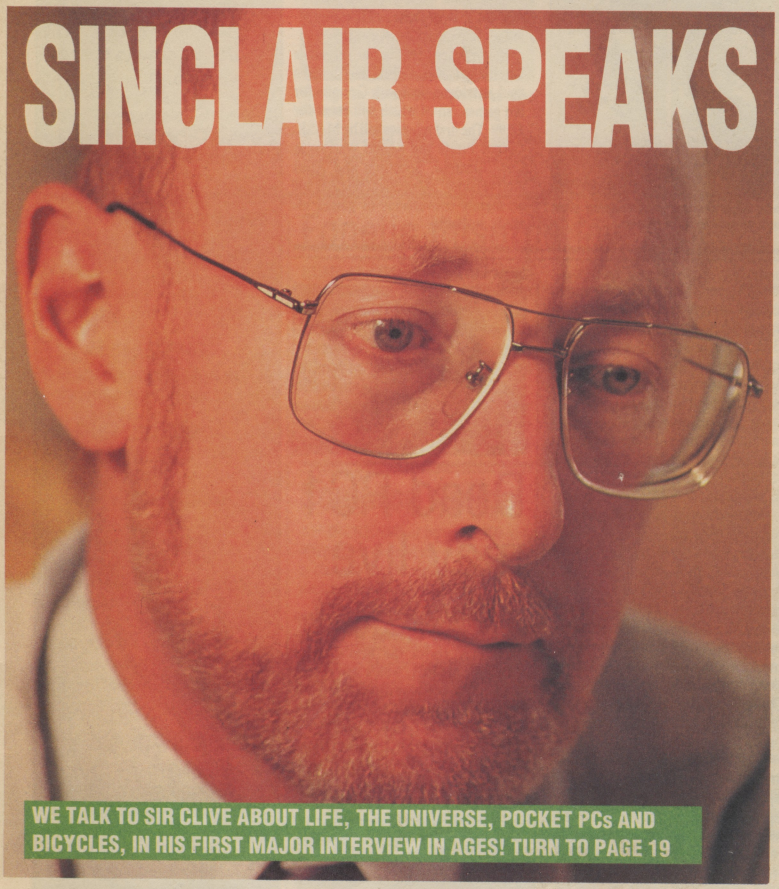
POPULAR COMPUTING WEEKLY

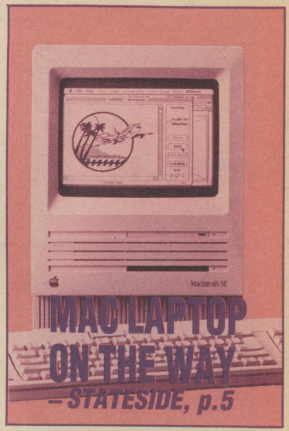
FIRST WITH NEWS AND REVIEWS!

55p AUGUST 3 1989

SINCLAIR SPEAKS



WE TALK TO SIR CLIVE ABOUT LIFE, THE UNIVERSE, POCKET PCs AND BICYCLES, IN HIS FIRST MAJOR INTERVIEW IN AGES! TURN TO PAGE 19



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ARCHIMEDES AND BBC NEWS



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NEW TAX PLANNER

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- NEW ZEALAND STORY
- ALIEN LEGION
- FIENDISH FREDDY PREVIEW

ST, AMIGA, SPECTRUM, BBC AND PC PROBLEMS SOLVED, p.36

BUDGETS BURST OUT

TWO NEW budget games labels are being launched this summer, bringing a host of new games and some re-releases to the 8-bit market at £2.99.

Videocoders is the name of a new company set up by Jonathan Edgar. The first games for all the major 8-bit machines are expected to be in the shops at the beginning of September, priced at £2.99. Games will be in cassette format initially with discs probably following later.

Prizes of cash or equipment are promised for the first gamers to complete each game, many of which will be shoot-em-ups. What is described as a "semi shoot-em-up" called 'Boing' is currently top of the list. It runs on the C64 and has over 400 scrolling animated screens.

Edgar, who previously ran a company called Companion producing utilities for the Spectrum, commented:



John Edgar's independent company plans cash promise to quick gamers.

"We are a completely independent company and all our games are original. Once the label is established we will set up a full price label and perhaps deal with 16-bit software as well."

Secondly, this week sees the launch of a new budget label by the man who has previously opened up markets for the likes of Mastertronic, Code Masters and Firebird Silver as a distributor. "We've done it for everyone else so why not do it for ourselves?" commented a company spokesperson.

Now Richard Bielby has formed a new budget label, Cobra, and signed a back-catalogue deal with Gremlin for ten games, all of which will retail for £2.99. The first releases will be MASK, Cosmic Pirate and Kendo Warrior in C64, Amstrad, Spectrum and Atari 8-bit versions. Subsequent releases will be mainly conversions of games already available.



Solid of revolution from Zing.

Mavis on a QWERTY

MINDSCAPE is certainly launching some interesting software lately – following the inimitable *Life and Death* game comes a crop of productivity software. New titles include *Zing*, *Mavis Beacon Teaches Typing* and *The Secretary Bird*.

Zing is a 3-D graphics package for the PC and Mac that allows user created images to be transported between the two machines. Symmetrical 3-D shapes are created by an outline on an axis which then generated by a solid of revolution by rotating the outline around the axis.

A profiler allows users to draw multiple 2-D cross sections to produce a 3-D image. Priced at £149.99, Zing is aimed at DTPers and its image format is compatible with all major packages.

Mavis Beacon Teaches Typing is a tutoring program with a difference, for the Atari ST, Amiga, Apple II GS, Mac or PC. In-built AI routines supposedly tailor your lessons to your ability but Mavis, your innovative instructor, has some pretty neat tricks up her sleeve. One lesson involves a road race, in which you are sent headlong down a race track in a fast car, losing speed (and the game) whenever you make a typing mistake. The price is £29.99.

The Secretary Bird is a four in one office pack for the PC with a WP, spelling checker, database and spreadsheet. The price is £39.99. Mindscape can be reached on 044 486 545.

• *Fiendish Freddy* preview: see page 12 in this issue.



Dead PC1 may live

JEFF EARL (above), the gregarious new marketing supremo at Commodore, may revive the firm's cheap PC-clone, the PC1, which was priced at £315. The machine died a death this year when supplies dried up after German schools switched over to PC XTs. Commodore Germany, which supplies hardware to the U.K., stopped making the base model.

In the U.K., this has left the Amstrad PC200 at £299 the cheapest PC available. In an exclusive interview with *Popular Computing Weekly*, Earl said he is considering relaunching the 8088-based machine if there is sufficient demand. Future plans for the CBM PC line, says Earl, include battery and mains powered laptops, and two desktops based on the 80386 and 80386SX. Launch dates for the Amiga 2500 and 3000 are still woolly, with no firm dates being offered.

Meanwhile, rival Atari has stated August 25th as launch day for its TT: the 68030 based ST workstation.

Advertising consolation

EXPECT some well weird Sega ads on your TV soon – Sega has appointed the agency that does the Domestos and Flora margarine ads to make a series of TV ads – can you imagine the catch lines? *Pop* scribes are wondering what lines the ones-in-loud-braces-and-large-red-framed-specs will come out with. Maybe "Sega – half the fat of other consoles: kills 99 percent of all known alien slime."?

• New Sega games reviewed: page 15.

This Week

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Ecological concern . . . the Lazarus virus . . . Euclid user group . . . and many more missives.

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ST owners can get to grips with their tax returns using Personal Tax Planner.

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Divisions among friends.

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Which computer do you own? Do you conform to Duncan's stereo-types?

NEW GAMES
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Is the new games concept worth the hassle?

SIR CLIVE SINCLAIR INTERVIEW, p.19
The man who has brought mass market home computing to Britain opens up to *Popular Computing Weekly* in this exclusive interview.

BYTES & PIECES, p.24
Stopwatch – a program-timing listing for the Amiga.

BBC SHOW REPORT, p.31
Incorrigible cynic Duncan Evans heads off to the Alexandra Palace.

KENN GARROCH, p.36
Linking the Amiga A500 and a terminal . . . BBC buffers . . . ST mice . . . PC emulators . . . Spectrum joystick interface . . . and more.

FEEDBACK, p.38
A home programmer yearns for the 'good 'ole days'.

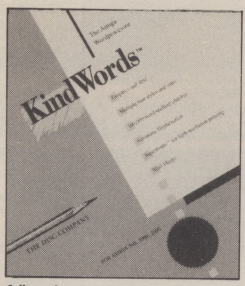
NEW AMIGA, C64 PACKS

EXCLUSIVE details of three new Amiga and C64 bundles have been obtained by *Popular Computing Weekly*.

Independent software publisher, The Disc Company, has put together the packages, which sources insist will not be officially endorsed by Commodore.

There are two Amiga packs and one for the C64 on the cards. These are expected to include:

- **The Starter Pack: including an A500, the Kind Words 2.0 word processor package and three games, including *Buggy Boy* and *Crazy Cars*.**
- **The Home Office Pack, including an A500, the Publisher's Choice DTP package (made up of Kind Words 2.0 plus Pagesetter 1.2) and a database.**



Calling the Home Office with The Disc Company.

- **The C64 Test Pilot Pack: this special theme box will include five simulators (not all flight sims) for the C64, including *Advanced Tactical Fighter*, from Digital Integration.**

Sources suggest that both the Starter and Test Pilot packs are already being test marketed in New Zealand and Belgium respectively, where The Disc Company has subsidiaries.

The packs are expected to be launched in the U.K. either before or during the PC Show – although curiously the Disc Company will not be exhibiting: dealers and distributors are expected to show the products.

Popular Computing Weekly understands that the bundle prices are likely to be as follows: A500 Starter Pack: circa £399, A500 Home Office Pack, circa £449 and C64 Test Pilot Pack, around £150.

Hackers get the message

UNCLE Sam has come down like a ton of bricks on hackers in the last week, with Kevin Mitnick jailed for a year and the announcement that alleged Pentagon virus spreader Robert Morris is to face charges of illegal computer entry.

Mitnick was convicted of using stolen passwords to access computers. He will serve one year in jail and six months in rehabilitation at a halfway house.

Robert Morris, whose alleged worm virus on the Pentagon's Internet affected 6000 UNIX terminals last October, will be charged with illegal manipulation of a 60,000 machine network. The worm program exploited a loophole in UNIX that allowed it to tag itself onto e-mail messages.

Photon Paint under an Illusion

AFTER the wrangle between Activision and Microillusions over who would distribute Photon Paint 2 and Music X in the U.K., it seems that Microillusions, who produce the packages in the U.S., have won out.

The packages have been available in the States for over a year now but have only made appearances this side of the Atlantic in demo form and are in need of de-bugging. However, the products are now in the shops and are being distributed by Microillusions (Europe) which can be contacted on 0480 595605.

Fonetic thisorus faw Ameega

KUMA CLAIM to have the first standalone thesaurus for the Amiga. Based on Longman's Pocket Thesaurus, K-Roget has over 150,000 words and phrases allowing users of word processors or even databases to expand their vocabulary.

A phonetic spelling checker looks for alternatives to words based on how they sound rather than how they are spelt. This is expected to help users whose first language is not English.

Please note that an extra disc drive is required or a hard disc so the standard Amiga is insufficient to run it.

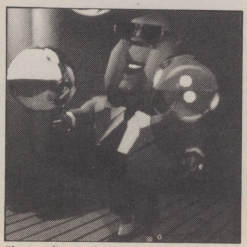
A special offer price of £29.95 inc. VAT applies to K-Roget for the Amiga and for the PC and ST versions already available. Contact Kuma on 07357 4335.

