

2 disc
Special issue

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ACORN USER

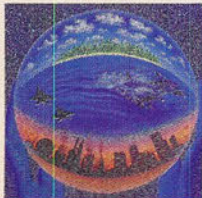
Essential for all users of 32-bit RISC OS computers

Christmas presents

CHRISTMAS 1995
ACORNUSER Game disc 1

Global Effect

A demo of
the stunning
new game
from



Eco-friendly world simulator

CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED

CHRISTMAS 1995
ACORNUSER Game disc 2

FistLore

Try out ICS's
new beat-'em up

Plus:

Mike Cook tackles MIDI
Christmas Carols in *INFO
Top Risc PC demo Blu

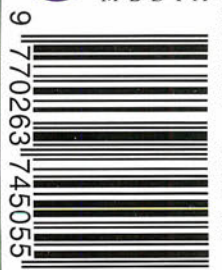


CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED



- Public Domain round up
- Alone in the Dark
- Am technology explained
- Bible review
- 3D design feature
- Logix, RSDFS and RapIDE reviews
- Report-writing

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MEDIA



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Editor's letter

I don't know if you have the same trouble that I do in choosing Christmas presents for your loved ones (and those tolerated under sufferance), but I hope that our list gives you some ideas beyond the latest computer game. Not that the latest computer games are bad - far from it, there's quite a flurry of activity in that area to which the multitude mentioned in the magazine will testify.

Hopefully our PD section should serve as a guide to those still unsure about this large area of the Acorn market. And, for the nostalgia fans among you, we have a review of the latest emulators for the BBC Micro and ZX Spectrum which will run all those old games you thought you'd never play again.

Have a good end of year, and go easy on the mulled wine when digging out that copy of Revs.

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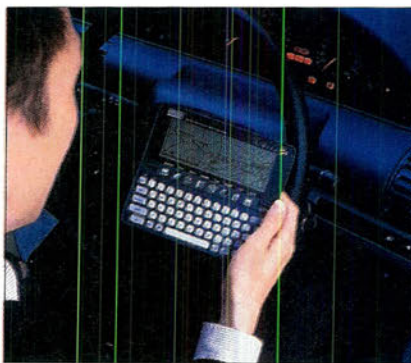
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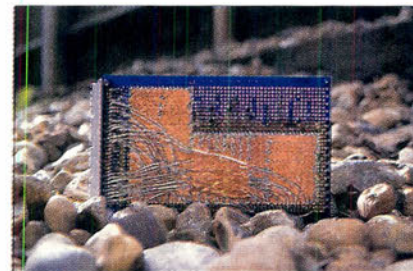
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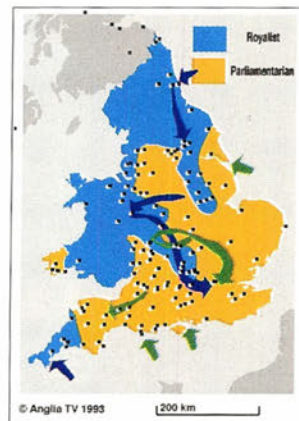


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Special two cover disc issue: demos of Global Effect from Eclipse and FistLore from ICS, plus Xperience's acclaimed Risc PC demo Blu

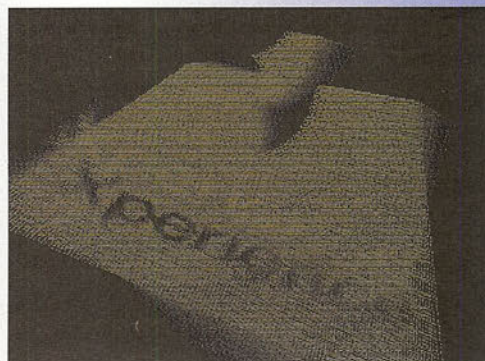


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Some of the more unusual computer-related Christmas presents around

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The beginner's guide to the PD scene



Next month in Acorn User

Hybrid machines

Acorns with PC cards inside them, Acorns that network to PCs, hardware to run PC cards inside Acorns – it's all in this issue, and much more besides. We'll have another round up of CD-ROMs (is it just me, or have these started to be released at a faster rate since we had one on the cover?) including a look at the acclaimed Dorling Kindersley PB Bear, now readable for the first time on the Acorn. We've also got a preview of BETT – so for the latest news on who's going to be there and what they're doing, you know where to turn.

Cover CD-ROM

The next *Acorn User* will carry Acorn's latest products and services directory on the cover on a CD-ROM. The last time we had a CD-ROM on the cover we sold out completely, so reserve your copy at the newsagent now (we're back to the old £3.25 price, too).

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28 DECEMBER**

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Special bargains

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WordPerfect for Windows Version 6.0a
Works V3 Windows

CD rom software

10th Century Biographies
Art in the National Curriculum, KS2,3
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ArtWorks CD
Big Green Disc
Bitfolio 6 CD
Bitfolio 7 CD
Bitfolio Clip Art Library CD
Britain 1750-1900;
Expansion, Trade and Industry, KS3
Britain from the Air
Britain Since 1930 (Anglia)
Britain Since 1930 (AVP), KS2,3
Castles
Clip-Art CD 1
Clip-Art CD 2
Countries of the British Isles
Countries of the World
Creepy Crawlies
Dictionary of the Living World
Digital Symphony CD Rom
Dinosaurs! The Multimedia Encyclopedia
Disasters
Dune II CD
Earth and Atmosphere, KS2,3
English Architecture, KS2,3
Era of the Second World War, KS3
Famous Faces from History
First World War and its Consequences, KS3
Garden Wildlife, KS2
Ghosts
Granny's Garden CD, KS1,2
Grooves
Guardians of the Greenwood, KS2,3

Hutchinson Multimedia Encyclopedia

- (shrink-wipped)
- Image Warehouse
- Impressionism in the Twentieth Century, K
- Industrial Revolution, K53
- Junior PinPoint Data Workshop
- Kingfisher Children's Micropedia
on CD Rom, KS1-3
- Maggie CD
- Naughty Stories Volumes 1 and 2
(set of 12) CD, age 5-7
- Nelson and the British Navy
- Oxford Reading Tree Stage 2
- Talking Stories CD, age 5-7
- PDCD-1 Issue 2
- PDCD-2
- Perspectives Françaises, KS3,4
- Photobase Decades:
The 1920s, The 1930s, The 1940s,
The 1950s, The 1960s, The Victorians
- Photobase Landscapes
- Photobase: Primary Images
- Photobase: Science
- PicturePoint CD, KS1, 2
- Seashore Life, age 7-11
- Simon the Sorcerer CD
- UK Habitats, KS2-4
- Understanding Energy
- Understanding the Body, age 11-14
- Victorian Britain, KS2,3
- World Habitats, KS2-4
- World of the Vikings
- World War II - On the Home Front
- World's Weather, age 11-14

Other software

10 out of 10 English, limited offer
10 out of 10 Maths Number, limited offer

10 out of 10, various titles

1st Paint
Access+ for Risc PC
ACross
Advance
Advance User Guide
Advantage, KS2-3
All New Talking Animated Alphabet, age 3-
Alone in the Dark
Amazing Maths, KS1-4
Ancestry II
Animated Numbers, age 3-6
ANT Internet Suite
Apollonius PDT
ArcFax
ArcS 2
Archimedes Game Maker's Manual
ArchTech
Arctern 7
Arcturus
Arcventure 1... The Romans, age 8-12
Arcventure II... The Egyptians, age 8-10
Arcventure III... The Vikings, age 7-11
Around the World in 80 Days, age 7-11

ArtWorks COMC
ArtWorks network licence
ArtWorks site licence
ArtWorks Arranger Tool
ArtWorks Pressure Tool
ArtWorks Tutorial Video

- Asylum
- AudioWorks
- Axis
- Aztec, age 7-11
- Badger Trails, age 9-11
- Battlechess
- BBC Basic Reference Manual
- Betsi, KS2
- Big Picture
- Birds of War (not Risc PC)
- Birds of War for Risc PC
- Bitfolio Cartoon Graphics
- Black Angel
- Blinds
- Bodywise, age 9-14
- Break 7 & Superpool (not Risc PC)
- Break 147 & Superpool for Risc PC
- Burn 'Out
- Buttons
- C++
- CADET, KS3,4

Calabash Pirates, age 7-11

Cannon Fodder
CardShop
Carnage Inc. (not Risc PC)
Carnage Inc. for Risc PC
Castle of Dreams (not Risc PC), age 7-11
Celebration
Chameleon, age 7+
Chartwell
Champions Compilation (not Risc PC)
Chatter, age 9+
ChessII
Chicks Away Compendium
Chopper Force (not Risc PC)
Chopper Force for Risc PC

Christmas Adventure

free with 3 Storm titles over £22 each
Christmas Allsorts, age 6-16+
Christmas Collection
Christmas Story, KS1,2
Chuck Rock (not Risc PC)
CineWorks
Classcardz for Resultz
Classcardz for Wordz
Classcardz for Mathz

Cobalt Seed Command Ship

- Complete Animated Compression (Risc PC only)
- Crystal Maze, age 7+
- Crystal Rain Forest, age 8-11
- Cyber Ace
- Cyber Chess
- Darkwood
- Darryl the Dragon, KS1, 2
- Data Power
- Demons Lair
- Desktop Thesaurus
- Desktop Tracker
- Diggers
- Digital Symphony
- Digital Symphony + CD Rom
- Discovery Discovery, KS2
- Disc Rescue
- Don The Professor, KS2, 3
- DRAW, Changer v2
- Draw Print & Plot
- DrawBender
- DrawBender site licence
- EDraw, Help, age 13+
- Dune II
- Dungeon (not Risc PC)
- Dungeon for Risc PC

Type Compendium
 EasyWriter
 EasyWriter Professional
 Easy C
 Easy C++
 Easy Clip
 EasyFont 3
 Eclipse Collection
 Ego: Revision 4
 Eidoscope
 Elite
 Enter the Realm
 Eureka 3 K577-2
 Exotic Adventures of Sylvia Layne
 Eye for Spelling K511-2
 Ferrow (not RISC PC)
 Bug III

Fire and Ice

Breworkz
Breworkz Pro
First Logo, KS1-2
First Page, KS2-4
First Words with Smudge, age 4+
FistLore
Flashback, 1.6 Mb disc
Flashback, 800 kb discs
Flight Sim Tool kit
Flossy the Frog, KS1
Flossy the Frog Art Disc
Font Directory
Font Packs 277 and 298
FontTrix PRO

Fontasy / DrawBender / Placard

- site licence
- Fontasy site licence
- FontFX
- Fontway
- Food for Thought, age 6-16
- Formula Two Thousand
- Formulus
- Freddy Teddy, KS1
- Fun School 3: age -5, age 5-7, age 8+ e
- Fun School 4: age -5, age 5-7, age 7-11
- Galactic Dan
- Genesis Professional
- Genesis Project
- Global Effect
- Gods (not Risc PC)
- Granny's Garden, KS1,2
- GraphBox, KS3,4
- GraphBox Professional, KS4
- Graphics Loaders
- Graph_IT, age 8-16+
- GridPro, age 7+
- Hard Disc Companion 2
- Hatchback, age 7+
- Haunted House
- Hearsay II
- Heimdall
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Junior PinPoint, KS1,2	LONG
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Keystroke	QUAN
Kid Pix, KS1,2	CLAR
Knowledge Organiser 2	ESAR
Krisalis Collection (not Risc PC)	KRIS
Landmarks, various titles, KS2, 3	LONG
Landmarks Datable, various titles, KS2,3	LONG
Landmarks Microworlds - The Victorians, KS2,3	LONG
Landmarks Microworlds - The War Years, KS2,3	LONG
Lemmings	KRIS
Lemmings - Oh No! More Lemmings (Risc PC only)	KRIS
Lemmings II (Tibbe)	KRIS
Little Red Riding Hood, age 5-8	SELE
Logo, KS1-4	LONG
Look! Hear! Talking Topics (set of 6), age 5-7	SHER
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MeGS Light	COMC
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Mesage	LONG
Manchester United (not Risc PC)	KRIS
Manchester United Europe (not Risc PC)	KRIS
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Masterfile 8	BEEB
MathMania, KS2-4	TOPO
Melns Card	CREA
Melns Games, KS1-8	AMAT
Melns Locomot	COMI
Melns Odyssey	COMI
Melns/Mirio Image	TBA
Mission Control - Crystal Rain Forest 2, age 7-11	SHER
Mooseen Holland, KS1-2	AMAT
Music Box, KS1-2	TOPO
Music Studio 82	LONG
Musketeeer	LOTA
Musketeeer Impression Studio, Scheme 2)	ECOT
Musketeeer Upgrade from Advance	ECOT
Nature Graphics	MICS
Naughty Stories Volume 1 (set of 6), age 5-7	SHER
Naughty Stories Volume 2 (set of 6), age 5-7	SHER
Navigator Pro, KS2-4	TOPO
Nebulus (not Risc PC)	KRIS
NightSky	CLAR
Noddy's Playtime (not Risc PC)	JUMP
Noel, age 4-12	AMAT
Noizate, KS2-4+	LONG
Oak PCB II	OAKS
Oh No! More Lemmings (requires Lemmings)	KRIS
OmniClient	ACOR
Orrey	SPAC
Ovation	BEEB
Ovation Pro	BEEB
Oxford Reading Tree, age 5-7 :	SHER
Stage 2 Story Books	ECOT
Stage 2 Talking Stories	ECOT
Stage 3 Story Books	ECOT
Stage 3 Talking Stories	ECOT
Stage 3 More Talking Stories A	ECOT
Oxford Talking Infant Atlas, KS1	SHER
Pandora's Box (not Risc PC)	FOUR
PCScan 1.8	ACOR
PenDown, KS1-3	LONG
PenDown Etolles, KS3,4	LONG
PenDown Plus, KS2-4	LONG
Personal Accounts V3	APRI
Perspectives	TECS
Photodesk	SPAC
PhotoTouch	ORAG
Pictureshare, KS1,2	LONG
PinPoint 2, KS3,4	LONG
PinPoint Datable, various titles	LONG
PipeDream 4	COLT
Plantwise, age 9-14	SHER
Playdays, age 3-8	SKOL
Plot	CLAR
Populus	CLAR
Poster, age 7+	AMAT
Presenter G16	LIND
PrimeArt, KS1-4	MINE
PrimeArt Display Kit, KS1-4	MINE
PrimeMover, KS2-4	MINE
PrimeSolver Full version, KS1-4	MINE
PrimeSolver Home version, KS1-4	MINE
PrimeWorld, KS1-4	MINE
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Proscan 2	CLAR
ProArtisan 24 (Risc PC only)	CLAR
ProCAD, KS4	MINE
Prophet 2	APRI
PublishArt Release 2, ArtWorks format	SMAR
PublishArt Release 2, Draw format	SMAR
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• Risc PC 486 Card
• Twin Driver
• ImageMaster

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TV Tuner + Teletext + NICAM



itv is a complete television reception system with **TV tuner, Teletext & NICAM stereo** audio decoder on a single card.

itv is simple to use with channel and teletext page selection all carried out from a single RISC OS application.

As well as generating stereo audio & video, **itv** can also switch in an external source so that you don't have to mess about swapping leads. A composite video output is provided to drive digitisers - with integral support for the **24i16** multimedia system.

- Teletext & NICAM support **as standard** including all software.
- Crystal controlled full-band tuner receives VHF/UHF from aerials, cable or VCRs etc.

ImageBank - £31.14 inclusive

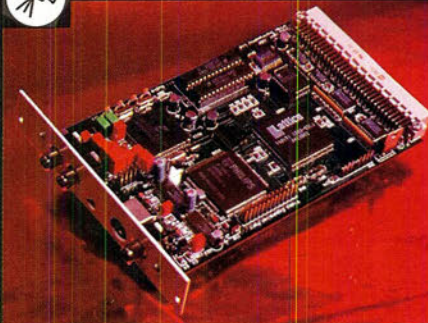


With a copy of **ImageBank** you can squeeze ten megabytes of 24 bit scans onto a single floppy disc, and catalogue them too!

ImageBank compresses pictures automatically, creating 'thumbnail' versions so that you can browse through them quickly and easily.

Double clicking on the thumbnail rapidly decompresses the image to its full size. Acclaimed in reviews as an invaluable utility.

24i16 Multimedia Card



24i16 combines an advanced 24 bit video digitiser with a 16 bit sound sampler. As well as brilliant still images **24i16** captures superb Replay movies and hi-fi audio.

24i16 can grab a complete TV frame at a resolution of 768 pixels by 576 lines from S-Video or composite sources.

Replay movies (including sound) can also be captured at up to 25 images per second. Image size and rate are adjustable and limited only by disc and system bandwidth. Sophisticated software is provided which is both flexible and easy to use. Features include:

- Hardware scaling & anti-aliasing.
- **Contrast, hue, brightness** and **saturation** control in **real-time**.
- Built-in **ADPCM** audio compression.
- Mixing and high quality filtering of built-in Acorn sound system.
- SWIs and examples are available to allow easy use from your programs.
- Optional waveform monitor and vectorscope utilities.

"The image quality possible from **24i16** is the best obtainable...Replay quality is superior to anything else..." - Archimedes World

Multimedia & Scanning: The BIG Picture



24 Bit COLOUR Hand Scanner



The **First and Only Colour** hand scanner for RISC OS machines. Supplied complete with a specially designed expansion card and application software for A400, A5000 and Risc PC. From monochrome or 256 grey scales up to full 24 bit scans this scanner does them all brilliantly. But don't just take our word for it:

"Irlam has led the way in bringing high quality colour scanners to the Arc...**The first affordable 24-bit colour scanner**...Irlam has obviously put a lot of effort into getting the best possible images from the scanner, and the images that Prol-Mage generates are excellent...an excellent product at a very reasonable price..." - RISC User

"I was most impressed by the quality achieved by this handy unit...The entire package works very well and produces stunning results..." - Archimedes World

Unlike many hand scanners this package is easy to use, scans straight and produces brilliant results. Features include:

- 24 bit scan head providing 16.7 million colour & 256 grey levels.
- **Real-time high-quality preview** whilst scanning direct-to-disc.
- Resolution up to 400 dpi.
- Powerful **colour map controls** allowing RGB components to be adjusted individually and effects previewed in real-time.
- 32 bit sprite format & takes advantage of new Risc PC modes.
- 24 bit Clear & industry standard compressed TIFF and JPEG files.
- Brightness, Gamma correction and Sharpness controls.
- Visual and audible warning if scanning speed is too fast
- Images can be rotated and cropped after scanning.



