, ST FORMAT, 30 Monmouth St, Bath, Avon BA1 2BW. Alternatively, send an e-mail to: mac@mentor.demon.co.uk.



This month Frank Charlton bemoans the dearth of STOS questions. STOS programmers, where are you? Why don't you write to us any more?

STOS Corner

DODGY DISKS

Q I am only 13, but I have programmed quite a lot of good stuff in STOS. Unfortunately, a virus got into my disk collection, and I lost STOS 2.5.

I've looked everywhere for another copy – I've tried all the local shops, and I even wrote to Mandarin Software. A company called Europress wrote back to say it no longer supports STOS (shame). Could you please, please tell me where I could get a copy, and how much it will be.

Benjamin Bradley, Redruth

A Bad news, Benjamin. Europress stopped supporting the STOS range – and the ST, in fact – quite a long time ago. Unfortunately, it

STOS

The Game Creator

MANDARIN
SOFTWARE

AdLib

Written by F Lionet & C Sotiropoulos

Sadly, STOS is no longer supported by Europress.

BEGINNERS GUIDE

Mark Thomson of MT Software has written in to tell us that MT is no longer involved in the Atari market. This means that the excellent book *The Beginner's Guide to STOS BASIC* is no longer available – all printed stocks have been sold.

Rather than disappoint everyone who's been asking about it, Mark has converted the book's tutorials into a disk-based programming course. It comes on three disks and provides more than 190 examples of STOS programming, ranging from complete games and art packages to GCSE maths.

The disk version of *The Beginner's Guide* is available from MT at: 14 Lanes End, Totland Bay, Isle of Wight, PO39 0AL, for the princely sum of £6.95. If you're interested, make your cheques payable to T Thomson, and watch out for a review next month.

FALCONISMS

Last month we mentioned Anthony Jacques' fledgling *STOS Falcon Extension*. Anthony has been kind enough to send us a vastly updated version, which he feels is ready for release.

Version 1.0a is complete, and the supplied *Compiler Extension* will compile most of the commands available in the Interpreter version. Anthony will be continuing to update his extension, but he feels an early release might encourage feedback and suggestions.

We don't know whether Anthony has distributed the *STOS Falcon Extension* to any PD libraries yet, but he's given us permission to spread copies of the unregistered version. Both Ad.Lib BBS (0191 3702659) and LAPD (01773 761944) should have it by the time you read this.



The *Falcon STOS Extension* even enables you to display TrueColour graphics from within STOS.

won't pass on the rights to STOS to anyone else, either.

STOS has been on an ST *FORMAT* Cover Disk, but it was a few years ago, and we no longer have that issue in stock. Sadly,

your only chance of getting hold of a replacement copy is to advertise for a second-hand one. Fill in the coupon on page 70 to put an ad in our free classified section.

Also, if anyone reading can help Benjamin, please get in touch with us and we'll be happy to pass on your suggestions.

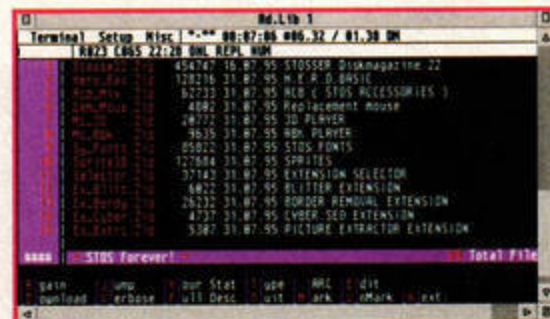
EXTENSIONS

Q I have many questions, most of which I can't remember, so please tell me which PD library has a good selection of STOS extensions. I especially want the *STE Tracker Extension* mentioned in issue 72.

Mike Walker,
Doncaster

A Goodman PDL always has a good range of STOS disks – call 01782 335650 for details.

Alternatively, if you have access to a modem, the Ad.Lib BBS now has a large file area devoted to STOS, stocked by none other than *STOSSER's* Tony Greenwood. The extension you want is available there, along with many others. Call Ad.Lib BBS on 0191 3702659.



Ad.Lib has the biggest STOS support area of any BBS.

END OF AN ERA?

Sadly, there may not be many more STOS Corners. The number of letters and questions coming in has been slowly decreasing, and unless you start writing in again, we may have to drop this section.

STOS Corner has been running for years now under many different writers – could it be that you're all proficient in STOS programming now, and don't need to ask for help quite so much? If that's the case, we're very pleased, but if you've got questions and have never bothered to write in, now is the time, before STOS Corner disappears forever...

Send your questions to STOS Corner, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW, or e-mail them to: frank@tachyon.demon.co.uk (please put 'STA' in the subject line).



We all know it was a hot summer, but how hot was it? Mac Marsden explains how to turn that nasty Celsius stuff into proper Fahrenheit temperatures.

HiSoft C Centre

IN ORDER

Q I have recently taken up programming in HiSoft C, and I am a little stuck. I am unable to sort numbers or letters into numerical or alphabetical order.

Are there built-in routines to do this? Please help, as trying to write this code is driving me up the wall.

John West, Yeovil, Somerset

A John, take it easy, it's only a hobby – or so they say. The two functions that will save your life are `tsort(strarr, 6)` and `lsort(arr, 6)`.
 • `tsort` sorts an array of strings into alphabetical order
 • `lsort` sorts an array of integers into ascending order

In the listing in Panel One I have declared two variables, a numerical array and a character array, and entered values into them. The variables have been declared globally (outside the function), so that the data can also be used in other functions.

Note the use of the `for(;;)` loop. If there was more than one statement to be executed within the loop, we would use the following format:

```
for (i = 0; i < 6; I++)
{
    printf("%d\t ", arr[i]);
    printf("%s\t",
    strarr[i]);
}
```

However, as we only want one statement executed in the loop, the braces can be omitted and both lines of the code can be written on

one line:

```
for (i = 0; i < 6; I++)
printf("%d\t ", arr[i]);
(all one line)
```

TOO HOT?

Q I would like to write a small conversion program (Fahrenheit to Celsius) but I can't figure out the maths. Could you please help?

Martyn Errington, Bridgford, Notts

0	-17.8
20	-6.7
40	4.4
60	15.6
80	26.7
100	37.8
120	48.9
140	60.0
160	71.1
180	82.2
200	93.3
220	104.4
240	115.6
260	126.7
280	137.8
300	148.9

The results of the Fahrenheit to Celsius conversion program.

A Martyn, the two formulae you require for the conversions are:

• Fahrenheit to Celsius = $9/5 \times$ Celsius value + 32

• Celsius to Fahrenheit = $(\text{Fahrenheit value} - 32) \times 5/9$

In the listing in Panel Two I have coded the conversion from Fahrenheit to Celsius (I will leave the Celsius to Fahrenheit conversion for you).

Before sort :					
959	911	944	924	928	956
qwert	fhruo	aa	za	ufh	ydg
After sort :					
911	924	928	944	956	959
aa	fhruo	qwert	ufh	ydg	za

HiSoft C has built-in functions for sorting alphabetic and numeric data.

NEL ONE PANEL ONE PANEL O

```
/* Initialize global variables */
int arr[6] = {959, 911, 944, 924, 928, 956};
char *strarr[6] = {"qwert", "fhruo", "aa", "za", "ufh", "ydg"};

/* Beginning of executable function */
main()
{
    /* initialize local variable to be used only within main() */
    int i;

    /* Display variable values on screen before sorting takes place */
    printf("Before sort :\n");
    for (i = 0; i < 6; I++) /* loop through numerical array */
        printf("%d\t ", arr[i]);
    printf("\n\n"); /* print two new lines */
    for (i = 0; i < 6; I++) /* loop through character array */
        printf("%s\t", strarr[i]);
    printf("\n\n\n\n"); /* print four new lines */

    /* Call the sort function for the character array - strarr is the
    variable and 6 is the number of strings or fields to be sorted */
    tsort(strarr, 6);

    /* Call the sort function for the numerical array where arr is the
    variable and 6 is the number of elements to be sorted */
    lsort(arr, 6); /* sort the elements */

    /* Display on screen the results of the sorting functions */
    for (i = 0; i < 6; I++) /* loop through numerical array */
        printf("%d\t ", arr[i]);
    printf("\n\n"); /* print two new lines */

    for (i = 0; i < 6; I++) /* loop through character array */
        printf("%s\t", strarr[i]);
    printf("\n\n\n\n"); /* print four new lines */

    evtnt_keybd(); /* keep on screen until [RETURN] is pressed
    */

} /* end of function main() */
```

EL TWO PANEL T

```
main()
{
    /* initialize variables both integer and decimal */
    int lower, upper, step;
    /* result may be decimal, so declare as floating point variables */
    float fahr, celsius;
    /* Set initial values */
    lower = 0;
    upper = 300;
    step = 20;
    fahr = (float)lower;

    /* Step through from 0 to 300 and convert values as we go */
    while (fahr <= upper) /* start loop */
    {
        celsius = (5./9.)*(fahr-32.); /* do math's */
        printf("%4.0f %6.1f\n", fahr, celsius); /* display
        results */
        fahr = fahr+step; /* increase step value */
    }
    evtnt_keybd(); /* keep on screen until [RETURN] is pressed
    */
} /* End function main() */
```

Send your C questions to Mac at: HiSoft C Centre, ST FORMAT, 30 Monmouth St, Bath, Avon BA1 2BW, or e-mail him at: mac@mentor.demon.co.uk.



Fade to grey with Andy Gisby's guide to the one of the most attractive video effects: the palette fade. It's easy when you know how...

Assembly Line

The palette fade is one of the most pleasing video effects. It involves fading colour displays to and from various hue settings, and has many applications. At its simplest level, it enables you to gently fade out a display instead of just putting in a boring screen clear.

Your Atari ST uses palette attribute display methods. On an STFM running in low resolution, you can use 16 colour attributes out of a possible 512 colour variations (an STE allows 4,096 variations). There is a subtle difference in palette make-up between an STFM and STE – see the diagram below for more details.

SMOOTH STUFF

The real trick to palette fading is a smooth transition of colour. The colour changes need to be linked to the screen refresh rate (50 Hz on a television). The number of frames is counted in screen cycles, so if you want the screen to perform a transition for three seconds, the number of steps is around 3*50, or 150.

The listing in Panel One illustrates the very simple code used to perform the red, green

and blue transition (you can find the complete routine, which is called stf0002a.s, on the Cover Disk).

INTEGERS

Interestingly, the routines utilise whole number mathematics to avoid unwanted floating and fractional calculations. The theory is simple: first, you scale the number up by a constant factor (use the ASL 'Arithmetic Shift Left' opcode). Next you perform the arithmetic (scaled up – as in the example code). Last, you scale the number down (use the ASR 'Arithmetic Shift Right' opcode).

The result will be the closest whole number, achieved without resorting to unwanted (and slow) floating point fraction calculation code. The error factor will be dependant upon your scaling factor. You find that the more you can scale up, the smaller the error will be, but remember that the 68000 can only handle a maximum of 32 bits. If you scale too high, your results will be erroneous. This approach to calculation has all sorts of applications, including the speedy calculation of triangle and polygon side gradients.

PANEL ONE

```
; Increment work registers...

move.l    (a0),d0 ; Scaled Red Value
add.l     4(a0),d0 ; Increment
move.l    d0,(a0) ; Store

move.l    8(a0),d1 ; Scaled Green Value
add.l     12(a0),d1 ; Increment
move.l    d1,8(a0) ; Store

move.l    16(a0),d2 ; Scaled Blue Value
add.l     20(a0),d2 ; Increment
move.l    d2,16(a0) ; Store
```

The most important routine is the Transform_Palette_Init. You will see that this routine is a counted loop aimed at the extraction and scaling up of the red, green and blue portions of each palette attribute. The formula given in the box below will derive a frame increment amount for each of the red, green and blue colour portions.

$$\text{frame increment} = \frac{\text{end mix value} - \text{start mix value}}{\text{number of frames}}$$

You can see why we need to scale the numbers up: the start and end values are small, and the number of frames is relatively large.

There is a routine control variable called "awesome_4096". Set it to 1 (dc.w 1) if you have an STE (4,096 colours), or 0 (dc.w 0) for an ST(FM). If you have 4,096 colours at your disposal, you will find that the transition is a lot better.

The VBL (Vertical Blank) Interrupt XBIOS call (shown below) times the routine. This

useful function call waits until your screen's electron gun is at the top of the display before returning, enabling you to link the colour changes to the screen refresh rate.

The XBIOS Set palette function will set each frame palette. When you use this function, the colours do not change until you reach the next VBL Interrupt.

It is important to remember that this is a Supervisor-only mode routine.

A direct read of 16

words starting at absolute memory address \$FFFF8240 will extract the current palette colours, because these are the palette registers for ST and STE hardware. If you try the routine without being in supervisor mode first, a Privilege Violation error will occur, and your computer will crash spectacularly.

You'll find a second source file (stf0002b.s) on this month's Cover Disk. This is a short program which demonstrates palette fading to good effect.

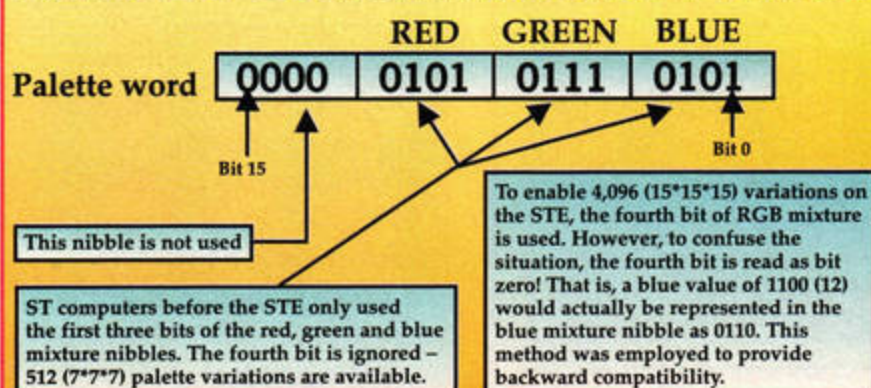
In last month's column, a

Degas picture decompression routine was shown. Why not put the two routines together?

* Wait till Next VBlank Interrupt...

```
move.w    #37, -(sp)
TRAP      #14
LEA       2(sp), sp
```

Atari ST Colour Attribute Format





Never one for PCs, political correctness or coppers, this month Frank Charlton explains how to get on to the Net with your humble ST.

alt.comms.stf@

PC OR NOT PC?

Q Can I really use my humble ST for Internet access? Is it worth bothering, or should I just go for a cheap second-hand PC to run Internet software?

Simon Husbands, London

A Yes, your 'humble' ST is perfectly capable of accessing the Internet. Not all of us journos use high-powered Macs and PCs – I use my STE and Falcon on the Net every day. You'll need a bare minimum of 1MByte of memory, but 2MByte is more comfortable. You'll also need a hard drive, as the current software takes up about 1.5MByte alone, and that's before you go on-line.

The current Oasis/AtariNOS package provides you with major stuff like e-mail, Usenet news, ftp and telnet, as well as the minor daemons you need, such as finger and ping. While there's still no graphical browser attached to the NOS setup, independent

software is starting to appear – check out the Web of intrigue feature on page 58.

FLOPPY BLUES

Q Do I really need a hard drive to get on the Net? Can't I just run the software from floppy disks or a RAM disk? I have a 4MByte STE with two floppy drives and TOS 2.06.

George Jordan, Birmingham

A You can just about configure Oasis and NOS to run on a floppy-only system, but it's a lot of work and I really wouldn't recommend it.

The situation improves slightly with a 2MByte RAM disk, but it can be even more work – you need to copy the files to the RAM disk before you logon, and any e-mail or news needs to be

copied back to a floppy before you switch off, or you'll lose it.

If you want to run a 'true' Internet account with a service provider like Demon, it really is essential to



The commercial on-line service CIX provides a very capable Internet gateway, and you can use the software without a hard drive.

OASIS UPDATE

Oasis, the front-end package for AtariNOS, has been updated and now stands at version 1.30. The authors have added a number of improvements. These include a full multi-user system for e-mail, enabling you to add extra mail addresses very easily. Quite a bit of general tidying up and bugfixing has gone on, too.

The authors eventually plan to replace AtariNOS with a custom package for taking care of the on-line side of things. To that end, they've stopped using the NOS file formats for e-mail and news, replacing them with more efficient indexed formats. The OASIS archive now includes everything you need to get up and running, and a handy installation program is provided to convert existing OASIS setups. Also still in the pipeline is their Spider World Wide Web browser.

have a hard drive. Prices are tumbling down too – check out our hard drive round-up in issue 73 (turn to page 73 if you missed it) to see what's available.

If you are determined to stick to floppies, a good halfway-house



Version 1.30 is the last freeware release of Oasis, so grab it while you still can!

The authors have also announced that 1.30 will be the last major release of OASIS as freeware – they intend to take the shareware route once the AtariNOS replacement comes to fruition. If you have Internet access, you can pick up Oasis 1.30 from ftp.demon.co.uk. It's in the /pub/atari/oasis/ directory, and the file you want is OASIS130.TOS. BBS users can grab it from the Internet files area of Ad.Lib (0191 3702659).

solution is to use a regular comms package to call a system such as CIX (0181 3909787), which provides Net access through a 'gateway'. You're not actually on the Internet, but you can still access e-mail, news, ftp and the like. stf

BBS SPOTLIGHT

This month's featured BBS is All At Sea, operated by Antony Lacey. It runs 24 hours a day using the Octopus software, and accepts calls up to a maximum speed of 14,400 baud. AAS is hooked into lots of mail networks, including NeST and AtariNet, as well as specialist nets such as ScoutNet, Midicomm and MusicNet.

The name comes from Antony's sea-scouting interests, and the BBS provides file and message areas for people involved in those pursuits. With over 1,000 Atari files on-line, it's also a good place to go for that PD or shareware program you're hunting for. Call All At Sea on 01203 601448.



Don't forget, if you haven't got access to a modem yet, you can still drop Frank a line the old-fashioned way. Write to: alt.comms.stf, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW, or e-mail your questions to: frank@tachyon.demon.co.uk (please put STA in the subject line).