Sculpted Amiga

AN INCREASE of between 300 and 800 percent in basic ray-tracing speeds is claimed for the enhanced graphics package Sculpt 3DXL on the Amiga.

If you relish the power bestowed upon you by Populous, this package allows you to create your own universe, says Martin Lowe of the Amiga Centre, Scotland. Among a host of features are segmented and cubic splines to smooth the joints of organic objects, a range of surfaces including luminous, mirror and metal and Interlace/non-interlace resolutions which are among graphics modes supported.

Contact the Amiga Centre Scotland on 031-557 3260.



The juggling Sculpt 3DXL rendered smooth.



Sam Coupe: develop Z80 code for the micro on an IBM PC.

SAM develops

SOFTWARE developers keen to start creating programs for the long-awaited SAM Coupe, or to convert Z80 software to take advantage of the Coupe's extra graphic and sonic capabilities, will soon be catered for.

Professional software is usually written in assembly language using development systems. Programmer's Development System (PDS), the most popular, runs on PCs and comprises assemblers, software tools and a special interface for the target machine. MGT are collaborating with PDS to produce the development system for the SAM Coupe. It can be used in combination with the Bo Jangeborg graphics package and will be available before the Coupe's launch.

IN BRIEF

Chartbound

RAMPAGE, a new release from console-makers Sega, has shot straight into the Gallup games chart at number 2. Reflecting an increased popularity in console games, Sega attribute their success to a strong list of over 80 games with an average of three to four new ones each month.

Sega's distributor Virgin Mastertronic has announced a new deal with Dixons which will mean the Master System Plus is stocked in all their branches.

Miracom up for sale

MODEM maker Miracom has been put into the hands of receivers while the firm sorts out its troubled finances. Following the failure of a buy-out by the firm's suppliers, US Robotics, receivers Cork Gully has been called in to administer creditors while an alternative buyer is sought. Managing director Gwyn John told *Popular:* "We are the only people who have the approval of US Robotics and I have every confidence we will continue trading." Full warranties apply to all modems sold under the administration of the receivers.

BT takes over Micronet

BRITISH Telecom has announced an increase in its holding of shares in Telemap Group, publishers of Micronet, from 40 percent to 100 percent. John Tomany of the BT Managed Network Services division commented: "Telemap's successful products such as Micronet, InterBusiness, and Shades will form a key sector in our activities."

ST gets TEX-ed

TEX, the document processor and typesetting program designed by Donald Knuth, is now available in public domain for 1MByte Atari STs. It is supplied on four double-sided discs for £10 inc p&p from The South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD.

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- PC-TYPE II Brand new WP from Buttonware (HD). 4 DISCS.
- PC-TYPE+ Fast Spelling Checker, Undo, Help, 4 DISCS
- SAIL Text editor with windowed multi-file mode
- GALAXY Uke Wordstar but with pull-down menus. 2 DISCS
- MINDREADER Brown Bags unique self-learning WP
- PC-OUTUNE Popular brain storming. Idea processor
- SPELLING CHECKER with updateable dictionary
- PC-CALC+ Powerful multi-feature spreadsheet. 3 DISCS
- AS EASY-AS Spreadsheet which is 123 compatible
- OUBECALC A novel 3-dimensional spreadsheet
- GOALSEEKER Timesaving utility helps create spreadsheets
- PC-FILE+ V2 Popular Database with mallmerge. 3 DISCS
- PC-FILE-dB dBase power at shareware prices (HD) 3 DISCS
- FILE EXPRESS Easy to use database. 2 DISCS
- INSTANT RECALL Memory-resident database
- 3XS CARD INDEX simulate manual system (limited sort)
- DREAM Amazing relational database system. 3 DISCS
- WAMPUM Popular, powerful implementation of the dBASE III database programming language (HD) 2 DISCS

FINANCE

- FREEWAY CASHBOOK UK home accounts & budget. 3 DISCS
- FAST BUCKS Comprehensive home accounts & budget. 2 DISCS
- HOME INVENTORY/HOME INSURANCE with report generator
- HOME LOAN Calculate interest, repayments, reports
- FREEWAY PAYROLL Latest up-to-date version. 3 DISCS
- FREEWAY ACCOUNTS PLUS Popular UK Package complete with Purchase, Sales & Nominal Ledgers. 3 DISCS
- MR BILL Customer billing and tracking. 2 DISCS
- TIME & MONEY Financial tracking with cash projection

APPLICATIONS

- LABEL MAKER Simple mailing label database & printing
- PC MAIL Mailing list system and label printer. 2 DISCS
- 100 STANDARD BUSINESS LETTERS to use and adapt
- EZ FORMS standard forms to edit and use
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- AUTOMATED PLANNING Useful suite of planning aids
- PROJECT MANAGEMENT Critical Path Analysis, Gantt Charts
- THE FRONT OFFICE Sales tracking system. 2 DISCS
- BUSINESS CONTACTS MANAGER Multi-function suite. 3 DISCS
- ESIE Expert Sytem Shell; Artificial intelligence
- PRO-COMM Menu-driven communications. 2 DISCS
- PC-DIAL Buttonware communications program
- EZ-UNK UK program with full Prestel/Viewdata. 2 DISCS
- WILDCAT Complete Bulletin Board system. 3 DISCS
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- DESK COMMANDO Menu System, DOS shell, Text Editor, Scientific Calculator, Calendar, Appointments Diary
- PC-DESKTEAM Handy calculator, notepak, diary, DOS access
- HOMEBASE Shareware Sidekick. Calculator, WP, Database, Calendar, Notepad, Communications. DOS access. 3 DISCS

EDUCATION

- AMANDA'S LETTER LOTTO (Age 2–4) Teaches keyboard and letter recognition and co-ordination
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- PHRAZE CRAZE Learn word and phrase skills (Age 7–12)
- JOTTO Like Master mind only based on words not numbers
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- STATISTICS Over 20 stat analysis functions. 3 DISCS
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GAMES COMPENDIUMS

Advantage have collected many quality games, grouped by style, under various titles. Most games offer graphics and sound with a choice of keyboard or jovstick gameplay.

- GLASSIC GAMES – Space Invaders, Pacman, Pacgirl, Ribit, Breakout, Donkey Kong O-Bert, Jumping Joe
- FUN & GAMES – Pango, Baby, Elevator, Centipede, Pyramid, Dragons, Pac, Osbit
- COME IN PEACE – Striker, Paratrooper, Round 42, Sopwith, Landmine, Hostages
- STAR WARRIORS – Quantoids, Rescue, Flightmare, Kamakaze, Space Wars, Emergency Mission
- KEEP THEM AMUSED Burger Blaster, Grime, Racer, Ninja, Caverns and Galaxy
- FACE THE ACTION Batalia, Tank, Moonbase, Blortill, Gemini
- BLOCK & TACKLE Nernon, Oix Xonix, Blockade, Lazer, Berzerk
- GOOD SPORTS PC Tennis, Feed Off (Golf), Yachting in the Bermuda Triangle, Armchair Quarterback (Football)
- SEEK & DESTROY Galactic Conquest, Daleks, Depth Charge, Lazy Monday, Intercept
- SPY CATCHER Master Spy, Brimstone, Mad scientist, Raider
- LOST VEGAS – One Arm Bandit, Roulette, Backgammon, Wheel of Fortune and Blorhythms
- SKILL & STRATEGY – Frigate, Stock Exchange, Big Rig
- WIT YOUR PITS Brainstorm, battleships, 5-in-a-line, Rogue
- MAZING GAMES – Treasure Hunt, Polymaze, Amaze, 3-Demon, Castle, Chase
- PC CHALLENGE – Chess, Othello, Entrap, PCGolf, Hexplode, Air Traffic Controller
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- THE ENTIRE KING JAMES BIBLE in ASCII text. 11 DISCS

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- MYSTIC PASCAL compiler and editor
- MODULA-2 COMPILER with editor and linker. 3 DISCS
- PROLOG The language for artificial intelligence
- LADYBUG LOGO – Ideal for teaching programming
- BASIC TUTOR Introductory tutorial on BASIC
- GETTING STARTED ON C Introductory lessons and examples
- GETTING STARTED ON ASSEMBLER Useful introduction
- C AND TURBO C TUTOR with source code examples
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- CAVE QUEST sent to Earth to seek fame and fortune
- SUPERNOVA Complex game set in deep space
- INTERCEPT & MUTANT INVASION Two Sci-fi adventures
- DARK CONTINENT & NEBULA Two games by same author
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- DBS KAT Cataloguing system for hard disc
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- PC-OPOLY Computer version of the well-known board game
- CHESS & CHECKERS Good quality full screen graphic versions
- CHINESE CHECKERS Unusual 6-sided version of draughts
- GAMBLERS DEN Three games – 21, Poker and Pontoon
- BLACKJACK features excellent card pictures and game play
- PUB GAMES Dominoes and Cribbage
- PATIENCE APPLENTY 3 games – Solitaire, Pyramid and Sol
- CARD SCHOOL 3 games – Canasta, Gin Rummy & Heart
- MAH-JONG A fascinating taste of the Far East
- TWO BRIDGES Two versions of the card game
- QUIMBEE (YAHTZEE) and FIVE, Two dice-based games

PROJECTS & PASTIMES

- WHEEL OF MISFORTUNE Based on the TV word-guessing game
- OPUS 1 Extensive general knowledge quiz
- TRIVIA QUIZ Many questions, 5 categories. 2 DISCS
- TREK TRIVIA Fascinating quiz based on famous TV series
- BIBLE QUIZ Quiz game based on the Holy Bible
- MUSIC TRIVIA Quiz based on musical questions
- GET LUCKY Adult trivia Quiz and strip poker games
- ADULT HUMOUR Large collection of rather rude jokes
- GAME OF LIFE Fascinating animated graphics game
- PC JOKES A set of funny but harmless practical jokes
- ORIGAMI Study paper folding (needs BASIC Interpreter)
- GREETINGWARE DIY computer greeting cards with demos
- SHOWING OFF YOUR EGA Demo screens, animated patterns
- MANDELBROT MAGIC Graphic demonstration and designer
- POPSTAR First in a series of unusual UK games
- SNARF High quality EGA game plus EGA Breakout
- TANK BATTLES A two-player challenge
- STAR TREK II The next generation featuring Morning Cloud
- STAR TREK The original classic game, text & graphics
- PINBALL WIZARD A choice of five different pintables
- PINBALL FANATIC Five more different pintables

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Stateside

Steve Gold reports on hot news from the U.S.

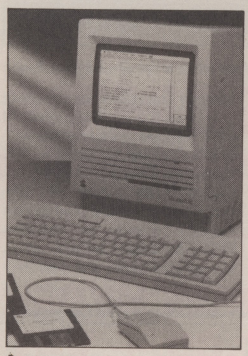


Apple to unveil Mac lap-top

APPLE will unveil its first lap-top Macintosh later this month at the Boston Macworld Expo in the U.S. The machine which has been code-named Laguna, weighs 14 to 17lb. depending on configuration and is based on a Motorola 68000 microprocessor running at 16MHz.

In its basic configuration, Laguna will have 1MB of RAM and a single 1.44MB 3.5in. floppy drive, pricing from $3,500 upwards. The top-of-the-range machine, with a 40MB hard disc, internal modem and as much as 5MB of RAM – a great deal for a lap-top – will cost $6,500.