Epson Colour Flat-Bed Scanners



Epson scanners are reliable, fast and produce consistently high quality scans.

They can be driven directly from the printer port of A3010, A3020, A4000, A4, A5000 and Risc PCs (an interface card is available for A400s etc). They also work via most major **SCSI** interface cards including Acorn, Alsystems, Cumana, & Morley.

GT8500. 400dpi (optical) resolution and interpolates to 1600dpi.
GT9000. Scans at 600dpi (optical) and interpolates up to **2400dpi!**
Both scanners digitise internally to 30 bits which ensures that detail is faithfully reproduced even in dark areas. Built-in parallel and SCSI ports.

Transparency Adaptor. This optional unit fits any Epson scanner and allows slides and black and white negatives to be scanned up to full A4.

Prol-Mage - Colour Scanning Software



Prol-Mage scanning software has been under continuous development for several years. It is proven, easy to use, produces high quality images and supports a wide range of image formats including industry standard TIFF and compressed JPEG files. We can supply complete packages (interface cards & leads etc) or just software. Features include:

- Multi-tasking scanning with images building up on-screen.
- Fast previews and scanning direct-to-disc for large images.
- Superb 256 colour sprites plus True Colour for Risc PC.



Low-cost 16 bit Audio Sampler

Lambda16 is a very high quality 16 bit sound sampling system for RISC OS computers. A wide range of sampling rates is supported from 5KHz up to 48KHz (including CD and DAT frequencies). **Lambda16** records direct to hard disc, rather than memory, so samples can be as long as your hard disc capacity will allow. Features include:

- samples stereo high quality 16 bit sound direct-to-disc.
- uses 16 bit audio output for very high quality playback.

"The sound quality from **Lambda16** is excellent...I couldn't really fault this product..." - Archimedes World



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Acorn World gets go-ahead for 1996

DESPITE Acorn's many troubles in 1995, the Acorn World show seems to have sounded a much-needed note of optimism as the year approaches its end. Although Acorn couldn't quite claim an improved attendance in 1995, around 10,000 visitors still made the annual pilgrimage to Wembley. On the very first day, new managing director, David Lee announced that Acorn and *Acorn User's* publisher IDG Media had agreed terms jointly to stage Acorn World in 1996.

'I'm delighted with the success of the show,' said David Lee, who added: 'The level of enthusiasm and interest that has been shown this weekend in Acorn's current technologies and future developments has been tremendous. I know that our partners exhibiting alongside us here at Wembley are also extremely pleased and nearly 50 per cent have already signed up for next year's show.'

Of course, the show was a new experience for Lee, who was spotted wandering largely unrecognised among the show-goers; this may not be a luxury he can enjoy next year.

The Internet was undoubtedly the star attraction of this year's Acorn World show. Everyone had the opportunity to surf the information superhighway via the ArgoNet Internet Café feature at the show. On the first day of the show there was a live Internet link up with *Blue Peter's* Diane-Louise Jordan testing out video conferencing with the *Blue Peter* stand at CBBC's Big Bash with Coca Cola at the NEC, Birmingham. Meanwhile several stands, including Ant Ltd, Argonet, Doggysoft and Minerva/Zynet were demonstrating Internet access products.

The show was an opportunity to see Simtec's multi-processor board for the Risc PC. Developed in co-operation with Acorn, the special board can use up to five additional ARM Risc PC processor cards for high-powered applications. For more details, see last month's news. Simtec was also demonstrating its novel upgradable memory SIMMs.

Version 3 of Sibelius Software's award-winning music authoring software was another crowd-puller. The enhanced software features a new 'Flexi-time' super-intelligent, real-time, MIDI input system and standard MIDI file conversion. There is also a new notepad facility for cutting and pasting ideas into scores, plus new tools for film and commercial music production. Meanwhile, Oregon Software was demonstrating *CineWorks*, currently the only package for Acorns capable of

full-screen PAL video editing. Additional features include chroma keying, path definition, transparency and colour controls.

An interesting and unique product was being shown by KITT Engineering. Its MIMIC product provides an innovative way of sensing movement in two or three dimensions using a video camera. Possible applications include sound, lighting and graphic effects.

ART, Acorn's new Applied Risc Technologies division was showing off its capabilities with a videophone using an ultra-fast software-based motion JPEG algorithm of which there are high hopes for a number of specialist markets, from video on cellular phones to Online Media-type interactive multimedia applications.

With Computer Concept's *Impression Publisher* package more suitably labelled for DTP than word processing these days, the competition is hotting up to find a new leader in the RISC OS word processing stakes. It was good to see Colton Software bravely carrying on at Acorn World, despite the sad absence of Mark Colton. However, keen competition to Colton's *Wordz/Fireworkz* packages comes from Softease, which launched *TextEase* version 2 and *Talking TextEase*. New features include text and picture rotation, drag and drop editing, object linking and embedding (OLE) plus support for JPEG image compression.

For more technically demanding users, Icon Technology's *TechWriter Professional* was attracting attention at the show. This is a superset of the standard *TechWriter* word processor which, among other things, supports smart quotes and index and contents generation.

According to Acorn, business software houses had their best ever *Acorn User* show. Apparently Apricote Studios completely sold out of its new *Shares* portfolio-management program; perhaps this has something to do with Acorn's soaring share price at the moment?

Another interesting add-on was shown by



IDG Media's managing director, Ian Bloomfield, pitches in to help on the Acorn User stand.



Blue Peter's Diane-Louise Jordan drops in for a visit.



The Cyber Café – a big attraction.

Lindis International in the form of the SimpleTouch clip-on touch screen which turns an ordinary monitor into a fully functional touch screen. SimpleTouch is aimed at schools and homes with youngsters as well as the special needs market.

Other notable stands included a welcome appearance from Eidos to show its Optima professional video editing suite, Irlam Instruments and its MJPEG board, Warm Silence Software who was showing a viewer for 3D QuickTime VR movies, Aleph One showing modified PC cards fitted with fast NexGen 586 processors, Pineapple Software and Walter Briggs *ArtWorks* tutorial video and Spacetech showing *Photodesk 2*. Roll-on Acorn World '96!

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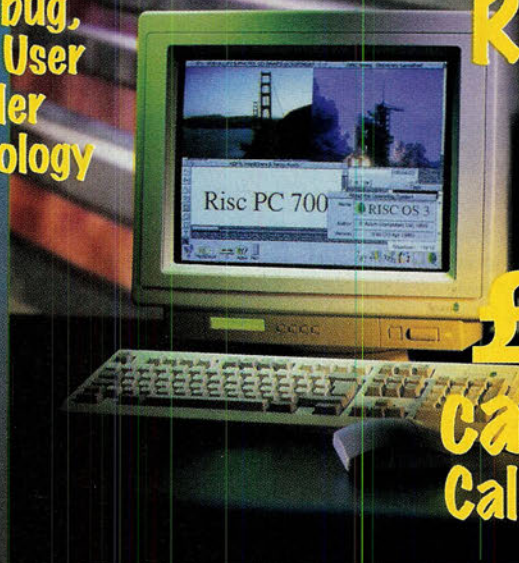
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A3010 Specification

The A3010 is supplied with 1Mb RAM (upgradable to 4Mb), RISC OS 3.1, mouse, stereo sound, two joystick interfaces and can be used with either a TV or monitor. It includes Edit, Paint, Draw, and Maestro music programs along with the game Zool and wordprocessor StartWrite. The system has a single expansion slot for hard drive or scanner etc., serial port and a bi-directional printer port.

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AKF50 Monitor	£245

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We can offer a number of upgrades at reduced prices and fitted free when purchased with a system. For example a 2Mb A3010 with monitor would cost just £350. These systems are ideal for home and educational use and offer a very similar specification to the A3020, as used in most schools throughout the country.

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A3010 with optional monitor

BEEBUG

BEEBUG Ltd 117 Hatfield Road St Albans Herts AL1 4JS

Tel 01727 840303 Telesales Hotline 01727 840305 Fax 01727 860263

E-mail sales@beebug.co.uk

UK delivery £8.00. All prices are exclusive of VAT



Teletext+ from Octopus

OCTOPUS Systems has launched *Teletext+*, an advanced teletext software package which will work with adapters from Morley, Computer Concepts, Ground Control, Design IT, Irlam and Octopus Systems. The software is especially attractive to Morley card users, as the Morley software runs outside the Desktop, unlike *Teletext+*.

Pages can be saved as Viewdata, sprite or text files, and other information can be exported – for instance share prices in a CSV file or in a special format for Apricote's *Shares* program. The software also provides a useful set of SWI calls for other applications to use.

Teletext+ boasts a page-cacheing facility, allowing frequently used pages and sub-pages to be accessed without any delay. Keyword searches can scan hundreds of pages for items of interest which might otherwise be missed. A separate display of keyword matches is built up giving an individual subset of all the Teletext pages for you to browse at your leisure.

Teletext+ costs £39 inc VAT as a software-only upgrade for existing teletext adapters or (while stocks last) Octopus Systems can supply it with an



Octopus Systems' *Teletext+* makes teletext on the Desktop more usable.

external teletext adapter for £169 inc VAT. Naturally, you will also need a reasonable-quality TV aerial feed.

Octopus Systems
Tel: (01473) 728943
Fax: 01473 270643

E-mail: teletext@octopus.thenet.co.uk
WWW: <http://www.thenet.co.uk/~octopus/>

StrongARMs previewed

THE term 'patience is a virtue' could prove rewarding if the prospect of ultra-fast ARM processor technology is realised. First samples of Digital Semiconductor's StrongARM processors, which should be software-compatible with the current selection of ARM processors used by Acorn, could start to appear in just three or four months. Digital Semiconductor has previewed the first StrongARM processor cores at the recent Microprocessor Forum conference. Digital will use the new cores as at the heart of several new high-performance but low-power-consumption microprocessor chips, the first of which will be announced in the first quarter of 1996.

The StrongARM-1 (SA-1) will lead on from ARM's own yet-to-be-seen ARM800 design and will be clocked internally at rates starting at 160MHz. The SA-1 core contains over 115,000 transistors and power dissipation is just 120mW running at 160MHz. ARM Ltd is speculating that the first StrongARM products using the SA-1 core will deliver approaching 400MIPS (million instructions per second) per watt of power dissipation, ten times better than the processors found in Desktop computers today. Digital will use its advanced 0.35 micron triple-layer metal CMOS process and optimised design tools to enable the processor to withstand such high clock speeds.

There have been some radical architecture changes too. While code compatibility with the ARM6, 7 and 8 generations has been retained, the SA-1 core has been upgraded from the previous Von-Neuman style architecture to use a Harvard style architecture, with separate instruction and data caches to improve processor performance.

The pipeline has also been upgraded from three to five stages and there are new early branch execution, single cycle shift-adds, a high-performance multiplier and a new five-port register file. StrongARMs will be affordable, much faster than current ARM chips and you'll probably find them in all sorts of mobile battery powered products from Apple Newton-style personal digital assistants to cellular telephones.

Spobbleoid Fantasy competition

The Fourth Dimension has announced a competition for owners of its *Spobbleoid Fantasy* game. As one of the attractions of this game is a level designer, 4D is offering £100 worth of software to the designer of the best *Spobbleoid Fantasy* levels. The levels must be at least a complete set of six for one area, though you can design more if you wish. The judges (one of whom will be the original programmer Graeme Richardson) will be looking for ingenuity of design and will favour levels that really test their problem-solving abilities.

If you want to enter, first design your levels using *Spobbleoid Fantasy's* level designer, then send the disc with your levels to: Spobbleoid Fantasy Competition, The Fourth Dimension, 1 Percy Street, Sheffield S3 8AU. Entries must be in by the end of February and, as always, the judges' decision is final.

Spobbleoid Fantasy itself is available from 4D for £24.95 + VAT, and you should look out for some new releases in the New Year.

The Fourth Dimension
Tel: 0114-276 9950

LG Semicon ARM licence

ARM Ltd has signed yet another licensee for its RISC processor technology. The latest is LG Semicon of Korea which has licensed the ARM7 microprocessor core and the ARM710 Microcontroller in a variety of low power consumption embedded controller applications. A major DRAM manufacturer, LG Semicon is one of the fastest growing chip-makers in the world.

Acorn programming service

MGRResearch is now offering a programming service to anyone who requires custom-written software. Potential customers need to submit a program plus copies of any logos and specialist icons to be used in the program's user interface. The service starts at £100 charged for 'simple' software like an application launcher, to around £500 for more advanced software like a desktop publisher. A royalty of five per cent (of net profits) is also charged. Graphics can also be designed for an additional fee.

MGRResearch
Tel: (01252) 621004

Sonamara alarmed

Sonamara Computer Services has announced a pair of new hardware products, new MultiGen video overlay adapters and Quipalarm Q3 security systems. From November, Sonamara's existing genlock adapter product is replaced by MultiGen and MultiGen Pro. The new entry-level MultiGen model supports resolutions up to 800x600 and can be remote-controlled.

Inputs cover S-video and composite video and these video standards are provided as outputs along with RGB. This basic MultiGen model is priced £255.28 + VAT. MultiGen Pro supports resolutions up to 1600x1200, ideal for large Risc PC screens along with Alpha channel support, 2x zoom and YUV output. MultiGen Pro is priced £425.49 + VAT. The other new item from Sonamara is Quipalarm Q3 – a device for alarming your computer and so to deter both its theft or the theft of its components, an increasingly common danger. The Sonamara Quipalarm, complete with 120 decibel siren, is priced £59 + VAT.

Sonamara
Tel: (01626) 873763,
Fax: (01635) 297866



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(Fonts are supplied in MONO, Computer Concept's Artworks was used to generate the colour versions shown above)

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BEEBUG Ltd, 117 Hatfield Road, St. Albans, Herts AL1 4JS.



The core solution

ZENTA Multimedia has come up with an idea that will be music to the ears of anyone who regularly has to duplicate discs or create CD-ROMs. The standard *CoreFS* release creates a floppy disc partition on a hard drive – it is far faster to copy a disc image to floppy than to copy a set of individual files. Furthermore, you can accurately judge how much free space will be left on the floppy disc, which can otherwise only be estimated using the Filer's 'Count' function.

CoreFS Max goes one better and creates a large ADFS partition on a CD-ROM. Inside this partition standard ADFS filenames can be used, greatly improving the appearance of Filer displays and making it much easier to create the disc. *CoreFS* costs £45 + VAT, and the CD-ROM

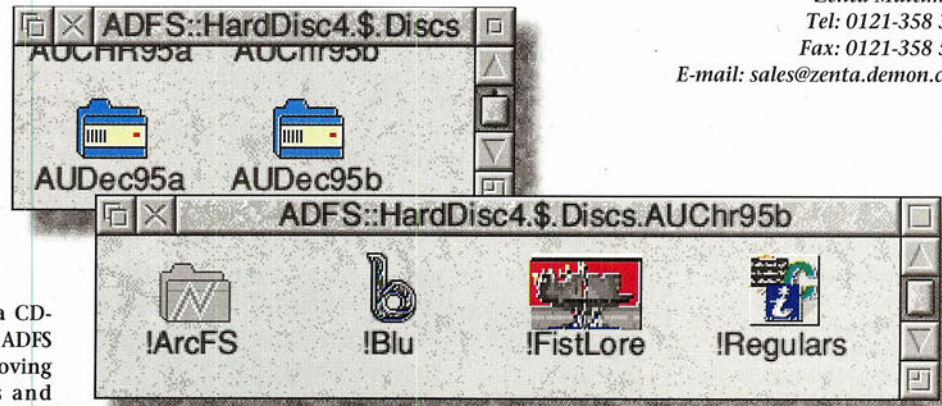
version *CoreFS Max* costs £95 + VAT, which includes a licence to put the read-only version on up to two CD-ROM titles.

Zenta Multimedia

Tel: 0121-358 3054

Fax: 0121-358 5969

E-mail: sales@zenta.demon.co.uk



CoreFS is worthwhile for anyone who has to duplicate floppy discs regularly.

Tesco scheme success

ALMOST 5,000 computers will be supplied to schools across the country free of charge thanks to this year's Tesco Computers for Schools scheme. In all more than 24,000 items were claimed by over 12,000 UK schools this year. That means over the four years since the scheme has been running, more than a third of all schools in the UK have netted a total of 21,000 free Acorn computers and over 80,000 additional items of computer-related gear.

The tally of computers claimed this year includes nearly 500 A3010 Early Years packs, over 600 A4000s and more than 100 Risc PCs. Pocket Book IIs were especially popular, with over 1,000 claimed through the Tesco scheme. Acorn has revealed that overall, 10 million Tesco Computers for Schools vouchers were redeemed against Acorn computers this year.

Teresa Selvey, Computers for Schools Project Manager at Acorn Education, commented: 'Acorn offered a wider choice of products in this year's scheme than ever before and we have been delighted at the response. Additionally, as a

result of Tesco's acquisition of some 50 William Low stores last year, we will be providing computer equipment as part of the Tesco Computers for Schools scheme to Scottish schools for the first time. We are already looking forward to Tesco Computers for Schools '96.'

Over 23 schools around the country spent a day at their local Tesco stores performing in-store projects which were then entered into a prize competition. In the primary school section, Millfield Primary School, Ely, Cambridgeshire won an A7000 CD multimedia computer with its project entitled 'Shopping at Tesco'. The secondary school section was won by Garforth Community College, Garforth, Leeds with 'A Day in the Life of Tesco', which netted a Risc PC 700 CD multimedia computer.

Good news is that smaller schools too will be able to claim more valuable scheme items by carrying over surplus vouchers for the 1996 scheme. Over three million vouchers have been forwarded to the mailing house to be held until next year's scheme.

Nostalgia back in fashion

In stark contrast to its futuristic QuickTime VR 3D graphics software, Warm Silence Software was offering two products at Acorn World which will be very welcome to fans of *Exile* and *Manic Miner* – emulators for the ZX Spectrum and BBC Micro. Although emulators already exist for these machines, the WSS programs written by occasional *INFO contributor Michael Borchers claim a much higher success rate at running 'difficult' software. The packages are reviewed elsewhere in this issue.