Cyber Talk

With the imminent release of a graphical browser, ST owners will at last be able to explore the charms of the Web. What better place to start than **ST FORMAT's** homepage?

You've seen the ads over the last couple of months, but you're still a little unsure what FutureNet is all about. Allow me to explain. FutureNet is Future Publishing's rapidly expanding World Wide Web site.

Now, I know what you're thinking: why tell us about it? Well, it seems that at long last the new graphical browsers we've all been waiting for are on their way (see the Web of Intrigue feature on page 58). So, why not start your Internet travels with a trip to FutureNet?

What's on offer?

FutureNet includes features, news, essential contacts and links for all of Future's 30-plus

magazines, including *.net*, *The .net Directory* and, of course, *ST FORMAT*.

You can take out a subscription to your favourite magazine, order back issues and even take advantage of special reader offers, all from the comfort of your ST keyboard. You needn't worry about evil hackers getting hold of your credit card details either, as FutureNet's server utilises encryption software to prevent Internet fraud.

Then, having stocked up on bargains, you can sit back and fill your noodle with the day's Computing News. Or, if you prefer, you can check out FutureNet's World News, which is also updated daily.

Or what about having a natter with other like-minded souls via the magazine's chat forum? Yep, it's coming soon to FutureNet, so if you want to stay in touch, stay connected...

Karen Hewell.

ST FORMAT DIRECT

<http://www.futurenet.co.uk/>



- **World news** - All the top news stories, updated every weekday
- **Computing** - Hundreds of features on PC, Mac, ST, Amiga and more
- **Videogames** - Loads of game reviews and features for every platform
- **Music** - Classical reviews, high-tech music making and guitar technique
- **Sport** - Daily sport news, plus great features on football, rugby and cycling

...and much, much more. We've over 10,000 info-packed pages, plus hundreds of links to the world's best Websites. With more than 100 pages added to FutureNet every weekday, there's always something new to see - bookmark FutureNet now!

Okay, so you know what FutureNet offers generally, but what's available for hard-core Atari buffs?

● Features

It's all here in our bite-sized features guide - everything from making music on your ST to the hardware and software behind the CD-ROM revolution.

● ST Answers

Dr Clive Parker and the gang crowd into the cyber ward for insane STs... and their owners. Whether you're troubled by viruses, assembly code, comms or badly-behaved STs, this is the place for you.

● Machines of the future

We take a closer look at the latest Atari clones, GeSoft's Eagle and C-Lab's Falcon Mk2, and ask whether they have what it takes to topple the TT and Falcon.

● Hands on

Discover exactly how to take your ST or STE apart - and put it back together again - with our practical guide to fitting a composite video port. Or how about designing your own 3D game? We show you how.

● E-mail the team

Now you can get in touch with the team that produces *ST FORMAT*. Whether you want to pose technical queries, suggest features or send us compliments, you're only a mouse-click away from our desktops.

● Bargains

Order a back issue, submit a subscription or take advantage of our reader offers, all without ever leaving the comfort of your ST.

<http://www.futurenet.co.uk/computing/stformat.html>



The world's biggest-selling ST magazine



Welcome to the *ST FORMAT* home page, the Web centre for the world's biggest-selling ST magazine. Our mission is to bring you news and reviews about every piece of software and hardware produced for the ST, STE and Falcon, as well as practical, creative and technical advice to help you make the most of your Atari



NEW FTP SITE

Not content with being the most successful commercial World Wide Web site outside the USA, FutureNet is now dipping its toes into the realms of ftp (file transfer protocol) sites.

The new site will enable us to put all the software and files that we can't squeeze on to the Cover

Disk on to the Net, for you to download at your leisure.

To take a gander at what's available, point your Web browser at <ftp://ftp.futurenet.co.uk/incoming/futurenet/>. If you're using ftp software, type in: <ftp://ftp.futurenet.co.uk> and go to the directory [/incoming/futurenet/](ftp://ftp.futurenet.co.uk/incoming/futurenet/).

With over 100,000 hits every day, FutureNet is one of the most popular Web sites in the UK. Point your Web browser at <http://www.futurenet.co.uk> to find out why...

Web of intrigue

Frank Charlton takes you to the cutting edge of the Internet, where a graphical World Wide Web browser for the ST is rapidly taking shape.

Ever since the Internet exploded into the public consciousness, there's been much speculation about Web browsers and associated TCP/IP stacks for the Atari. Here at *ST FORMAT* we predicted that there would be GEM-based World Wide Web browser before 1995 was out,



ST FORMAT's very own Web pages, seen in colour from an Atari computer. At last...

and lo and behold, here it is. Ladies and Gentlemen, we bring you graphical on-line Web browsing for your ST, TT or Falcon.

Worldwide

We've mentioned an off-line browser called *HTML Browser* several times in *ST FORMAT*. Over the past few months it has evolved from a monochrome program that could only read Web pages from your own disks, through to greyscale displays and an Netscape-like interface (Netscape is the most popular World Wide Web Browser on the PC and Mac platforms).

HTML Browser is the brain child of German programmer Alexander Clauss. Although he hoped to add on-line support at some stage, upgrading the browser and writing the TCP/IP stacks to interface with the Net and

first bumped into him, courtesy of Falcon-owning IRC nut Nick Flintham, otherwise known as Flinny. Idle discussions about the lack of a GEM Web browser became useful speculation, and when fellow programmer and IRC-junkie Tim Newsome joined the fray, a new round of work began.

Programmers don't like to re-invent the wheel – that is, they don't like to re-invent pieces of code that already exist and work well. Since everyone considered Alexander's *HTML Browser* to be excellent, it seemed sensible to hook it up to the on-line code already available in *STIK*.

So, Tim wrote an 'overlay' layer, enabling *HTML Browser* to communicate with *STIK*,

and the true on-line Atari Web browser moved one step closer to reality.

At this point the dynamic nature of the Net came

Programmers on three continents worked together via IRC and e-mail

download Web pages was no small task. Fortunately, help was at hand...

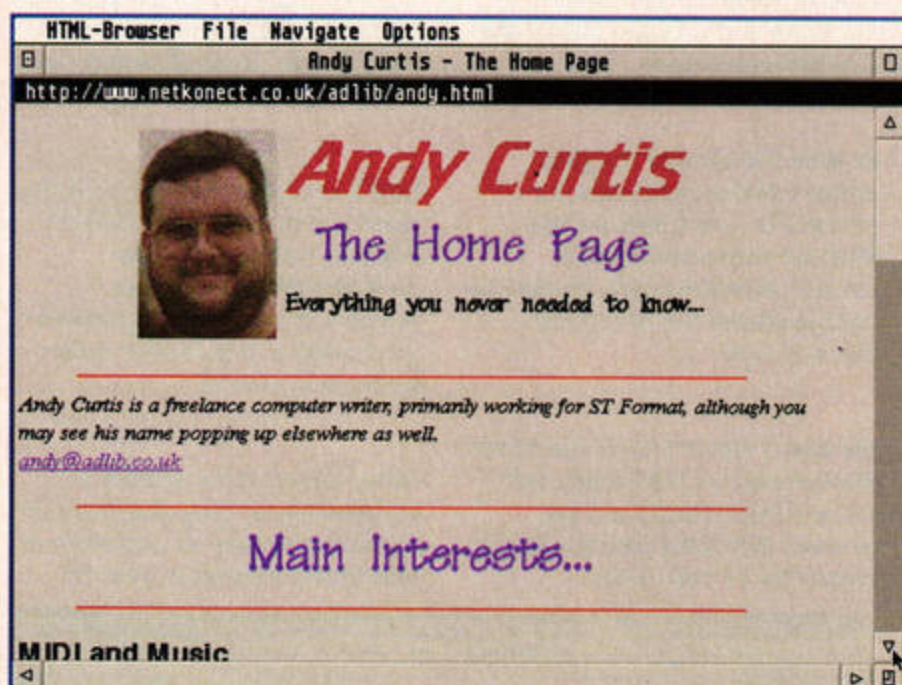
On the other side of the globe, Australian guru Steve Adam was working on *STIK*, a small program which he began developing in order to get on-line. *STIK* uses a fairly simple interface which masks the power of the TCP/IP stack – a piece of code which handles the complex on-line procedures used by all computers connected to the Internet.

STIK also gave Steve an engine for sending and receiving e-mail, and an Internet Relay Chat (IRC) client. Steve likes IRC, and that's where I

into play: programmers dotted across three continents were able to work together, hashing out ideas via IRC and distributing updates by e-mail. A beta-test team was cobbled together, including Flinny and yours truly, and the browser continued to evolve...

Going on-line

So, how does it work? Well, before you can begin browsing you need to use *STIK* to call your service provider and get on to the Internet. (We're going to ignore most of *STIK*'s features for the moment, because the *STIK* side of the project will have changed beyond all



Sadly, you'll find some extremely dodgy characters hanging around on the Web. Yep, it's our MIDI and Music Editor and Sausage King extraordinaire.

IT'S IN COLOUR!



HTML Browser still looks good on a high-resolution ST, even without the fancy colours.

If you have a Falcon, TT or ST with a graphics card, *HTML Browser* runs in colour.

The Falcon's 256-colour

mode produces excellent displays, despite the fact that individual images may need to be dithered slightly. *HTML Browser* can be set up to look like the de facto Mac and PC browsers, and the view is every bit as good.

On a standard ST, you're best off running in high-resolution mono. Although images will be dithered into dot patterns, the full colour versions are still stored to disk. Once you're finished on-line you can load them into an image viewer, such as *Speed Of Light* from Cover Disk 72.

the internet magazine .net

The new directory to the electronic world



We all went 'Hurrah!' the other day. It wasn't because England won the test match (we don't care about cricket), it wasn't because Damon Hill span off at Hockenheim (we're not German) and it was most definitely not because all the September Oasis gigs sold out within a couple of hours of going on sale. It was, in a very real sense, because the number-crunchers at the Audit Bureau of Circulation have decided

that between January and June of 1995, the magazine that they're wrong to call 'dot net' sold an average of 45,104 copies a month. Hurrah indeed. And a big 'thank you' to

As you might expect, our sister mag .net provides lots of information about the Internet.

MISSING AS YET

Some of the more recent HTML constructs aren't supported in this preview version. Unsupported features include clickable forms, clickable image maps, and the stuff introduced as part of HTML 3, such as 'wallpaper' image

backdrops behind the pages.

Eventually all these 'advanced' features should be supported, but in the meantime the browser does 99 per cent of the things you need for successful Web crawling.

WHERE CAN I GET IT?

As we went to press, the three programmers were about to release a freeware version of *HTML Browser*. If you're already on line, watch the Atari newsgroups for stop press announcements.

Steve Adam is also pursuing

various options, with a view to releasing a commercial Internet package, complete with browser and full e-mail, news and IRC programs. Rumours abound, but we can't say anything yet. Needless to say, we'll bring you more information as soon as we get it.

recognition by the time you see the software.)

Setting up *STIK* to call your service provider is quite straightforward. However, it uses the SLIP protocol for connections, so you'll have to choose your provider carefully. Some service providers, such as Demon, offer a choice of SLIP or the newer PPP protocols, whereas others only support PPP.

Dialling in with *STIK* establishes the connection, and suddenly you're on-line. A quick keypress enables you to run an external program, and this is where the fun really begins. *STIK* launches *HTML Browser*, which loads Tim's overlay so it can talk to the rest of the world.

Once you're on-line, a simple GEM menu bar hides the browser's meaty bits. Now you simply enter a URL – a Universal Resource Locator, or Web page address – via a user-friendly dialog box, and off the



FutureNet's colourful pages are a good test for browser compatibility. We had no problems.



Store your favourite pages in the hotlist, so you can locate them easily in later sessions.

WEB DIRECTORY

There's already quite a lot of Atari-related stuff on the Web, even though our first graphical browser has only just arrived.

● Mark Smith's 'Atari on the Web' pages provide a great quantity and variety of Atari-related material. They live at: <http://www.mcc.ac.uk/~dlm/atari.html>.

● A set of pages authored by an Atari user whom modesty forbids me to mention (ahem) can be found at: <http://www.netkonect.co.uk/tachyon/atari.html> as well.

● *ST FORMAT*'s own pages are



A good starting point for any new browser is Mark Smith's 'Atari on the Web' pages.

chock-full of useful snippets from current and previous issues. Point your web browser at: <http://www.futurenet.co.uk/computing/stformat.html>.

JAGUAR

Even Atari's Jaguar has Web pages devoted to it, but does it have a browser? Well, you never know...

browser goes. Once it has fetched the HTML (Hypertext Mark-up Language) file for the page you specified, it interprets it, ready for display. If the page includes graphics, the browser nips off again, downloads them, and converts them into an appropriate

your 'hotlist' (an address book for storing Web page locations), and you can add URLs by clicking on the Document-

>Hotlist option. The address of the current page is automatically stored for future use. Navigating the highlighted links is equally

HTML Browser is as nippy as most of the current Mac and PC browsers

format (see the It's in Colour panel on page 58 for details).

The whole process seems deceptively simple from the user's point of view – all the hard work is neatly hidden from view. A few seconds – or minutes, depending on the speed of your connection – later, the page is displayed on the screen. All the graphics are included, and links to other pages are highlighted, although if you're in a hurry, you can switch off the downloading of images.

If you find a site that you'd like to visit again, you can simply add it to

simple: just click with the mouse. To move backwards to a page you've already seen, click the window's Close box. *HTML Browser* stores the pages and images you've viewed in a disk cache, which should ideally be located on a hard drive (if you're short on disk space, set this cache to the bare minimum). Once you have the page stored, you can access it again without going on-line.

Performance

HTML Browser is as nippy as most of the current Mac and PC browsers, and faster than the old *Mosaic* browsers. It certainly outperforms the Amiga's *AMosaic* browser, which needs an A1200 to display images of any sort.

You need a Falcon or TT with a colour screen to really see *HTML Browser* at its best, but it performs well even on an ST. We think it's excellent – a testament to the skill of Alexander, Steve and Tim. *stf*



The Score

Andy Curtis rolls up his shirt sleeves and brings you a budget studio microphone guide, plus all the usual news, reviews and questions and answers.

M Series arrives

As you may know, the Roland JV1080 features slots for synthesiser module cards, which can be added to increase the power of the unit. For those of us who don't want to shell out for the complete JV1080 package, though, these modules are now available separately in standalone cases, and go by the name of Roland M Series Modules.

This follows the trend, started by Emu, for releasing modules covering a specific group of sounds. Conventionally, synthesiser

modules that try to feature a full range of sounds tend to fail in some departments. The M Series represents a serious attempt by Roland to produce convincing sounds right across the board.

Each unit contains one module, and all but the GM unit are priced at £499 (the GM unit is £599). Each module is multi-timbral, has 28-notes polyphony and features 255 patches (voices). There are six in the set: Vintage synth, Dance synth, Orchestral synth, Wind synth, String Ensemble and the GM synth.

TURNKEY WEB PAGES

Turnkey, an avid supplier of end-of-line music and MIDI goods at bargain prices, has opened its own Web service where you can browse a range of special offers. As well as a 'what's new?' page, there are support pages for Mac and PC users, and pages under construction for Atari and Acorn users.

You can e-mail Turnkey with your enquiries, or call to place an order (you are constantly reminded of the phone number). If you have

access to the World Wide Web, it's well worth pointing your browser at: <http://www.demon.co.uk/turnkey/indextext.html>.

QuickTime™ and a
Photo - JPEG decompressor
are needed to see this picture

Turnkey, one of Britain's brightest and busiest music stores, now has a site on the Web.

We will be reviewing one or more of the M Series modules in The Score very soon,

but in the meantime call Roland Sales on ☎ 01792 702701 for more information.

Budget studio microphones

Although MIDI is great for creating musical accompaniments, when it comes to completing a song there's no alternative to recording the vocal line. This is where a great many amateur recordings lose out – while the sound quality of the music is excellent, the vocals sound weak and unconvincing.

If you want to improve your vocal recordings, the first step is to choose the right microphone. Here we look at four budget microphones within the £99–499 price bracket. All four microphones are available from the folks at Sound Control Hi-Tech (☎ 0191 2324175).

Shure SM58

The cheapest microphone worth considering is the SM58 (£99). It is highly regarded by singers who perform live on stage, but shows its

rougher edges in a studio setting. Nevertheless, the SM58 compares favourably with many of the other dynamic vocal microphones available. It is solidly constructed and uses a uni-directional pick-up field. Being a dynamic microphone, it doesn't require batteries.

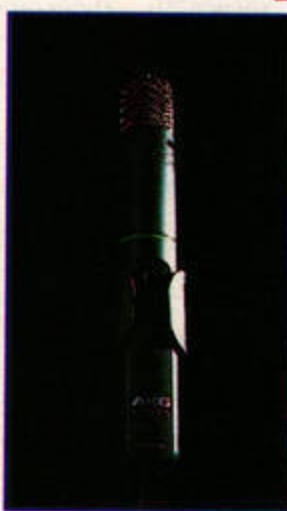
If all you have is £99, the SM58 is a great buy.



AKG C1000S

The AKG C1000S (£199) is an entry-level studio condenser microphone. As well as running from

Shure's SM58 is a microphone legend. Although better suited to live vocals, it still performs well in the studio.



If you fancy entering the high-spec world of quality condenser microphones, the C1000S could be just what you're looking for.

phantom-powered mixers, it will run from an internal PP3 battery. Although omnidirectional, the C1000S has a capsule cover which converts it to a uni-directional pick-up field. The response is very clear, although a little light on the bass. This microphone does not respond well to high-volume sound sources, but overall it provides a satisfying introduction to the world of quality condenser microphones. If you can

With its big wooden box and big price tag, the Russian Oktava microphone forces you to take it seriously.

spend a little more, the C3000 (£299) provides much better clarity and volume tolerance.

Oktava

The Oktava condenser microphone (£349) hails from Russia



MM1 MIDI EXPANDER

£299, Digital Awareness, ☎ 0181 5988081



If you need eight banks of MIDI on your ST, the MM1 does the job very nicely.

The MM1 is a MIDI output expander that provides eight completely independent MIDI outputs, driven through your ST's printer port. At present it only works with Cubase. There is a switch to enable your printer to be used, and you can change the setting manually or via an accessory.