Part of the reason for the weight of the Laguna is that it is powered by an internal lead-acid battery, just like the heavy one in cars. The LCD screen, however, is more up-to-date, and is a 9.8in. active matrix unit capable of resolving a full Mac monochrome screen. Other features of the Laguna are the same number of I/O ports as the standard Mac S/E, with one expansion board slot and an SE-like Processor Direct Slot.



Power sat in your lap from Apple.

ST utility

⋆ Maxwell Computer Products Unlimited has announced an interesting Atari ST utility package, *Gogo ST*. The £34-95 package allows almost all ST packages to be run using a single click of the mouse button. Built round a GEM interface, Gogo ST presents the user with 15 selection boxes and the ability to load any program name into the boxes.

Other features include a pop-up digital clock, a logging facility and a powerful macro/file finder option. MCPU can be contacted on 0101-303-666-4470.

Super ST

⋆ ***Start Magazine* in the U.S. is boasting a world exclusive on the ST Plus, also known as the Super ST. The September issue, due at the end of this month, has an exclusive review on the machine. Details of the machine are sketchy but it is known to be downwards-compatible with the existing ST series and has a 4,096-colour palette and eight channel stereo sound as standard features. CPU details on the ST Plus vary, depending on the source. My guess is that the machine will be 68020 microprocessor-based and will have between 1MB and 4MB of RAM. The machine will be unveiled officially during September, suggesting a U.K. Personal Computer Show unveiling on this side of the Atlantic. Pricing is unknown but Jack Tramiel announced previously that the ST Plus with be priced competitively, suggesting a $1,000 to $1,200 price in the U.S.**

PD pitch

⋆ Also in the pipeline from Atari is an ST package, *Demo Maker*. The public domain package is pitched at software houses and users who want to create a rolling demonstration of ST packages, without the fuss of running the program code proper.

Although Demo Maker is aimed at shops for ST window displays, first reports from the U.S. suggest that some enthusiasts are using the package to grab sprites and full screens from protected popular software, to incorporate the code in their programs. The package could bring a whole new meaning to the clone program world. It could also spell trouble for the major games producers.

Amiga animation

⋆ **Amiga users are turning to a new public domain and shareware company in the U.S., Premier Software. Premier has amassed one of the largest U.S. collections of PD and shareware software, with the latest hot product, *Lost in Scape*, featuring a 48-second real-time animation for the Amiga.**

The three-disc PD package sells for $12 but requires a full 2MB of RAM to run. Call Premier for a copy of the catalogue on 0101-415-364-4696.



The Control J key on your Amiga has hidden assets.

Key revival

⋆ Amiga owners are beginning to rediscover the Control J key when running the CLI. Instead of pressing return after every command line, pressing Control J stores the command until the return key is pressed at the end of several lines. Thus a chain of commands can be stored for rapid execution.

The Control J key was detailed in early Amiga 1000 manuals but, for some strange reason, has not been detailed for A500 and Amiga 2000/2500 series owners. It avoids creating a script file, so it seems a pity that Commodore is hiding this powerful feature from the public. Thanks to John Rydell of the Amy Today on-line newsletter for this long-lost but very useful tip.

SHOWTIME

SEPTEMBER 27 – OCT. 1
The Personal Computer Show
Earls Court, London
Organiser: Montbuild
Tel: 01-486 1951
Nearest tube: Earls Court

OCTOBER 4 – 6
International Desktop Publishing Show
London Arena, Docklands, London
Tickets by prior application only
Organiser: Database Exhibitions
Tel: (Hotline 0203 470075)
Nearest tube: Cross Harbour (Docklands Light Railway)

NOVEMBER 1 – 4
MacUser Show
Olympia, London
Organiser: Montbuild
Tel: 01-486 1951
Nearest tube: Olympia

NOVEMBER 7 – 9
Computer Graphics '89
Alexandra Palace, London
Organiser: Blenheim Online
Tel: 01-868 4466 ext. 294
Nearest tube: Wood Green

NOVEMBER 11
Alternative Micro Show and Electronics Fair
Bingley Hall, Staffordshire Show Ground
Organiser: Taurus Computer Systems
Tel: 0473 602460
Nearest station: Stafford BR

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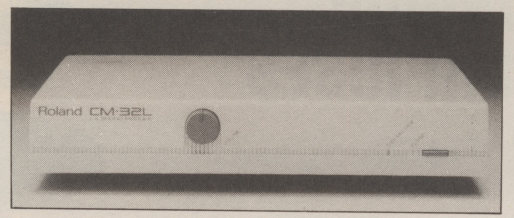
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8 HERBRAND STREET
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Supersonic games on the way

STAND BY for some of the most awesome sounds ever produced by a computer game. One of the world's leading synthesizer makers has developed a powerful sound box for use with computers and an American games producer is about to launch a range of products which will use this box to raise games music and sound effects to new levels of sophistication and realism.

The box, devised by the Japanese electronic music giant Roland, comes in several versions. One, the £369 CM32L, is based on the company's popular MT-32 stereo synthesizer module. It offers up to 32 simultaneous notes using eight different musical sounds (chosen from a range of 128) and a rhythm section. For the computer model, a chip with 32 sampled sound effects including gunshots, car noises and screams has been added.



Roland's music box with rhythm section and 128 note range.

Another version, the £445 CM-32P, is based on Roland's D-110 sample-playing module and comes with 64 high-quality sampled sounds built in. Extra sounds are available on plug-in memory cards. A third module, the £789 CMM-64, is a combination of the first two.

The modules can be driven by any computer using a Midi interface. For IBM PCs and compatibles, a £379 card version of the CM-32L will be available. A Midi interface will add £79 to the price.

George Thorn, manager of Roland's new computer division, says the modules are aimed at computer hobbyists who are put off by the complexities of Midi. In the next few months, Roland will be launching a series of easy-to-use programs including sequencers and sound editors to go with the modules.

"The idea will be to treat music as a game," explains Thorn. Roland plans to market programs for the Atari ST, the Apple Macintosh and MS-DOS machines. Software prices have not been finalised but are likely to be in the range £100–£200.

The modules will also be supported by several games to be released in coming months by the American software house Sierra. The games, for the ST, Amiga and PC, include the intergalactic adventure *Space Quest III* which will have a soundtrack written by *Supertramp* drummer Bob Siebenberg. The programs will be distributed by Activision.

Warning signs for games loaders?

PRESSURE is mounting on the software industry for it to voluntarily place anti-piracy notices on the front loading screens of all games.

Following a meeting between the Federation Against Software Theft (FAST), copy protection software house Speedlock and duplication house Reflex Magnetics, representations are to be made to ELSPA, the European Leisure Software Publishers Association to get cigarette packet-like warnings placed on software loaders.

David Looker, a director of Speedlock, told *Popular Computing Weekly* that while nobody expects the message to have a great effect on large scale piracy, the idea is "to reinforce the legal position of software houses when taking legal action against pirates."

By informing users that to copy and distribute the software is illegal, the "I didn't know it wasn't allowed" defence crumbles immediately.

Andrew Hewson, chairman of ELSPA, has yet to hear from FAST: "We've made no official moves on piracy at all yet – we're waiting to hear from FAST; the ball is in their court."

• *Do you want to be reminded of piracy each time you boot a game? Write and tell us: see address on page 9.*

Blitzed!

Copy protection writers Speedlock claim they have written an Atari ST protection routine which disables the Power Computing *Blitz* copier – and possibly many other devices. David Aubrey-Jones, co-director of the firm, told *Popular Computing Weekly*: "We've taken a close look at the Blitz and found that, along with older versions of the multiface, we can stop programs being saved to disc." Speedlock's clients include Microprose: all future ST games from Microprose will not succumb to copying with a Blitz device. Aubrey-Jones hopes to be able to block out all copiers soon. Speedlock is on 0734-470303.

The law on copying

THE COPYRIGHT DESIGNS AND PATENTS ACT 1988:
Part 1. Paragraph 107 Section 2.
(2) A person commits an offence who –
(i) makes an article specifically designed or adapted for making copies of a particular copyright work, or
(ii) has such an article in his possession,
knowing or having reason to believe that it is to be used to make infringing copies for sale or hire or for use in the course of business.

Until a test case is heard, the 1988 Act is open for interpretation and the legality of copying hardware remains unclear.

POPULAR COMMENT

"If any Amstrad PC dealers want to get in touch with us we're ready to talk business." So said a cheerful Commodore marketing manager, Jeff Earl, clearly gleeful at the thought of his rivals hard disc problems, and the recalls they have caused – see page 3 last week.

But according to dealers, Amstrad's troubles are not particularly good news for home computer companies like Commodore and Atari. The reason is that both firms are trying to be taken seriously as PC suppliers.

The dealers say that the mud is sticking: home computer companies making PCs are being tarred with the brush of the latest PC2000 episode – so perhaps Mr Earl's obvious pleasure at Amstrad's problem is premature. Users feel that perhaps if one consumer market player can get it wrong, so can another.

The home computer boys now have a lot of work to do to regain credibility in the PC stakes. Perhaps that's why Commodore is rethinking its approach to the cheaper end of the market – see page 2.

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Amstrad DMP 4000	2426	E
Amstrad PCW8256 (L/Life)	*2741	D
Amstrad PCW9512	*2746	B
Brother HR15/25/40	*2696	B
Canon PW1080A	2223	D
Centronics GLP	2412	D
Citizen 120D/180E/LSP10	2488	B
Citizen MSP-40/50	2477	D
Commodore MPS801	2236	D
Epson FX/LX-80	2273	B
Epson LX/GX-80	2454	B
Epson LQ-500	2477	D
Epson RX-80	2273	B
Epson EX-800	2774	D
Epson Full Width	2320	D
Juki 6100 Daisywheel M/S	2563	B
NEC Pinwriter P1/P2	2254	D
NEC P2200	2844	D
NEC P6+/P7+	2870	E
Panasonic KXP-1081/1180	2228	D
Seikosha GP100	2317	B
Seikosha SL80 (L/Life)	*2741	D
Seikosha 500/550	2236	D
Shirnwa CP80/MT80	*2698	D
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STAR LETTER

Lead-free in his pencil

I wholeheartedly agree with Derek Wray's sentiments regarding the environment. Yes, hobbies involving modern electronics are more environmentally friendly than some other pursuits but at what cost? Historically, how much damage has been done to the environment to arrive at the present state-of-the-art?

Furthermore, I wonder what proportion of electronic sales are bought by serious hobbyists compared to those buying gadgets in order to 'keep up with the Jones' with no regard to the environmental cost of their manufacture.

You mention the use of unleaded petrol but what of the extra engine wear requiring more frequent replacement – at what cost to the environment – perhaps even greater than using leaded petrol. I could go on . . .

Perhaps we should uninvent the Infernal Combustion Engine then perhaps the environment may stand a chance if it's not already too late.

Paul A.W. Bruton, Milton Keynes.

POPULAR POSTBAG

WRITE TO:
Popular Computing Weekly, Greencoat House, Francis Street, London SW1P 1DG.

Going loco

I have an Amstrad 8256 used for writing a book and virtually nothing else. After changing from Loco 1 to Loco 2, I met the problem of changing layouts for the insertion of quotations and here, although for my purposes only margins and type size are involved and although I can set these up, I cannot get them on to Stock Layout for use next time. Nor can I get back to the original layout without resetting each.

When I worked with Loco 1 I had no such difficulty and, although I have tried to follow the Loco 2 guide, somehow or other I fall down on the process and have reached the point of giving up unless I can get some outside help.