Another company concerned with less venerable but still fairly middle-aged software is ACORNGAMES. This company is selling a number of Superior Software titles at reduced prices. *Air Supremacy*, *Ego*, *Repton 4*, *Repton 3*, *The Last Ninja* and *Technodream* are all available at £16 inc VAT each or £33 inc VAT for the lot. The *Play it again Sam* bundles are £21 inc VAT each, as is *Speech 2*. Cheques, payable to 'ACB Singleton', should be sent to ACORNGAMES, 31 Great Woodcote Park, Surrey CR8 3QU.

Acorn User diary

If you have an event you'd like including, send it to *Acorn User Diary* at the editorial address or e-mail audiary@idg.co.uk.

Date	Event	Venue	Contact
3 Dec	Beebug open day	Beebug, St Albans	Beebug: (01727) 840303
10 – 13 Jan	BETT '96	National Hall, Olympia	Ticket hotline: 0181-984 7711
26 Jan	ARM Club open day	Belmont School, Mill Hill, North London	The ARM Club: 0171-624 9918
7 – 9 Mar	The Education Show	Halls 11 & 12, NEC	Ticket hotline: 0171-984 7711



New Internet companies

Alan Wrigley has left his editor's post at *Risc User* to set up a new company specialising in Internet services, like setting up market areas on the World Wide Web. The new company is called Malibran and one of the new company's first offerings will be an Acorn-specific area called Acorn CyberVillage. For more information on the CyberVillage, including participating in the project, contact Alan at Tel/fax: (01925) 210657, e-mail: malibran@rheingld.demon.co.uk.

Meanwhile, Stuart Longbottom of LongCo announced that a new Internet service provider aimed at Acorn users was due to come online on 6 November. Anyone interested should phone 0113-230 2992 or fax 0113-230 2993.

Thumbs up

Texas Instruments is announcing the sample availability of the ARM7TDMI 32-bit RISC core. The ARM7TDMI core is a small yet powerful 32-bit RISC processor with the Thumb extension to reduce system cost, the advanced EmbeddedICE in-chip Debug system and an enhanced DSP capable Multiplier.

ARM Ltd says the Thumb extension delivers 32-bit RISC performance at 16-bit system costs through the efficient use of a second, compressed set of instructions only 16-bits wide. This reduces memory use by a third and simplifies circuit board complexity. The first sampled were shown at the recent Microprocessor Forum at San Jose in California.

More RISC on the disc

Volume 2 of the RiscDisc CD-ROM was unveiled by Uniqueway at Acorn World. According to Uniqueway the new CD is completely new and has a much larger Public Domain and Shareware section. Following the leading theme of the show, the CD contains an off-line sample of the World Wide Web on the Internet, called the Virtual World Wide Web. The sample contains no less than 100Mb of selected Web pages which can be browsed using with ArcWeb or Webster, both of which are supplied on the CD.

For the first time there is also a special section for Acorn Clan members. The Risc Disc Vol.2 is priced £25 (£2 off for Clan members).

Uniqueway
Tel: (01222) 644611
Fax: (01222) 644622

E-mail: sales@uniqueway.celtic.co.uk

Apple Newton OS face-lift

THE Apple Newton – perhaps the most famous ARM-powered product outside the Acorn world – has just received a crucial boost with the introduction of version 2.0 of its operating system. Until now, the Newton has disappointed because of its poor handwriting recognition and patchy compatibility with popular Desktop computer applications. Both of these issues have been addressed, according to Apple.

Despite improved pen recognition, Apple has also introduced an optional compact external keyboard. There were rumours that a new faster

Newton would also be announced, but no such news was forthcoming at this year's Comdex Fall mega computer show in Las Vegas.

Meanwhile, there are rumours circulating that the Apple Newton division could soon be sold to Oracle, the ambitious client/server software company. Oracle is in talks with Apple to license the Newton platform and possibly even to buy the Newton as a whole. Meanwhile, Apple itself is the subject of speculation that either IBM or Hewlett-Packard will soon be its new master.

Mechanisms CD-ROM

Creative Curriculum Software has launched a new Technology series on CD-ROM with the publication of *Mechanisms*. The dual-format Acorn/PC CD contains over 1,000 pages of information on the subject of mechanisms, covering the basic principles, terms and conventions.

Examples are illustrated with colour annotated photographs and overlays as well as moving video sequences to show the workings of selected mechanisms. An educational resource pack is available to accompany the CD. *Mechanisms* is priced £69 for the single-user version or £99 for a site licence. The next title in the Technology CD-ROM series will be called *Structures*.

Creative Curriculum Software
Tel: (01626) 873866

iSV updates

AT Acorn World, iSV Products had a number of announcements. First of all iSV has a new 28-page catalogue detailing over 600 RISC OS fonts, plus the Font Designer's Toolkit *FontTriXPRO*, *TableCalc* and the *ViVID20* high resolution emulator. That last item, which enables desktops up to 2048x1232 and 1600x1200, etc. to be displayed on pre-Risc PC computers, actually sold-out at the show. *ViVID20* is priced £11.20. Also new at the show were completely revised font packs, plus a new Blackletter Gothic font pack, containing over 200 Gothic and medieval style fonts, priced £21.50.

iSV Software Products
Tel: (01344) 55769

Sibelius on TV

THERE'S no stopping the Acorn's favourite music program. Not content with being demonstrated to Princess Diana, *Sibelius 7* will now be performing the title music to the BBC's adaptation of Roald Dahl's *Little Red Riding Hood*, to be broadcast over Christmas. Paul Patterson, Professor of Composition at the Royal Academy of Music, used *Sibelius 7* to compose his music for the programme.

The London Philharmonic Orchestra plays the incidental music during the programme, but the title music is *Sibelius 7* with a little assistance from a live flautist. This is made possible by *Sibelius*'s ability to play music 'expressively', termed *Espressivo*, which is octaves away from most computers' attempts to put some artificial life into their playing.

Sibelius Software
Tel: (01223) 302765
Fax: (01223) 351947

E-mail: info@sibelius.demon.co.uk

Cumana plight

CUMANA is the latest surprise victim of financial woes, despite performing well at Acorn World and selling out of proTeus drives on the first day. The multimedia hardware specialist company has recently been suffering from cash-flow problems, and has asked its bank to appoint administrative receivers to manage the company while looking for a buyer.

It should be stressed that Cumana is intended to be sold as a going concern, and that its overall position as one of the main players in the Acorn arena should make it attractive to any potential buyer. The Joint Administrative Receivers, Raymond Hocking and Malcolm Cohen of BDO Stoy Hayward, are indeed currently in negotiation with a number of interested parties. In the interim, Cumana is continuing to trade and sees no reason why it should be unable to fulfil both existing orders and any further orders which may be placed with it.

Administrative receivership is by no means the end of the line for many companies, and the signs are hopeful that Cumana will be with us for many years to come; the fact that Cumana entered this state voluntarily is generally seen as a good sign. However, in the broader picture Cumana's troubles must be ringing alarm bells throughout the Acorn industry. Cumana was (and still is) seen as one of the key players in Acorn's new strategy, and for it to be in this sort of trouble is very worrying.



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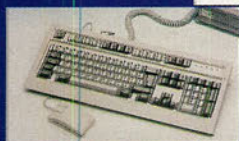
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THE A3010 COMPUTER

The A3010 is ideal for schools, small businesses and, of course, in the home. The A3010 shares the same processor and main electronics as the A3020 & A4000 computers. It has one internal expansion slot, a serial port, two joystick ports and a parallel printer port.

MONITORS

The A3010 supports a wide range of monitors. Our MPRII monitors are suitable for most software, including the above (some older software may not run correctly). Castle Technology can also supply Acorn AKF50 or AKF52 monitors.

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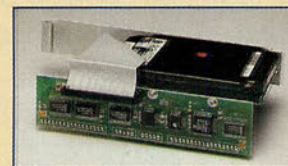
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A3020	59.00	99.00
A3010 incl Interface	89.00	129.00
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Picture produced by Walter Briggs, Kingfisher Graphics using Studio24Pro

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- RGB
- Red
- Green
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Parameters

Strength %

Cancel Preview Apply

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MUTATION RATE

HIGH

LOW

☒ Mutate texture %

☒ Mutate colour map

Cancel Apply

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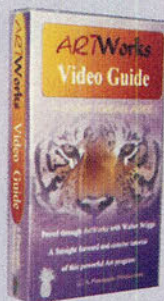
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ArtWorks Video Tutorial

A Brand new product from Pineapple is this VHS Video Tutorial covering the use of ArtWorks. Walter Briggs is the tutor for this 1 hour video which shows how to use all the ArtWorks tools and then goes on to show how Walter produced his famous Tiger head picture. Walter also draws an impressive landscape picture which can be copied by those with no artistic talent at all!

ArtWorks VHS Video Tutorial £19.99 inc vat



A4 Colour Scanners

New from Pineapple the superb IX-4015 A4 flatbed Canon colour scanner. Supplied with ImaMaster and Twain software this scanner makes the perfect companion for our Studio24 re-touching software. With a basic resolution of 400 x 800 dpi this scanner is unbeatable value.

IX4015 with ImaMaster & Twain £675.00

As above + Studio24Pro £769.00

SCSI interface + cable 'phone

Epson Colour Scanners

Also supplied with ImageMaster and Twain software these models can work on either SCSI systems or via the Parallel Port. Basic resolution of GT8500 is 400dpi and the GT9000 is 600dpi

GT-8500

£599.00

GT-9000

£733.00

Pineapple Software

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email:- sales@pineapple.demon.co.uk

Terms:- All prices include 17.5% vat. Carriage FREE to mainland U.K. Phone for quote outside U.K. Official orders, cheques and all major credit cards accepted. Money back guarantee on all products.

For demonstrations of most of our advertised products why not come and visit us in our new offices (easy parking) where you can see most of the Acorn range of computers and other hardware in action.

Monday - Friday 0900 - 1730

Graphics



Graphics spectacular

ACORN WORLD was expected to reveal a variety of interesting hardware and software projects currently in development, but no one could have predicted the staggering number of graphics products and technologies exhibited.

In the area of video graphics, Eidos was demonstrating its professional on-line video editing system *Optima*, using the Millepede Apex Imager graphics accelerator.

Unfortunately, its real-time SVGA quality capture and compression were not operational, as the multiprocessor array was not fully functioning; quite understandable considering that the Simtec cards only arrived the day before the show.

Irlam Instruments, taking the hardware approach to video compression, was displaying a pre-production version of its exciting new MovingJPEG (not to be mistaken for MPEG) compression board, and Oregon released its comprehensive and well-designed *CineWorks* video-editing package – a direct attack at the *Eidoscope* suite.

Warm Silence Software had a fully interactive Quick Time VR player on show, turning many heads, including mine.

On the old bitmap front

there was *The Big Picture* from Longman Logotron which, despite its simplistic interface and low-price, features some tools that even the likes of *Photodesk* and *Studio 24* have still not achieved.

Of the latter two titles, only *Studio 24* was really steady in its 'Professional' form, though without the superb CMYK support integrated into *Photodesk II* it is difficult to say how much it will attract professional repro houses.

Pineapple also released the long-awaited *Walter Briggs' ArtWorks Tutorial* video. Not much of an action movie, but inspiring and educational for anyone who wonders just how Walter creates his wonderful pictures.

The main focus of the show for me was 3D graphics. The Italians were dazzling everyone with *Top Model* and its astonishing creative modelling abilities, though the prize for speed was snatched by Aspek with its new project *DaVinci*. Paulo Rossi wryly commented that his company had spent much time finding a name which would appeal to an English-speaking market, only to find an English company giving its product an Italian name.

DaVinci is a 3D modelling and realisation project which will eventually offer four pack-

ages; *DaVinci 90*, *180*, *270* and finally *DaVinci 360*. *DaVinci 90* should be released at BETT and the ultimate package – *DaVinci 360* – should be around in a year or so.

There was a definite concern from both Synchronia and Aspek that treading on each other's feet in a small market would force two very exciting and potentially groundbreaking 3D graphics packages into extinction. There is already talk of cross-product integration and possible technology sharing to help take both the products and the platform to new heights.

Another highlight was *ImageFS* which with *Universal Image* was selling like hot cakes. Alternative Publishing is definitely on a roll with this now invaluable graphics filter and converter.

The fast PC cards being demonstrated by Acorn and AlephOne/Atomwide will be of interest to *PhotoShop* and *Corel Xara* fans. With the brilliant *PC Exchange* software from Acorn, serious PC graphics programs can integrate almost seamlessly into the RISC OS environment. *RiscBSD*, multiprocessor UNIX for the Risc PC, will also hold enormous scope for graphics, opening the way to the big but expensive CAD and ray-tracing packages available on UNIX.

Apologies

We must apologise for a rather unfortunate editorial mistake that occurred in last month's issue which quoted the telephone number of Evolution Computer instead of Sincronia Soluzioni Multimediali. To set the record straight, Sincronia Soluzioni Multimediali produces *Top Model* and is on tel/fax: +39 11 53 91 73 with the address: Via San Secondo, 23/F, 10128 Torino, Italia.

DA's Picture returns

A phone call from CGS Computerbild the other day informed me that Digital Arts will be releasing a new version of *Picture*. The package has always been the one to beat in many ways, especially in the speed of its virtual memory, loading in of image files and flexibility of foreign file importation.

It has been revamped with a RISC OS-compliant user interface and has some new features including a matrix distortion tool, which sounds quite funky. Best of all, the price is being axed to £50, half the original cost. I still find *Picture* invaluable for some of its drawing and photo-retouching abilities and for the new price it would complement the software collection of any bitmap graphic artist.

Address exception

If you have been totally flummoxed as to why you cannot send me e-mail at my new address, it is probably because Argo was not able to use the address 'argo.co.uk' for its Internet and e-mail service as some technologically tuned-in fruit and veg stall somewhere has taken the name already. My actual *bone fide*, up-and-running, ready-to-receive, on-line and fully operational address (from which this copy was sent to the editor) is jack@argonet.co.uk.

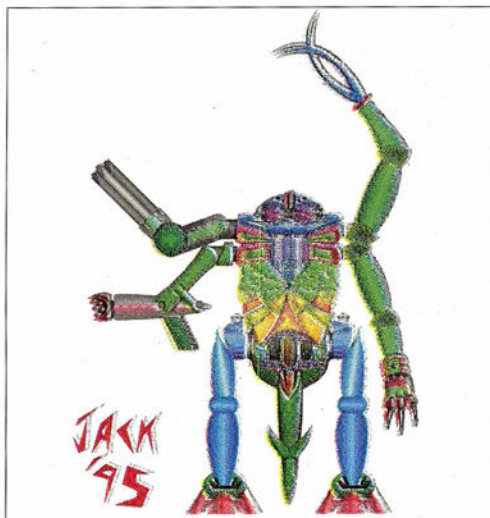
Contacting me

You can contact the Graphics page by writing to me, Jack Kreindler, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to: jack@argonet.co.uk.

Pic of the month

I CAN'T quite believe the amount of work that has gone into producing this month's winning pic, but as it takes a good minute to redraw each time on a 32Mb Risc PC, you can guess that designing it in *Draw* on a 2Mb A3010 took some effort.

It took 12 months on and off for Jack Squires to complete this image, which for a whopping £20 prize works out at 23p an hour; a true labour of love. Remember the prize also includes free slide recording from Digital Darkroom (tel: 0181-311 2001) who are great for slides even if you are not a pic of the month winner.



Arcshare™

Acorn to PC Networking Software

Its finally happened. A company has come up with a simple and inexpensive solution to an age old problem.

Getting access to files stored on a PC has always been a problem for Acorn computer owners. There has always been Floppy Disk transfers, but these are slow and limited to 1.44Mb. There has been several attempts to "Network" the two computers together but most attempts have been problematic and needed a great deal of extra hardware.

Arcshare is the latest program from KCS which allows any Acorn computer with an Access network card to talk to any PC with a network card & Windows.

Arcshare needs no extra hardware other than cheap network cards. Arcshare is very easy to use through its graphical interface and is, on average 40 times quicker than using a floppy disk, but with no file size limitation. Arcshare can even use CD Rom drives from a different machine.

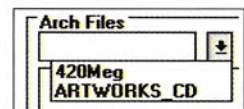
Available Now.

Copying 51608a.tif to Arch
1317 kbytes

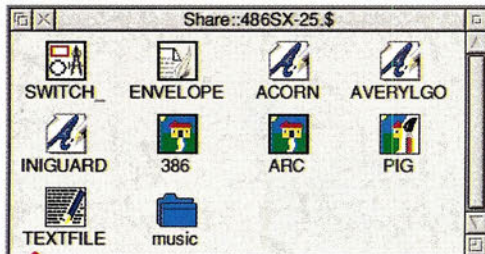
In the Main screen on Arcshare Client, both the Acorn and the PC directories are visible. Files can either be copied, or deleted, even new directories can be created on the Acorn from the PC. Arcshare has the advantage, that it can be run directly from the Windows Filemanager so that file manipulation is simple. Arcshare can run under a Windows for Workgroups network in conjunction with other PC's on the same network. There is no limit as to the amount of Acorns that can be seen from the PC on the Access network.

On the Acorn, the PC directories are designed to look just like any other Acorn directory. In fact, Arcshare makes the PC behave as if it were part of an Access network. Files can be copied from the PC directories to acorn directories in the normal manner. Files can even be copied from one PC to another PC via the Acorn.

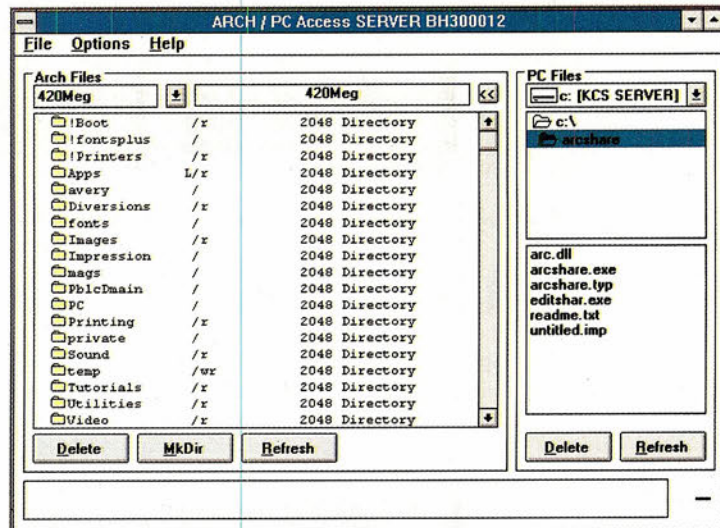
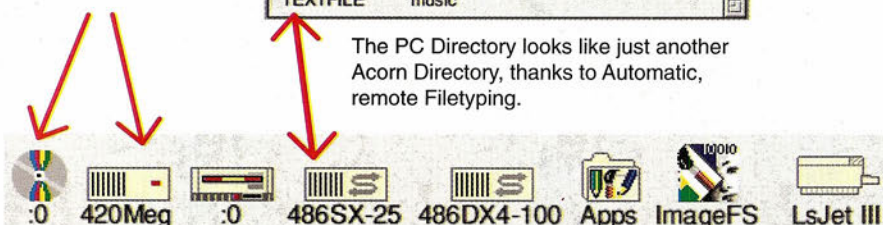
It's time to join the PC and the Acorn on the same network. Call KCS now to find out more about Arcshare and networking Acorns to PC's.