The benefits are clear: eight pieces of MIDI equipment can be driven independently, giving you complete freedom when assigning MIDI channels and it doesn't suffer the 'delays' caused by chaining.

To make the extra assignments available, simply place the supplied driver in your MROS folder. Remember that you can still use the original Atari MIDI output

port, and a 16+ cartridge on your ST's serial port.

However, there are a couple of problems. There is no mains adaptor, and no indication of the polarity needed for a third party DC supply. When you do connect an adaptor, there's no power light to indicate that the unit is ready.

Apart from these niggles, the unit works very well and delivers an extra eight banks reliably. However, if you don't really need that many, the cheaper MO4 (£159 from System Solutions, ☎ 0181 6931919) may suffice. At least the MO4 comes with an adaptor to power its four extra banks of MIDI.

STF RATING: 75%

Quick questions

Cheap samples

Q I am interested in incorporating samples into my music, but at present I cannot afford a conventional sampler. I have heard that you can get some form of sampler that plugs into the stereo sockets at the rear of the ST, and also that some form of sampler cartridge, called Replay 16, is available. Would you know of any such thing? And can I use it with Cubase?

Stuart Adamson, via e-mail.

A Unfortunately, Stuart, there is no way to use samples with Cubase ST without investing £1,500 in the Yamaha CBX-D5 four-track hard disk recording unit and Cubase Audio ST. If you suddenly become very wealthy, you can contact Yamaha on ☎ 01908 366700.

As far as we know, there is no unit which plugs into the stereo phono sockets at the back of your ST. However Replay 16 does exist, and can be purchased from

HiSoft/AVR (☎ 01515 718181) for £129.95. The only sequencing package which Replay 16 works alongside in real time is Breakthru (£129.99) from Software Technology (☎ 0161 2362515).

Recording SysEx

Q I have the Rave sequencer, which I run on my 4MByte 1040STE and a colour television. I also have the Roland SC55 Sound Canvas synthesiser and a 5V Cheetah keyboard. I think I have everything connected correctly, but when I try to record the settings from the SC55 on my sequencer, absolutely nothing is recorded.

When my friend does this job it works every time, so what on earth am I doing wrong? I set the synth to send out all its settings and make the sequencer record, but nothing ever gets through. Can you help?

Graham Bleasby, Nottingham

and has already made a name for itself in the West. Being a professional microphone, the Oktava will work only with an external 48V phantom power supply.

It is best to discard the flimsy microphone stand adaptor and use an elastic cage to support this heavy-weight. Despite

its iron body shell, the Oktava is surprisingly vulnerable, and it needs handling with extreme care. Build quality is not all it could be, but the sound quality

is very pleasing. The Oktava copes well with both low and high sound levels, managing to produce smooth, clear and intelligible results. There are switches for omni/uni-directional pick-up fields and bass cut mounted on the body.



RØDE NT2

It is hard to imagine a more suitable microphone for the home studio than the RØDE NT2 (£499). A high quality elastic suspension is included in the price, and the microphone can be switched between omni- and uni-directional pick-up fields. There is also a handy bass cut switch.

The construction of the RØDE NT2 is to a high standard but, as with all condenser microphones, you must keep the microphone head dry or risk ruining some extremely expensive kit. When you're not using it, the microphone should be stored in its leather pouch with a sachet of silica

gel crystals to reduce the build up of humidity.

The tonal response of the RØDE NT2 is warm and all-encompassing. Rich, smooth bass, coupled with clear and non-abrasive treble, makes the RØDE NT2 a positive joy to use. The clarity of the sound is really outstanding, and this enables you to push up the volume of the backing instruments in relation to the vocals without making the vocals themselves unintelligible. Very neat.

If you want a high-quality microphone, but wish to avoid the £2,000 price tag of the Neuman U87, the RØDE NT2 is incredibly hard to beat.

If you need real top quality, the RØDE NT2 may well be the microphone for you. It's made in Australia and, yes, it does come with a pouch.

MICROPHONE JARGON

Uni-directional

The microphone is limited to picking up sound that is made directly in front of it.

Omni-directional

The microphone picks up sound from all around.

Dynamic

Dynamic microphones require no external power and have a limited frequency response. They are well suited to live situations and when high frequency response is not required.

Condensor

Condenser microphones are powered from a battery or phantom power. This gives them a higher sensitivity and output level. The frequency range is greater than that of dynamic microphones although some have a tendency towards a lack of bass response.

Phantom Power

A system by which microphones are powered from a mixing desk. A 48V DC current is passed through two lines of the microphone cable and

into the microphone itself, thus removing the need for batteries.

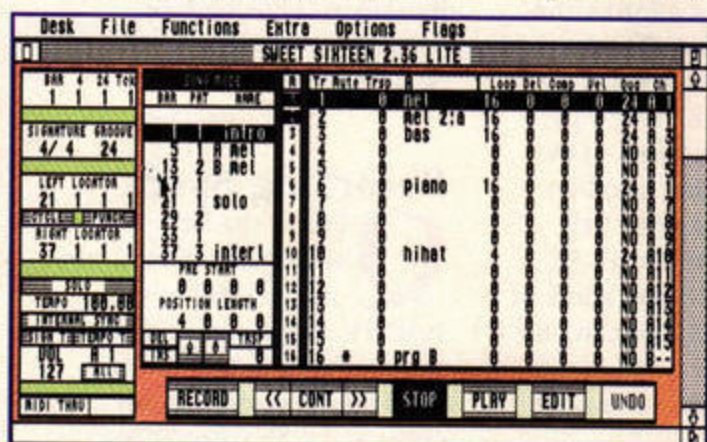
Elastic Suspension

Condenser microphones are extremely sensitive beasts, so it is desirable that their only contact with the microphone stand is via rubber bands, which do not transmit sound well. Connecting the centre of the microphone holder to the outer band by a lattice work of rubber bands ensures that the aural impact of any knocks and bashes is minimised.

A If you are trying to record SysEx MIDI messages on the Rave sequencer, you will experience problems, as Rave is unable to record this kind of data. This may be a good opportunity to upgrade to a sequencer that can exploit the

rest of your setup to the full.

If your budget is tight, Sweet Sixteen (£60) from Hands On MIDI (☎ 01705 783100) may be the answer. This sequencer records SysEx with no difficulty at all and will display adequately on your colour television.



Sweet Sixteen may not be the world's most advanced sequencer, but it does record SysEx faultlessly.

Missing link

Q When I received this month's copy of ST FORMAT, I was pleased to see that Cover Disk 74 contained a MIDI file. I connected my 1040STFM to my Yamaha PSR410 keyboard and decided to give the file a whirl. It was only then that I realised I hadn't got a clue how to get the thing to play. I am new to computing so my knowledge is a bit limited.

DT Hayes, Leeds

A Luckily for you, there is a program called FIMP that does exactly this. What's more, we have managed to cram it on to this month's already

over-flowing Cover Disk. To get started simply follow Nick 'The Boy' Peers' simple instructions on this month's Cover Disk pages.

If you have any questions, or would like to see a particular subject covered in The Score, please write to Andy Curtis at The Score, ST FORMAT, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW or e-mail him at andy@adlib.co.uk. Please include your full name and details of your MIDI set up and computer.

Sound of Success winners

There is always a lot of interest when ST FORMAT runs a competition, but even we were amazed by the deluge of entries for our Sounds of Success contest. Many of you obviously have a keen interest in MIDI and music, and there is no doubt that Cubase Score 2 is a very attractive prize.

Among the many entries there were a few which merit a mention for the wrong reasons. Some people sent in tracker MOD files, a couple of which were rather good. Sadly, they failed by virtue of not being MIDI files. Thanks, also, to the gentleman who sent us a picture file – unfortunately, it also failed at the first fence.

Aside from these exceptional submissions, the majority of the entries were well-constructed and entertaining to listen to. There were, however, four pieces that stood out head and shoulders above the rest.

Fourth place

Styles, by Jaap Kramer of Drachten, Holland

Jaap Kramer begins his track with a short orchestral section in classical style, followed by a jazz bridge into a jazz funk middle section. Excellent use of bass guitar effects makes the piece rhythmic and fun to listen to. The sax solo, however, lacks a good melody line, and this is where this piece loses out. Towards the end the instruments peter out, leaving a sole electric piano to finish off on its own.

While there is a high level of technical skill shown, particularly in a great bass solo, Styles sounds more like a GM demo track than a piece in its own right. Overall, it's a skillful track showing well-developed MIDI programming talent, but it was a little lacking in musical content.



As you can see, we had stacks and stacks of entries for our Sounds of Success competition. We listened to each entry a couple of times before making a shortlist and then, eventually, selecting a winner. Javier Simon take a bow.

Third place

Paptrack, by Paul Waring of Willenhall, West Midlands

This track starts with a slow piano solo before the drums kick in to reveal a very commercial-sounding pop piece with dance overtones. However, the beat is not relentless and is broken up with some good middle sections. Brass stabs are used to great effect, and there's dynamic variation throughout.

Once again, there is no real tune to latch on to, despite an excellent overall sound. Nevertheless, the tune is well programmed and has loads of punch. Overall, a tight, punchy piece of music that lacks a strong melody line or hook.

Second place

Carter's Bar, by Rory Hollins of Edinburgh

This piece is unlike any of the other entries, because it is in the style of traditional Scottish music. Extensive use is made of harp, accordion and whistle sounds, together with creative percussion effects. Rory also uses volume settings carefully to give a rather natural and understated feel to his

music, which is very pleasing.

The whole piece sounds just like a high-quality Scottish folk group and this is very impressive. Full marks must be given for sound selection and real time recording skill. Overall, a deceptively simple and musically impressive track.

The winner

It's Only a Dream, by Javier Simon of Murchante, Spain

Our winner uses a short orchestral introduction before launching into an almost Latin groove. Javier uses unusual chords to enrich the sound, and couples them with cleverly timed syncopation effects. The gentle jazz guitar solo at the beginning is contrasted with the over-drive guitar towards the end. All

the way through the backing gently builds with generous use made of latin percussion and superb guitar strumming effects.

As the piece ends, Javier weaves in brass stabs with the guitar solo to create a convincing climax before generating a fade-out via MIDI. Overall, a thoroughly entertaining piece showing mastery of MIDI programming and superb musical skill.

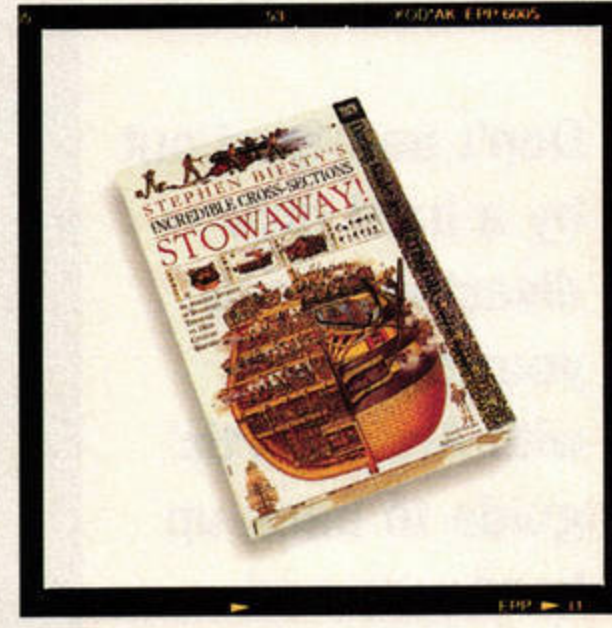
Finally

Of course, you don't have to take our word about the relative merits of these winning entries, because all four feature on this month's Cover Disk (turn to page 6 for more details). Our thanks to Harman Audio for sponsoring this competition, and to all who took the time and trouble to enter. There were many tunes that showed very great musical promise, but in the end there can only be one winner. Congratulations, Javier – your copy of Cubase Score 2 is on its way.

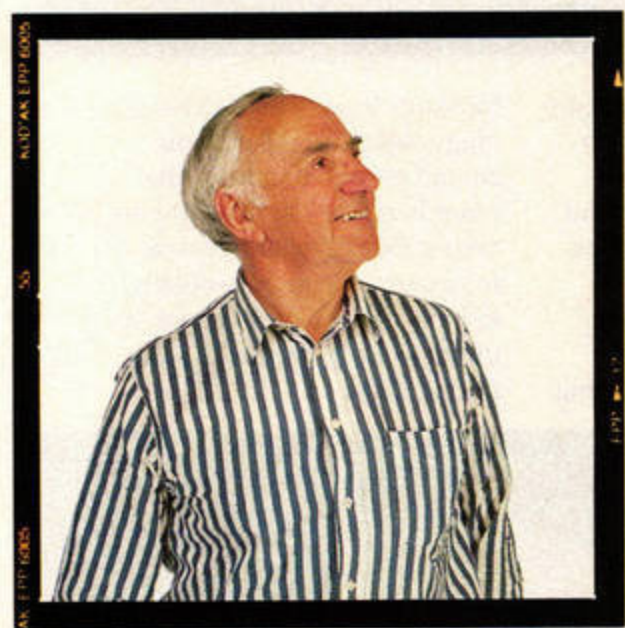
We are also happy to announce that our three runners-up will each receive a one-year subscription to ST FORMAT as a reward for their outstanding entries. *stf*



At last, a PC magazine for **everyone**; a PC magazine in crystal clear **English**;



a PC magazine loaded with **entertaining features** rather than endless reviews;



a PC magazine written for **real people**, not spotty nerds. At last, **PC Guide**.



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The PC magazine that speaks your language.



Back up your hard drive

Don't be wiped out by a hard disk disaster – keep your data safe with Andy Curtis' guide to back-up hardware and software.



Hard drive owners are forever being told to back up their data. This is all very well in theory, and most people nod seriously, vowing to make the suggested backup... soon.

When you boot up your machine a year later and the hard drive is as dead as the proverbial dodo, you may well wish you'd done more than nod. Please don't think that it won't happen to you. It will. However, if you take protective action now, you can avoid most of the heartache of a major hard drive crash.

There are four things you need to acquire in order to back up your hard drive successfully:

- **Hardware:** a data storage device of some sort.
- **Media:** disks or cartridges for your back-up hardware.

- **Software:** a program to help you back up your data.
- **Time:** set aside a regular time slot for backing up data.

Hardware

Depending on your budget, you can use anything from your built-in floppy drive to a dedicated hard drive for creating backups.

Floppy drives

Everyone with an ST is sure to have at least one floppy drive. A standard double density, double-sided drive can store around 720K on each floppy disk. This means you will need approximately 140 disks to back up a 100MByte hard drive. If

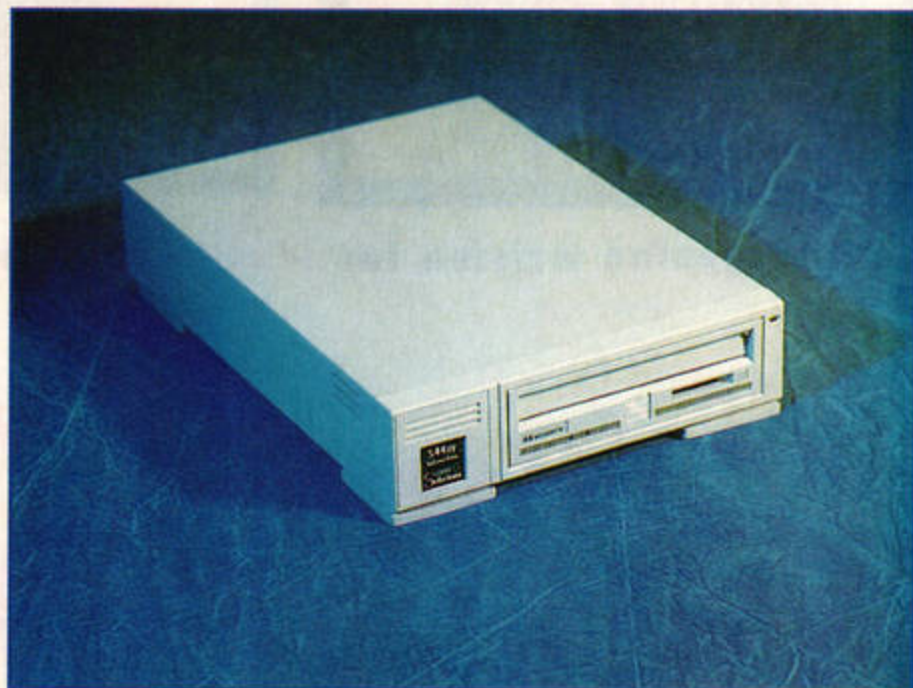
you have a high density drive, you can reduce this figure to around 77 disks.

It is very handy to have an external drive in addition to

your internal one. Your backup program can switch between internal and external drives, enabling you to have a second disk ready and waiting as the first one fills up.