Some of the trouble is that, for my requirement, just too many options are open. All I want is to change type size and margin, to have this layout named QUOTE (or a number), to bring it up with only one or two actions and, when completed, to get back to Base Layout with a single action. I do not want anything else, which might confuse me.

Charles Jackson, Dyfed.

Stock layouts are changed from the f1 Document set-up menu (where you change the headers). So, once editing your TEMPLATE. STD, press f1 and select DOCUMENT SETUP; then press f2 to select LAYOUT. Then select CHANGE STOCK LAYOUTS. The layout list will then come up: choose your layout and press ENTER. Then edit the layout to your liking. With f7 you can call it QUOTE or whatever. Then press CAN(CEL) and go back to the template. Save it. There it is!

Lost tome

Some time ago I purchased *Decision Maker* from Triptych Publishing Limited, from their BrainPower Application Through Learning series. Unfortunately I have lost the book that accompanied the program and find I am unable to run the program without it.

I have been in touch with Triptych but they say they no longer handle this range so they cannot be of any assistance to me.

I am hoping that perhaps one of your readers could put me in touch with someone who could supply me with the book I need to run the program.

K. Shrimplin, 26 Burt Avenue, Balkwell Estate, North Shields, Tyne and Wear NE29 7HL.



Just say no

This week, after many months of trying to get rid of a virus called SCA and its brethren from my collection, I succeeded. Now, another more prolific virus has reared its ugly head! Has anyone heard of Lazarus? If you have, what can I do to kill it? I can quite honestly say that I possess no pirated software – I caught SCA from a borrowed disc, so beware. Nor have I tried to hack my way into any games: "I'm not clever enough to do that". I do not own any P.D. software, so I cannot understand how I have acquired it.

I have a suspicion that it could be the efforts of a software protection program, that has broken out somehow, as a quick look at the disc in workbench revealed it as Lazarus and not Elite, and this happened after it had crashed and ceased to load any more. I tried two virus killers on it and subsequent discs that went the same way, but to no avail. *Diskdoctor* helped in revealing that all cylinders were Hard Error on both sides and now they all read "unreadable" with corrupted files.

My latest game, *F.O.F.T.*, has died after only two days and is now renamed *Lazarus*. It's the last straw. I have ceased all progress on my Amiga 500 until I can do something to sort this out. Can anyone help?

P. Biancheri, London SW20.

No profit

I would like to tell readers that the CP/M & MSDOS Users' Group has published Volume One of its MSDOS Software Library Catalogue. This volume covers the UK MSDOS Library, the PC-Blue Library, Grab-Bag Software, and ALDE Publishing's C CD-ROM.

All this software is now available to members of this group; for details of the catalogue and of membership, please contact Mrs Diana Fordred at 72 Mill Road, Hawley, Dartford, Kent DA2 7RZ.

Volume Two, *The PC-SIG Library* is at present only available on disc (also from Diana).

The group is a non-profit making members' club, and in addition to its software library, it publishes a journal, runs a book lending library, and provides a bulletin board on Windsor 0753 868196. The protocol is 8-bit, no parity, full duplex, with automatic selection of baud rate. Much of the software is available via the bulletin board.

J.S. Linfoot, Oxford.

Euclidian geometry group

I am writing to inform you of a new user group which has been formed to support users of the Archimedes 3D design program, *Euclid*.

'Elements', as the group is known, will, for an annual subscription of £10, provide a quarterly newsletter including Euclid files, utilities, hints and tips, letters in the form of a disc.

The first issue will be available in October, then January, April and July.

Members will be encouraged to exchange ideas and material through the group in order to increase the effective use of both Euclid and the Archimedes.

Further membership details are available from Euclid's authors, Ace Computers, on 0223 32255.

Richard Molyneux, Elements Organiser.

Lines on Popular

He made the choice to stand in the garden

Sniffing the stench of rotting circuits

The brown, earthy patch was laden with wire,

RAM, disks of data and white DOS attire,

Why is it burning like Grandma's fire?

It was a shame that trusty red brigade never really saved his plethora of Ninjas, his space full of alien vegetables and gravy, his army of ghosts and hereo techno, butch boy fighters, his compassion for computers and his pedestrian sense,

Oh lo! lo! cries of woe!

More sad than sad could ever be grateful

To be reading

Popular! Popular! Oh to be Popular!

Samuel Plunkett, Plaistow.

Money for nothing

Does your taxman have the upper hand? Andrew Banner reviews an accounting package to help you with alien customs.

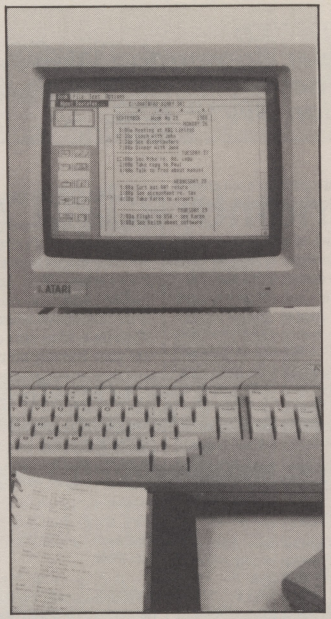
Born free – taxed to death. The statement is true but are you being charged more than your share? The only way to discover that is to spend hours working out your tax returns or to employ an accountant to do the same job. Accountants are not cheap and calculating your own tax can be a headache, especially if you have difficulty understanding the complex system.

Where do you turn? Do you trust that local income tax inspector and hand over your hard-earned wages obligingly, or do you take steps to make sure that you give him only what he deserves?

Personal Tax Planner is a new program from Digita International for the ST. It is also available for IBM and compatibles, Amstrad PCW and Commodore Amiga, and will calculate your tax returns for any given tax year.

Unlike many of the newer personal productivity software packages for the ST, Personal Tax Planner is menu-driven as opposed to using the GEM environment. Do not let that deter you before you know what the program can do. The menu system is a tried and tested method of operating software and in this case works very well. I think if GEM were used it might have hampered the use of the software, although it could have looked more presentable.

Designed by an accountant, Personal Tax Planner offers the ability to enter, amend, examine and delete data. The data can be in different forms, such as your main income, any extra income, interest received from bank and building society accounts and pensions, although there are many more options. Once you have input all your income for a single tax year you can have the program compute the amount of tax payable on your income. With options to display or print the data, the program will display, in detail, all your income data and then analyse it. Finally, you will be given a figure which is the tax you should have paid. Of course, you need not enter information about the whole year and can extract certain months.



Income data can be saved to disc and loaded again and there is no file security, no passwords, no compaction of data, no jumbling. In short, anyone can load any compatible file and examine it without difficulty.

The biggest asset of Personal Tax Planner is its ability to produce tax returns from what-if? situations. If you were considering a secondary income you could input further data to find the tax payable on your new or prospective income. Once you have reached a figure the data can be deleted to return you to your actual income.

Personal Tax Planner appears to be somewhat limited in its scope at first but the data menus run deep and include many income options. The big let-down of the software is the lack of security and the poor instruction manual, which just skims the surface of the software and provides little information on the country's tax system.

If you are considering this software, remember it is the only one of its kind. After buying it you are likely to need one of the many books on the U.K. income tax system before you can understand the usage of Personal Tax Planner fully.

CONTACTS

Digita Integration 0395 270273
Price: £39.95

PUZZLE

"These are interesting numbers", said Ben to Jamie. He wrote three four-digit numbers on a piece of paper and then continued. Now, what I am going to do is to apply a sequence of simple operations to each of these numbers in turn.

Here we have the three numbers:
2169 6501 6921
First we add 1 to each digit in turn, a '9' becoming a zero:
3270 7612 7032
Then we reverse the order of the digits:
0723 2167 2307
Now, we multiply by 3:
2169 6501 6921
"As you can see, this gives us the original three numbers again. In fact, they are the only three numbers having four digits for which this is possible".

"What I would like to know is if it would work for any four-digit numbers if we were to *divide* by three rather than multiply in the third step?"

Can you help Jamie find any answers?

SOLUTION TO PUZZLE OF JULY 27

Answer: ORANGE = 549270 RED = 403 GREEN = 74002 and INDIGO = 623675.

Solution: In the listing shown, sample values are allotted to each of the letters in turn. Starting with the 'digits' column of the sum, three loops are generated – lines 100 to 140 – to represent the letters E, D and N. In each case a check is carried-out to ensure that each of the values is different from the other two. Once they have been computed as possible values, the value of the letter 'O' can be calculated easily – line 150. This is tested against the letters already in use to check that its value differs.

```
  1 REM When typing in this listing don't confuse the letter 'O'
      with the zero (0) or the letter 'I' with the one (1).
100 FOR E=0 TO 9
110 FOR D=0 TO 9
120 IF D=E THEN 390
130 FOR N=0 TO 9
140 IF N=D OR N=E THEN 380
150 Z=E+D+N:Z$=STR$(Z):O=VAL(RIGHT$(Z$,1))
160 IF O=N OR O=D OR O=E THEN 380
170 FOR G=1 TO 9
180 IF G=O OR G=N OR G=D OR G=E THEN 370
190 Z=(G*10+E)+(E*10+D)+(E*10+N)
200 Z$=STR$(Z):Z$=RIGHT$(Z$,2):Z=VAL(LEFT$(Z$,1))
210 IF Z<>G THEN 370
220 FOR R=1 TO 9
230 IF R=G OR R=O OR R=N OR R=D OR R=E THEN 360
240 Z=(N*100+G*10+E)+(R*100+E*10+D)+(E*100+E*10+N)
250 Z$=STR$(Z):Z$=RIGHT$(Z$,3):I=VAL(LEFT$(Z$,1))
260 IF I=R OR I=G OR I=O OR I=N OR I=D OR I=E THEN 360
270 FOR A=0 TO 9
280 IF A=I OR A=R OR A=G OR A=O OR A=N OR A=D OR A=E THEN 350
290 OG=O*100000+R*10000+A*1000+N*100+G*10+E
300 RD=R*100+E*10+D
310 GN=G*10000+R*1000+E*100+E*10+N
320 ID=I*100000+N*10000+D*1000+I*100+G*10+O
330 IF OG+RD+GN<>ID THEN 350
340 PRINT STR$(OG);"+";STR$(RD);"+";STR$(GN);"=";STR$(ID)
350 NEXT A
360 NEXT R
370 NEXT G
380 NEXT N
390 NEXT D
400 NEXT E
```

The program then introduces two more loops, G and R – again carrying- out the necessary cross-checks – and from those values the value of the letter 'I' can be determined – lines 240 and 250. The remaining letter 'A' is then included using the loop at line 270. In this way all possible arrangements of values are computed. Lines 290 to 320 then compute the full values of ORANGE, RED, GREEN and INDIGO respectively. If they agree with the original sum – line 330 – the values are printed-out.

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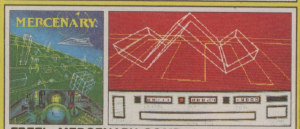
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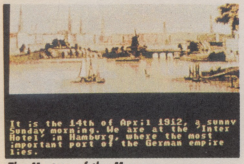
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HOTLINES

Who owns computers? What kind of person is it who spends half their lives closeted in a dark room with a piece of machinery? I set off to discover. Spectrum owners are identified by being young and hysterical, or old and still tinkering with the machine they bought when Sir Clive Sinclair created the low-cost computing market. Spectrum owners frequently have modems. Spectrum computer shows are now free-for-all jumble sales.