CD Roms, Hard Drives & other Acorn Computers can be seen & used by the PC.



The PC Directory looks like just another Acorn Directory, thanks to Automatic, remote Filetyping.



Arcshare Client v1.4

- * Allows file transfers between Acorn and PC Computers.
- * No Filesize Limitation.
- * Automatic Filetyping when the Acorn receives a file so that the file is ready to be loaded into an application straight away.
- * Automatic File Extensions added when a file is transferred from the Acorn to the PC so that the file can be loaded into a program straight away.
- * Easy to Use Graphic Interface.
- * No "Dedicated Server" Computer required.
- * Connects directly to Acorn Access Network. Very easy to setup and install.
- * Works with Windows 3.1, 3.11, Windows 95 & Windows NT

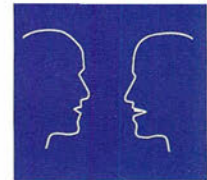
Arcshare Server v1.4

- * Has ALL the Functions of Arcshare Client v1.4 but with the following additional extras.
- * Allows transfers of files from the Acorn.
- * When a Window is open displaying a PC directory, all the files are filetypeed even though they are stored on the PC!
- * Files can even be copied from PC to PC from the Acorn.
- * Any Acorn on the Network can access the PC.
- * Makes the PC system look like another Acorn Access system.
- * Files can be loaded into applications directly from the PC.

Prices
Arcshare Client v1.4
£79.00 & Vat
Arcshare Server v1.4
£99.00 & Vat

Available from:

Kimberley Computer Services. 73 Chapel Street, Leigh, Lancashire, WN7 2DA. Tel - 01942 677777. Fax 01942 672300. email - Info@kcsprem.demon.co.uk & other reputable Acorn Dealers



Comms

Renegade north of the border

ROBIN Abecasis, Sysop of Renegade BBS in Aberdeen, Scotland, has a penchant for collecting hard discs. He owns more than he can actually use for the BBS, which is already well supplied with storage capacity. Renegade BBS runs the *Acorn User* award-winning *ArmBBS* software on a Risc PC 610 with 10Mb of RAM.

A Power-tec SCSI-2 controller, 0.5Gb SCSI-2 hard disc, dual-speed CD-ROM, a huge 1,270Mb IDE hard disc and other SCSI discs fill up Robin's busses, together with a SCSI tape streamer for backup. Renegade BBS is online 24 hours and

offers all-speed connections to the latest V34plus specification US Robotics Courier modem.

A special feature of the Renegade BBS filebase is the 'mirror' archive of The C Acorn User Group Software Library, which includes some larger and more specialised software not found on the CAUG magazine discs alone.

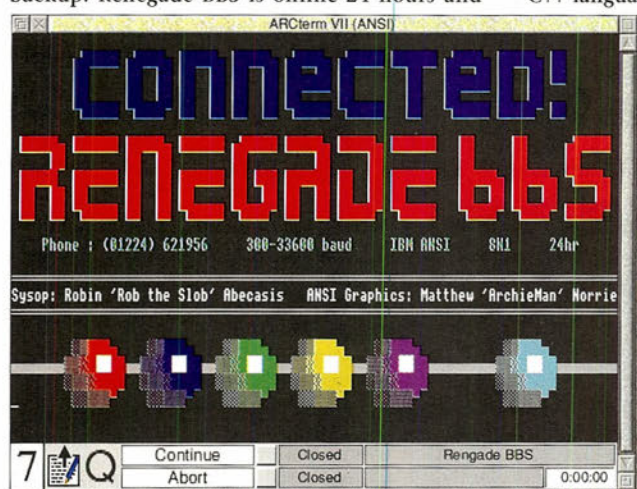
CAUG is a special interest group of the Association of C and C++ Users, which organises local meetings, runs C/C++ related tutorials and is involved in the standardisation of the C and C++ languages. Full details of how to join CAUG can be found in its arena on Renegade BBS.

There are online games, doors and a full compliment of Acorn interest message conferences as well as a filebase of over 150Mb of Acorn utilities, graphics, comms and programming and music files. The *ArmBBS* filebase is now super-accessible by BBS users thanks to Keith Hall's latest *ArmBBS* 'FreeForm Filebase' system, which also allows easy access to CD-ROMs.

If you have any working hard discs you'd like to add to Robin's collection, I'm sure he be glad to take them off your hands.

Renegade BBS

Modem: (01224) 621956



Visiting Rob the Slob in Aberdeen.

Seen at the Show

THE Acorn World 95 show was gripped by Internet mania, and visitors were queuing to get into the Acorn Cyber Cafe. Brisk business was going on at ANT Ltd for the now-released *Internet Suite*, at the Doggysoft stand for *Termite Internet* now with nice packaging and manual, and at VTI's stand for the *Voyager* software and subscription package. Can the 'Net accommodate all the new activity, or will it be overloaded and grind to a halt?

Ready just in time for the show and the Internet-hungry purchasers of the software above was the Atomwide/Serial Port high-speed triple-serial card, now redesigned and fully compatible with all Risc PC models and V34 modems. Atomwide says it will run at up to 460,800bps. A single port card costs £79, two ports for £89, and the full three-port version is £99 (all + VAT). E-mail: sales@atomwide.co.uk.

Uniqueway's new Risc Disc 2 CD-ROM was selling well. It has a front-end based around the Freeware *ArcWeb* browser, and the CD-ROM contains over 100Mb of WWW pages, including the

Acorn Web site, as well as lots more PD/Shareware, demos and useful resources. The Risc Disc 1 is also still available. E-mail: sales@uniqway.celtic.co.uk.

The Acorn Cyber Village is launched by Rheingold Enterprises and Quantum Software, and is a dedicated World Wide Web site for Acorn related companies, clubs and individuals. Web page space will be available to non-profit-making subscribers with a £10 set-up charge and only £2.50 a month for each 100K of Web space. Companies will pay only twice this, and a page design service is also planned. E-mail: alan@cybervillage.co.uk or stuart@quantumsoft.co.uk.

For those who want to design their own Web pages, R-Comp was showing *HTMLEdit*, which offers a complete HTML document creation package for Acorn users. The *HTMLEdit* editor package also includes a tutorial on HTML, a copy of the Freeware *Webster* browser and useful image and page-creation utilities. E-mail: HTMLEdit@arsvcs.demon.co.uk

Speaking Sportster

US Robotics has released a voice mail version of its popular Sportster modem, aggressively priced at £99 + VAT. This 14,400bps-max model offers telephone answering, voice mail and fax-on-demand functions when connected to an IBM PC. The Vi comes with a re-designed case at last, all cables, and a three-month free access Unipalm PIPEX Internet bundle. Acorn users can expect an *ARCfax* driver soon, and maybe even the voice mail BBS I once predicted here.

US Robotics

Tel: (01734) 228200

Smart *Fax*

Steven Kramer of Amsterdam has written a suite of *Fax* programs that can control Class 2 fax-modems, and generate and transmit the appropriate fax image data from virtually any RISC OS document whose authoring application supports the RISC OS graphics printer drivers. The package also offers multiple phonebooks, a fax manager, fax viewer and printer. You can download info and *Fax* with a WWW browser from Steven's homepage URL: <http://ohm.phys.uva.nl:8080/~kramer/fax.html>

HotJava jive

A new programming language based on C++ called *HotJava* - from Sun - is designed for two-way, real-time interaction on the WWW. When integrated into Web pages, *HotJava* miniprograms called Applets can enable moving graphics, animation, live updating, and real-time action and interaction with users right on the page over the network. Java is supported by the latest *Netscape Navigator*, and there is a group already working on a RISC OS port.

Contacting me

You can contact the Comms page by writing to David Dade, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP, or by e-mail to: David@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181-654 2212.

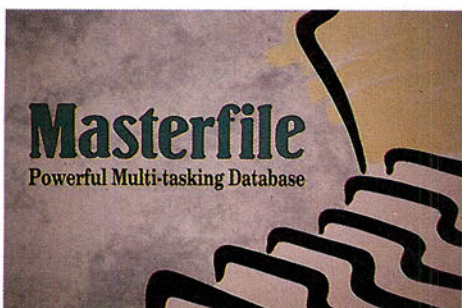
First Choice for Quality Software

SLEUTH 2

Optical Character Recognition

Sleuth 2 is a truly professional OCR system with superb features like auto page zoning, style recognition, fully integrated spelling checker and guided editing. Sleuth converts scanned images of printed material into ASCII files and can handle virtually all popular fonts in a wide range of styles achieving over 99% accuracy on good quality images. You will need 4Mb Ram and an Acorn-compatible scanner with a minimum resolution of 300 dpi. Sleuth can scan images directly using Twain drivers, which are available separately.

SLEUTH 2 Price £99 + £1.70 Carriage



MASTERFILE

General Purpose Database

Masterfile is a fast and flexible general purpose database providing powerful data management facilities suitable for business, education and home.

Masterfile is probably the easiest Acorn database package to setup and use!

Its many features include a comprehensive indexing system, subsets which limit access to just those records which match search criteria, and a report generator which allows databases to be printed in a variety of card, spreadsheet or label formats.

MASTERFILE Price £49 + £1.70 Carriage

EASY C++

C++ Development System

Easy C++ is an excellent implementation of the in-vogue object oriented programming language C++. This implementation conforms to the latest Stroustrup text and supports both Templates and Exceptions. Unlike some other implementations, Easy C++ is not a C++ to C translator but compiles C++ source directly to ARM code making it quick and easy to use.

Easy C++ uses the much praised Easy C WIMP interface which allows programs to be compiled, linked and run at the click of a button. The package includes ANSI C and IOSTream libraries, Make facility, integrated ARM assembler, source level debugger and also supports Throwback. The original highly acclaimed Easy C package is also still available.

EASY C++ Price £99 + £2.70 Carriage

EASY C Price £59 + £2.70 Carriage



TYPESTUDIO

Flexible Font Effects

TypeStudio is the best selling font effects package that allows outline fonts to be manipulated to produce professional quality posters, banners, logos, letterheads etc. — the possibilities are endless.

Text may be flowed along straight or curved paths, or moulded into almost any shape. A wide range of interesting effects may then be applied to enhance the design further. These include: wall, floor and graduated shadow, 3D text, mirror, plinth, slant. You can use all of these effects on Draw files too! TypeStudio is intuitive to use, and unlike some other packages, paths and moulds may be created and edited using the drawing tools provided, so you can do all your design work using just the one package.

TYPESTUDIO Price £29 + £1.70 Carriage

HEARSAY

Advanced Communications

Hearsay is the definitive general purpose communications package for Acorn systems, designed for easy communications for the first time user, but with advanced features making it also the professionals choice.

Hearsay provides high quality VT terminal emulations, and is ideal for use with Prestel, Campus 2000, Compuserve and virtually all bulletin board systems. Other features include: background file transfer, number directory, script language and support for popular modems.

HEARSAY Price £75 + £2.70 Carriage



HARD DISC COMPANION

Reliable Hard Disc Backup

Hard Disc Companion is the acclaimed package that provides a structured system for backing up hard drives to floppy discs and other devices. It supports Full and Incremental backups with data compression. Files to be backed-up or ignored are chosen using simple drag operations. The backup specification may be saved in a script file for use at a later date. In the event of disc failure or accidental file deletion, files may be retrieved using simple drag operations.

COMPANION Price £45 + £1.70 Carriage

BEEBUG



The last straw

THIS has proved a particularly hard column to complete; not because it's the last, but because I find it difficult to bash my Acorn after so long. It's like kicking your dog after it's faithfully served you for years.

The general problem is that the shortcomings of the Acorn platform have become more and more obvious over the past couple of years. The technological lead has been steadily narrowing, and the resources poured into the Acorn field have been dwarfed by the developments elsewhere.

The viability of Acorn systems as a DTP/publishing platform has always been a little shaky, but it has precious little credibility left these days. Despite the imminent launch of *Ovation Pro*, the stalling of work on *Impression* and the lack of support for the new wave of publishing technologies is depressing news to anyone expecting to use the Acorn RISC OS platform professionally.

If Acorn has any plans to address any of these shortcomings they're keeping pretty tight-lipped about it, and my best efforts have failed to produce much evidence of any new tricks that the old dog's learned.

Acorn always claimed to be aiming at the jobbing printer rather than the professional repro-man and quite rightly too. The problem is that the jobbing printer wanted to be able to think he could compete with repro-man one day – admit it, you all fancy yourself as a Ferrari test-driver when you're cruising around in an Astra or Escort. Aspiration and the ability to accommodate the demands of the future undermined the best efforts of Acorn's bid for DTP stardom.

The systems are certainly capable of doing most of the work you need but they don't have much in reserve. The comparative lack of experience on the Acorn platform means they run up against the kind of problems that Quark and Apple hit 10 years ago, and the learning curve is unfortunate since the Acorn receives less than favourable attention while it is being tackled.

Acorn tried to build an entire system on just the one product (*Impression*) in the way that Apple did with Quark Xpress. The problem is that time has moved on, and



New versions of *Xpress* and *Pagemaker* mean we're no closer to winning the game of 'catch up' than we were before.

the market expects perfect products instantly. The gaping holes in RISC OS and the problems supporting many elements of PostScript output, colour support and brand new print technologies like hexachrome have hobbled Acorn's efforts in this area.

The new era of on-line publishing and multimedia authoring poses challenges that we're less than well placed to accommodate. The lack of a Netscape 2-compliant WWW client and no support for the Adobe Acrobat PDF mean Acorn is being left on the edge of the new publishing revolution despite its involvement in Online Media.

The advent of Netscape plug-ins for Adobe's PDF, *Director* and *Hot Java* means the content of the WWW is moving increasingly away from its multi-platform origins and more and more towards the all-pervasive PC.

Both these technologies are rapidly establishing themselves as a major way of distributing electronic documents, and the future of on-line learning and courseware is well staked out by the likes of *Authorware*, *Director* and *Toolbook*.

This poses a whole range of challenges



The AB-Dick partnership with Acorn promised much, but made very little impact on the publishing market.

to the Acorn platform and its supporters which are being met slowly. *Director* movie players are being developed so that the stunning Dorling Kindersley CD-ROMs will soon be available to users without a PC card.

The Microsoft Multimedia Viewer-based titles like *Cinemania* or *Encarta* may soon also be running on your ARM chip, care of an intervening bit of software gadgetry. The level of WWW accessibility is bound to increase further as new products are released almost weekly.

The problem is that all this is client-based. None of these new media publishing platforms uses the Acorn as its base. Each of these deficiencies alone isn't enough to worry about but cumulatively they will eventually break the camel's back.

The increasingly active on-line publishing and courseware markets are prime targets for those wanting to make an impact. These are the technologies that will be dominant five years from now. Acorn has, in the past, always had an uncanny knack of being there ahead of the game; let's hope it succeeds this time.

Steve Powell

The DTP page

This is the last DTP page in *Acorn User*. From next month, DTP will be covered by Jack Kreindler as part of the Graphics feature, so comments and questions should be sent to him. I will still be writing for the magazine and will be performing the occasional makeover, so if you want to contact me, write to: Steve Powell, Media House, Adlington Park, Macclesfield, SK10 4NP or by e-mail to stevep@idg.co.uk.

CD-ROM

The following CD-ROMs are Multi-Session, PhotoCD, CD-DA, White Book compatible & include a cable & driver for CDS 2.20

Internal Drives

4x Speed ATAPI (IDE) (Tray) £130
Above CD-ROM requires RiscPC/A7000 with RiscOS3.6.
4x Speed SCSI (Tray) XM-5301 £200

The above CD-ROM drive can be used in tower model
4.4x Speed SCSI (Tray) DR-U124x £240
PCW Verdict - 'It's extremely quick, and a bargain.'

External CD-ROM Drives

2x Speed SCSI (Tray) 275ms £199
4x Speed SCSI (Tray) 190ms £280
4.4x Speed SCSI (Tray) 150ms £320

SCSI cards

HCCS 16bit SCSI card £100
Morley uncached SCSI card £130
Morley cached SCSI card £169
Cumana SCSI II card £165
Above also suitable for A300, A400, A3000 (Ext+£25), A540.

Hard Discs

IDE Bare Drives

635Mb 12ms £150
850Mb 12ms £Call
1Gb £Call
Above are 3 1/2" bare drives only. Please add the relevant accessories from below. Drives are Connor or Quantum. For A3000/A3010 hard discs see Hard Card section below.

SCSI Bare Drives

540Mb 12ms £145
730Mb 11ms £190
1.08Gb 12ms £280

Syquest Removable SCSI Drives

Internal Drives
EZ135Mb Syquest £155 (Above includes carr.)
105Mb Syquest £150
270Mb Syquest £259
Syquest Cartridges
EZ135Mb Cartridge £20
105Mb Cartridge £43
270Mb Cartridge £49

External Drives

EZ135Mb Syquest £189 (Above includes carr.)
105Mb Syquest £210
270Mb Syquest £329

Hard Disc Interfaces/Accessories

50-50C SCSI Cable £10
SCSI II-50 Cable £25
5 1/4-3 1/2" open adapt £10
IDE interface £79
2nd Hard Drive Kit £15
External case/PSU £79
25-50 SCSI Cable £10
SCSI Terminator £10
5 1/4-3 1/2" HD adaptor £12
SCSI interfaces
Morley Uncached £130
Morley Cached £169
Cumana SCSI II £165

TopicArt

New CD-ROM! £34+VAT
Contains over 2000 ClipArt files, each in Draw, ArtWorks & EPS formats + other demos.