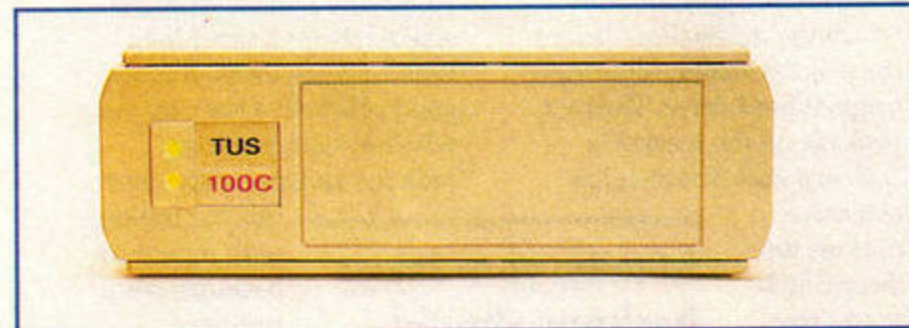
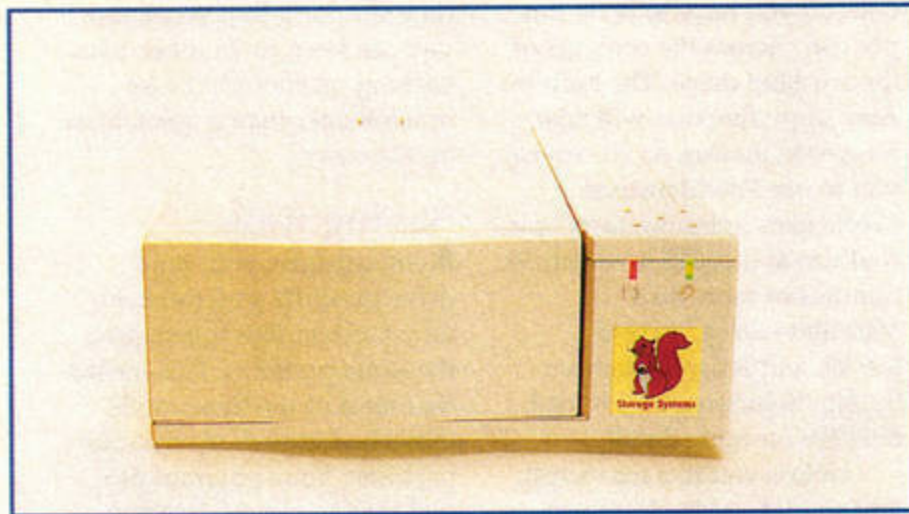
The problem with floppy drives is that they are too small and way too slow for big

backups. If your hard drive is bigger than 100MByte, you should consider some of the other hardware options. If you own a 750MByte hard drive, for example, you are unlikely to have the patience to back it up on to 1,050 double density floppy disks.



SyQuest drives have been around for a long time, but they're very noisy and may well be rendered obsolete by the new Iomega Zip drives when they become freely available.

Take protective action now to avoid the heartache of a hard drive crash



You can use a hard drive to back up a hard drive. It sounds silly, but it works – and it's fast. But ask yourself: will you be able to resist using your new drive for extra storage?

You can buy a standard external double density floppy disk drive, or a high density one, from The Upgrade Shop. The high density drive includes a complete fitting kit. The double density drive is £58 and the high density drive is £79.99. Call The Upgrade Shop on ☎ 01625 503448.

Hard drive

It sounds silly, doesn't it, but purchasing a second hard drive, ideally one the same size as your original, enables you to back up your data quickly and effectively. The second unit only needs to be connected when the back up is taking place, so it won't get in your way the rest of the time.

If your drives have SCSI input and output ports on the rear, simply chain the back-up drive on to your working drive with a 50-way SCSI extension cable. Hey presto, your hard drive is backed up before you know it.

The cost of hard drive mechanisms continues to fall, and remember, you will not need another SCSI host adaptor if you are only adding an extra SCSI device on to the chain. This means that the second hard drive you buy will definitely be cheaper than your first.

The only real problem with this method is that you

end up with a fully functional hard drive that ostensibly just mirrors your working drive.

Many people who choose this option actually end up using the drive as extra storage. If you do decide to go for this approach, make sure you can keep to it, or you will end up with twice the problem you had with a single drive.

A 105MByte hard drive

Low-price, high-capacity cartridges make Zip drives the ideal back-up tool

SyQuest

Syquest is the original removable media hard drive solution. The traditional cartridge sizes are 44 and 88MByte, although smaller, more modern, SyQuest formats are now available. Despite a number of rather intrusive problems, the format is well loved by many, particularly those in the publishing industry.

The cartridges are rather vulnerable to corruption and they are not particularly cheap when compared to the new Zip disks. The drives themselves are noisy in use, and cartridge swaps are a tediously lengthy affair.

You can buy an 88MByte SyQuest drive and cartridge from HiSoft (☎ 01525 718181) for £299.

Zip drive

The new Zip drives have taken the computing world by storm. They are cheaper than most SyQuest drives, and are

enticing many people away from the older technology.

Zip drives are very quiet, and the data transfer rate is similar to that of an old hard drive (800K per second). They are useful as a day-to-day storage unit, but if you buy the requisite number of 100MByte

cartridges, you can also use them as back-up devices. Backing up to a Zip drive isn't quite as quick as using a second hard drive, but once you're done you can put in a fresh cartridge and use the drive for something else.

Zip drives are inexpensive and versatile, and they can be used on most computer platforms, so they are in huge demand at the moment. You can order one from HiSoft (☎ 01525 718181) for £189, including a cartridge.

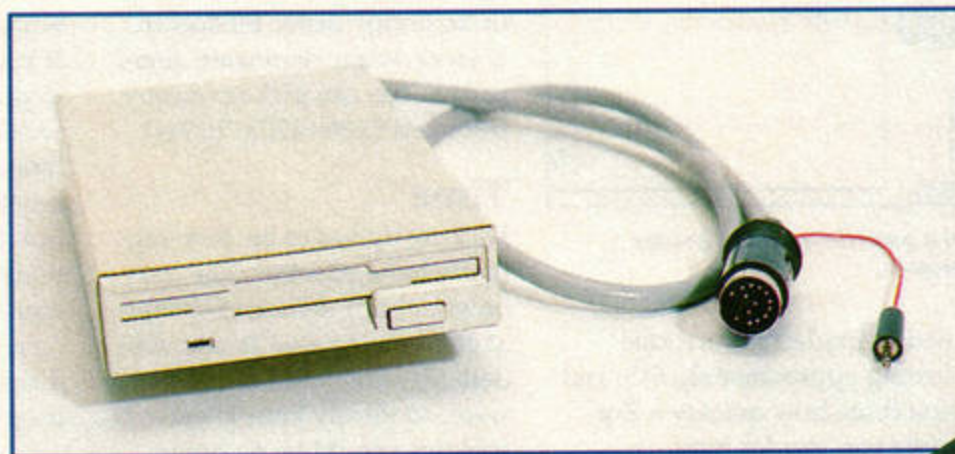
Summary

Floppy drives are the obvious first choice. They are ideal for backing up smaller hard drives (up to around 100MByte). However they lose out, particularly on large capacity hard drives, because of their low capacity and slow data transfer rate.

If you can cope with the seeming perversity of using a hard drive to back up a hard drive, a second hard drive enables you to back up your data quickly and reliably. And let's face it, it's highly unlikely that both hard drives will crash at the same time.

The current generation of SyQuest drives represent the technology of the past. They may soon be retired completely in favour of more modern technology. These drives are expensive, slow and noisy, and it would be unfair of us to recommend them to you for backing up your ST's hard drive.

Low-price, high-capacity cartridges and good turn of speed make the Iomega Zip drives the ideal back-up tool. Your drive will be backed up in minutes rather than hours, and you can still make use of the drive between times.



An external floppy drive will speed things up slightly, but floppy disks are still the most unreliable and inefficient back-up method available.

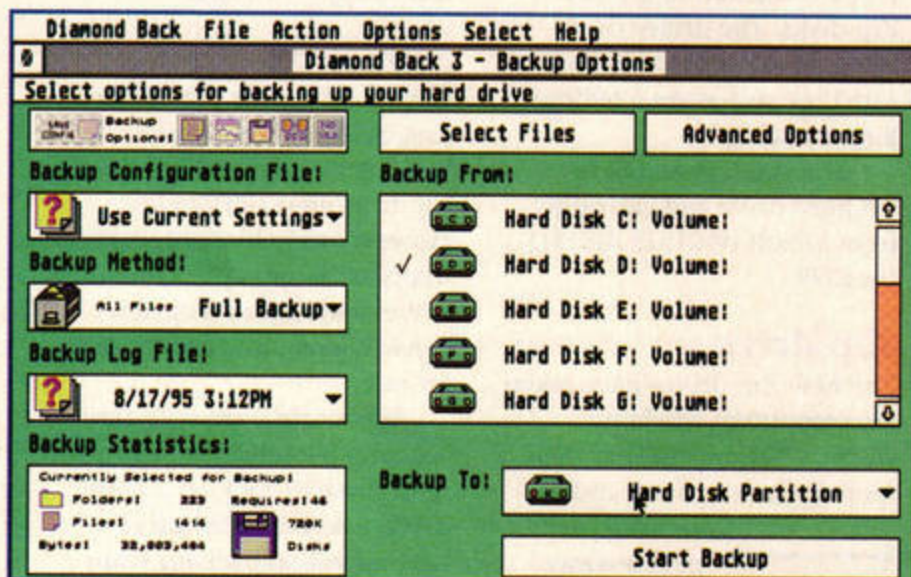
from The Upgrade Shop (☎ 01625 503448) will cost you £169, while a 365MByte hard drive from HiSoft (☎ 01525 718181) will cost you £219. Both drives come complete with a 50-way SCSI cable.



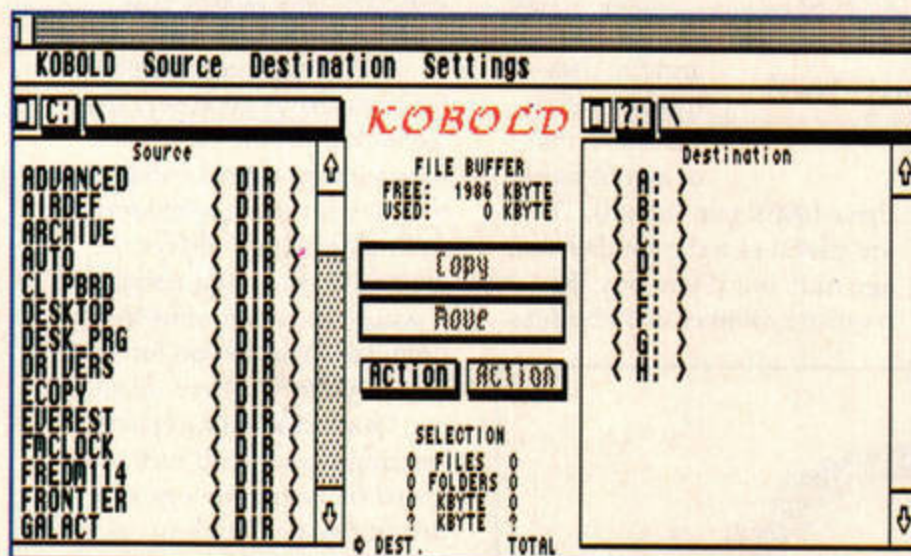
Zip drives offer 100MByte of storage for as little as £11.75 per cartridge. They could be the future of removable media.



Elf Backup is a simple but effective shareware hard drive back-up utility. If you are planning to back up on to floppy disks it will do an excellent job for you.



Diamond Back 3 is in a league of its own. It has many options, and will soon feature direct support for Zip drives. Speak to the folks at HiSoft (☎ 01525 718181) for more details.



Kobold is capable of copying files very quickly, and is particularly useful if you are planning to back up one hard drive directly on to another.

Media

If you have a large hard drive, the cost of disks or cartridges is an important consideration.

A box of 100 floppy disks costs £30-35 (double density), or £40-45 (high density). SyQuest cartridges cost around £30 (44MByte) or £53 (88MByte). The new Zip cartridges, on the other hand, are relatively inexpensive – around £15 each, or £117.50 for a pack of ten.

To back up a 100MByte drive, for example, you will need 140 double density disks, which will set you back between £40-50. Compare this

with a single Zip cartridge costing approximately £15, and you'll see how quickly a Zip drive can pay for itself.

The same back up on to SyQuest cartridges would cost £83, as you would need one 88MByte and one 44MByte cartridge to do the job. With a fixed hard drive as a back-up device there is, of course, no charge for the media, but the drive is permanently tied up.

Software

If you choose the second hard drive solution, your back-up drive should be at least as big your original drive. In this

case, all you have to do is simply copy across the contents of the working drive. The built-in Atari copy function will take forever to do this, so we advise you to use *Kobold* instead.

Kobold uses lightning-fast copy routines and could save you 30 minutes or more on a 100MByte drive. It costs £39.95, and is available from System Solutions. Call ☎ 0181 6931919 for more details.

Unless you're a masochist, you should use back-up software for any procedure in which the destination disk or cartridge is smaller than your original hard drive. The best package on the market is *Diamond Back 3*, which has extensive options for floppy and hard drive owners (if you use a SyQuest, treat it as a hard drive. Zip

drives will soon be supported directly). *Diamond Back's* log files help you keep track of everything, and it can compress your data as it transfers it. *Diamond Back 3* costs £49.95, but owners of the previous version can upgrade for just £24.95 (we recommend that you do, because version 2 sometimes had problems with high density floppies). Contact HiSoft on ☎ 01525 718181.

If you have a small hard drive and only intend to back up to floppy disks, *Elf Backup* is an excellent shareware alternative. You can pick up a copy from LAPD (☎ 01773 761944).

Time

Backing up has to be done regularly to be effective. The data on your hard drive can change at an alarming rate as you save data files and add new software, so ideally your latest backups should be no more than two weeks old.

If you are backing up to floppies, *Diamond Back 3* gives you the option to create incremental backups. It compares the current state of your hard disk with the log file from the previous backup, and only backs up files that are new or have changed. If you are using a second hard drive, Zip drive or SyQuest, it is almost as quick to back up the whole lot.

Whatever your back-up system, set aside a regular

time slot for it that you know you can keep to. In most cases backing up shouldn't take much longer than a quick blast on *Llamatron*.

Saving time

If you organise your hard drive carefully, you can keep all your data files together on the same partition. This means that most of the time you'll only need to back up that one partition. Your program files will tend to remain unchanged, so they can be preserved separately on a set of long term back-up disks. It is also good practice to back up your whole system every six months, and to supplement

this big backup with mini data backups every fortnight.

Avoid using the compression option, as it makes files more difficult to

retrieve in the event of an error in your back-up disks. The best way to save time is to use a faster, higher capacity medium. For example, high density floppies are better than double density disks, because the disk does not need to be changed so often. If you are willing to invest a little money, the speedy options are hard drive, SyQuest and Zip drive.

Final countdown

Choose the back-up method which is right for your needs. If you have 100MByte or less to protect, floppy disks may well be the answer. You may lose a few files if you have to rely totally on a floppy restore, but if you have two generations of backups most of your data should be safe. Never rely on a single set of back-up disks, especially if you have used compression.

If you have a larger hard drive, even high density floppies will prove impractical. A second hard drive is one solution, but our vote goes to the Zip drive system. The cartridges are incredibly cheap, and the initial cost of the unit is not beyond the reach of most people.

In the final analysis, it really doesn't matter which back-up option you take, but please do make back-ups. Your data is far too important to be left at risk. *stf*

Project DSP

Paul Hills continues his DSP series with a look at the 56001's registers and addressing modes.

Last month's article included a short program to find the result of an equation which involved multiplication, and some complex addressing modes. In this article, I'll introduce some more instructions.

Compared with many modern microprocessors, the 56001 doesn't have many addressing modes in the 56001. The modes it does have are specialised for the role it is intended to fulfill.

56001 registers

The most important registers are shown in the boxout. The fixed-point registers can be 'concatenated'. That means two or more small ones can be stuck together to make a larger, more precise, register.

The 16-bit registers are similar to the address registers in the 68000, and may be used as general purpose integer data registers if that's what you require.

Let's look at the various registers with some examples. I'll show the results of each instruction underneath.

```
move #0.25,X0
X0 = $200000
```

This loads the value 0.25 into the lower half of the X register. X1 will be unchanged by this instruction.

```
move #$401200,X0
X0 = $401200
```

Instead of a fractional decimal number, a hexadecimal value can be specified directly.

```
move #$40,Y0
Y0 = $400000
```

If the hexadecimal number is less than 24-bit, it occupies the left-hand side of the register. This is because in fixed-point format, \$40 equals \$400000, or 0.5 in decimal.

```
move #0.25,Y
Y = $200000000000
```

Loading into the whole Y register means Y1 is now loaded as well.

```
move #-0.25,X0
X0 = 11100000 00000000
00000000 in binary
```

The first bit (which has the heading -1) is set when negative numbers are used.

```
move #0.25,A0
A0 = $200000
Loading this into A0 is similar to loading into X0. A1 and A2 are unchanged.
```

```
move #0.25,A
A = $0020000000000000
A2 = $00, A1 = $200000,
A0 = $000000
```

The whole of the A accumulator is affected.

```
move #0.8,X0
move #0.7,A
```

```
add X0,A
A = $00C0000000000000
The accumulators can hold values between -256 and nearly +256 because they have an 8-bit extension register to the left of the binary point.
```

Condition codes

If you are familiar with any other microprocessor, it will have a condition code register. Sometimes it may be called a 'status register', or 'flags register', but it's the same thing.

The 56001's most important flags are:

C Carry flag

The carry flag is set if a carry occurs after an addition to the accumulator.

V Overflow flag

This flag is set if the result is too big to fit in the register.

Z Zero flag

This flag is set if the result of the last arithmetic instruction was zero.

N Negative flag

This bit is set if the result of the last arithmetic instruction in the accumulator was a negative number.

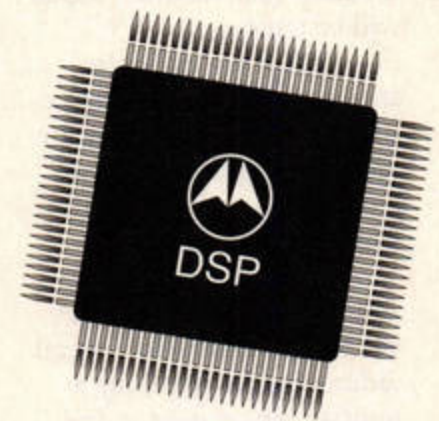
Using the flags

The flags are used to decide what to do next in the program. Normally you will want to jump to another section of the program, using a conditional jump instruction. These look at the flags, and decide whether to jump or not.

The jump instruction will often follow a compare instruction. For example, if we compare the A and B accumulators:

```
CMP A,B ;and then
jump depending on the result
JLO ALLOWB ;Jump to
ALLOWB if A is lower than B
You'll find a list of the jump
instructions in the Conditional
Jumps panel.
```

There is a difference between JHS and JGE, even though they may seem like the same thing. The numbers used by the 56001 can be thought of in two different ways: twos complement (which has negative and positive numbers), and unsigned fixed point. In twos complement numbers, the first binary digit represents -1. In unsigned numbers, it represents +1. Twos complement numbers have the range -1 (10...00 in binary) to 0.999999941 (011...11 in



binary). Unsigned numbers can have the range 0 (00...00) to 1.999999941.