Commodore 64 folk look worried, haggard and desperate. They look worried because they realise that the C64 is seriously under-powered compared to big



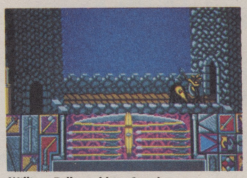
The Mystery of the Mummy.

boy computers and despite advertisements of yesteryear claiming elephantine memory; the sad truth is that it is getting senile.

They look haggard because of the time spent waiting for software to load. Aesop's famous tortoise and the hare fable is in fact allegorical – both animals were really Commodore peripherals. Commodore 64 owners are desperate to upgrade but the DTP advertisement is still printing-out.

The average Amiga owner is the smug-looking type at the local computer club. He ditched his 8-bit system only last Christmas but is desperate to convince that he has had 16-bit power for years. Amiga shows are worthy affairs, often attended by vicars, where the grown-ups talk about vertical markets, how genlock is transforming their lives, and try to conceal the children when they start playing the latest game converted from the ST.

If your 8-bit owner votes Labour and the Amiga owners are true blue, your ST owner is the one who has the power and does what he likes. This means enjoying games, a spot of WP, a dab of DTP. ST owners used to be the nouveau riche but after paying £24.95 for



William Tell retold in *Crossbow*.

games they are now nouveau broke.

Now for something useful. *Crossbow*, the legend of William Tell, is coming from Screen 7 and there is a picture of it on this page. It is all about repression and William's determination to stamp out evil, rescue his son and free the land forever. Load it into your ST, Amiga, PC, C64, Spectrum, CPC and put the Tchaichovsky album on the turntable.

He is a man with a mission, a man determined to stamp out the evil of drug trafficking. He has obviously seen Death Wish 4, another all-format release from Screen 7, coming soon, called *Fallen Angel*.

Artronic has a new driving game coming – check the picture – which is a kind of *Lombard RAC Rally*, without the Lombard RAC. It looks satisfactory and features a world championship and gives you the chance to drive a Spice Engineering SE89C sports car. It retails at £19.99.

Bad news now. The fifth landscape in the Populous expansion disc has been changed from Samurai land to The Bit Plains.

Mystery of the Mummy is a new release from Rainbow Arts and has digitised sepia tone pictures and murders all over the place. It



Fastlane – a legal way to drive drunk.

is your task to sort it all out and unravel the mystery in this intriguing adventure, available on C64 disc, ST, Amiga and PC any time now.

Duncan Evans

PREVIEW

Program: Fiendish Freddy's Big Top 'o Fun
Version: Amiga, ST, PC
Price: Amiga, ST £29.99; PC £34.99
Supplier: Mindscape
Previewer: Andrew Banner

RELEASE DATES

Amiga: September
ST: September
PC: September

Just how many events games can you stand? We have got *Summer Games, Winter Games, California Games* and even *Caveman Ughlympics* and I am going mad.

The computer scene has been swamped with these type of games but *Fiendish Freddy's Big Top 'o Fun* from Mindscape is an exception. Fortunately for all of us this latest offering is very different.

As the name suggests, the game takes place under the big top and is full of humour. The circus needs to raise $10,000 in one night to repay an overdue loan. If you fail to find the money, you lose your circus. To raise money, you need to perform six traditional circus acts. They include the high wire walker, trapeze artist, high diving into ever-diminishing water tubs and the human cannonball.

At the end of the event you are judged by a panel of humorous clown characters, who will award a sum of money according to



• The judges table.

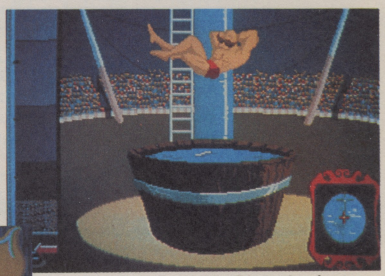
how well you performed in the last event.

Of course, the whole idea of the circus is to get everybody laughing with the slapstick humour so many love and this is exactly what Fiendish Freddy does. The judges also employ this laughter method and attack each other constantly. They also change their facial expressions to match their opinions of the past performance.

The loan sharks do not want to see the circus survive and have sent a bully boy – Fiendish Freddy – to sort you out. Freddy will appear during the event and perform some fiendish trick to try to hamper your progress.

It all adds up to plenty of fun and unlike most other games of this kind, you will never master it or get fed up with it. The more you play it, the more you will discover and the more you will laugh.

Fiendish Freddy's Big Top 'o Fun will be released on the Amiga, ST and PC in September with 8-bit versions to follow later in the year.



• Fiendish Freddy's Big tub o'water.

FAX BOX

Program: The Newzealand Story
Version: Amiga
Price: £24.99
Supplier: Ocean
Reviewer: Adrian Pumphrey

RELEASE DATES

ST: Out now
Amiga: Out now
Spectrum: Out now
Amstrad: Out now

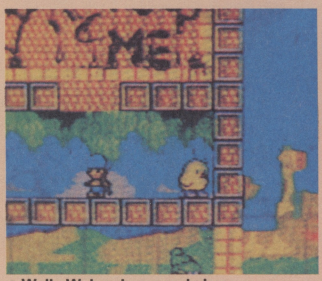
The title of the game did not prepare me for the sight I received upon booting up this game. I have seen some strange heroes in my time but a laser-toting Kiwi wearing bovver boots? I ask you.

The game does not take long to transverse from the sublime to the ridiculous, and every second of the transformation is a sheer delight. The plot is brief and bizarre. A psychotic walrus with a taste for Kiwi has 20 of your friends trapped and lined up for lunch. Escaping from the zoo you set forth with your trusty bow to wreak a little havoc. The landscape is constructed with a series of platforms inhabited with some very strange characters. In the early stages the common foes are the hermit crab who pops in and out of its shell and throws huge spiked balls and rockets along the platforms.

Next comes the boomerang toting soldiers and something small and furry with pointed ears. While these creatures guard the landward approach to your captured friends the skies are filled with some even stranger sights. These range from bomb dropping bats to owls mounted on ducks, very strange indeed.

With a well placed shot our flightless hero can steal these airborne transporters to take the battle to the skies. And if all this was not enough Kiwi can don a snorkle and enter the briny depths.

The strength of this program lies in its speed – it can take as little as 15 seconds to complete a level – its variety, the sheer weirdness of the monsters and its mixture of cuteness and violence. The bow may not sound very violent but it can be upgraded to more deadlier weapons – and they certainly will be needed when you meet some of the walrus' larger friends.



• Wally Walrus is a greedy hog.

Gameplay 78%
Grafix 82%
Sonix 70%
Overall
85%

FAX BOX

Program: Alien Legion
Version: Amiga
Price: £24.99
Supplier: Gainstar
Reviewer: Adrian Pumphrey

RELEASE DATES

Amiga: Out Now

Once more the plot is minimal. The Earth has been enslaved and as the lone surviving hero it is your task to introduce the aliens to the finer points of butting laser beams. Before you start this guided tour of war-torn Earth ensure you have an auto-fire on your joystick. A constant stream of laser beams is not only desired but essential.

Your character, Captain Cosmose, can catch a few bullets in his teeth before expiring but nothing grinds down the energy more than running into an alien you should have destroyed.

Occasionally when you terminate an alien a flask is seen floating upwards. If the flask is green, contact with it replenishes lost energy; conversely a red flask removes energy. That can be a little tricky if you kill an alien when it is almost on top of you, as the resulting flask passes through your character before you see its colour. It is bad news if it is a red flask. The aliens may be small but they get up to all kinds of tricks. Most attack on foot, cannon-fodder style but other more wily bug-eyed monsters ride anything from contraptions better suited to a farmer's field to the latest in fighter technology.

Apart from the creatures which move on two legs, commonly known as bipeds, there are beasties like the fly, hover and creep. They include everything from abstract ships to blinking eyes.

Although the shooting element is crucial the main emphasis is on platforms. Leaping from level to level vertically is satisfactory, so long as you turn off your auto-fire first but leaping across gaps can be a real pain. You have two lengths of jump. Selection between the two depends on how long you hold the joystick in the jumping position. Unfortunately in heated moments you tend to opt for the short jump when you need a long jump, thus ending up in the drink. There is nothing outstandingly good or bad about this game.



• Easter egg in space.



• Be serious – one green eye and a bit of lead piping doesn't fool me.

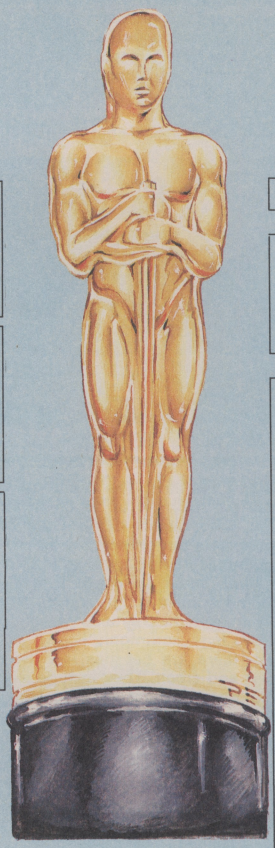
Gameplay 69%
Grafix 64%
Sonix 60%
Overall
68%

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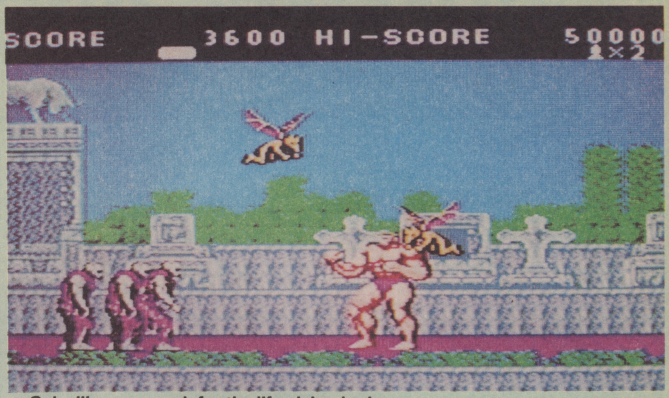
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FAX BOX

Golvellius: 73%
Price: £24.95
Altered Beast: 42%
Price: £24.95
Time Soldiers: 89%
Price: £24.95
Reviewer: Duncan Evans

CONTACTS

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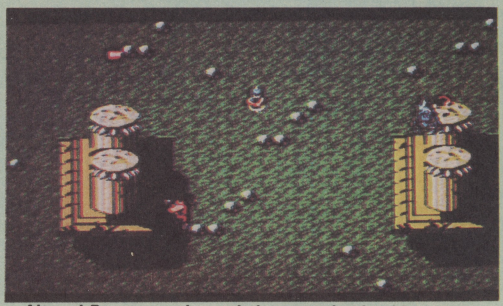


• *Golveilius* – a search for the life giving herb.

Good news for Sega fans is that Virgin Mastertronic, the company responsible for U.K. marketing, has unleased a plethora of games on to the market. In this first article we look at *Golvellius, Altered Beast* and *Time Soldiers*.

I have no idea why the first game is called Golvellius, since it is all about the kingdom of Aleid, a drought, a princess who goes missing, the king retiring to his deathbed and the adventures of a youth called something or other. You play that youth, on the quest for the herb to save the king, to find the princess and save the kingdom from the water shortage.