Floppy discs

£8 + VAT each

Single Floppy disc subjects available (one disc per subject)
1 General 11 Tools
2 Transport 12 Animals/GB
3 Costumes 13 Chem Signs
4 Entertainment 14 Fire/Emerg Sn
5 Bugs 2 Slugs 15 Hazard Signs
6 Road Signs 16 Safety Signs
7 Sports Equip 17 Xmas2
8 Sports Figures 18 Xmas2
9 Dinosaurs 19 Xmas3
10 Symbols 20 Xmas4



New Acorn Computers

All RiscPCs include 1yr on-site maintenance. 0% finance available, ring for details. We operate Acorn Assist for teachers & academics. For PC 486 Card add £99+VAT to following prices.

Acorn A7000 (32MHz ARM7500)

Network or hard disc versions, podule slot, free SIMM skt

A7000 2MNET + AKF60 £892

A7000 2MHD425 + AKF60 £935

A7000 4MHD425 + AKF60 £1020

RiscPC600 (33MHz ARM610)

Hard disc, backplane not fitted, free SIMM & VRAM slots.

4MHD425 + AKF60 £1148

4MHD425 + AKF85 £1426

RiscPC700 (40MHz ARM710)

Hard disc, 2 or 4 podule slots, one free SIMM socket.

5MHD425 + AKF60 £1360

5MHD425 + AKF85 £1638

10MHD850 + AKF60 £1692

10MHD850 + AKF85 £1970

Add £111 to above for 2X CD-ROM

20/20 Finance

on Acorn Systems (0%APR)

20% deposit (min) and 20 interest free monthly payments. Available subject to status. Ring for details.

CD-ROM Drive Options

Acorn 2x CD-ROM Drive (IDE) £111

4x CD-ROM Drive ATAPI (IDE) £120

4x Speed SCSI (Tray) £320

4.4x Speed SCSI (Tray) £360

Above SCSI CD-ROM drive includes Morley uncached SCSI card, driver and cables. Add £39 for SCSI 2. Above prices only apply when purchased with an A7000 or RiscPC.

RiscPC Multimedia CD-ROM Pack

Includes 25W stereo speakers, Hutchinsons Encyclopedia & The RiscDisc Vol.1 together with one of the following CD-ROM drives.

4X Speed ATAPI CD Pack £200

The above can only be used on RiscOS 3.6 machines.

4X Speed SCSI CD Pack £390

4.4X Speed SCSI CD Pack £430

The SCSI Pack includes a Morley Uncached SCSI Card. Add £40 extra for Cumana SCSI 2 Card.

QuickLynk

Software only £28

Software & Local Cable £Call

QuickLynk allows you to automatically access another Acorn RiscOS computer remotely using the serial port via modems or locally using a cable to connect the two computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Ring for further details.

Special Offers

(Whilst stocks last)

A3010 (2Mb RAM)

With Action Pack comprising, Zool, StartWrite and other demos.

£180+VAT

For AKF53 Monitor add

£235+VAT

Carriage is included on above.

A3010 Series

A3010 Action Pack 2Mb RAM £180

A3010 Learning Curve 2Mb RAM £250

A3010 Early Years 2Mb RAM £210

Add £250 to above for AKF53 Monitor.

Carriage £5+VAT on A3010 series.

A3020/A4000 Series

A3020 2MFD/AFK53 MultiScan System £509

A3020 2MFD/AFK50 MultiScan System £549

A3020 2MHD80/AFK53 MultiScan Sys £537

A3020 2MHD80/AFK50 MultiScan Sys £577

A4000 2MHD210/AFK53 MultiScan Sys £722

A4000 2MHD210/AFK50 MultiScan Sys £762

Software Packs

Learning Curve Advance & PCSoft £42

Early Years Talking StartWrite, Paint Pot £42

Flossy the Frog, Mouse in Holland, etc.

Home Office £85

EasyWriter2, DataPower, Pipedream4, PCSoft

The above packs are ONLY available with a computer system, (not including the A3010)

RiscPC Upgrades

PC486SX33 Card (when purch. with RPiC) £99

PC486DX2-66 Card £249

PC486DX4-100 Card £299

Microsoft Windows 95 (CD-ROM) £70

16 bit Sound Card (ESP) £60

2nd Slice Case Upgrade (Carr. £6+VAT) £99

Memory Upgrades

RiscPC Memory, please ring to confirm prices

4Mb SIMM £105 (8Mb SIMM £205)

16Mb SIMM £350 (32Mb SIMM £Call)

1Mb VRAM £129 (2Mb VRAM £169)

1-2Mb VRAM Upgrade (exchange) £109

A3000 Memory

1-2Mb RAM £55 (2-4Mb RAM £90)

1-4Mb RAM £129

A3010 Memory

1-2Mb RAM £40 (2-4Mb RAM £105)

1-4Mb RAM £145

A3020/A4000 Memory

2-4Mb RAM £89

A3000 Memory £89 (4-8Mb RAM £259)

Monitors

Acorn AKF53 14" 0.39dp MultiScan £250

Acorn AKF50 14" 0.28dp MultiScan £318

Acorn AKF60 14" 0.28dp MultiScan £325

Acorn AKF85 17" 0.28dp MultiScan £530

Ilyama MF-8617A 17" 0.26dp M/Scan £549

Older computers will require an adaptor

Printers (Include Cable)

Canon BJ-200ex (360dpi) £185

Canon BJ-230 (360dpi) £Call

Canon BJ-600e Colour (360dpi) £360

Canon BJ-4000 Colour (360dpi) £240

Epson Stylus Colour Printer (720dpi) £Call

HP LaserJet 5L 4ppm (600dpi) New! £Call

HP LaserJet 5P 6ppm (600dpi) £Call

Add £40 to above printers for TurboDriver

RiscOS 3.1 Upgrades

Single Rom set (fitting instr./no discs) £34

3 Rom sets (fitting instr./no discs) £79

10 Rom sets (fitting instr./no discs) £255

Add £250 to above for AKF53 Monitor.

Carriage £5+VAT on A3010 series.

Portable Computers

Acorn A4 Portable £1149

Pocket Book II (256k) £205

Pocket Book II (512k) £235

Pocket Book II (1Mb) £285

Pision 3a (256k) £199 Pision 3a (512k) £249

Pision 3a (1Mb) £270 Pision 3a (2Mb) £320

A-Link £60

Parallel Link £26

128k RAM SSD £43

256k Flash SSD £47

512k Flash SSD £55

PB/Ps3 Games £Call PB/Ps3 Games £77

Hardware Upgrades

2416 Multimedia Card (512kb framestr.) £339

2416 Multimedia Card (1Mb framestr.) £379

486sx25MHz Bare PC Card £299

486SLC50MHz Bare PC Card £349

Refer to RiscPC memory to add to PC cards.

FPA Upgrade for ARM3 £59

Colour Card Gold £39

Eagle M2 Multimedia Card (CC) £319

Joystick Interface (all m/c's) £28

Logitech Mouse (Acorn) £25

Midi Map Card (CC) £68

Movie Magic (CC) £249

Powerpad (Dual) (Gamesware) £33

Scart - 15pin Monitor/RGBTV cable £12

Serial Upgrade for A3000 (Acorn) £19

Stereo Speakers 25W (mains powered) £35

Stereo Speakers 80W (mains powered) £50

TV Tuner with TeleText (CC) £157

Modems

Add £99+VAT for ANT Internet Suite.

Sportster Model Bundles

Modem bundles include a Sportster modem, cable, phone splitter, ArcTerm7 & ArcFax.

14k4vi Sportster Fax/Modem Bundle £200

28k Sportster Fax/Modem Bundle £265

V.34+ Courier Fax/Modem & cable only £345

Sportster Modems

14k4vi Sportster Fax/Modem & cable only £130

28k Sportster Fax/Modem & cable only £190

V.34+ Courier Fax/Modem & cable only £270

Networking

A30X0 EtherLan 102 10Base2/T £125

A30X0/A4k EtherLan 201 10Base2/T £135

A30X0/A4k EtherLan 201 10BaseT £135

A30X0-A5k EtherLan 502 10Base2/T £125

RiscPC/A7k EtherLan 602 10Base2/T £105

For Access+ add £15 to above prices.

Scanners/Digitisers

ScanLight Video 256 £199

Canon IX-4015 Colour SCSI Scanner £609

Epson GT-8500 Colour SCSI Scanner £525

Above includes iTWAIN/ImageMaster & Cable.

Vision24 Colour Digitiser Int £69/Ext £94

Hi-Vision24 Digitiser A5000 Int £94/Ext £119

Hard Cards/Multi-Pods

A3010 HCCS Hard Disc Multi-Podule

80Mb + User Port + 2 Slots £186

130Mb + User Port + 2 Slots £269

Encarta '95 for Windows £Call

A3000 Internal IDE Hardcards

80Mb + User Port £156

130Mb + User Port £219

160Mb + User Port £279

See top of page for other hard discs.

Printer Consumables

BJ-100 Ink Cartridge (BC-01) £17

BJ-200 Ink Cartridge (BC-02) £16

BJ-300 Ink Cartridge (BJ-642) £15

BJ-600 Colour Cartridge (BJ-201bk HiCap) £10

BJ-600 Colour Cartridge (BJ-201) £8

BJ-4000 Black Cartridge (BCI-21BK) £19

BJ-4000 Colour Cartridge (BCI-21C) £17

BJ-4000 Fast Black Cartridge (BC-20) £26

BJ-800 Black Cartridge (BJ-643) £15

BJ-800 Colour Cartridge (BJ-643) £20

ESK-L500 Mono/Colour Cartridge £20/£23

DeP-L Toner (LBP-4/LJ LJI) £59

Epson Stylus Colour Black £16/Colour £39

HP 92274A Toner (HP LJ4L) £59

JP-150 Ink Cartridge (Acorn) £72

Swift12 Mono/Colour Ribbon £7/£15

Books (No VAT)

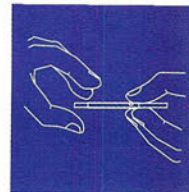
Acorn RISCOS3 PRM's Add £7 carr. £99.95

Acorn 5th PRM covering RiscOS3.5 £29.95

Acorn BBC Basic V1 Guide £19.95

RiscPC Tech Ref Guide Add £7 carr. £29.95

Public Domain



Desktop tools

WITH neither sight nor sound of RISC OS 4 appearing, PD coders are continually adding features to the Desktop. A lot of utilities add a brand new feature to help you out, but many steal ideas from other operating systems, as is the case with *CoolSwitch*.

Stealing ideas from Windows on the PC doesn't seem an incredibly great idea when you've already got something as user-friendly as RISC OS on your computer. However, Andy Armstrong seems to have found one of the few redeeming features of Windows and enhanced it nicely for use on Acorn machines.

CoolSwitch is brought into action by holding down Alt-Tab. A special selection window immediately pops up with a list of current windowed tasks in the desktop. Any item can be selected by holding down Alt and toggling through the list with Tab.

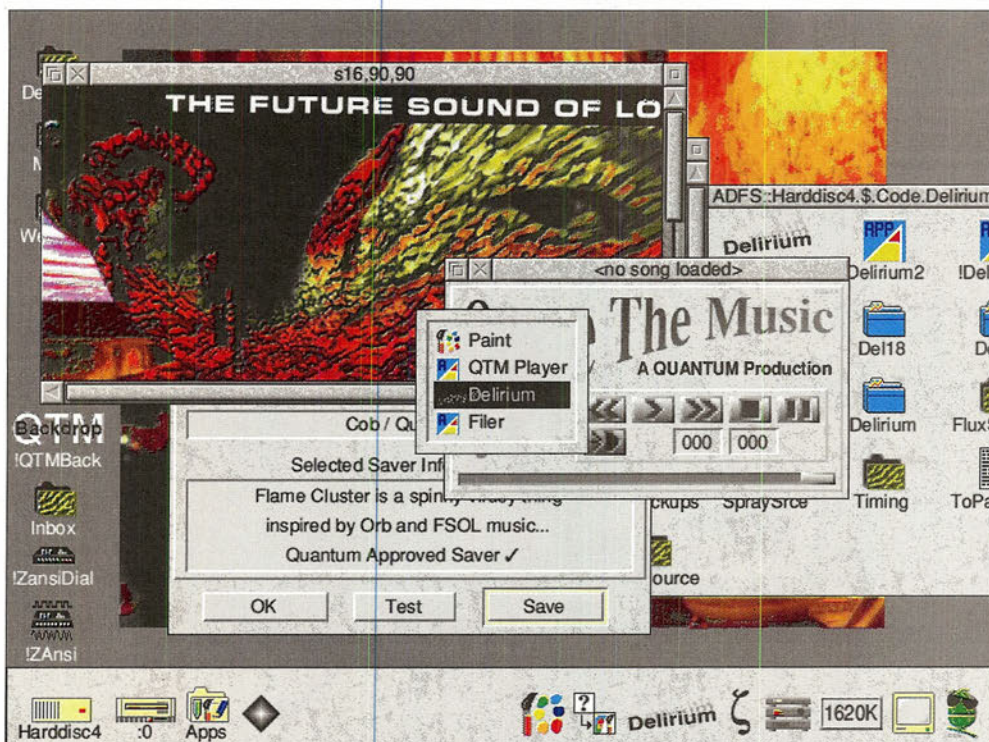
Selecting a task brings the window to the front,

with no need to flick hundreds of other windows to the back. *CoolSwitch* is fast, easy to use and straight to the point. A classic example of great PD. It is available from the Datafile PD and the Digital Databank BBS (and is on one of the Acorn User PD subs discs).

Desktop trash can programs have always remained the best way to manage discarded files. *BlackHole*, reviewed elsewhere in this issue, is regarded as the best program of its kind to use. *SafeDel* takes a different approach, and safeguards your files in a simple and straightforward way.

When started, *SafeDel* creates a trash directory on your hard disc and promptly moves any files deleted with the Filer to this area. Unfortunately there's a lack of management features, but this does make it very easy to use. If you find you're losing files that you didn't really mean to delete, this program is for you.

SafeDel is on the October subs disc from APDL.



CoolSwitch allows you to swap between applications with open windows.

Bit of a show

FOR me, the highlight of any Acorn show is meeting all those people you've chatted to by e-mail or on the phone, but never actually met in person before. I seemed to spend so much time chatting to people that I hardly looked round all the stands properly.

One team of coders provided a welcome distraction to events on the Acorn stand by

running its latest demo, *Lunatic*, on a free A4000. Unfortunately this impressive display of new effects by Archilogics doesn't run for long on a Risc PC, so I'll have to wait until next issue to cover it in depth.

The Datafile did a roaring trade at the show and was, as always, an excellent place to meet coders and PD enthusi-

asts. It's great to see a PD stand in the middle of such a hive of activity while many commercial stands failed to pull the crowds.

The Datafile is offering a special deal to anyone who hasn't already tried the library. All you have to do is contact Dave or Sue on (01934) 823005 for a free copy of the complete catalogue and ordering system.

Sick

Irish group Sick grabbed much attention several years ago, with some unusual demos and a few other programs which nearly made it commercial. *Scorpius* only made it to demo stage before being put on hold, and there was hope of a full release of the group's ray tracer - *Powershade*. Sick is also responsible for *Tetris*, one of the most popular Tetris variants on the Acorn.

The two key members of the group, Conrad and Merlin Hughes, are still interested in getting out some software, but have had to put their projects on hold in favour of their University studies. However, the group hopes to release a fully working PD version of *Powershade* at some point. From what I've heard, it should be well worth waiting for.

Acorn Demo Web Site

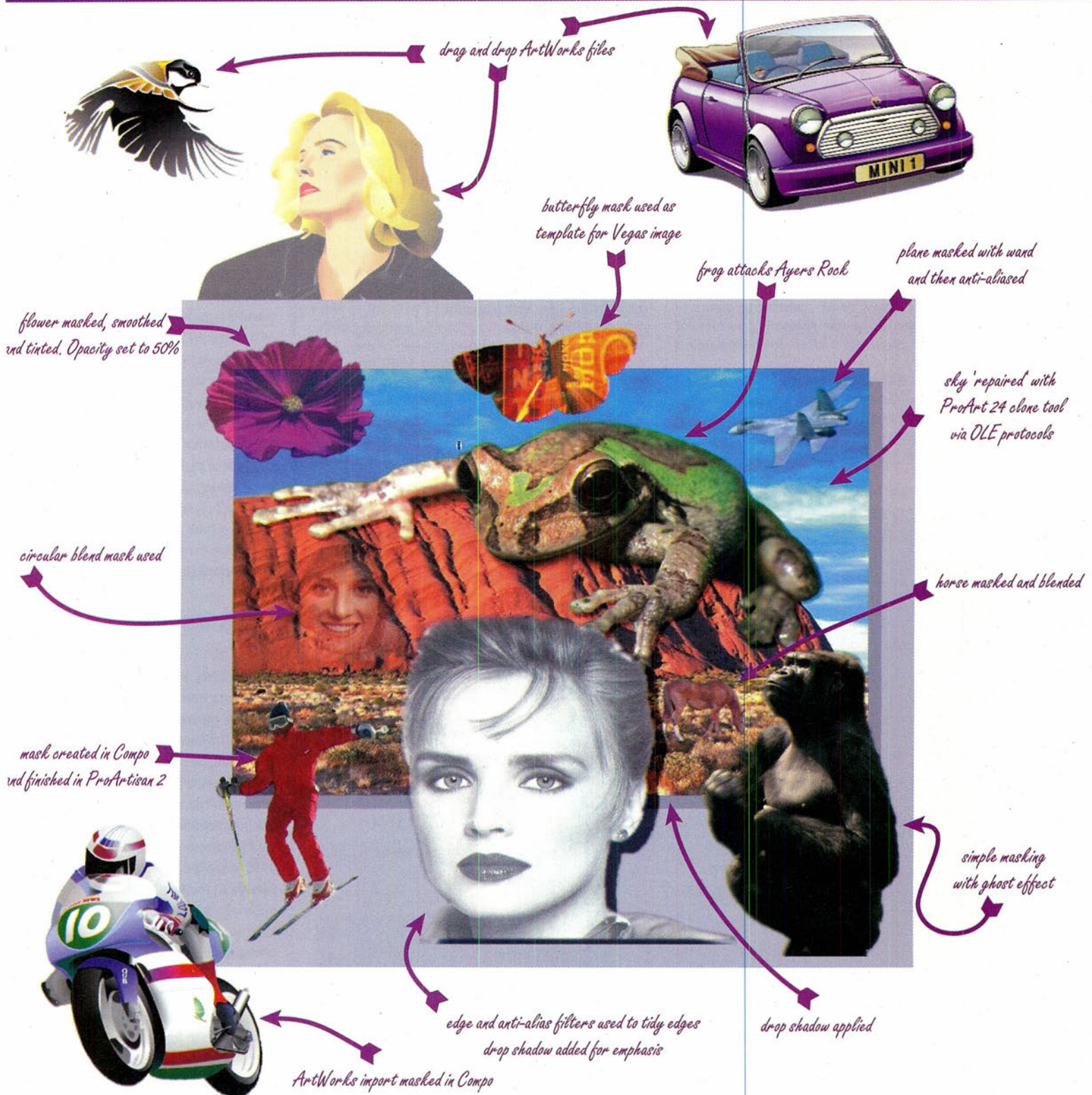
Frederic Elisei, the prolific demo author and front man of Arm's Tech, has greatly extended his web site, to become the centre of information for Acorn Demo watchers. As well as featuring information on Arm's Tech, the site now holds information on all the main Acorn demo groups. BASS, Armaxess, Xperience and Sick are all featured, with much more information to come, and a large section is devoted to my own group Quantum.