When it comes to comparing two numbers to see which is bigger, it is important to know whether the binary numbers being compared are twos complement or unsigned. We will normally be working with twos complement numbers throughout this course.

The CMP instruction, like many other 56001 instructions, is a little restricted in what it can compare. It can only take the following as its arguments:
A,B X0,A X0,B Y0,A Y0,B
B,A X1,A X1,B Y1,A Y1,B
In 68000 assembly language, virtually anything can be compared with anything else. The 56001, however, is much more restrictive. The trick is to have your quantities in the right registers in the first place.

Addressing modes

The frighteningly named addressing modes enable microprocessors get at their data. For the 68000, they include a bewildering array of complicated methods with pointers and offsets and more offsets and pointers. To a beginner, this is confusing, and so you may be glad to know that the 56001 has far fewer addressing modes. For the moment, I will only describe

CONDITIONAL JUMPS

JCC	Jump if carry flag is clear (C=0)
JHS	Jump if higher or same (C=0)
JCS	Jump if carry flag is set (C=1)
JLO	Jump if lower (C=1)
JEQ	Jump if equal (Z=1)
JNE	Jump if not equal (Z=0)
JGE	Jump if greater than or equal (N and V the same)
JLT	Jump if less than (N and V different)
JLE	Jump if less than or equal (N and V different or Z=1)
JGT	Jump if greater than (opposite of above)
JMI	Jump if minus (negative) (N=1)
JPL	Jump if plus (positive) (N=0)

the more general ones, which will be most useful.

Most of the examples shown below use the instruction `move`. This has been covered a little already, and we know enough about it now to use it in examples.

Do it immediately

We have already seen several different ways of getting a number into a register. The simplest of all is:

```
move #0.4, A
```

This loads register A with the fixed point value 0.4. It is called 'immediate addressing', because the data value is written immediately before the register name. Here's another example:

```
move #100, R0
```

Do it indirectly

In the last example, the number was an integer. Remember the R0 register points to memory words, it doesn't hold data. R0 is now pointing to address 100 in memory. If we want to retrieve the data that is stored in this address, we can use an instruction like:

```
move X: (R0), A0
```

This is called 'address register indirect' addressing. However, I shouldn't worry about the names of all these different modes. They don't mean a great deal, and are always difficult to remember. The important thing is to recognise the way it is written, and know what it does.

In the example above, R0 is used to point to a memory address. It isn't fixed in X or Y memory, it could point to either. The register A0 is then loaded from that address.

Do it automatically

When a lot of data is stored, it is usually stored in a big block. For example, if we took 50 samples of audio information, we would probably store them in a block of memory, one after the other. When we come to read them back, we would use an instruction like

```
move X: (R0), A0
```

to get the sample value in A0. R0 must then be incremented to point to the next data item. This can be done in one step, using what is known as 'postincrement by one' mode. We have come across this

before in an example program. It is written:

```
move X: (R0)+, A0
```

There are two other something-by-one modes. They are: `move A1, Y: (R0)-` otherwise known as 'postdecrement by one' and:

```
move B0, X: -(R3)
```

which is 'predecrement by one' mode.

There is no 'preincrement by one' mode. According to Motorola, this is because there are not enough opcodes available to have every possible combination of instructions, so some were dropped.

This pre/post idea is extended further using the N registers. These are called Offset Registers, and they can be used in the same way a 'one' was used in the previously described modes, by increasing or decreasing the R register. For example:

```
move X1, X: (R2)+N2
```

This is 'postincrement by N' mode. The contents of the memory address pointed to by R2 are loaded into X1, then R2 is increased by N2. Some example numbers may help:

Before

```
X1 = $A5B4C6
```

```
R2 = $3200
```

```
X: $3200 = xxxxxxx
```

```
N2 = $0004
```

After

```
X1 = $A5B4C6
```

```
R2 = $3204
```

```
X: $3200 = $A5B4C6
```

```
N2 = $0004
```

There are a couple of restrictions to bear in mind when using these modes. First, there is no preincrement or predecrement. Second, the N register must have the same number as the R register, so N1 can only be used with R1, N2 with R2, and so on.

There is one more mode involving the N registers, 'indexed by offset N'. Here's an example:

```
move Y1, X: (R6+N6)
```

In this case, the R register is not affected by the operation. The N register and R register are temporarily added together, and the result is used as a pointer into memory.

There are a couple more addressing modes, but they're not worth covering now. Next month we'll have a look at the 56001's instruction set. *stf*

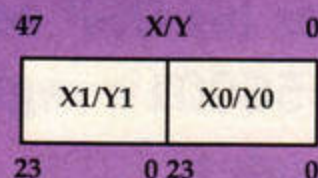
THE DSP'S MOST IMPORTANT REGISTERS

The registers in the 56001 come in two flavours, namely: data registers and integer registers.

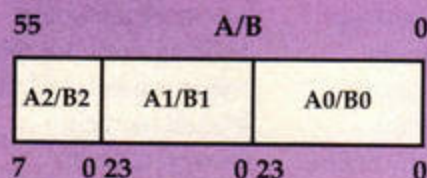
Data registers hold values used in calculations, samples, and such things. They are all fixed-point registers, of various sizes. Integer registers include address pointer registers, and the condition code register. They are shown below, with their width (number of bits).

X data register and Y data register

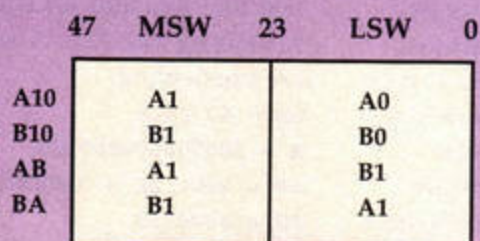
These are both 48 bits wide, and are fixed point. However, they can be used as two separate registers, X0 and X1 (or Y0 and Y1), both 24 bits wide. Thus we have:



There are two accumulators, A and B. When referred to like that, they are 56 bits long. However, they are made up of three registers each. 'A' is comprised of an 8-bit register, 'A2', which is the most significant section, a 24-bit register, 'A1', in the middle, and another 24-bit register, 'A0', which is the least significant section. The values and ranges these registers have were explained in last month's article.



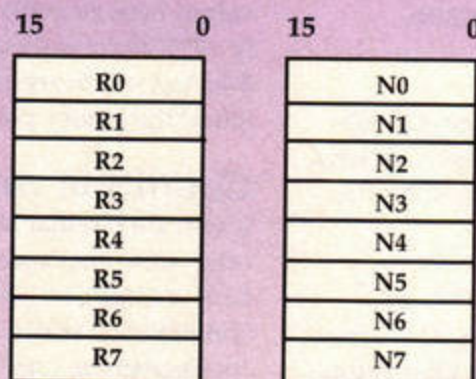
The accumulators can also be used as 48-bit registers in certain circumstances. In this case, they are called A10 and B10 and act in the same way as X and Y (with A1 and B1 most significant). There is also another way that 48-bit registers can be formed from A and B, which is written as AB and BA. All these forms are shown below:



MSW = most significant word

LSW = least significant word

The address pointer registers and offset registers are 16 bits wide, and are integer registers so they hold a value between 0 and 65,535. There are sixteen of them, called R0 to R7 and N0 to N7.



Boot disks

In the fourth and last of our boot disk tutorials, Dug Armstrong prises the sleeve off a typical graphics boot disk and has a look at its contents...

ImageCopy 4 (STF75, 94%) is the mother and father of all graphics accessories. It is essential for image conversion and image library management.

The word graphics covers such a wide range of activities that it would be impossible to stuff all the useful start-up programs on to one disk. However, here are a few helpful goodies which will help you with most graphical work. Remember, though, the more accessories and boot programs you use, the less system memory you will have for your graphics software.

Size doesn't matter

Sometimes small programs are the best, and boot software for the ST and Falcon is no exception. If you don't own a hard drive, loading and saving

images can be slow and tedious without a good RAM disk utility. *Hybriswitch*, for example, enables you to set up various sizes of reset-proof RAM drive. The end result is lightning-fast performance, at the expense of some of your system memory. *Hybriswitch* is on this month's Cover Disk (see page 6 for full details).

Hard drive owners probably don't need a RAM disk, but a small caching program such as *NCBS* or *CACHE* will markedly improve the performance of your hard and floppy disk drives. Meanwhile, Falcon owners would be mad not to boot up with *JPEGD*, the freeware Atari JPEG decoder.



It uses the DSP to speed up the processing of JPEG pictures wherever possible.

Blank it out

Graphics applications are of limited use without a decent screen display, and there are several ways you can enhance this. Once again, *NVDI 3* (see last month's Boot Disk tutorial) will speed up screen updates and once installed you won't look back, we promise.

Sometimes small programs are best, and boot software is no exception

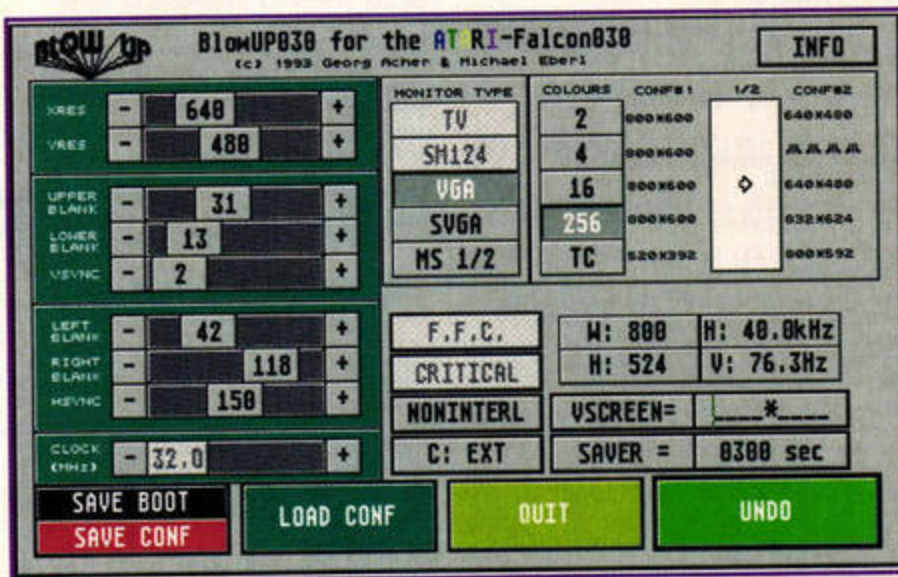
Screen enhancers which increase the size of the display, such as *MonSTER* for the ST and *BlowUp030* for the Falcon, are also very handy for viewing large images. *BlowUp* is doubly desirable, as it can also blank out the screen and divert more CPU time to image manipulation. This leads to massively reduced rendering times for raytracing, dithering and image conversion. You can achieve a similar effect with *TurboBlanker*, a highly useful and dedicated shareware screen-blanking utility. This only runs on the Falcon, but is

regularly updated. Look out for a full review next month.

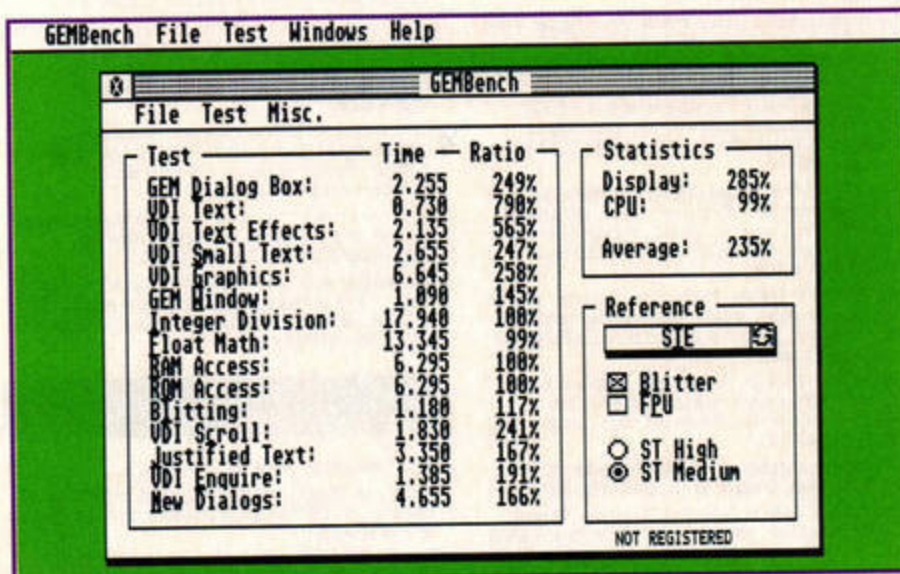
The ultimate

If you can spare the memory, the ultimate accessory for graphics work is *ImageCopy 4*. It is a full-blown image viewer and processor, and converts just about every graphic file format under the sun. It enables you to create interactive 'thumbnail' catalogues of your images. It doesn't need to be loaded at

boot time, unless you wish to take snapshots of the desktop or inside GEM software. In this case, use the cut-down version of the program, which requires less memory. *stf*



BlowUp030 improves the Falcon's display dramatically, and can also speed up processing.



Even earlier versions of *NVDI* speed up display routines quite considerably.



Hybriswitch creates a reset-proof RAM disk which is invaluable for fast loading/saving.

WHERE TO GO

ImageCopy 4	£39.95	FaST Club, ☎ 0115 945 5250
BlowUp030 1.7	£15	System Solutions, ☎ 01753 832212
NVDI 3	£49.95	System Solutions, as above
NCBS/CACHE,		
JPEGD, HRAMDSK2, MonSTER		Public Domain/Freeware
TurboBlanker 1.36e		Shareware

Reader ADS

SALES

Calamus 1.09N, as new, with manual. £40. Phone Daniel: 0171 3597825.

HP Deskjet 500 printer. Little used. Excellent condition, boxed with all manuals, etc. £150 ono. Phone: 01734 426319 after 6pm.

Atari SC 1224 - monitor, drive, keyboard, mouse, joysticks and mags. 80+ games. VGC. Sensible offers. Tel: 01344 420382.

STE 2MByte, Protar 40 MByte hard disk, SM144 high res monitor, Philips CM 8833-11, Timeworks Pub 2, Calamus, At Speed 16MHz, DR-DOS 5, ext drive, much more software. Offers over £500. Tel: 01294 823890.

Falcon 4MByte RAM with speakers, mouse, joystick, Truepaint, Devpac 3, Devpac DSP and books, etc. £290. Tel: 01925 631198.

520STFM upgraded to 1MByte. 50-100 games, many of them boxed with instructions. £250 ono. Tel: 01527 527423 for details.

Bare SCSI hard drive. Seagate ST3235N, 248MByte. No bad sectors. £95 ono. Tel Bryan: 0117 9401702.

Degas Elite, Timeworks Publisher, Quartet, DG Base. All boxed with manuals. £10 each or £30 for all four. Postage paid. Telephone Chris: 01639 633715.

STE Power CD Vol 1 Compo CD-ROM. £15.00 plus postage. Tel Eire (+) 353 21 778168. Highly rated.

Atari 520STFM with Epson printer, joysticks, mouse, over 30 games, Lemmings, More Lemmings, R Type, Predator, disk organiser, Music Maker, First Basic and Book. Offers. Tel Darren: 01452 857505.

1040STFM, work centre, mouse, joystick, games, DTP, word processing software. £100 including P&P. Phone Peter: 01494 461729.

Twelve issues of ST User (Dec 93 to Oct 94 inc) including all cover disks in mint condition £30 inc P&P. Tel: 0121 3288259.

Five ST games, including Sim City and Robot, Monsters £10. SEUCK £6. Stac £7. Falcon plus 2 mission disks £10. Write to: I Sussain, 165 Ash Road, Saltley, Birmingham.

STE, 4MByte RAM, TOS 1.6 and 2.6. High density floppy and second floppy, 50MByte hard disk, 8833 monitor, loads of boxed games, magazines and cover disks. £450. Buyer collects. Tel: 0171 635 9029.

Atari 4MByte STE. Atari SH205 HD. Philips CM8833 MK2 monitor with stand. External DDSD. Loads of software, games, mouse, joystick and mags. Phone: 01803 211289 (Devon).

35 original boxed games, inc Golden Axe, Ninja Spirit, Fiendish, Freddy's, Ghostbusters 2, etc. Won't separate. £60. Phone Dave: 01634 366316.

100HD disks £30. Phone Matthew on 081 5244326 (evenings) or 0973 301882 (mobile).

Atari 1040STE - as new. Boxed. Full Family Curriculum packs. Three years mags and cover discs. Full STOS Basic Course. Loads of games. Phone for details. £25 ono. Tel: 01420 85297.

Atari, Cubase Lite. Boxed. New. Unregistered. £45. Extraports 48 channel expander £40. Hands On 16+ £10. Tel Eddie: 01934 812715.

A new boxed copy of Civilisation £12. Roadwars £3. Falcon (the game) £5. Lemmings £5 (plus codes). The lot for £22. Phone: 01623 558714.

Falcon030, 4MByte, 210MByte IDE Drive, TOS 4.4, Atari colour monitor, Multi-TOS. Some software. £700. Tel: 01453 823088.

Citizen 120D. High quality. 9-pin dot matrix printer for sale. Includes tractor and manual feed. Excellent condition. Only £50. Phone: 01656 660941, and ask for Geraint.

Atari Jaguar for sale, including Alien Vs Predator, Doom and Cybermorph. Bargain not to be missed - just £160 all boxed, phone me now: Coventry 01203 610951. Ask for Lloyd.

Atari 520STFM, 1MByte RAM. Excellent condition. Discovery pack plus games and PD discs and mags. £195 ono. Call: 01923 835775.

A Sega Master system is what I personally am seeking indeed. It comes with World Soccer and Alex Kidd, to be sure. Bargain at £25. Interested? I'll bet you are! Tel: 056 65217 (Ireland).

Deskjet 500 printer for sale. £95. For details, e-mail me at mscxaaj@scs.leeds.ac.uk or write to Adrian, 4 Winstanley Terrace, Leeds LS6 1DS.

Philips CM8835 MK2 monitor, Atari 1040STE (1MByte), 2 mice, joystick. Lots of software, magazines with cover disks, printer. Printer lead. Television lead. £375 ono. Excellent condition. Tel: 01202 521367.