To kick off you have smooth sideways scrolling, with little furry animals gently wandering up to you. You chop them to little furry bits with your sword. That is easy enough and before you know it you are out and on to the second section. Trapped in a valley of your own making, or something like that, we go to command-style perspective, with four-way scrolling and four-way sword play, which is irritating since there are eight-way monsters. Pop into the little holes scattered around, suffer some cute vignette of something small and furry and usually helpful, then out hacking again, until you have collected seven crystals, whence the gate to the valley of Golvellius opens and you are off again. It has average gameplay but pleasant graphics and reasonable sonics.



• *Altered Beast* – or the cat's been at the dustbin again.

You may know what it is like when you have had one drink too many. You are lying dead drunk and some old mystic says rise from the grave and rescue my daughter and you follow the bloke. Those guys attacking you look as if they have just got out of the ground; and that tiger? Surely that is Mrs Jones' Nibbles from down the road. Dear me, even all the characters are flashing and everything seems to be happening in slow motion.

Alternatively you could play Altered Beast because exactly the same thing happens, except that you do not have a hangover in the morning – only the black despair at having wasted money on this poor effort.

Time Soldiers was much more to our liking. It is all about shooting your way through the various ages of time while hunting for your trapped comrades in the war against someone unpleasant. It is Commando time, with vertically-scrolling shooting action, loads of enemies, all tailored to the particular age, throwing all sorts at you.

You half disappear in the bushes and slow down; you are armed with a pea-shooting bazooka and can pick up extra weapons along the way.

Just nail that alligator or prehistoric man and a rocket launcher appears; or a three-way gun or plasma weapon. It just shows those primitives were more advanced than you think.

There are plenty of time zones and on some of them the action switches so that you are scrolling horizontally.

At the end of each level there is a particularly nasty guardian – particularly large as well.

Great graphics, plenty of inventive touches, tough gameplay and satisfying amounts of violence.

Time Soldiers was certainly my pick of this bunch.



• *Time Soldiers* – stalking through the undergrowth exercising those commando tactics.

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CD Connection

You have seen the games and now Duncan Evans meets the interface to revolutionise your CD system and C64.

There is no denying that CD technology is all the rage at the moment but with machines like the PC Engine, and companies like Mirrorsoft producing *Defender of the Crown* on CD for PCs leading the way, what Rainbow Arts is about to launch on to the unsuspecting public is rather surprising.

There is a telephone socket on the circuit board and it is used to connect the interface to the LINE-outs on the back of the CD player – or the left or right channel if there is not a specific LINE-out socket.

A word of caution. I tried using my portable Sony Discman but, even with full volume, not even the menu would load. If you have a portable try to check in the shop that it will work before you buy.

The full-size Sanyo had no qualms about interfacing with the C64, though, and after typing LOAD, the menu loaded from the spinning disc in about 40 seconds.

The menu offers 10 games and after selecting one with the cursor keys – joystick use should have been an option – you are given a track number to jump to on the CD player. Once that is accomplished, press the spacebar and the game take around six-and-a-half minutes, with less than one minute for the original menu, so we are talking 14 minutes of program. That is not exactly exploiting the new technology, is it?

As an added treat there are seven tracks of the dubious musical talent of Chris Hulsbeck, a kind of German David Whittaker, which can be played through your speakers like a regular CD. The computer tunes, to which you listen once only, take another 35 minutes. It says there are 10 of them – in the manual and on the box – but there are not.

So far what you have is a moderately quick – compared to tape – alternative method of loading programs. Except that you can only read from this CD – you cannot save anything on to it, so it has to be treated as nothing except a novel way to load 10 games.

Then you look at the games. You get *David's Midnight Magic* (pinball), *Leaderboard, Mission Elevator, Impossible Mission, Dropzone, Loderunner, Solomon's Key, Jinks, M.U.L.E.* and *FIST II*. Apart from Jinks, which was a Rainbow Arts game anyway, the rest of the collection is prehistoric, the newest dating from 1986.

It is at this juncture that you realise that Rainbow Arts has cut every corner and every cost imaginable. What you are paying for is a novel way to load 10 old games – and not particularly fast – from a piece of hi-fi which may need to be dragged round the room before you can connect it. Only if you had a CD player, did not have a disc drive or any of these games and wanted a collection of semi-classics could this strange concept be worth paying for. □



• **Above: Frail but ineffective, the interface relaxes on a QWERTY.**

CONTACTS

1st CD Edition
Rainbow Arts
Contact: Barrington Harvey
Price: Circa £29; to be confirmed
Tel: 01-278 0333

1st CD Edition is a package which offers 10 games on a standard CD, a fairly clear instruction manual and a 2½in. by 1½in. interface, all for the Commodore 64. All you have to supply is a very standard lead and a reasonably expensive compact disc player.

The concept behind the package from the West German company more famous for Denaris than any hardware ambitions is that, if you have a C64 but not a disc drive and are looking for faster data access, or faster-loading games in this case, all you have to do is plug the interface into the cassette port of the computer and connect it to an ordinary compact disc player.

It is a strange thing really; I know of very few people who have a C64 and no disc drive but can afford a CD player. Perhaps this package is aimed at someone living at home who can borrow their parents' player.

You can get to grips with this bizarre concept by plugging in the very frail-looking interface. It is not boxed, so dropping the C64 on the floor with it inserted is likely to lead to a fatality.

of your choice loads in 30–50 seconds.

If there are loading difficulties, try the other channel as the programs are recorded on both. If that does not work you can add 20 to the track number – all 10 programs are recorded twice.

If you are thinking I have a disc drive anyway but I have a CD player and this sounds like a cool idea, let me tell you why it is not.

For one thing you are not exactly getting a CD chock-a-block with code. Both blocks of programs



• **Right: Your CD bundle of 10, but the games are all familiar friends.**

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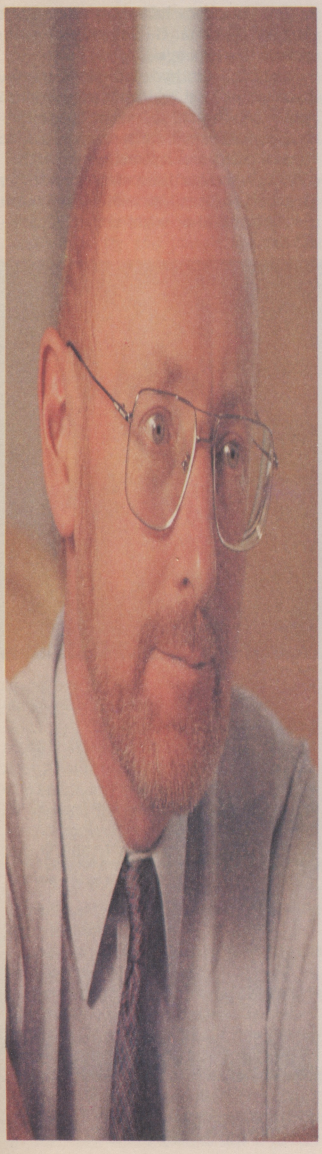
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Sir Clive speaks

Sir Clive Sinclair, latter-day computer genius, speaks in a rare interview to *Popular Computing Weekly*. Undeterred by the C5 flop, we find he has plans for two-wheels in his empire. Words by Leslie Bunder, pictures by Steve Coward.



Since forming his first company, Sinclair Radionics, in 1961, Sir Clive Sinclair has probably invented more ground-breaking electronics goods than any other individual. From radios to wristwatches and computers to cars, it can be said that Sir Clive is a man who has been there, seen it and done it. His quest for introducing something new and different often can reach the obsession stage, like his 20-year quest for perfection in producing a pocket television set.

Even now, despite the financial failure of the C5 vehicle and the butt of many jokes, Sir Clive is still working on C10 and C15 vehicles which some day will make it on to the production lines and hopefully on to the roads.

It seems probable that it is this obsession which makes Sir Clive tick. He is a man concerned that his products should reach as many people as possible and be of benefit

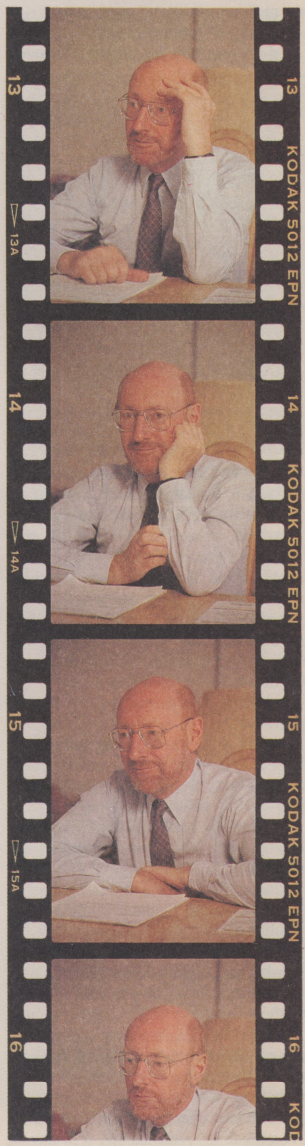
> *"I have a hell of a lot I want to do and I see myself at the beginning rather than the end"*

to the whole of society. One has only to look at what Sir Clive has produced and you can see clearly that his products are non-elitist. The calculator, computers and car were all much cheaper than anything else on the market and had mass appeal.

Sir Clive is not a man who copies; he took on the Japanese and Americans at their own game and won. It was because of that and his contribution to society that in 1983, at 33, Clive Marles Sinclair was knighted, due recognition for a man who created a multi-million pound industry and that does not even refer to the hardware.

Without the name Sinclair, the software games giants of Ocean, Mastertronic, Elite would not have enjoyed their massive success. Even the computer publishing industry owes its due to Sir Clive, with three magazines having his name as their title.

With Sir Clive's no-frills approach to computing, he also allowed companies to make such added extras as joysticks,



◀ QWERTY keyboards and many other items for his range of machines. In short, he allowed others to create businesses via the products he produced.

Sir Clive is not generally known as a man who seeks publicity. It is several years since he spoke to *Popular Computing Weekly* or anyone else at length, as the following interview will show.

***Pop*: It is now almost 10 years since the ZX-80 appeared, did you think home computing would be as big as it has become?**

Sinclair: Not quite as popular. I certainly hoped it would be a big thing and hoped it would be something which captured public imagination. We set out to try to sell to the general public, as opposed to just the enthusiasts around at the time. It grew much bigger than we hoped.

> *"I am developing this bicycle . . . The purpose is that when you arrive at your flat, office or underground station, you can fold it instantly so that you can take it in – rather like an umbrella"*

***Pop*: Of all the computers you have released, which is your favourite?**

Sinclair: I think, in a way, the ZX-81 was a good little machine. I am very pleased with the Z-88. I tend always to look forward to the next machine rather than back.

Pop*: *How is progress on wafer scale integration?

Sinclair: It is coming along well. It will still be a large memory drive and the initial sales will be to the large computer manufacturers. It is still going to plan.

***Pop*: Can you outline plans for a powerful processing device we gather you are designing?**

Sinclair: That work is broadly secret so we cannot say much about it, but it would be foolish to deny it.

***Pop*: With Atari, Psion and Poquet releasing very lightweight pocket PCs, is this an area into which you have plans to move?**

Sinclair: Very much not so. I do not see the logic behind those machines. The concept, or suggestion, is that they are PC-compatible. Well, they are simply not, because it is very important to realise what PC compatability really means. It means for the customer total compatability; that is to say, it must have a proper keyboard, a proper display and, in my opinion, it must have a drive. If you remove any of those or compromise on any of those the thing ceases to be compatible and you might as well go the whole hog. I cannot see the point of those products. I may be missing something. I do not say they will not sell; no doubt they will in some degree.