The site is still growing, and by the time you read this will be a wealth of information and a nice complement to Joe Oldak's Acorn games pages, which are currently seeking a new server on the net. Frederic's demo site can be found at: <http://droopy.imag.fr/~elisei>.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to quantum@digibank.demon.co.uk or online on the Arcade BBS.

Composition



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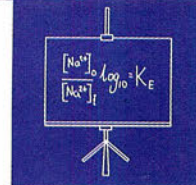
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Education



The new education disc

If you take out a one-year subscription for *Acorn User*, you can pick one of several free gifts. Last year, one of the gifts was a disc packed with goodies which was aimed primarily at teachers, although the contents were intended to have been useful to others including parents whose children are not fortunate enough to use Acorns at school but have one at home.

Judging by the comments I received, the education disc proved very popular and I'd like to thank all those who sent in messages of praise. Because of its success, this year we're offering two 1.6Mb discs (that's effectively four times the size of last year's) packed with compressed educational material. As before, the discs

are available as a free option to all those who subscribe to *Acorn User* magazine.

Disc 1 contains an assortment of files including animations which show how to form all 26 lower case letters of the alphabet and numbers 0 to 9. If placed on a computer in a primary classroom, pupils could use them when learning to write.

Also included are updates of the template files for secondary students to use to produce their National Records of Achievement. These files have been extensively reworked for this year's disc and are offered with a 15 page on-screen help file produced using iSV's *Inform*.

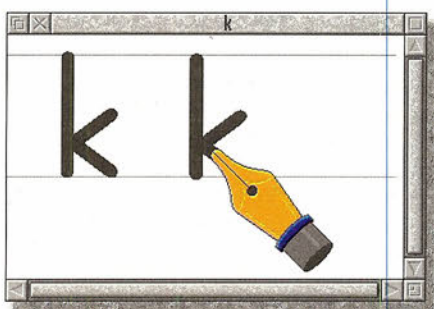
This on-screen help file is aimed at students and should

enable them to produce their NRAs with little input from the teacher.

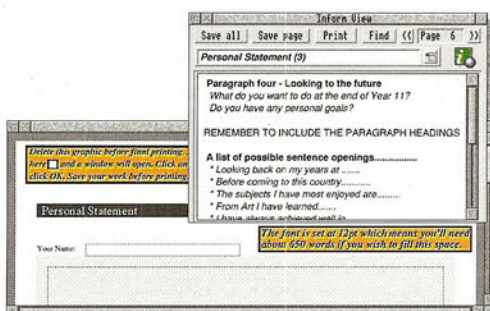
I believe these files alone are worth the subscription for anyone who is involved with National Records of Achievement – and that should be every secondary school in the country.

Disc 2 is a multimedia presentation (created using Semerc's *Ultima*) detailing ten CD-ROMs and 10 disc-based programs which have been reviewed during the last year. In my opinion these programs represent some of the best software for the Acorn platform and I believe they should be in every school.

The discs are available on four 800K discs for subscribers with older machines.



36 animations show how to write the letters of the alphabet and numbers – a testament to the simplicity of *SnapHappy* by Dial Solutions (available from Semerc).



Nine templates (*Impression Publisher/Style*) and an on-screen help application make this a must for producing NRAs.

E-mail contacts

Further to my suggestion for contacts for setting up electronic pen pals (see December issue) this month's e-mail addresses which may be contacted by any school in the world are:

Institution No. 1: Wath Comprehensive School
Location: Rotherham, South Yorkshire
Age range: 11 – 18
E-mail address: penpals@wathcomp.demon.co.uk

Institution No. 2: Underhill Junior School
Location: Maidstone, Kent
Age Range: 3 – 11 mixed
E-mail address: grant@chart.demon.co.uk

Martin Angove (martin@ripbbs.demon.co.uk) works for Red Dragon Radio in Cardiff, part of the second largest radio grouping in Britain whose stations include Red Rose (Preston), Piccadilly (Manchester), City (Manchester), Aire (Leeds) and Kiss (London). Martin will be pleased to hear from anyone interested in learning more about local radio.

Jonathan Gutteridge (jonanthang@starnet.demon.co.uk) is 14 years old and lives in Norwich. He is eagerly awaiting some contact from someone anywhere on the planet.

BETT '96

The BETT show will be from 10-13 January 1996, and all teachers and parents are welcome, although parents are encouraged to register through their child's school. I will be writing a preview of the show in the next issue, highlighting all the new releases.

Ticket Hotline
Tel: 0171-388 2430

Contacting me

You can contact the Education page by writing to me, Geoff Preston at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to: gp Preston@arcade.demon.co.uk

Sherston's licence bonanza

Following the success of its recent schools site licence bonanza Sherston Software has decided to extend the offer indefinitely. Sherston's 'value for money' pricing policy has always been popular with UK schools and the recent substantial reduction in the cost of site licences has encouraged many schools to buy site licences who previously wouldn't have been able to afford them.

Commenting on the extension of the site licence offer, Sherston's managing director, Bill Bonham, said: 'Our customer research left us in no doubt that schools would much prefer to purchase site licences for many of our products, thereby allowing them greater flexibility of use within the school. Our site licence conditions

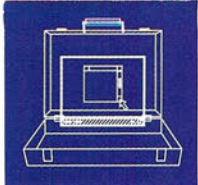
also allow teachers to use the software at home to help with their lesson preparation.

'Sherston's customer research also showed that cost was a major factor in schools not purchasing site licences, hence the special offer.'

The site licence pricing formulae are 1.5 times the single user price for primary schools and 2 times for secondary. So, for example, a primary site licence for the recently released *Mission Control: Crystal Rain Forest 2* (single user price £44.95 + VAT) would cost £67.42 + VAT.

This is good news for schools, particularly primary schools, whose budgets are limited to say the very least.

Sherston Software
Tel: (01666) 840433



Portables

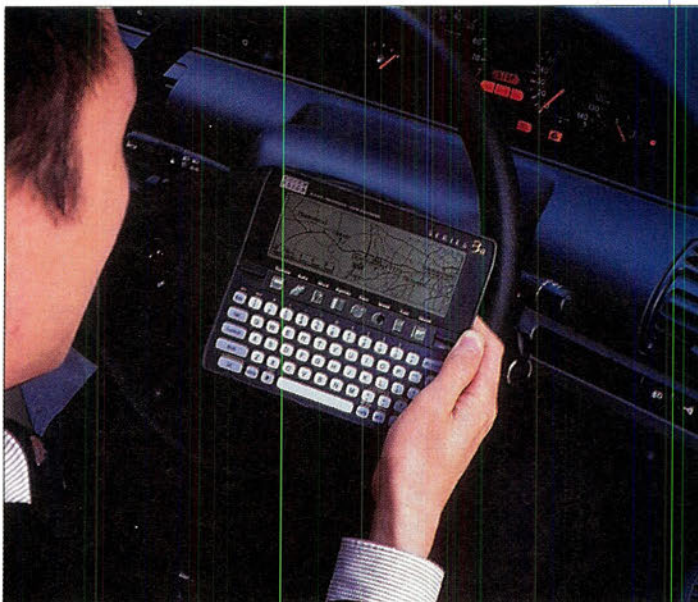
Driving with your Pocket Book

MICROSOFT, fresh from being conspicuous by its absence from Acorn World, has just announced the release of *AutoRoute Express* for the Psion 3a and Pocket Book II. *AutoRoute* is a route-planning package which has a map of the UK stored, from motorways down to such detail as B-roads.

AutoRoute knows about 7,200 locations, and will plan the best route between them. It's a flexible package, and allows you to adjust your route depending upon whether you want the fastest or the shortest, and you can specify preferred destinations along the way. It will estimate journey times based on average speeds for a particular type of road and will even give a cost for the journey.

A journey is presented in two forms: a list of directions and a map. The detail on the map can be zoomed in – it won't go quite as far as the back streets of a town, but it will show the major roads – and you can plot progress. The list of directions gives a time, distance, instruction, road number, even compass bearing for each road change.

There is also an American version, *Automap Road Atlas*, with 6,000 locations and over 420,000 miles of roads. The bad news is that



Don't try this while driving – the police will take a dim view.

AutoRoute Express will only work on Psion 3a or the Pocket Book with 512K or more. It is inevitable that as higher-memory palmtops become available, more powerful applications will be developed to take advantage of them; the fact that Microsoft has squeezed *AutoRoute Express* into even the 512K version is impressive.

AutoRoute Express should be available now from all normal Psion stockists (Boots, Argos, WH Smith and that favourite with *Acorn User* readers Dixons), and costs £69.95 inc VAT.

Psion PLC

Tel: 0171-258 7368

Fax: 0171-258 7340

No new A4

SHORTLY after Acorn's radical restructuring announcement it was announced that Acorn had no plans to scrap the A4's replacement; unfortunately, as reported last month, Acorn changed its mind, deciding that there would be no market for the product.

It promised to be the cutest Acorn yet. Based on the excellent Olivetti Echos subnotebook it had the latest ARM7500 composite chip, PCMCIA mini expansion card port and the prospect of colour LCD screens. PCMCIA expansion cards are credit card-sized modules which can perform many tasks. The modules currently available

include Ethernet cards, fax and data modems and internal hard discs. The latest version of RISC OS includes *Access*



The Olivetti Echos subnotebook.

support and a TCP/IP stack and so by plugging an Ethernet card into your notebook, data transfer would have become simple.

The project may still go ahead if there is demand from some other quarter, but Mike O'Riordan's Acorn Education division has confirmed that it doesn't have a viable market for a portable and so won't be ordering any. It really depends on whether or not ART can find an alternative taker. While it is regrettable that the project has been shelved, it is certainly doubtful whether much of the Acorn market would actually have bought one.

Racing Pocket Books

Pocket Books have many uses, but one that does not spring to mind is as a Data Logging System for an 80mph 100cc kart.

The system is based on a *Kartronix Data Logging Unit* which records the engine speed of the kart in RPM. This data can then be downloaded onto a Pocket Book where a graph of engine rpm against time can be plotted. This allows visual analysis and comparison of laps to be made as well as analysing chassis handling, speed and braking points.

The Pocket Book can also be used to time the kart and can automatically put start and finish markers into the data to enable users to know exactly which part of the track they are looking at. All the data collected can, if required, then be uploaded onto any PC for further analysis.

Thanks must go to Paul Collins for providing me with the above information. I hope the system has proved useful for the karter, Andy Collins, and wish him the best of luck for the future.

'Tis the season to be merry...

Christmas is coming and if you are having problems deciding which wine to buy for the festive season, *Hugh Johnson's Wine Guide* may be the answer.

The database contains details on over 6,000 wines from over 30 countries. Each record contains details on the wine's taste, history and the vineyards in which it may have been produced. The database also recommends which should be drunk with over 250 different meals.

Users can add their own varieties to the database and wines can be accessed by name, region, type, quality and taste. The guide is published by Psion plc and costs £39.95 inc VAT.

Contacting me

You can contact the Portables page by writing to me, Mark Taylor, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to markt@idg.co.uk.

Technology Matrix

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All prices exclude VAT & carriage. Prices & specifications may change without notice. E.&O.E.

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SIZE	A3000						
80MB IDE	£145	£145	£39	n/a	n/a	n/a	n/a
120MB IDE	£159	£159	£39	n/a	n/a	n/a	n/a
250MB IDE	£239	£239	£189	n/a	n/a	n/a	n/a
420MB IDE	£289	£289	£229	n/a	n/a	n/a	n/a
510MB IDE	n/a	n/a	n/a	£159	£159	£159	n/a
850MB IDE	n/a	n/a	n/a	n/a	n/a	n/a	£159
1.0 GB IDE	n/a	n/a	n/a	n/a	n/a	n/a	£195
540MB SCSI	n/a	n/a	n/a	£149	£149	£149	£149
1.0 GB SCSI	n/a	n/a	n/a	£209	£209	£209	£209
2.0 GB SCSI	n/a	n/a	n/a	£589	£589	£589	£589
EXTERNAL DRIVES		A3010		A3020	A3/400	RISC PC A4/5000	RISC OS VER. 3.6
SIZE	A3000						
540MB SCSI	£199	£199	£199	£199	£199	£199	£199
1.0 GB SCSI	£259	£259	£259	£259	£259	£259	£259
2.0 GB SCSI	£639	£639	£639	£639	£639	£639	£639

SPECIAL SPECIAL 850MB IDE £159
SPECIAL SPECIAL 1.0 GB SCSI £209

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270MB IDE	£249	£45
135MB IDE	£149	£15
EXTERNAL	DRIVE	CART
200MB SCSI	£339	£55
270MB SCSI	£299	£45

OPTICAL DRIVES

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230mb with 1 cartridge	£349	
1.3 gb with 1 cartridge	£1299	
EXTERNAL	DRIVE	CART
230mb with 1 cartridge	£399	
1.3 gb with 1 cartridge	£1379	

MONITORS MONITORS

IDEK 17" MULTISCAN	£519
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ACORN AKF53	£269
ACORN AKF60	£315
ACORN AKF85	£529
IDEK 17" Multiscan	£519
SONY 15"sf Multiscan	£329

CD-ROM DRIVES

PANASONIC QUAD SPEED
Internal RISC PC & A7000
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PANASONIC PD DRIVE £499
A combined Quad speed SCSI CD and 650MB optical drive
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(Suitable for A3/400 A3000/10/20 A4/5000 RISC PC. Includes a 16bit SCSI card allowing the connection of a further 6 devices)

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5 Drive System	£799
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DESKTOP MONO
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3ppm
Built-in feeder A4

£299

HP DeskJet 660c

DESKTOP COLOUR
360 x 360 dpi
2ppm
Built-in feeder A4

£329

HP LaserJet 5L

DESKTOP MONO LASER
600 X 600 dpi
4ppm, 2mb Ram
2 paper trays A4

£385

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IDE CARDS	
A300/400	£69
A3000/3010	£69
SCSI CARDS	
A300/400 16bit	£85
A3000 16bit	£85
A3010 16bit	£85
A3020 16bit	£85
A4000 16bit	£85
A5000 16bit	£85
RISC PC 16bit	£85
RISC PC 32bit	£165
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Midi Max card	£69
GreyHawk	£99
Hawk V9 MkII	£199
Chroma 150	£129
Chroma	£149
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MEMORY	
A3000 1-2mb	£54
A3000 2-4mb	£89
A3000 1-4mb	£128
A3010 1-2mb	£44
A3010 2-4mb	£104
A3010 1-4mb	£144
A3020 2-4mb	£88
A4000 2-4mb	£88
A5000 2-4mb	£88
A5000 8mb	£258
A300/400 8mb	£248
RISC PC 4mb	£95
RISC PC 8mb	£199
RISC PC 16mb	£349
RISC PC 32mb	£549
SOFTWARE	
RISC OS 3 (chips only)	£36
RISC OS 3 (with manuals and software)	£79

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A4 Flatbed
400x800 dpi
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Pete Sykes
Acorn

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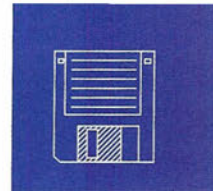
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Cover disc



Global Effect demo

by Eclipse

EVER watched the world leaders meeting at summits in exotic places like Rio and thrown up your hands in horror thinking 'I could do a better job than that?' Well, now's your chance, with this demo version of the game *Global Effect* from Eclipse.

In this game you play the ruler of the world (in the full game you share this with a computer player, which is much harder) and your job is to keep the environmental balance of the world healthy. This is not as easy a task as it might seem, and unless you are careful you will soon find your CO₂ levels and temperature soaring.

One problem which you will very quickly encounter is that in order to do anything at all you need a store of power. Your power is indicated by the large blue bar on the left of the screen – the number of lit up circles below it indicates the number of power bars left. You need power not only to build, but also to move around the map, so use it wisely. Your power is replenished more quickly if you have a healthy environmental balance (the small yellow bar below the power store) and if you are doing well economically.

Of the four globe icons in the top right of the screen, the only one of interest in the demo is the environmental and economic data menu. This brings up a second window allowing you to see how your decisions are affecting the global balance on your world, and also to open a world map showing the position of your large-scale window onto the world. Of course, if you are used to navigating you can work this out anyway from the longitude and latitude.

Below the four globes is the tool selector. On this you can

choose from 30 tools arranged in a continuous strip which wraps round so that constantly moving to tool bay left will eventually get back to the tool you first thought of. Most are fairly self-explanatory – if you build something you can always use the 'question mark' tool to find out about it.

To return to the Desktop, click on the 'quit' button in the top left of the screen. When you restart, you will re-enter the game from the point at which you left, unless you quit the game from the icon bar menu. Because the game saves data as it goes along, it must be run from a disc which is not write-protected.

To start a game from scratch, choose the 'Setup...' option from the icon bar menu, which will take you to the setup screen of *Global Effect*. The 'Options...' entry allows you to turn on sound which is initially disabled in this demo since it does not work on machines with 16-bit sound yet.