System Solutions MiniS hard drive, 40MByte, requires SCSI lead for Falcon or Translator/ICD link for ST, plus Datalite 2 disk doubler program £75. Interested? Tel Les: 01634 669417.

Sound Maestro digital editing to DAT masters for £600. Usual features plus analogue/digital in/out. Hi res mono monitor and hard disk controller included. Contact Bernard Martin: 01865 300347 or 273246.

Books for sale - Abacus, ST drives £8, ST Machine Language £8, ten original games £10, Arkonoid £3, ST Basic £5, STAC £7. Tel: 0121 3288259.

Mega STE, NEC multisync monitor, external drive. Loads of software - Outline Art, Megapaint, Calamus etc, too much to list. Reluctant sale, need PC for business. £350. Tel: 01902 22360.

Star LC24-200 24-pin b/w dot matrix printer - £90. Tel: Martin 01483 505910 (evenings).

Team £15. Kick Off 2 and Final Whistle and Return to Europe £7.50. Cruise for Corps, MI Tank Platoon £5 each, Kick Off 1 and Extra Time, Goal, F29, Mig Fulcrum £4 each. Multifac £8. Zipstick £5. Phone: 0114 2366819.

Games £10 each: Robinson's Requiem, Addams Family, European Champions, New Zealand Story and Robocop. All originals, brand new with box and instructions. Phone Paul: 01698 286852.

4MByte STE, high and low res monitors, 50 MByte hard drive, B: drive, Star LC20 printer, hand scanner, loads of software, books and magazines, £400 the lot. Tel John: 0181 9236785.

Atari MegaST with high res monitor £210. 40MByte hard drive £90. Second floppy drive £30, boxed games £30. Tel: 01908 233520.

Loads of ST and Amiga games for sale or swap. Also a 88MByte removable cartridge drive, needs cover screws on, willing to swap or sell. Tel: 01446 722219.

4MByte STFM, TOS 1.02/2.06, internal HD drive, manuals, mouse, joystick, sound sampler, programming languages, 30+ original games, 200+ magazine/PD disks, 100+ ST magazines, £200. Phone Darren: 01625 619987 after 6pm.

Atari 520STFM, 1MByte upgrade, colour monitor, second disk drive, Canon PW1080A printer, micro joystick, over 150 games in boxes, 45 ST User and 50 ST FORMAT magazines with disks. All this for £350 (will not split). Tel: 01734 699186.

520STFM, 1MByte, 42MByte hard disk drive, printer, joystick, huge amount of software (430+ disks), magazines (including 60+ ST FORMATS) with cover disks. Sampler. £250 ono. Tel Jethro: 01780 410539.

12 original boxed games for around £15 each. Including Premier Manager 1 and 2, Streetfighter 2, D-Day and More Lemmings. Tel Richard: 01244 880649, weekdays between 4 and 8 pm.

For sale - Gameboy with Ren and Stimpy, three other games and five accessories, boxes and instructions, £75, buyer collects. Wanted: Zero-5 or SubStation for about £5. Phone: 01245 281899.

Atari 520STE 4MByte, SM124 monitor, 32MByte hard drive, hand scanner, Papyrus Gold, NVD1 3, 100s of PD/magazine disks, HP Deskjet 500 plus many extras. £500. Tel: 0131 4471330.

System Solutions high res monitor, as new, £75. Colour stereo monitor, £60. Switch box, £10, or offer on all three. All leads inc. Tel: 01652 635389.

SM124 high res monitor, offers around £50 accepted. Ring me, Paul: 0121 7436669. You must collect.

Philips 8833MKI colour monitor with leads for STE £75. (buyer collects). Tel: 01384 372010. West Midlands.

System Solutions MiniS 127MByte hard drive plus ICD Link and software as new. £125, tel: 01384 372010. Buyer collects (West Midlands).

1040STE Family Curriculum pack. 18 magazines with cover disks. Over £100 games, programs include Calligrapher document processor, KCS Omega sequencer and Replay sound sampler. Phone: 01234 720256 (Bedford). £160 ono.

Software originals including manuals, Hyperpaint, Hyperdraw £8 each. Games also available £5 each, call for list. Tel: 01293 511708 (Crawley, Sussex).

Atari simulations for sale. FIS Strike Eagle 2, AV88 Harrier ASS, F19 stealth fighter, Mic-29m, Falcon with mission disk 1-2, Fighter Bomber, F16 Combat Pilot, Gunship, F29 Retaliator, Thunderhawk, Frontier Elite 2, Night Raider, all for £120 (will not split). No offers. Tel: 01734 699186.

The Astronomy Lab £5, K-Graph 3 £8, Master CAD £15, Timeworks, Swiftcalc £12. Other serious software. Tel Charlie: 0131 3345799.

Cubase Lite with manual for Atari ST £50. Phone: 0121 3513369.

VIDI-ST real-time video grabber, good condition, complete with VIDICrome software, £10. Call Mark: 01733 555777 ext 2248.

Atari memory boards, 4 0.25MByte SIMMs only £20. Call David on 0181 9029784.

Team (brand new) £15, Quarter (brand new) £15, STOS Compiler, STOS 3D £5 each.

Atari ST computer, new monitor plus extras. Over 300 games and programs £400. Tel: 01909 484994.

256K SIMMs for sale. Any offers? Also Amstrad modem for sale, 2,400 with software, cable and manual. Make me an offer on: 01707 651801 (Potters Bar).

4MByte STFM, 30MByte hard drive, LC-10 colour printer, colour and mono monitors, scanner, video grabber, Neodesk, Calamus, Outline, image software, games, joystick, all manuals, £450. Tel: 0121 6051389.

Atari ST and nuf games, ST FORMAT 9-45 with disks, ST User 50-84 and disks, £50 or swap for TOS 2.6 for STE and switcher, keyboard reset version. Tel: 0181 9649382, ask for Rogie.

520STFM upgraded to 1MByte and TOS 2.06 plus external disk drive, Philips CM 8833 colour monitor, WS 2000 modem, accessories and assorted software. Buyer collects. Tel: 0181 9411118.

520STFM (1MByte), games include Street Fighter 2 and Parasol Stars, all ST FORMAT magazines 32-73 including disks, joystick, mouse and all leads. Mags only, £120, all £100. Tel: 0117 9622719.

For sale: LDW Power Spreadsheet version 2.0 £28, 60ml inkjet/bubblejet black refill £8, many original games, for info and offers tel: Dipak 0181 5221342 (4-9 pm). P&P inc.

Atari STE, 2MByte, Reflex Graphics, 30MByte Supra hard drive, Atari SC1435 colour monitor, extra floppy drive, two mice, joysticks, games, manuals, discs, magazines, etc. Also 520STFM all for £550 ono. Tel: 01922 494409.

Atari 520STFM 1MByte, Phillips colour monitor, second disk drive, joysticks, mouse, many games, manuals, blank disks etc. £115. For details, tel: 01268 742559 after 7pm (Essex).

Falcon030, TOS 4.04, 4MByte RAM, 65MByte hard drive with software and magazines. Will not split. £550 - no offers. Also, Citizen dot matrix printer - £50. Tel: 01257 425131.

ST FORMAT magazines 21-75 inc. No disks. No offers. Buyer to collect. Contact Alf: 01204 64695 (Bolton).

Atari 520STE 1MByte RAM, SM124 monitor, Progate 40MByte hard disk, mouse, manual and software. £350 ono. Also printer available as extra. Tel: 01922 479285.

Atari MegaST4, 80MByte hard disk, SM124 monitor, mouse. £400 ono. Also printer available as extra. Tel: 01922 479285.

4MByte Atari STE, Star 24-pin printer, stereo Replay sampler cartridge, manuals. Boxed software: Concerto, 3D Construction kit, Quartet plus some games - £350 the lot. Phone: 01827 66797 (Midlands).

520STFM, 1MByte, printer, hard disk, joystick, loads of software (430+ disks), loads of magazines (inc 60+ ST FORMATS) with cover disks. Good condition, £200 ono. Phone Jethro on 01780 410539.

ST games, serious software and hardware. For details write to DG Matthews, 11 Gordon Road, Blyth, Northumberland NE24 3EL.

37 ST games - original - boxed. Some new (Dynablast, Chaos Engine, Lotus 3) £5-7 or £180 the lot. Send SAE for list to: B Pancha, 38 Gurdon Road, Charlton, London SE7 7RW.

Steinberg ProVill MIDI music program, sequencer for Atari ST with score grid and drum edit functions. MIDI files can be transferred to Cubase sequencer. £45. Tel: 01902 865901.

Games for sale. First Samurai without box, Street Fighter, The Ball Game without manual, WWF European Rampage Tour, all games £5 each, call Johnathon: 01702 303184.

WANTED

Hand scanner with software suitable for Atari STE, with manuals, power supply etc. Fair price paid. Call: 01623 662360, ask for Noel.

Can any one supply me with a printer driver for Protekt 6 for use with HP 520 or 550C. Tel: 0121 603 1205.

Copy of megatraveller 1 or 2, complete. Willing to pay up to £20 if originals and boxed. Phone Roy: 01530 223341 after 6pm.

Atari Portfolio wanted. Phone: 01928 572813.

SM124 monitor wanted. Tel Andrew: 01223 861215.

Copies of Champions of Krynn and Pool of Radiance, also Sim City and Ishar 3. Contact: D Spedding, 41 Benson Crescent, Doddington Park, Lincoln, Lincolnshire LN6 3NY.

Noddy's Playtime (full version, not demo) wanted, no longer available through supplier. Phone: 01703 787642 (evenings).

Issue 37 of ST FORMAT. Disks not required. Phone Anthony: 0161 7407387, after 6 pm.

Atari 520STFM, 1 or 2MByte upgrade, will pay reasonable price (£30 ono). Please contact: Mr T Wilson, 19 Steele Crescent, Balloch Dunbartonshire, Scotland G83 8AP with details.

Vidi ST 12 digitiser, will pay £20, plus does anyone want to swap PD games or utilities, or commercial games, phone Stuart: 0131 332 9696 (evenings).

Wanted desperately, anybody out there got the game Resolution 101, if so please ring me immediately, ask for Bob. Tel: 01933 381014.

Wanted urgently, Wages ST program or any good British wages/PAYE program for STE. Also wanted, shoot'em up construction kit (SEUCK). Tel: 01253 500145, and ask for Roy.

Any laptop computers (notebooks) in reasonable condition. Good prices paid. Please hurry, urgent. Tel: 01924 400988.

Does anyone have a DD of Dragon's Lair, I can exchange it for a SD? Does anyone have a hint for Wonderland? Contact John Hamilton, 10 Simpson Court, Crail Anstruther, Fife, Scotland KY10 3SZ.

Head over Heels by Ocean Software wanted. Will pay £5, tel: 01254 55413, ask for Gareth.

SWAPS

Quarter Jaws, Timeworks 2, Rugby World Cup, may swap for broken down (complete) STFM or STE or working externals. Tel: 01132 762479.

I've a Supra 2400 modem that I'd like to swap for a copy of NVDI 2.5/3 or a Jaguar powerpad. Write to: Michael Crompton, 28 Pen-An-Gwel, Tremuith Lane, St Ives, Cornwall.

Has anyone got any fonts for Calligrapher Professional to swap (outline type), or curve text. Write to: I Hussain, 165 Ash Road, Satley, Birmingham B8 1OR.

Anyone wishing to swap Calamus, Calligrapher or Papyrus fonts contact: I Hussain, 165 Ash Road, Saltley, Birmingham, B8 1DR.

An Atari STE, 2MByte with games, joystick etc, with NES with games and Amstrad CIC 414 with loads of games, for a 4MByte Falcon. Tel: 0181 368 6049.

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Lemmings 2, Timeworks Publisher, Thunderhawk, Graham Taylors Soccer, ST assembly language. Write to: P Spiers, 35 Ardmore Avenue, Dundonald, Belfast, Northern Ireland BT16 0TB.

STE owner looking for contacts in Scandinavia/Europe. 100 per cent reply. Write to: Valdimar Hauksdottir, Skogarholar 23B, 620 Dalvik, Iceland.

Yamaha PSR 410, GM, 1MByte STE, SC1435 colour monitor, MIDI software, games, utilities, leads, manuals - all immaculate - for Yamaha PSR 2700 or similar - offers. Tel: 01639 642014.

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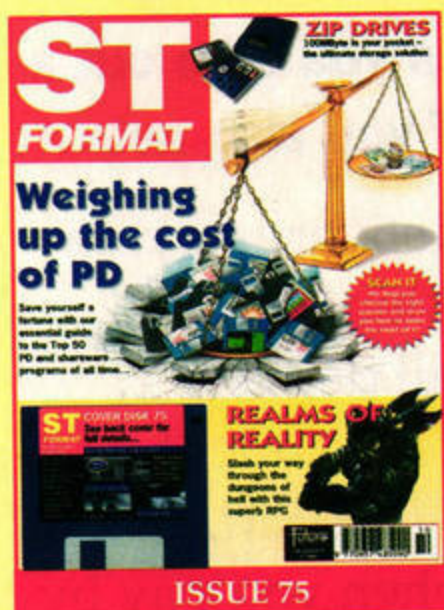
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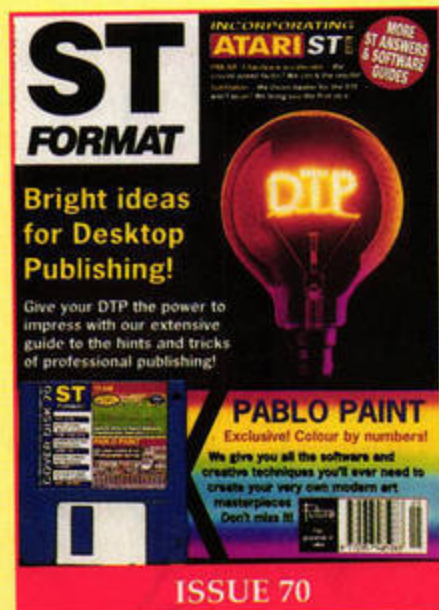
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AUGUST 1995

Disk: Hollywood Hustler, Sweet Sixteen **Inside:** Hard drives; Spotlight Show **Reviewed:** Cubase Score 2, Cubase Audio 16, Rainbow 2, Steel Talons **Tutorials:** KIVI, Disk Opus, boot disks



MAY 1995

Disk: Team demo, Pablo Paint, 525 2.02 **Inside:** DTP guide, plus disk utilities for fine-tuning your ST **Reviewed:** MaxiS hard drive, PAK 68/3, Prima HD/CD **Tutorials:** Pablo Paint, World Wide Web



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Disk: Stardust, Endurance, Route Finder **Inside:** All you need to know about animation; ST First Aid course; DeskTopper **Reviewed:** Zero-5, Metamorphosis, View 2, Art for Kids **Tutorials:** Pascal, GFA Basic



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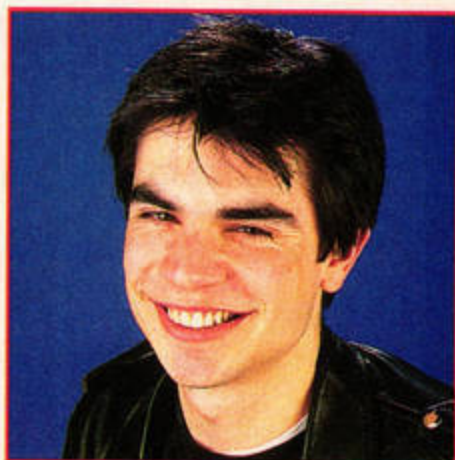


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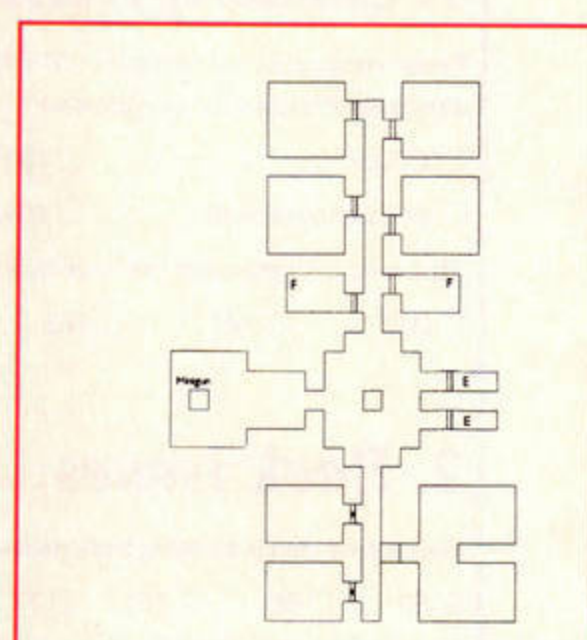
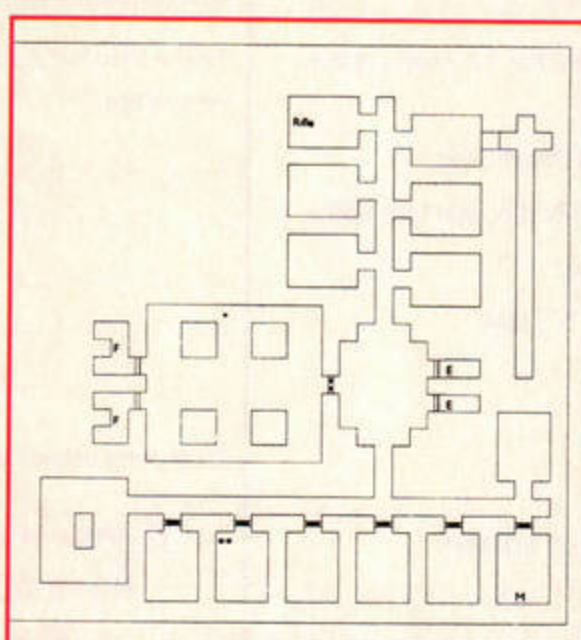
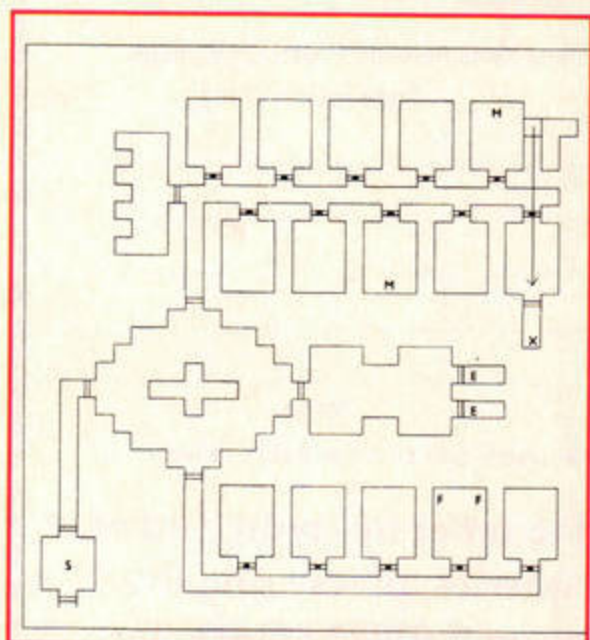


By day mild-mannered reporter, by night a bitter and twisted man... *ST FORMAT'S* resident headcase Nick Peers is now in charge of Gamesbusters.