Clive Sinclair has revolutionised the world of electronics, from calculators to wrist-watches.

***Pop*: Do you use a Z-88 when you do business?**

Sinclair: I do not, but then I do not use computers much anyway. I do not type and do not have a computer at home. I use a pen and calculators.

***Pop*: With so many games appearing on the Spectrum, do you play any?**

Sinclair: No, not at all. We realised people would play games with them; the principal aims behind the machines was to introduce people to the art and science of computing. I do not ever play games myself.

***Pop*: What is happening with the portable telephone?**

Sinclair: Sinclair Research formed a company called Shay Communications and the work is now completed. The product is now in production and will soon be on the market and Shay has since teamed with Motorola and Mercury to be one of the licensees for the telepoint system. The telephone should be a personal object like the calculator and will be priced at £150.

***Pop*: You once had plans for a Stock Market flotation. Do you have plans to pursue this idea again?**

Sinclair: We have no plans at the moment. I do not rule it out but it is much more complicated because Sinclair Research has moved its technology out to several companies it founded – Anamartic, Shay, Cambridge Computers – and they might or might not go public and Sinclair Research might or might not go public on its own.



The Z-88 – brought lap-tops to the masses, but Sinclair remains the visionary.

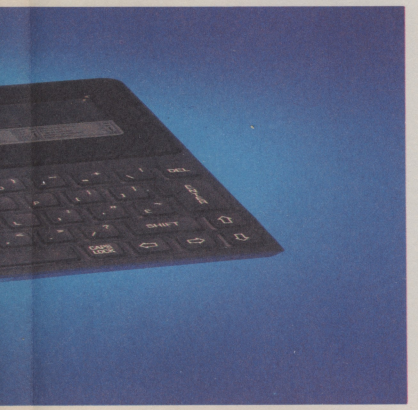
***Pop*: Will 1992 benefit British computer companies and yourself?**

Sinclair: Broadly anything which opens the barriers helps but whether the barriers will come down in that area we will have to wait and see. Clearly we still have to do special keyboards for different countries. I do not see that changing. I think it is a

> *"I think the next generation will have computers in the home which are highly intelligent and start to give advice to people"*

> "I do not think it is a question of curbing the power of the computer, it is a question of how it uses its power"

psychological benefit but in practice I am not sure there will be a big change. I am concerned about the protectionalism that seems to be creeping into Europe. I am worried about Europe setting up tariffs against chips coming into Europe. What I foresee is that companies in Europe might be at a greater commercial disadvantage than companies outside Europe because the Common Market might have insisted on very high prices for memory chips, for example to try and protect the internal





And its only just begun; Mensa member Sinclair still has a few things up his sleeve.

industry which will mess up the computer manufacturers.

***Pop*: Do you have plans to move into the development of CD-ROM?**

Sinclair: No, I think the application is very limited and they have been over-hyped. It has much to offer games if it is cleverly used.

***Pop*: Would you ever consider releasing a hand-held games machine?**

Sinclair: I am not really so interested in games. I see the appeal but that is not the field we are in. If we could see a way of doing something dramatic, and we have looked at that in the past, we would do it. We are interested only if we can do something radical in the engineering side. We are interested in technical frontiers and breaking new ground and if that happens to be in the games area, we will do it. The games area does not offer us that opportunity at the moment.

***Pop*: Have your views on computing changed through the years?**

Sinclair: No, I think it is going the way I saw it going. I think we are getting close to the days when students will all be carrying computers because the Z-88 is being used a great deal by students for that purpose. That will change computer literacy greatly. From that will emerge a nation of people who are completely familiar with computers and I think the next generation will have computers in the home which are highly intelligent and start to give advice to people.

***Pop*: Is it safe for computers to start forming intelligence?**

Sinclair: Nothing is without its risks and I think that has plenty of risks but it is a question of getting it right. I do not think it is a question of curbing the power of the computer; it is a question of how it uses its power.

***Pop*: Do you still have ambitions?**

Sinclair: Absolutely, I have a hell of a lot I want to do and I see myself at the beginning rather than the end. There are two areas which concern me most and they are very long term products – artificial intelligence, for which I mean machines which really do rival human beings and electrical vehicles.

***Pop*: Regarding artificial intelligence, can you put morals into machines?**

Sinclair: Whether you call them morals or not, I do not know. I think you need to put constraints into them. It is something necessary that I will do.

***Pop*: Have you made any decisions not to release any products through fear or worry they are too intelligent?**

Sinclair: I have not developed products of that kind but the day may dawn when one will have to look carefully at the consequences of products as they become more powerful. I can certainly see the day when one might regret games machines – when they become so realistic that they seem just as real as life and that people can become addicted to them as they get addicted to drugs; one would be very cautious about introducing such products.

***Pop*: What motivates you to achieve what you have achieved?**

Sinclair: Well, entirely the desire to change the world in a small way, to bring out products which will make peoples' lives more interesing or more useful. The pocket calculator was just a tremendous thing for people to have; so too the personal computer and I feel passionate about the portable computer. I want to produce new kinds of products which will change peoples' lives for the better. The home computer is a clear example of how it would enrich peoples' lives and now I am developing this bicycle.

***Pop*: Bicycle, it does not sound very electronic, can you further expand?**

Sinclair: The idea is very simple. It is the best way to get around town but a very inconvenient object when you arrive. If you can solve the inconvenience when you arrive, you have a very exciting product, so I'm working on that. It will be a portable bicycle. It will not be electronic and it will be two years before it appears because it is a very big job. To do it you have to use radical materials and have a radical design. The purpose is that when you arrive at your flat, office or underground station you can then fold it instantly so that you can take it in – rather like an umbrella. It must be dramatically lighter than a normal bike – and the lightest bikes have been the same weight for 100 years.

***Pop*: How do you feel on reflection about your portable TV?**

Sinclair: Perfectly sound product. We thought there would be a large market for such a product and so did the Japanese but the world market is still very small.

***Pop*: Can you give any sneak previews of products you have in mind?**

Sinclair: The main thing on which we are working is a PC-compatible portable. It is

> "I can certainly see the day when one might regret games machines – when they become so realistic that they seem just as real as life and that people can become addicted to them as they are addicted to drugs"

some way off and not in the same category as the Z-88 and also the very advanced computer chip about which we cannot talk now.

***Pop*: Aside from Mensa, do you have any other hobbies or interests?**

Sinclair: Yes, I am very interested in music, reading, poetry and mathematics. □

LANCASTER

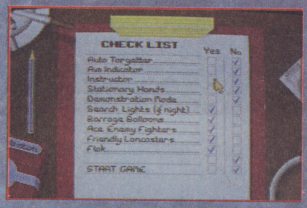


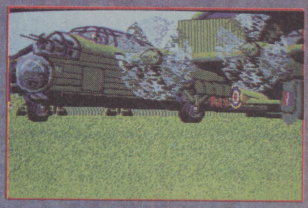
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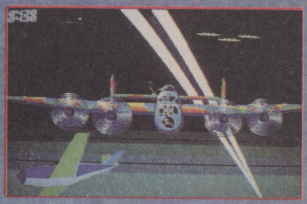


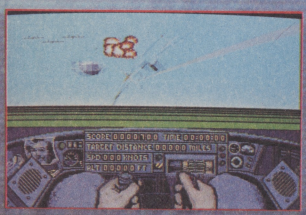


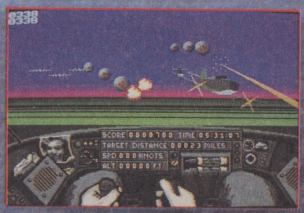


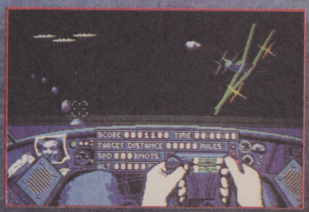












OR IS IT REAL?

Stopwatch

Steve Carter

WHEN developing a program, in most cases speed of operation is a very important factor in its success or otherwise. How do you establish the fastest way of writing a routine you think may be running too slow?

I developed this routine *Stopwatch* to use the internal clock so that I could make alterations to a program and see the effect on the time it took to run. It is a sub-program so that none of the variables in the routine will clash with the main program when it is tacked on to the end. The two variables which must be placed in the main program have long names so that it is most unlikely that they will clash with any others. To use it, add it to the end of your program and put:

FirstTime$=TIME$:FirstDate$=DATE$

at the start of the section you want to time and:

SecondTime$=TIME$:SecondDate$=DATE$

at the end, followed by the call to the sub-program.

The program will cope with timing a program over several weeks but if the internal clock should go into the next month your results will be incorrect, so if the timing is to go into the next month, re-set the internal clock to, say, the first of the month. □

```
 REM ------------------------------------------------------------
 REM         DEMONSTRATION OF 'STOPWATCH' TIMING SUB-PROGRAM
 REM ------------------------------------------------------------
 REM  by STEVE CARTER December 1988
    CLS
    PRINT "DEMONSTRATION OF USING 'STOPWATCH' SUB-PROGRAM"
    PRINT " Time of starting = ";TIME$
    PRINT " PRESS A KEY TO END THE PROGRAM"
Start:
  FirstTime$=TIME$: FirstDate$=DATE$  'Get the time of start
    WHILE INKEY$="" :WEND             'PUT YOUR PROGRAM HERE
  SecondTime$=TIME$:SecondDate$=DATE$ 'Get the time of finish
  REM    ***  call sub-program with arguments of       ***
  REM    ***  start time & date and finish time & date ***
  CALL stopwatch(FirstTime$,FirstDate$,SecondTime$,SecondDate$)
END

 REM ****************************************************

SUB stopwatch(First$,Day1$,Last$,Day2$) STATIC
  REM  ***** CONVERT FIRST-TIME TO SECONDS *****
  hrs=VAL(MID$(First$,1,2))
  mins=VAL(MID$(First$,4,2))
  secs=VAL(MID$(First$,7,2))
  firstval=(hrs*3600) + (mins*60) + secs
  REM  ***** CONVERT SECOND-TIME TO SECONDS *****
  hrs=VAL(MID$(Last$,1,2))
  mins=VAL(MID$(Last$,4,2))
  secs=VAL(MID$(Last$,7,2))
  secondval=(hrs*3600) + (mins*60) + secs
  REM  IF TIMING PASSES MIDNIGHT ADD 24hrs TO SECOND-TIME
  Numdays=VAL(MID$(Day2$,4,2))-VAL(MID$(Day1$,4,2))
  IF Numdays>0 THEN secondval=secondval+Numdays*86400&
  REM  DEDUCT FIRST FROM SECOND AND CONVERT BACK
  elapsedtime=secondval-firstval
  hrs = INT(elapsedtime/3600)
  hour$ = STR$(INT(elapsedtime/3600))
  mins = INT(elapsedtime/60)-(hrs*60)
  minute$ = STR$(mins)
  secs = elapsedtime-(INT(elapsedtime/60)*60)
  Second$ = STR$(secs)
  REM        **********     PRINT RESULTS     **********
  PRINT "  Start  time = ";First$
  PRINT "  Finish time = ";Last$
  PRINT "  Elapsed TIME = ";hour$;" hours.";
  PRINT  minute$;" mins.";Second$;" seconds."
END SUB
```

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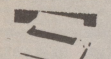
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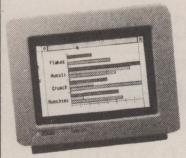
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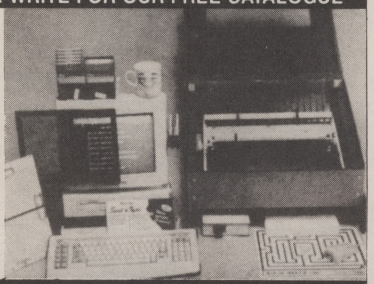
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A day at the Beeb

Duncan Evans joins the resilient species of micro owners at Ally Pally for the BBC Show.