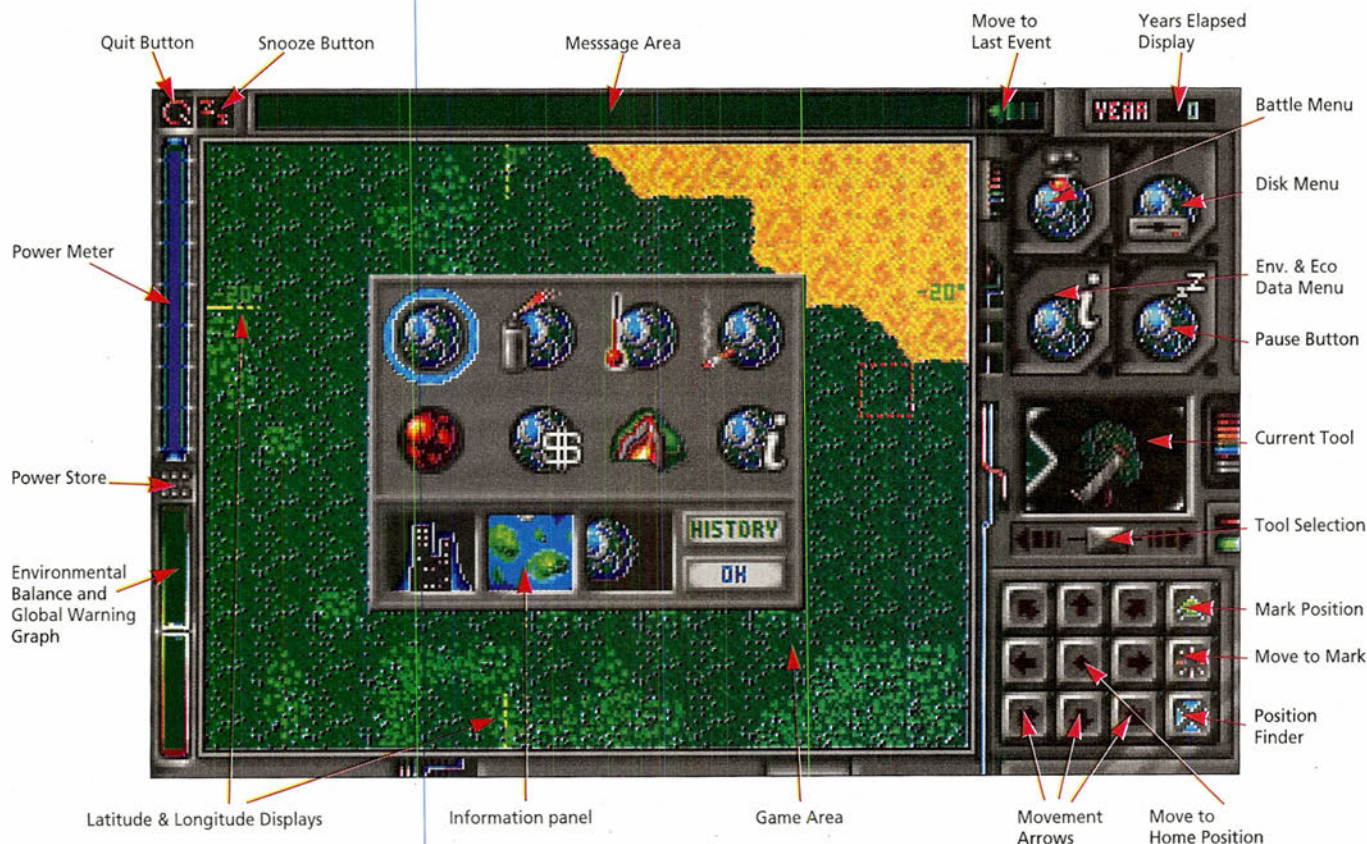
The full game is available from Eclipse for £34.99 and features many more worlds and scenarios. In the demo you can only play the Pangea and Forested starting scenarios along with the Post Industrial and Global Warming worlds from 'Save a world', although you can find out what the other scenarios involve. In addition, in the full game you can play against the computer using battle options if you wish; this is of course much harder because all your good intentions can be thwarted by the other player.

Eclipse

Tel: (01243) 531194

Fax: (01243) 531196

E-mail: eclipse@argonet.co.uk



The main control panel



FistLore demo

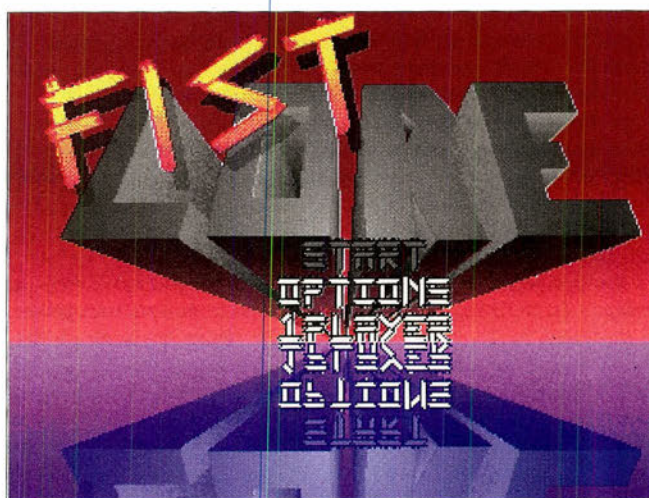
by Mystery Software and ICS

PEOPLE who have never had an Offender rating at *Elite*; people who enjoy chess; people who play *Lemmings* to save the little rodents rather than to watch them die in lots of interesting ways – they're not going to like this at all.

FistLore is the first pure beat-'em-up to appear on the Archimedes, possibly cashing in on the success of *Streetfighter* and *Mortal Kombat*, possibly just because the programmers thought it was about time. There are no half measures here; the object is to see your opponent lying comatose on the floor in optional pools of the red stuff, and if you let up for one second, your opponent will do exactly the same to you.

The game comes with numerous characters and a wealth of sound effects, but for this demo you have one character and a single bout conducted in stately silence. Double-clicking on *FistLore* runs the game leaving you at a title screen where you can choose the number of players (one or two) and control a number of different options. Use the Up and Down arrow keys to scroll around the menu, the right-hand Ctrl key to choose an option and the Right arrow key to change an entry on the options screen.

Once you start, you are deposited on a snowy battleground, facing



an opponent of equal skills and stamina. The controls are shown in the table – if you are playing the computer you use player one's controls. Needless to say there are some special moves to discover (it'd be no fun if I told you, would it?) and without them you'll find the computer player rather hard to hit, let alone knock out.

FistLore keys

Player 1	Action	Player 2
Z	Left	Left arrow
X	Right	Right arrow
F	Up	Up arrow
C	Down	Down arrow
G	Fire	Right Ctrl
P pauses and Esc quits.		

You get three rounds if you're playing the computer and only one if you're playing another person. When that green bar along the top gets into the red, you're in trouble; when it's gone, you're eating snow.

If you prefer peaceful, 'educational' games check out *Global Effect* on the other disc – it's rather good. If, however, you want to work off some serious aggression, *FistLore* costs £29.99 inc VAT, is available from ICS (0151-625 1006), and is fun, if you like that sort of thing. It needs 2Mb of memory to run.

Regular items

Various authors

THERE are three items in the *Regulars* directory on the disc:

Free ads: we did not have room to include all the free ads that we had been sent in this issue of *Acorn User*, so we put them in a file on the cover disc instead. These are all the ads that we received at the office up until 14 November – any received after that date will either appear in the small Free Ads section on page 110 or be used in a later issue.

Blu

by The Xperience

THIS program was written to take advantage of the power of the Risc PC and show it off in its best and fastest light. Basically, you run it, sit back and enjoy the fun. While you're doing that, you might marvel that the application only takes up 74K even when uncompressed – a truly awesome piece of coding.

If you want the demo to run continuously, then change the **BluNonstop\$Flag** in the



!Run file to 'Yes'. To quit the demo while it is running, press Escape.

These are coders with attitude, so the *!Help* file contains strong language, although the demo doesn't. *Blu* will only run on a Risc PC and, although it will run on RISC OS 3.6, it needs 8-bit sound to run at its fastest speed.

Contact The Xperience at: Kurze Straße 20, 30982 Pattensen, Germany or by e-mail at M.Willers@tu-bs.de.

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Santa's

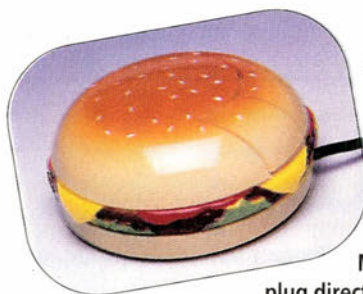
It's that time of year again when everyone starts racking their brains for ideas for Christmas presents; here are some more off-beat suggestions from Karen Peach.

Mouse mats don't have to be boring, they can brighten up your desk and are an ideal gift for anyone. Here's a selection of some of those available:

Kimberley Computer Services has a huge range of novelty mouse mats including a pig, mouse and a black cat, though I personally was most taken with the male torso. The mats cost £3.56 + VAT each – the company does novelty mouse holders too.

For all you hippies out there, why not take a trip back to the '70s with an Aqua Pro mouse mat? Weird and colourful shifting patterns are created by moving your mouse over the oil-filled mat. They are available from Griffin in

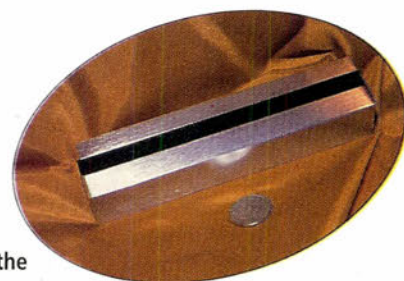
several colours for only £8.99 (inc p&p) – guaranteed to blow your mind.



After the turkey and Christmas pudding every true junk food addict will relish the thought of getting back to real food so why not treat them to a tasty Mouse Burger? Available soon in the shops or by mail-order from Griffin for £27 (inc p&p), these PC mice are Microsoft serial-compatible, and so will plug directly into the serial port of a Risc PC or A7000, or an older computer using the PD application *SerialMse*.



If you're having problems finding a present for the Trekkie who has everything, here's the answer – transform their computer into a *Star Trek* Control Centre. There's the 3-D monitor mask, the space-age 24th century keyboard (as it's a PC keyboard it will only fit the Risc PC or A7000), the shuttle craft disc/CD-ROM holder plus mouse (two button, sadly, but fun to look at) and mouse pad with the *Star Trek: The Next Generation* insignia on it. This is only one of the Brainworks range – there's a *Flintstones* one as well – and is available from leading toy stores and computer retailers with prices ranging from £10.99 for the disc/CD-ROM holder to £79.99 for the keyboard.



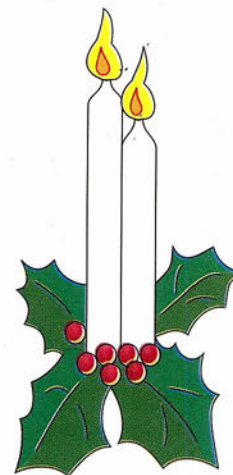
A perfect gift for the safety conscious is the new Sonamara Quipalarm Q3. Attach it to your computer and if disturbed an ear-splitting alarm is emitted. It's small, easy to fit and loud enough to scare off any thief so at £59 + VAT it's worth every penny.

If you prefer to give presents that have a personal touch then Mediatec's custom printed products may be what you are looking for. It couldn't be easier, just send in a computer graphics file (or photo) and let Mediatec print the image on to any of a whole range of products, including T-shirts, pillow cases, jigsaws, hats/caps, mouse mats, golf umbrellas, paperweights, teddy bears and director's chairs to name just a few. The company will accept *Draw* files provided that you send them on a DOS disc; for bitmaps JPEGs and TIFFs are preferred.





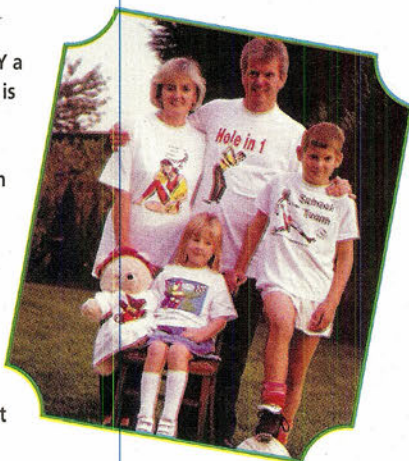
Unusual gifts for Christmas



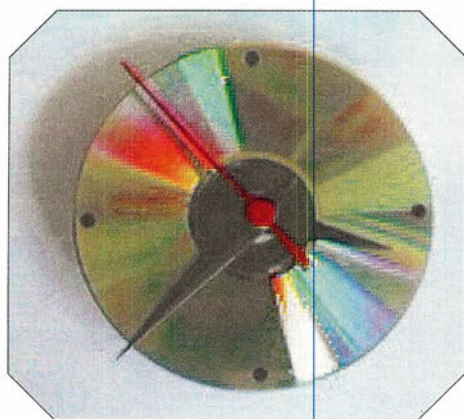
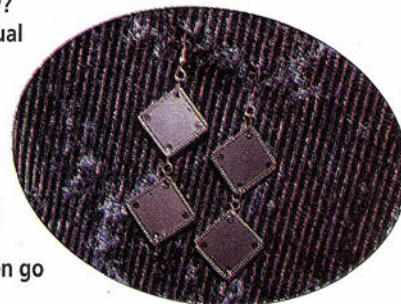
FEATURE

stocking

For those who enjoy a bit of DIY a hobby kit from Quill Marketing is the ideal gift. All you need is a computer, printer and an iron. You design the motif, print it on to the transfer paper provided using an ink-jet printer, then simply iron it on. There are different kits to choose from including T-shirt, baseball cap, beach, Christmas party, recipe and mouse mat – there's even a Christmas stocking. Prices start from £5.95.

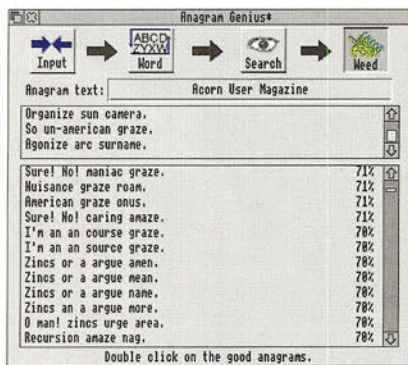


If you've got some old ARM chips lying around doing nothing (after an ARM3 upgrade, for instance, or you could try your local dealer) why not be creative and transform them into jewellery? Completely individual and cheap – if you've got the chips – these are an unusual present for the more adventurous. If you can get a range of them you could even go for a necklace.



A finishing touch for any office is a CD clock, available from Eesox for only £12. It tells you the time, although the hands do rather get in the way when you try to put the disc into your CD-ROM drive.

A great way to keep yourself amused at all the get-togethers during the Festive Season is *Anagram Genius*, the developed version of the popular *Supergram* now with a bigger dictionary than ever. Simply key in each person's name, choose a category (satirical, rude, computer, etc) and see what it comes up with; you'll be surprised. The package costs £19.99 and is available from 4th Dimension, and look out for the accompanying book filled with anagrams generated by the program – it's certain to be one of the Christmas bestsellers.



Contact details

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Unusual gifts for Christmas



You've read our round-up of the more unusual Christmas presents that you can buy; now's your chance to win some of them. Obviously in order to give you time to enter we won't be able to send out the winners until after New Year so they won't be quite in time for Christmas – they'll be a nice surprise a few weeks later instead.

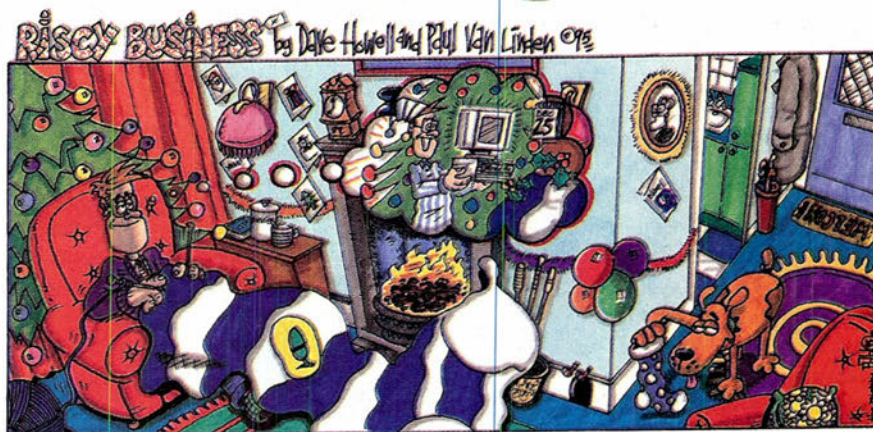
Acorn User has three New Year Hampers to give away; bundles made up from various products featured on the previous two pages. There's also a mouse mat each for 10 lucky runners-up. All you have to do is answer the following question:

On the eighth day of Christmas what did 'my true love send to me'?

Send your entries to: Acorn User New Year Hamper Competition, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP. Entries must be received by Twelfth Night (6 January 1996) when we will draw the lucky winners out of the hat. The editor's decision is final, and no correspondence will be entered into.

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	Arc Fax 1.12	£46.00
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Canon BJC 4000 mono high cap.	£24.70
Canon BJC 600e colour	£8.90
Canon BJC 600e mono	£7.70
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HP Deskjet 660 double mono	£22.10
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Model	Price
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30 x £9.80	200 x £51.00
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Branded DSHD

Model	Price
10 x £5.10	100 x £40.80
30 x £13.60	200 x £72.30
50 x £22.10	500 x £162.50

The Cambridge Trial



It's all controlled from here – at the back on the left is the ICL video server.

It was either November 1991 or 1992. The exact date escapes, but there we were; a huddle of journalists in a small room in the Sands Hotel in Las Vegas, guests of ARM Ltd during the huge annual Comdex Fall computer show. It was a very informal affair. ARM's managing director Robin Saxby introduced his new company, and then it was the turn of Acorn's Malcolm Bird to show something rather remarkable for the time.

Out came an Acorn A4 portable connected to a monitor and most of the US journalists present had their very first experience of fast (25 frames per second) software-only digital video playback in a generously sized screen. Apple's *QuickTime* system had been launched, but we had to put up with postage stamp video windows.

Little did we realise then that Bird and his colleagues already had ambitions in the multimedia arena which would be realised in the formation of Online Media in June 1994. At that distant Comdex preview, the now-familiar Replay demo of the space shuttle launch was displaying Acorn and ARM's credentials as a potential player in the emerging technologies which would soon be labelled DiTV, or Digital Interactive TV.

In RISC OS Acorn had a compact, ROM-based operating system with excellent graphical abilities and ARM Ltd had a very inexpensive, yet powerful 32-bit microprocessor plus the expertise to integrate the CPU into large multi-function custom chips. The seeds of the Online Media Set Top Box (STB) had been sown.