Gamesbusters

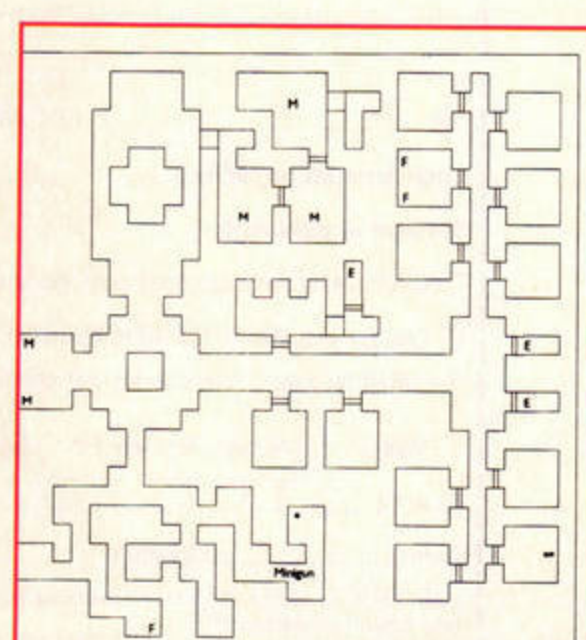
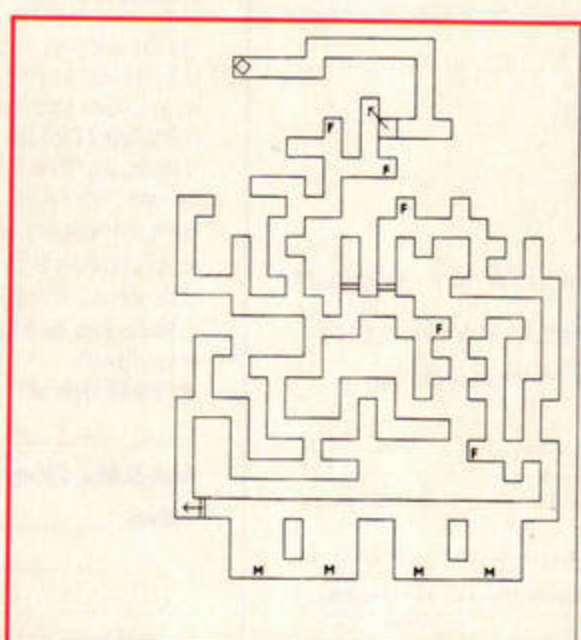
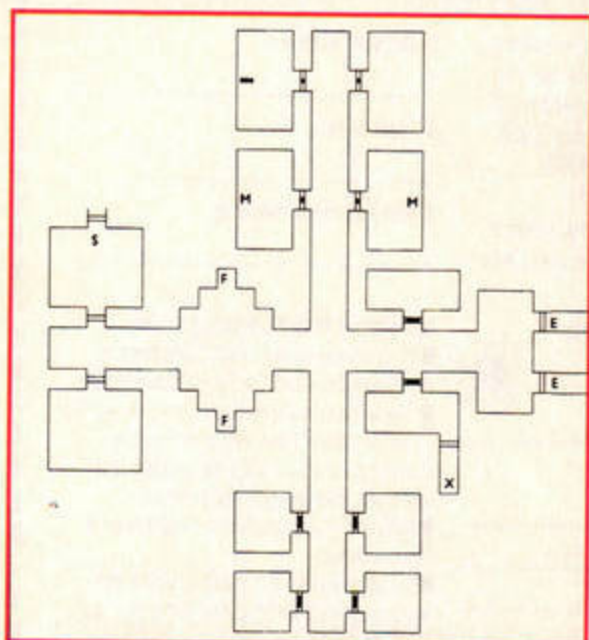
LEVEL SEVEN (EDO)

A whole host of knights, lizards and xorphers stand between you and success on this difficult level. Keep an eye on your health as there's very little in the way of food and medikits.



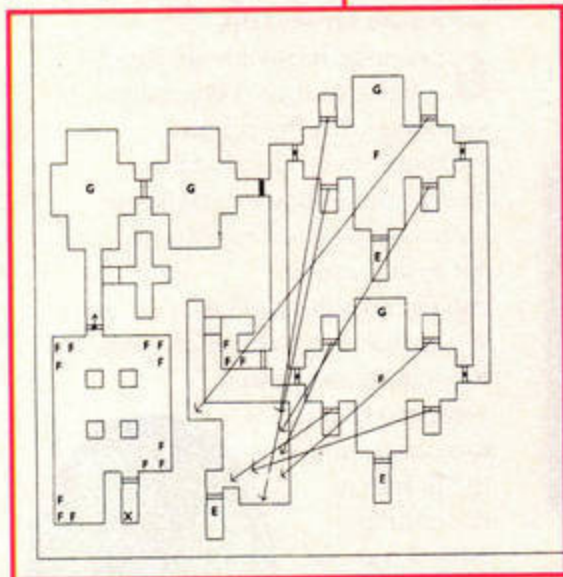
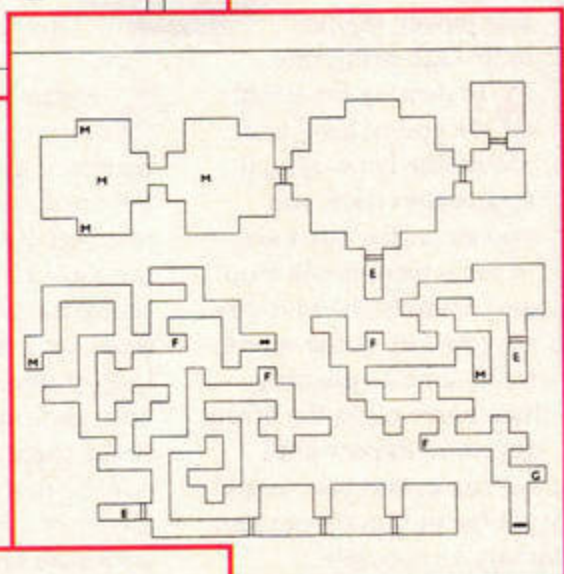
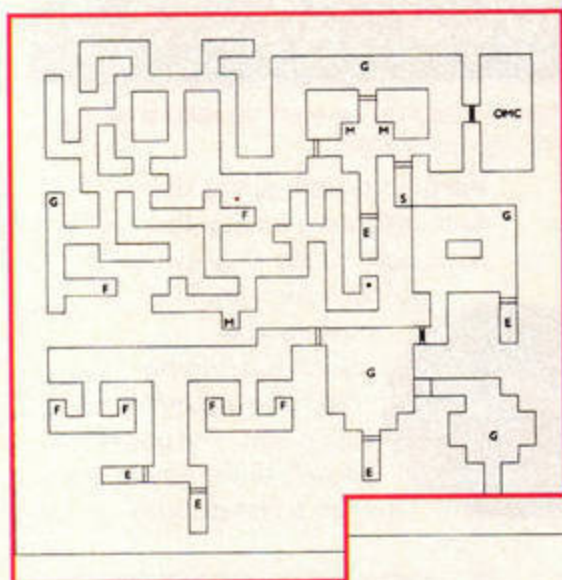
LEVEL EIGHT (MEIJI)

Thankfully, your Commanding Officer provides some relevant advice this time around, although you'll still feel woefully unprepared. This level is teeming with all kinds of different monsters, including one which bears an uncanny resemblance to Ed-209.



LEVEL NINE (TAISHO)

SubStation doesn't get any easier the further down you go. You'll need infrared goggles to make anything out in the gloom, and the scuttling creatures that cling to the ceiling seem to be doing well in this section. Between you and the exit is a big monster that'll take a lot of shots to kill.



Guide to the maps

Apologies to everyone who was confused by last month's key. This is how it should have looked:

○ = red key	⌞ = green door
○○ = yellow key	Arrows: access to secret room(s)
○○○ = green key	M medikit
⌞ = red door	F food
⌞ = yellow door	E elevator
	S start of level
	X exit to next level
	◇ super kit
	G infra-red goggles



arcane (a:'kein) adj.
requiring secret
knowledge to be
understood; esoteric.

Stardust

Fast, playable and superbly presented, *Stardust* is the ultimate outer space shoot-'em-up. Here are some invaluable tips...

Thanks to Mike Kirwan of St Helens for these handy tips for 16/32 Systems' *Stardust* (STF 68, 94%). Mike wins £25 for his diligence.

First up, Mike has the codes for levels two to five. As well as getting you into the levels, these codes give you extra lives and weapon power-ups, so they're certainly worth knowing. See the table below for details.

The lives given in the table don't include the extra ones available in the warp tunnels to levels three and four, or in the special missions before levels three and five (Mike recommends that less able pilots should avoid the special mission before level five and we agree with him). It's therefore possible to begin level three with nine lives (six from

the code, plus a possible two from the special mission, and one from the Warp tunnel).

Mike also provides ten useful tips for any budding *Stardust* pilots:



The fourth level is a visual extravaganza, with the backdrop lighting up with all the explosions.

1 If your energy is almost gone, it's best to switch off the missiles and choose a less effective weapon, because losing a life decreases the power of the current weapon by one

unit and removes a missile (if you have any). Don't forget to change back once the life has been lost.

2 The flamer weapon does a huge amount of damage at close range, even on low power, thanks to its high firing rate.

3 To destroy Ernesti at the end of level one, move slowly away as it approaches until you appear on the other side of the screen. It will stop and open its shield to fire on you. Fire at the centre for as long as possible, then move off in the other direction. Repeat until you destroy it, and you should only get the minimum amount of damage to yourself.

4 To destroy Cherook at the end of level two, use the plasma or bouncer to destroy

the pincers and gills at the back before destroying the main body. If the little eye is still floating around it

must also be destroyed, but be careful as it homes in on you. The upper corners of the screen are the safest place to

be.

5 Destroying the space worm on level three is 'simply' a matter of moving slowly from left to right and letting it follow you. Keep firing and your missiles should destroy the centre pieces. You can also move up and down fractionally to hit the sides of the worm with glancing shots. The last centre piece of the worm can only be destroyed by facing the worm and flying into it with your shields up.

6 Bracmar, boss of level three, is destroyed by long-range shooting with the plasma weapon. If you do get too close, use the flamer and keep your shields up as you try to get away from it.

7 The fourth level boss, Basula, is disposed of with the burster or plasma weapons at medium range, and the flamer at close range – with the shield up. Basula is often too quick to avoid, but you can try firing the burster at close range before flying away.

8 All four bosses return on level five, but this time they require many extra shots to destroy, so ensure the necessary weapons are powered up on other levels before confronting them again.

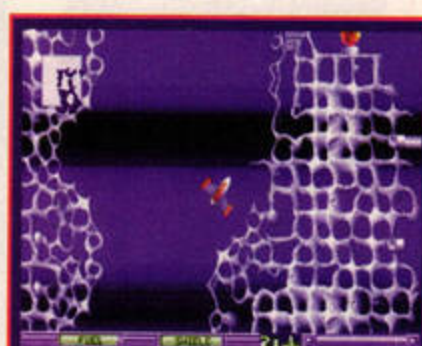
9 In the special missions, the fire button acts as a brake, but cannot fully counter the effect of gravity. It is, however, useful in avoiding the the laser



We're not too good with maps. We intended to go to Weston-Super-Mare for the day, not end up in the middle of a massive galactic war, honest.



Breathe deeply and slowly. Think peaceful, positive thoughts. Take your time. Block out the explosions and laser fire. Now, press [Fire]...



Stardust contains elements from another old classic, *Thrust*, in its special missions section. If, like Nick, you're not too good at *Thrust*, then you're in trouble.



GET YOURS HERE

Stardust hails from Sweden, where it was coded on the Atari by Aggression. In the UK, it was distributed by Daze Software until recently, but now *Stardust* and

other Daze titles are being distributed by 16/32 Systems (☎ 01634 710788).

Until the end of September *Stardust* was available for the

ridiculously low price of £6, but now you'll have to fork out £24 for this fantastic shoot-'em-up. *Stardust* takes the *Asteroids* genre into the next century...

STARDUST CODES

Level	Code	Lives	3-way	Bouncer	Plasma	Flamer	Burster	Missiles
2	BHSUAAAAALDB	7	3/3	5/5	n/a	n/a	n/a	n/a
3	CGSUUAATANAH	6	3/3	5/5	5/6	n/a	n/a	3
4	DJRUVYATANGH	9	2/3	5/5	6/6	9/9	n/a	3
5	EFSUVXRSALHH	5	3/3	5/5	6/6	8/9	2/2	2



Thanks go to the Hairy for being good enough at this game to be able to get us a glimpse of an end-of-level guardian. Pity it chomped him up soon afterwards.

cannons (is there no respite?) in the second special mission.

10 Don't follow the arrows in the first special mission. Go right from the start until you reach the fuel pod. From here go diagonally down to the left and then diagonally up to reach an extra life. Then, go horizontally right into a chamber and straight down. The



exit is up the tunnel to the upper right. Go left at the top and continue.

Mike hasn't been able to get past the fourth warp sequence with enough lives to reach Professor Schaumund. If anyone else can help, write in to the address given in the Next Month panel and we'll print your solution at a later date. *stf*



Don't give me such options when I'm in the middle of a gun battle! Just pick the weapon that'll do the most damage. For crying out loud!

Next month we'll be bringing you the final installment of our *SubStation* solution, and offering you some invaluable tips on beat-'em-up *Ultimate Arena*.

We are always interested in tips from readers, preferably for new games (we've had enough *War in Middle Earth* and *Leisure Suit Larry* solutions, thanks). How about tips for *STarioland* or *Alien Thing*?

Think about it, and then send your stuff into Gamesbusters, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW.

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arcane homepage at <http://www.futurenet.co.uk/>



Feedback

ST FORMAT
OCT
1995

The Feedback pages are open to anyone with something to say, even *Babylon 5* fans...

Team trophy



Contrary to Richard Rowland's letter in issue 74, I believe *Team* to be the very best STE game released to date. I bought it just over a week ago and have been playing it ever since. Impact Software really does need to be congratulated for making the most of the STE's hardware – every possible feature seems to have been included in the game.

And as far as the difficulty level of *Team* goes, try playing a game as Manchester United

against Ipswich Town – it's a complete walkover!
Tom Curtis, London NW2

stf: We couldn't agree more, which is why it earned a massive 94% in issue 72. To be fair to Richard, though, his comments on the game were based on the demo, which didn't truly reflect the nature of the full game.

You're right though, Team is both impressive and addictive – Nick hasn't stopped playing since it came out four months ago. He still hasn't managed to get a win for Birmingham City, though. Perhaps there's such a thing as too much realism...



Fans of *Team* should look out for *The New Season Edition* – see News for details.

Write on



I consider myself to be a writer. Mainly I write fiction, although I sometimes try my hand at a bit of poetry.

Recently a friend of mine was asked if he would take

over the *STOS* problem page in *STOSser*, and this sparked off an idea in my crazed and overheated brain.

For some time I have wanted an outlet for my writing, not one that would earn me a great deal, just something that would enable my writing to be read by lots of people. This situation cannot be unique. There must be hundreds of people out there who feel the same as I do.

So, armed with a text reader written in *STOS*, I've decided to create that outlet. The only problem is that if it only contains my writing the ensuing disk mag will be very small and all in one style...

If there are people out there who would like to contribute to such a publication, or even think the whole idea is a waste of time, I'd like to hear from them. Such a publication is unlikely to be scoured by publishers looking to sign up the next Agatha Christie or Jules Verne, but it would give any writer the chance for some feedback.

The magazine could include sections for horror, sci-fi, thriller and comedy writing, or indeed for any other genre that proves sufficiently popular. Stories will be given (constructive) criticism in the reviews section, and there will be a letters section where readers can sound off about any of the stories.

If you think there is a place for this type of publication, please let me know. Those interested in contributing should enclose an SAE. The address to write to is: Original Works, 41 Laycock Avenue, Millbrook, Stalybridge SK15 3HG
Geoffrey Harrison, Stalybridge

stf: Pon my word, verily 'tis a fine proposal. Ebullient souls shall rejoice in their good fortunes as they scratch their nibs 'gainst yonder keys. Probably.

Far out



It was great to see you apologise over the blunder regarding the closing date for the *Helter Skelter* offer... except that it was just another case of us lot overseas not being able to participate. When do we get our go at a competition?

Paul Smith, Australia, via e-mail

stf: Right away. From now on, all ST FORMAT competitions will be posted on our FutureNet ST FORMAT homepage. To access our Web site, simply point your browser at: <http://www.futurenet.co.uk>, and follow the Atari links. For more information on the whole FutureNet experience, turn to page 57.



Overseas Net surfers need never miss out on a competition again, thanks to the glorious mass of electrons that is FutureNet.