If owners start to look like their dogs there is a good case for computer users adopting the traits of their machines. At the BBC Show at Alexandra Palace that was very evident. Overbearing fathers and confused mothers led anorak-type BBC B/Master-owning teenagers round the thinly-attended stalls; packs of Archimedes owners, looking for a spreadsheet package to work out when they would pay off the loan they took to buy the machine were everywhere.

The BBC may be outdated and dead so far as mainstream computing goes but that never seems to worry Mum and Dad as they avoid admitting that the machine they bought to educate Johnny was used only for playing *Ballistix* by trying to find the Clares Micro stand.

So far as this show was concerned the BBC was not dead but with only Watford Computer Concepts and Superior showed any real commitment. There were not many nails left to bang into the coffin. It was the day of Archimedes but not in a manner likely to launch it into the computing mainstream.

First let us see what was on offer for the BBC. Wight Scientific – 01-858 2699 – was getting excited about *Signwriter* and its very impressive range of fonts for producing display lettering for £29.95 – and £49.95 on the Archimedes. Topologika, famed for re-issued and new adventures, has gone green with a range of booklets, tapes, records and, of course, computer programs dedicated to whales, with assistance from a member of Friends of the Earth; you should telephone Topologika on 0733 244682 for details if you want your children to know about the greatest of mammals.



Remembered as an educational micro, BBC users can still enjoy some impressive software.

Substantial

More labelling software, this time from Mewsoft – 01-267 2642 – entitled *The Fancy Labeller* and retailing at £12.95 for the BBC B and Master 128 and £27.90 on the Archimedes. If you fancy something a little more substantial you could try the Permanent Memory Systems – 03552 32796 – *The Publisher*, which claims to be a no-nonsense DTP package for the entire BBC range at £39 plus VAT and £1 carriage. Compatible with *View*, *Inter-Word* and *Wordwise*, it offers 86 fonts. PMS was also selling its last few Genie and Genie Junior Personal Organiser ROMs.

Topical

Perhaps the biggest splash for BBC owners was made by Impact Software – 0898 654334. Impact showed extra courses for its *Leaderboard* clone, *Holed Out* – topical because Mark Calcaveccia won the Open Championship in the same week – and also a new football game. *Arcade Soccer* is a *Microprose Soccer/Kick Off* derivative featuring overhead action and a World Cup in which to compete.

Superior Software has the licence to the Psygnosis Ballistix and is threatening its own version of Kick Off, which should be available as soon as programming is finished.

Back to the real world with Click, a Master cartridge from Slogger Computers – 0272 743683 – enabling the user to use memo, snapshot, xtree, utilities and restore functions.

Possibly the most exciting aspect of the show were the genlock and real-time digitisers for the Archimedes. Wild Vision – 091 2818481 – had a large section of hardware items for the Archimedes, including the Chrom 300 series of video overlay and genlock cards. One of the most impressive things at the show was the Hawk V9 real-time colour digitiser. Images are displayed in any Archimedes 256-colour mode, with the image resolution being 256x512. Availability is late 1989 and pricing is expected to be less than £500.

Something of a challenge was offered by the Arvis Videographics Expansion Card ARDG.2 which offers real-time colour digitising, grabbing frames at 1/50th of a second and using its own display system to produce 3,200 colours for the finished image which can be used with most art packages. Contact Video Electronics Ltd on 0942 882332 for details.

To augment the power of the Archimedes you could always buy most of the things in the Oak Computers – 0532 502615 – catalogue. Internal hard drives from £299 (20MB) to £555 (40MB, 28ms) and externals from £349 (20MB) to £795 (64MB). If you want to use those hi-res modes you need a multi-sync monitor – £1,495 for a 20in. screen; then you can play *Worra Battle*, in other words *Battlezone*, for only £14.95.

For word processing with extra activities like database search, data entry and spreadsheet generation, *Premier* from Circle Software sounds a good choice. The price is £96 plus VAT. Contact 0793 770021. Or you might like to try *Impression* from Computer Concepts. It is powerful yet easy to use, drawing on Concepts experience of producing word processors for the BBC.

Average

Archimedes games are a little light relief – a joke some might say – but there seem to be a few of them around, mostly average renditions of classic arcade games. Considering that the Archimedes can emulate current arcade games *Thundermonk, Hoverbod, Orion* – Defender – *Missile Control* and *Ibix the Viking* are not exactly stunning. They are reasonably priced, though, at £14.95 for all except Ibix, which is £19.95.

Clares Micro, beside the usual educational products, was hinting at an *Interceptor*-style game called *Interdictor* (£34.95) and selling some poor ones like *Overload, Mazey Man* (Pacman) and *Bounce a Ball* (Breakout).

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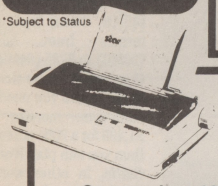
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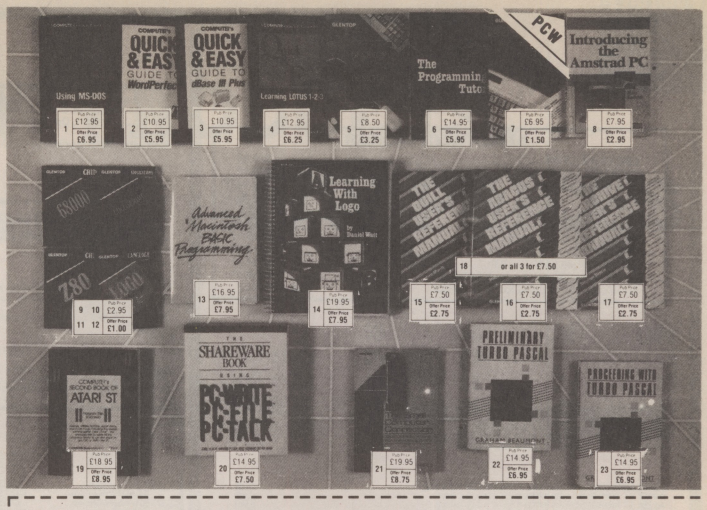
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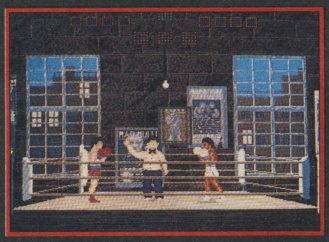
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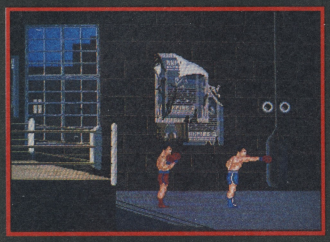
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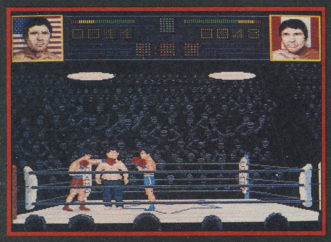
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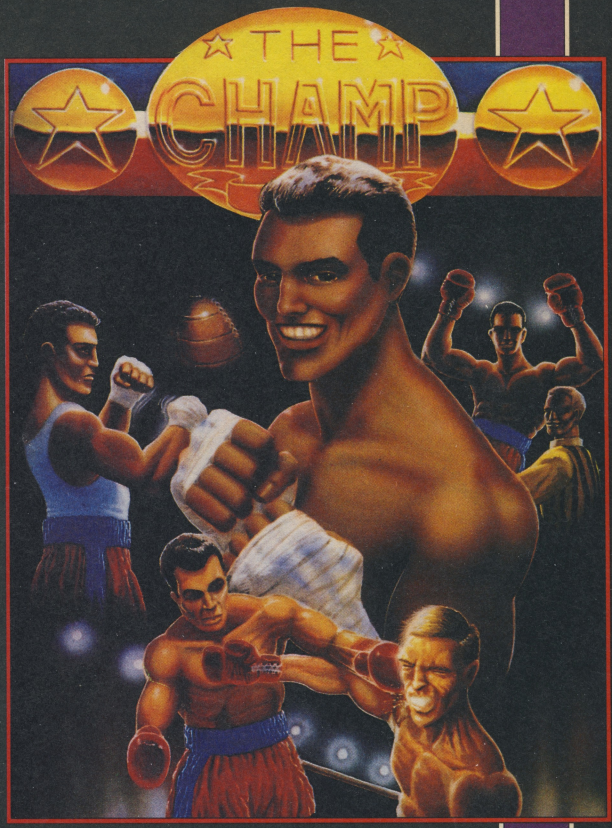
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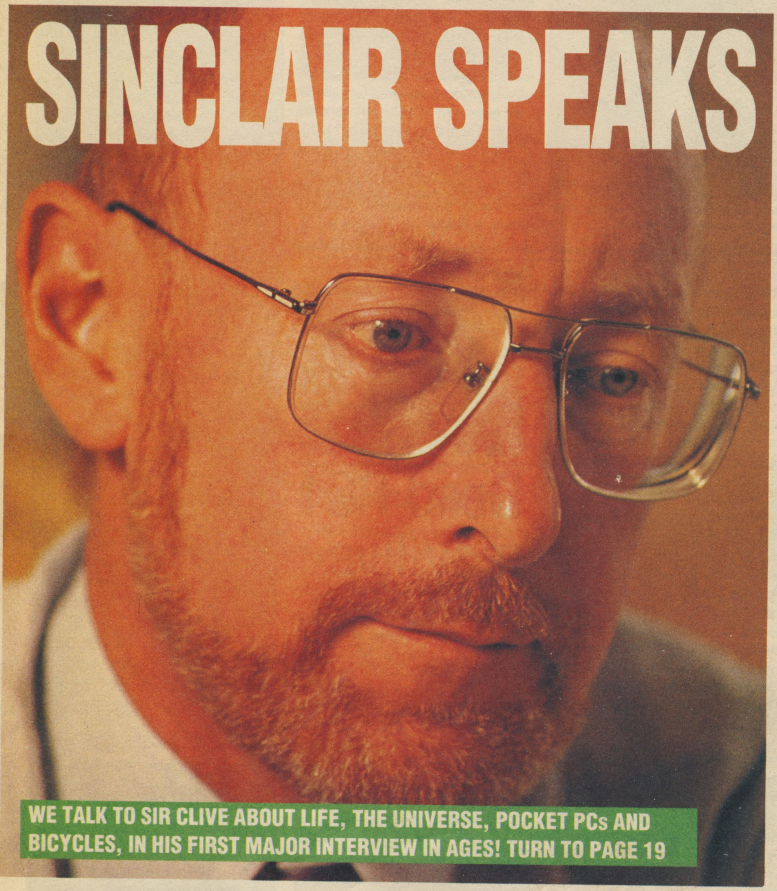
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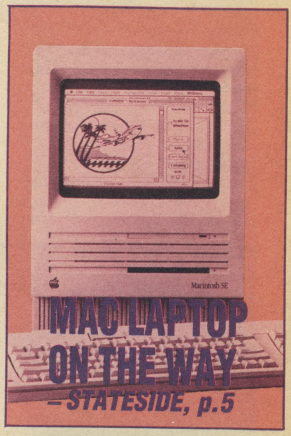
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