ST blasphemy



I have a few questions and would be grateful if someone, anyone, could answer them:

1 Is there a utility that will enable me to view and convert PCS (Photochrome) pictures on the Falcon? **2** Can anyone supply me with the pin connections for connecting the Falcon's monitor port to SCART socket? **3** Am I ever going to receive my order from the Falcon Owners Group? It's been six months now! **4** Is Atari mad? **5** Can we have some *Babylon 5* pictures in *ST FORMAT*? After all, it's soooooo much better than any of the snooze, sorry, *Star Trek* sagas. **6** Have I just

THE NEW JAGUAR POLL

In issue 69 we ran a poll asking whether you wanted to see Jaguar coverage in *ST FORMAT*. On that occasion the nays were in the majority, but only by nine per cent, and the balance may well have shifted over the last six months. So, once again, we're putting the issue of Jaguar coverage to the vote.

Please note we're only talking about three to four pages of Jag coverage per issue, so you needn't worry that it will take over the magazine. To register your feelings, just tick the relevant box on the form below and stuff it in an envelope. Send your vote to: Jaguar Poll, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW. We'll bring you the results in a couple of months.

Do you think *ST FORMAT* should cover the Jaguar?

☐ Yes ☐ No

Do you own a Jaguar?

☐ Yes ☐ No

If you don't already own a Jaguar, are you planning to purchase one?

☐ Yes ☐ No

If you do own a Jaguar, how many games do you have?

.....

Comments:.....

.....

.....

.....



Here are some Vorlon ships (above), for all the people who hate character scenes.

Anyone remember Commander Sinclair (left), from the first season of *Babylon 5*? Rumour has it he'll be back next season...

blown any chance of some help? **7** Can I go now?
Mark Parry, Newport

stf: **1** Yes. **2** Probably. **3** Hold on, the telepathic connection has been refused by host. **4** No, it's just a ploy to confuse the opposition. **5** That's fighting talk, that is. You'll be fed to the Pak'ma'ra. **6** No, you were never going to get any. **7** You probably can go, but whether you may go is another matter.

On track



I write to you in desperation as I endeavour to replace disk A of Microprose's *Railroad Tycoon*.

I have owned this game for many years, but now I have lost the first disk and have been unable to find a company who will sell me a new copy. Please tell me what I should do next, as I desperately want to be able to play *Railroad* again.

Matthew Scott, Southdown



Trainspotters everywhere are trying to track down the elusive *Railroad Tycoon*. Have you got its number?

stf: Turn to the Reader Ads section (page 70), fill out the form, write your plea into the five lines provided, tick the Wanted box and sign the declaration. Then pop it in an envelope and send it in to the address shown. Wait a month or so, then watch the offers flood in.

Exclusive



Is there any way of getting back issue Wonder Disks? I'm specifically after the *Civilisation* map editor given away with issue 61 of *ST FORMAT*. By the way, I think you're doing a superb job – keep up the good work.
Tony Harper, Leeds

stf: Sorry, but no, we don't offer back copies of the Wonder Disk. The Wonder Disk is exclusive to subscribers. It's always been advertised as such, and to sell it to non-subscribers would be unethical, and undermine one of the incentives for subscribing.

The lesson? Subscribe now before you miss more great software.

Aussie sums



This is the first time you have heard from me, not because I am a new reader, but because I'm from Australia. Just yesterday I picked up issue 72 from my local newsagents (it takes a

while sometimes), and paid A\$11.95 for it. Inside there was a letter from a fellow Antipodean, Fred Chattaway, about the difficulty of getting *ST FORMAT* down under.

Your reply contained a slight inaccuracy about the cost of subscribing from here, which I would just like to clear up. Australia Post currently has no arrangements for selling money orders in Pounds Sterling. It has a deal with American Express which means it can only sell International Money Orders in Yankee bucks.

To get something postable in pounds, I have to go to the bank and purchase a draft at a very unfavourable exchange rate (0.4825 pounds to the Aussie dollar, meaning a subscription costs A\$113.89). I also have to pay A\$10 for the draft, assuming I go to a bank that favours its own customers. My bank does, but at another bank I'd pay \$20.

The result? At best a subscription to *ST FORMAT* costs A\$123.89 (A\$10.32 per issue), at worst A\$133.89 (A\$11.15 per issue). As you can see, the cost per issue advantage of subscribing is slight, and the

fact that it has to be paid all at once makes it prohibitive.

Matthew JC Powell, Australia, via e-mail

stf: Okay, it's a fair cop. I admit I don't know much about Aussie banking regulations. Would it not be cheaper and easier to use a credit card?

The other thing you seem to be forgetting is that by subscribing you get an extra disk of software, the *Between The Covers* newsletter and speedy air mail delivery. So, whichever way you look at it, it's still a better deal than buying the magazine from your local newsagents.

Adventure seeker



Back in the hey day of the Spectrum, I used to write adventure games using PAW (*Professional Adventure Writer*). Since upgrading to the STE, I haven't written a single adventure, because there isn't anything similar to PAW.

Yes, there is STAC, but that only works in colour, and won't work at all since I upgraded my machine to

PIXEL PAINTING

This month's Pixel Painting winner is Piero Desopo from Bologna in Italy. Piero sent us three TrueColour pictures created with *Rainbow 2*, and the portrait shown immediately below is our favourite. Once we find our cheque book, £25 will be winging its way to Italy at high speed.



Piero used just two basic tools, the crayon and the oil, to realise this self-portrait. The crayon was used to sketch the main features, then the details were filled in with the oil tool. The picture was drawn and saved in TrueColour format, hence the subtle shades of grey and realistic detail that makes this image resemble an oil-painting.



We weren't as impressed with Piero's other two creations, but then art appreciation is a pretty subjective business.



NEXT MONTH

We give you the full version of Electronic Arts' excellent *Deluxe Paint* on the Cover Disk, along with a practical guide to creating cartoons and comic strips on your ST. Find out how to put together the frames, draw the characters and create a letterer's font.



Plus: Make your megabytes go further with our essential guide to compression techniques and archiving software.

And: All the latest news, views and reviews from the ST world – including full reviews of *Twist 3* and (we hope) the latest version of *MagiCMac*.

**ST
FORMAT**

ST FORMAT 77
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ON THE CARDS

If there's a feature you'd like to see in a coming issue of *ST FORMAT*, write to: On the Cards, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath, Avon BA1 2BW. Recent suggestions include:

- Artificial Intelligence – how it works, and why you need it
- Adventure writing – create your own text adventures
- Input devices – keyboards, mice, light pens, graphics tablets...
- Video digitising – capture and edit moving images
- Animation techniques – step-by-step guides

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MAG*SAVE

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4MByte (Yes, I have tried using the *MAKE1MEG* Accessory). There's also *SAC*, which is a little on the feeble side, and *CAT*, which requires a decent knowledge of C.

I'd like to find a program with all the features and ease-of-use of *PAW*, preferably one which enables me to produce text adventures for any resolution. Does such a beast exist, to your knowledge?

Also, could we have an article on adventure writing? Perhaps such an article would encourage more people to write games for the ST. Maybe we could even have a competition, with the winning entry gaining Cover Disk fame.

Incidentally, I think *ST FORMAT* is a great buy, even despite the recent price rise. But then, I'm a subscriber. Why isn't everyone?

John E Nicholls, Chelmsley Wood

stf: You seem to have covered all the programs we've heard of, but who knows, perhaps some keen PD programmer will write a new one. In the meantime, your best bet is to get a copy of *GFA Basic* (place a Wanted ad in our Reader Ads section), and start programming for real.

An adventure writing feature sounds like a good idea, and our resident expert is chewing it over even as this issue goes to press. You can expect to see the result of his mastications some time in the next few months. So, as they say, stay tuned.

Three wishes



I would like very much to see the following types of programs on your

Cover or Wonder Disk:

1 I used to have a program called *HC.ACC* on my hard drive. It basically did two things: made a hard copy of the screen or saved the screen image as a PI3 file. You could print the screen image in landscape or portrait formats, and at different resolutions. Unfortunately, my hard drive crashed once, and I didn't have a back-up copy.

2 I'd also like to have a MOD player that runs as a CPX or ACC, so that when you find a MOD file you don't have to search for a piece of software capable of playing it.

3 Also, what about a reliable program launcher for my

STE? What I'd really like is one with icons that would launch a program with a simple mouse-click.

Aljo Wijnands, Holland, via e-mail

stf: **1** The closest approximation to HC is *Imagecopy 4* from the *FaST Club* (☎ 0115 945 5250). However, there are two shareware programs that can be used together to achieve the same result.

Rescue ST (from Cover Disk 75) enables you to grab the current screen as a Degas image. You can then load in the image to *PicSwitch 1.01* (Cover Disk 68) and print it out.

2 We don't know of any MOD player that runs as an Accessory. Can anyone else help?

3 To launch programs reliably, you need to upgrade to *TOS 2.06*, or to use a replacement desktop, such as *KAOSDesk* or *Thing*. All three enable you to store your programs as icons on the desktop, and run them simply by double-clicking on the appropriate icon.

Alternatively, try *Psygham* from Cover Disk 74. It enables you to create up to eight 'virtual drives' that represent commonly accessed file paths.

Ta ta for now

Your mag is so small I'm having trouble finding it in the shops. Does the size reflect the decline in the Atari market? And what's happening to the Jaguar that Atari kept on about? I only ever saw it in Rumbelows, and we all know what happened to that chain.

When I bought my Mega back in 1989 I thought it was a super computer, but not any more. I will be doing what a lot of others have done and going over to a PC or Mac. I know some software is more expensive, but at least there's more choice. The ST is dead and waiting to be buried.
BA Green, Sittingbourne, Kent

stf: A fool and his money are soon parted...

Send your letters to the editor, Karen Levell, at: Feedback, *ST FORMAT*, Future Publishing, 30 Monmouth St, Bath, Avon, BA1 2BW or e-mail: klevell@futurenet.co.uk. You can also reach the editorial team via our Web site at: <http://www.futurenet.co.uk>. Note: letters may be edited for length and clarity.

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New! Epson Stylus Col. II £395.99
720 dpi, 4ppm Black, 2ppm Colour, 100 sheet ASF.

New! Epson Stylus Col. IIs £344.99
720 dpi, 2.5ppm Black, 1ppm Colour, 100 sheet ASF.

New! Epson Stylus 820 £270.99
720 dpi, Mono but Colour upgradeable, 100 sheet ASF.

Epson Stylus Colour £364.99
720 dpi, Colour and Mono printing, ASF in built.

CITIZEN

ABC Colour printer £145.99
simple (as easy as ABC) to use 24 pin printer. Comes as standard with 50 sheet auto sheet feeder. Tractor feed optional at £37.99

Projet IIc Colour £239.99
New inkjet printer with built in auto sheet feeder.

Star

Star LC909 pin mono £102.99

Star LC1009 pin colour £117.99

Star LC24024 pin mono £119.99

Star LC24024 pin colour £134.99

Tractor Feed for the new range £15.99

Star SJ144 Colour £229.99

HEWLETT PACKARD

NEW! HP600 mono £279.99
HP600 Colour upgrade £41.99

NEW! HP660 Colour £435.99

All HP printers come with a 3 year warranty

Accessories

Modem/null modem cables	£9.99
ST - Hi RES monitor cable	£9.99
Power cable	£4.99
Twin Joystick/Mouse Ext. cable	£4.99
Mouse/Joystick splitter cable	£4.99
STE/FM scart cable	£9.99
Falcon VGA adaptor	£9.99
Quality Mouse Mats	£3.99
STD 1.8MTR printer lead	£4.99
STFM/STE Power Supplies	£39.99
STE or STFM Case now only	£4.99
Keyboard Membrane Covers	£14.95
14" Monitor cover	£6.99
Atari 520/1040 dust cover	£3.99

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

Memory

1 Mb 72 Pin SIMM	£39.99
2 Mb 72 Pin SIMM	£79.99
4 Mb 72 Pin SIMM	£130.99
8 Mb 72 Pin SIMM	£262.99
16 Mb 72 pin SIMM	£399.99
1 Mb 30 pin SIMM	£34.99
4 Mb 30 pin SIMM	£110.99
256 by 4 DRAM (DILs)	(each) £6.99
1 Mb by 4 ZIPS (1/2 Mb)	£32.99
256 by 4 ZIPS	(each) £5.99

Part Ex. available on your old memory, Call for pricing.

Marpet

STFM Deluxe SIMMS modules

4 Mb unpopulated	£24.99
4 Mb populated to 512k	£34.99
4 Mb populated to 2 Mb	£POA
4 Mb populated to 4 Mb	£POA

Marpet products come with a 12 month warranty.

Prima RAM expansion

512KSTe	£9.99
2MbSTe	£POA
4MbSTe	£POA
14 Mb unpop. for the Falcon	£49.99

The Falcon board uses 72 pin SIMM modules, so just add the cost of the SIMMS to get your populated price.

Primo products come with a 2 year guarantee

Monitors

PRIMA Trust Hi-Res
High resolution 14" mono monitor. 640 x 400 resolution. Stable image and razor sharp quality. Comes with built in tilt & swivel monitor stand.

£94.99!

Microvitec I438 Multi-Sync
The Auto-Scan is a 14", 28dp, MPR II compliant monitor. STE/FM, Falcon, Amiga and PC compatible. Ideal for both business and games use.

only £274.99

Colour monitor 14" SVGA £202.99!!

MPR II, 28 dot pitch, Non-interlaced monitor, Falcon and PC compatible.

New low prices

All our monitors are UK spec. All monitors come complete with connecting leads.

Consumables

Cartridges

Canon BJ105x/SJ48 cart.	£19.99
Canon BJ200/200ex mono cart.	£19.99
Canon BJ30 mono ink tank	£14.49
Canon BJC70 col. ink tank	£19.49
Canon BJC70 mono ink tank	£12.49
Canon BJC4000 col. ink tank	£19.99
Canon BJC4000 mono ink tank	£8.99
Canon BJC600e col. ink tank	£8.99
Canon BJC 600e mono ink tank	£6.99
HP520/540 D/life mono cart.	£24.99
HP550/560/660 col. cart.	£26.99
Star SJ144 mono or colour	£7.99

PREMIER Ink Refills
save a fortune in running costs with your ink/bubble jet. Compatible with HP, Canon, Star, Citizen & many others.

Single refills (22ml)	£6.99
Twin refills (44ml)	£12.99
Three colour kit (66ml)	£19.99
Full colour kit (88ml)	£27.99

RIBBONS

Citizen Swift/ABC mono	£4.99
Citizen Swift/ABC Colour	£13.99
Star LC90 mono	£4.99
Star LC10/20/100 mono	£3.69
Star LC10/20/100 colour	£7.99
Star LC240C mono	£8.49
Star LC240C colour	£13.99
Star LC240 mono	£5.99
Star LC24-200/300 Colour	£11.99
Re-Ink Spray for mono rib.	£11.99

Disks/Boxes

LOW Prices LOW

	Bulk DD	Branded DD
10	£3.49	£4.49
30	£9.99	£11.99
50	£15.99	£18.99
100	£29.99	£35.99
200	£52.99	£63.99
500	£118.99	£142.99
1000	£211.49	£253.99

All disks are guaranteed. All branded disks come with labels

Disk labels 500 £6.99

Disk labels 1000 £9.99

10 Capacity Box £0.99

50 Capacity Lockable Box £3.99

100 Capacity Lockable Box £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.

Software

MUSIC/SOUND

Replay 16 Digitiser	£109.99
Stereo Master	£34.99

UTILITIES/PROGRAMMING

Diamond back 3 backup utils.	£44.99
Multi Tos	£44.99
Speedogdos	£34.99
ST Straight Fax 2.1	£72.99
ST Basic	£5.99

VIDEO AND GRAPHICS

Flexi Dump II	£38.99
True Paint	£34.99
Video Master	£59.99
Video Master (falcon only)	£79.99

WORD PROCESSING & DTP

Calamus 1.09n	£59.99
Papyrus Gold	£109.99

Scanners

The Power Scanner only £99.99

This scanner comes with the latest version of software.

Alpha Scan Plus 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.

On this month's...

ST
FORMAT

**GUARANTEE
OF QUALITY**

TESTED FOR MAXIMUM COMPATIBILITY WITH STS
AND FALCONS, AND GUARANTEED VIRUS-FREE.

COVER DISK

8

GREAT PROGRAMS

**PLUS
BACK UP
UTILITY**

STARIOLAND DEMO SUBSTRAINER

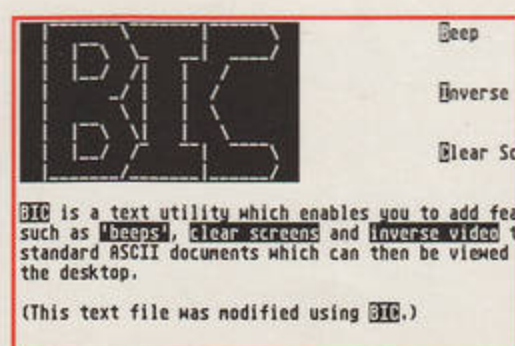
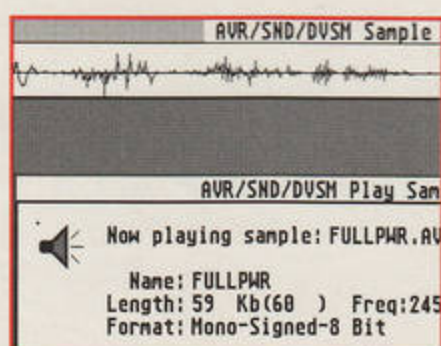
Exclusive five-level demo of a super platform game that proves the Atari can match any console. Simple, colourful fun for all Ataris.



Create the ultimate death-dealing warrior with this invaluable add-on for UDS's smash hit, SubStation. STE and Falcon only, 1MByte.

PLAY AVR

Play sound samples on any Atari quickly and without fuss. Editing facilities on STE and Falcon only.



BIC

Brighten up your README files with inverse text, beeps and handy screen breaks!

HRAM DISK

Convert your spare memory into a virtual disk drive for instantaneous data access and storage!

THE SCORE

Listen to the winners of our Sounds of Success competition, and play MIDI files via your speaker or synth with FIMP!

XENOMORF 2 and REZRENDER

Working demo of Xenomorf 2, plus RezRender. Follow the instructions in our cover feature to turn the sample models and pictures into stunning 3D scenes. Xenomorf requires 1MByte.