The Cambridge connection

Other ingredients were later added. It's an unofficial joke that Cambridge is home to the 'Cambridge Mafia' – Acorn had been taken over by Olivetti back in the mid-1980s and one by-product of this association was the formation in 1991 of Olivetti Research Laboratories (ORL) based in the old Addenbrookes Hospital site,

cheek by jowl with various Cambridge University colleges and especially the Cambridge University Computer Lab just a few hundred yards down the road.

ORL was headed up by Andy Hopper, previously a senior Acorn technical guy who is largely credited with inventing the Acorn Econet network system; don't laugh - Econet was pretty good in its day. Various ex-Acorn members of staff moved to ORL as well. One of ORL's main projects was the development of ATM (Asynchronous Transfer Mode) networking and ORL's lead in this field has been invaluable to Online Media because ATM is widely regarded as the networking standard of choice for key DiTV applications.

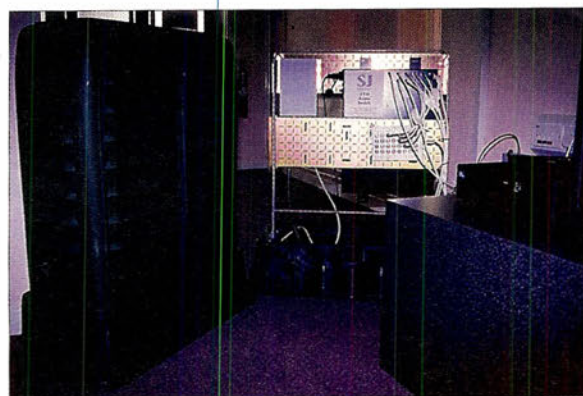
A happy coincidence is that fast ATM packet-switching is a job perfectly suited to the talents of the ARM RISC processor. ORL originally used Inmos Transputers for its ATM switching hardware, but ARMs have since taken over. Earlier this year ORL spawned a new commercial company, Advanced Telecommunications Modules Ltd (ATML), dedicated to the industry. ATML produces ATM switches and compact ATM-based RAID (Redundant Array of Inexpensive Disk) servers call Disc Bricks – both are used by Online Media.

Another Cambridge company from the Acorn fold, SJ Research, is working with Online Media on the ATM side. SJ Research has been selling quite advanced ATM-based networks to schools for several years in the form of its Nexus offering. SJ Research's contribution to the Online Media side of the equation has been local-loop ATM distribution switches which are designed to be located in kerb-side cabinets close to the homes and businesses being served by Online Media STBs.

Also working on the trial is Cambridge

Ian Burley examines the technological innovations that have made Online Media possible.

Online Me



These green boxes, which you can see scattered round the streets of Cambridge, contain the distribution switches for the network.

Cable. This company has been very keen to establish itself at the forefront of DiTV developments with the help of the likes of Online Media, ORL, ATML and SJ Research.

The media server

Even using MPEG (Motion Picture Expert Group) digital audio/visual compression, a two-hour movie will use up approximately 1Gb of server storage. If that movie is really popular, it may need to be loaded on to the server several times. Of course, literally hundreds and even thousands of other movies, news archives, games, documentaries, pop videos, and so on will have to be managed by the media server.

Commercial media servers of the future will have thousands of multi-gigabyte hard drives forming a massive RAID server. Online Media has a relatively small commercial-grade media server for Cambridge Trial purposes. Its ICL PIMserver 'only' has a couple of terabytes of storage at present. However, the setup is a good approximation of a scale model to study the workings of a typical DiTV service of the future.

The network

For the Cambridge Trial, Online Media has concentrated on ATM from end to end. This has been achieved over both fibre-only connections into Trial sites and also using conventional Cable TV co-axial copper cable from the kerb into the home. The former will probably be commonplace

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dia technology

FEATURE



Over 100 STBs and screens make up in Online Media's testing array.

one day, but the latter is the most likely form of connection in the near future as Cable TV operators switch over from analogue to digital services using their existing co-axial copper cable networks.

Online Media has also studied ADSL connection technology which uses ordinary telephone cable. This is the most challenging technology of all when you consider that these cables were only ever designed for relatively poor quality audio service. It's a bit like making a moped win

a Formula One race, but it works in the lab. Online Media also has interests in various other networking and broadcast feed standards and technologies, including satellite feeds, conventional Ethernet and alternative customer requirements like modem connections.

The STB

Online Media's original STB was based on familiar Risc PC innards. Inside the box was an ATM interface and an MPEG video

card – the latter produced by Wild Vision, the hardware subsidiary of Computer Concepts.

The rather large box had space for CD-ROM drive if required and at the back all the usual Risc PC interfaces were present. The same case design is now used for the new Acorn A7000, though the A7000 is in Acorn corporate grey rather than

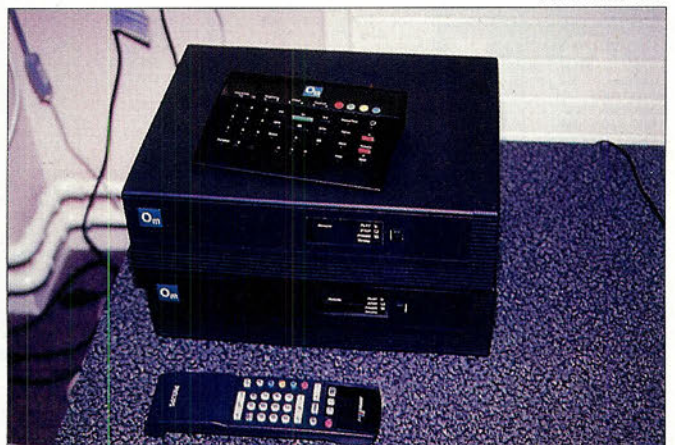
Online Media black.

While the new A7000 uses the old Online Media case, the new Online Media STB2 has an entirely new slimline case which looks rather like a satellite decoder box. However, both the STB2 and the A7000 share one major component – the new ARM7500 integrated CPU chip. The ARM7500 compares favourably on price with typical Intel 486, Pentium and IBM/Motorola PowerPC processors, but for the money you also get an I/O interface, memory manager plus 8-bit sound and 24-bit video built in.

With a minimum of external glue and system chips required on the STB2 motherboard (bar memory), Online Media looks very healthy on the value-for-money front. RISC OS remains as the operating system and one attraction of the unit is that you can download Acorn-compatible games from the media server (or another server on the network) to play on your STB2.

• Next month we look at what you can already do with Online Media technology and what might be possible in the **AU** future.

Two of the original Set Top Box design – note the similarity to the A7000 box.



Asynchronous Transfer Mode (ATM)

ATM is a networking architecture ideally suited to DiTV. It was adopted by the Consultative Committee on International Telephone & Telegraph (CCITT) International standards body in 1988 as part of its Broadband Integrated Services Digital Network (B-ISDN) initiative. Instead of the more conventional synchronous packet switching scheme used in many networking architectures like Ethernet (and Econet), for example, ATM is an asynchronous cell relay system.

Data is transmitted in a series of compact fixed-length cells which can be identified and routed very efficiently using fast switching. In effect, ATM serves as an asynchronous data packet multiplexer and demultiplexer, solving the problem of data channel synchronisation by using a rapid series of small data packets. This is very important for real-time synchronised data streaming, like multimedia audio visual transmissions, for example. ATM cells have a 48-byte 'payload' and a 5-byte header, totalling 53 bytes in all. These can be assembled and disassembled from data feeds with enormously varying data rates and packet structures.

At present, mainstream commercial ATM development is mainly focused on backbone applications. ORL has had a 500Mbps/sec backbone connection with the Cambridge University Computer Lab and the Engineering Department for several years, though 155Mbps/sec is the most commonly adopted rate.

There are ATM-to-the-desktop specifications for local area computer networking, typically operating at 24Mbps/sec. Because of the restrictions imposed by relatively long wiring distances and cabling which is either designed for old-fashioned analogue cable TV broadcasting or even ordinary telephony, Online Media has been working on ATM distribution feeds which work at just a couple of Mbps/sec, but this is enough for VHS-quality DiTV service. ORL is now working on wireless ATM research.



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HP51640A Thinkjet/Quickjet	£12.00	£14.10
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HP51606Y Paintjet Yellow	£23.00	£27.03
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Canon BC-02 Black	£15.00	£17.63
Canon BJ600 Black High Cap	£8.00	£9.40
Canon BJ600 C/M or Y	£8.20	£9.79
Canon BJ4000 BC20 Black	£21.00	£24.68
Canon BJ4000 BC21 Black	£7.00	£8.23
Canon BJ4000 BC21 Colour	£12.00	£14.10
Canon JI-20C Integrex Colour	£18.00	£21.15
Canon JI-25B Integrex Black	£10.02	£11.77
Canon BJ300/330 Black	£11.50	£13.51
Canon BJ800 Black	£13.50	£15.86
Canon BJ800 C/M or Y	£17.00	£19.98

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Acom A5000 All in One Dust Cover	£6.00	£7.05
Acom A4000 All in One Dust Cover	£6.00	£7.05
Acom A3010/3020 Dust Cover	£4.55	£5.35
Risc PC (1 Stack) Dust Cover	£5.00	£5.75
Small 80 Column Printer Cover	£3.56	£4.18
Large 132 Column Printer Cover	£6.40	£7.52
HP Deskjet 500/550/560 Cover	£3.56	£4.18
Canon BJ100 Dust Cover	£3.56	£4.18
Canon BJ200 Dust Cover	£4.56	£5.36
Canon BJ600 Dust Cover	£4.56	£5.36

LASER TONER

	Ex Vat	Inc Vat
Canon LBP-8 IV	£70.00	£82.25
Canon LBP-8 III	£59.00	£69.33
Canon LBP-4U	£52.00	£61.10
HP Laserjet IIIP/II	£42.00	£50.10
HP Laserjet IIIP/II	£48.00	£56.40
HP Laserjet IIIS/IVS	£95.00	£111.62
HP Laserjet 4/4M/4P/4P	£70.00	£82.25
HP Laserjet 4L/4ML	£48.00	£56.40
Qume Laser Direct (3 Sets)	£99.00	£116.33

TEACHERS

KCS have always offered great
discounts to the Education sector.

We have a vast range of products
available, please ask for our "Teacher
Pack", which includes various
discounts for teachers and Schools.

CLAN MEMBERS

We currently offer substantial discounts
to all Clan members. It is not possible to
list all the special prices here, ask for our
"Clan price list" available on disk.

Offer of the Month

170Mb 2.5" IDE Hard Drive
Suitable for A3010/3020/A4
£120 & Vat (inc Cable)
£189 & Vat with A3010/3000 Interface

FLATBED SCANNERS



2400 dpi Flatbed Colour A4 **£349.00** d £410.07
1200 dpi Flatbed Colour A4 **£300.00** d £352.50
Transparency Adaptor **£210.00** d £246.75
SCSI Interface (State Machine) **£95.00** d £116.33

Full **COLOUR** Flatbed Scanners at Low Cost.

Upto 2400 Dots Per Inch Scanning capability (PC)
and 600 Dpi using Acom Software. Both Acom
and PC Scanning software supplied.

Sample scans available - Send SAE & Disk.

PRINTERS

	Ex Vat	Inc Vat
Citizen ABC 24 Pin Colour	£135.00	d £168.63
HP Deskjet Portable	£120.00	d £141.00
HP Deskjet 320/AS/Colour Kit	£225.00	d £264.38
HP Deskjet 540C	£215.00	d £252.63
HP Deskjet 660C	£325.00	d £381.88
Canon BJ600	£345.00	d £405.38
Canon BJ4000	£235.00	d £276.13
Canon BJ200ex	£195.00	d £229.13
Canon BJ100x	£155.00	d £186.63
Epson Stylus 800+	£189.00	d £222.08
Epson Stylus Colour	£365.00	d £428.38
HP Laserjet 4L	£385.00	d £452.38

All printers supplied with leads

Turbo Drivers HP **£38.00** b £44.65

Turbo Drivers Canon **£38.00** b £44.65

Turbo Drivers Epson **£38.00** b £44.65

Acom 128c Printer Drivers **F.O.C.** b F.O.C.

With Printer



Single Refill Any Colour **£5.95** a £8.99

Quad (Four) Refill Black Only **£19.57** a £22.99

Tri-Colour Refill C/M & Y **£17.01** a £19.99

Bulk 125ml Refill Kit Any Colour **£21.27** a £24.99

Bulk 250ml Refill Kit C/M/Y or Black **£38.29** b £44.99

Bulk 500ml Refill Kit Black Only **£59.57** b £69.99

1ml Head Recovery Kit **£3.40** a £4.00

£25ml Cartridge Cleaning Kit **£3.40** a £4.00

400ml Cartridge Cleaning Kit **£8.50** b £9.99

TDQ Adaptor for Thinkjet Cartridge **£2.55** a £3.00

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supply.

Low repair costs for Acorn/PC or printers
and monitors. Call for Quote.

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Mouse Mat with any order over £20

Quote ref: MMKCS

WINTUNER & INIGUARD

Wintuner is a program that has been
designed to get the best speed out of the
Windows environment. It is ideal for
machines that are underpowered such as
the Risc PC with the 486 Card. Fine tunes
the Windows environment.

Inguard is a program which is designed to
stop Windows becoming corrupt. A 3 stage
recovery program and a master backup of
ALL the important Initialisation files and the
Autoexec.bat and Config.sys files.

Highly Recommended.

Wintuner & Inguard **£21.27** a £24.99

RIBBONS

B=BLACK RIBBON
C=COLOUR RIBBON

	Ex Vat	Inc Vat
Amstrad DMP2000/3000	£2.80	£3.29
Amstrad DMP4000	£3.66	£4.30
Amstrad LQ5000	£6.10	£7.18
Amstrad PCW8256/LQ3500	£2.85	£3.35
Amstrad PCW9512	£3.38	£3.97
Brother M1009/1024/1091/209	£4.12	£4.86
Brother M1818/1824/1924L	£2.95	£3.48
Citizen 1200/LSP10/1012/249	£2.85	£3.35
Commodore MPS1200/1230	£4.50	£5.29
Commodore MPS1500/1550	£6.75	£7.93
Epson LQ100	£4.10	£4.82
Epson LX100	£3.83	£4.50
Epson LQ2500/400/500/800/850	£4.77	£5.63
Epson LQ1000/1500/1700/111	£4.10	£4.82
Epson FX/MX/RX80/FX/LX800	£2.73	£3.26
Epson FX/MX100/FX/MX1000	£2.30	£2.73
Epson LX80/86/90	£2.45	£2.91
Fujitsu DL3300/3400, DX2200	£2.89	£3.40
Manmanman Tally 80/81	£4.86	£5.76
NEC Pinwriter P220/P2	£3.30	£3.92
Ok ML182/183/192/193/195	£2.45	£2.91
Ok ML320/321/360/390/391	£2.87	£3.40
Panasonic KX-P1123/1124/1140	£2.90	£3.40
Panasonic KX-P1080/1180/90	£2.95	£3.40
Panasonic KX-P1524/1540/1624	£2.95	£3.40
Panasonic KX-P123/1232/1242/180	£2.95	£3.40
Sekosha SL90/92/95/96	£2.90	£3.40
Star LC1020/100	£2.29	£2.69
Star LC200	£2.95	£3.40
Star LC24-10/20/200	£2.88	£3.36
Star NL/NLNR/NX10, NB24-10	£2.61	£3.09
Taxan Kaga KP810/815/910/915	£2.23	£2.69
Citizen 224/240/Swift 24-9	£2.64	£3.15
Commodore MPS1500/1550	£2.83	£3.36
Panasonic KX-P123/1232/1242/180	£2.95	£3.40
Star LC1020/100	£2.29	£2.69
Star LC200	£2.95	£3.40
Star LC24-10/20/200	£2.88	£3.36
Star NL/NLNR/NX10, NB24-10	£2.61	£3.09
Taxan Kaga KP810/815/910/915	£2.23	£2.69
Citizen 224/240/Swift 24-9	£2.64	£3.15
Commodore MPS1500/1550	£2.83	£3.36
Panasonic KX-P123/1232/1242/180	£2.95	£3.40
Star LC1020/100	£2.29	£2.69
Star LC200	£2.95	£3.40
Star LC24-10/20/200	£2.88	£3.36

DISKETTES & DISK BOXES

	Ex Vat	Inc Vat
100 Capacity Lockable with Catch & Dividers	£2.55	b £3.00
50 Capacity Lockable & Dividers	£1.70	b £2.00
20 Capacity Flip Top Smoke Colour	£2.55	b £3.00
15 Capacity Novelty Step Cube	£0.85	b £1.00
12 Capacity Flip Top Clear	£1.70	b £2.00
1 Capacity "Trendy" Flip Top (Black or Mint)	£0.50	b £0.59
1 Capacity Flip Top Clear	£0.30	b £0.35
DSDD 3.5" Diskettes	£0.28	b £0.33
DSDD 3.5" Diskettes	£0.27	b £0.32
DSDD 3.5" Diskettes 1.44Mb	£0.42	b £0.49
DSHD 3.5" Diskettes 1.44Mb	£0.40	b £0.47
DSHD 3.5" Diskettes 1.44Mb	£0.38	b £0.45
DSHD 3.5" Diskettes 1.44Mb	£0.36	b £0.43



Available as **FORMATTED**
PC DOS 1.44Mb if Required,
at no extra cost! Please State.

SPEAKERS

	Ex Vat	Inc Vat
ZV-Fi Amplified 6 Watts RMS, Ideal for Acorn or PC	£30.00	d £35.25
SOUNDWave, 240W Shielded Amplified Speakers for Acorn or PC	£59.00	d £69.32
MICROPHONE, with 3.5mm Jack Plug	£4.25	b £4.99
Clip On Microphone with 3.5mm Jack Plug	£5.90	b £6.93

DATA SWITCH BOXES

	Ex Vat	Inc Vat
2 Printers - 1 Computer Centronics to Centronics	£11.75	b £13.81
2 Computers - 1 Printer Centronics to Centronics	£11.75	b £13.81
4 Printers - 1 Computer Centronics to Centronics	£15.95	b £18.74
4 Computers - 1 Printer Centronics to Centronics	£15.95	b £18.74
2 Computers - 1 Monitor VGA (15 Pin HD (F)) & KB (5 Pin Din)	£17.00	b £19.97
2 - 1 Way Serial 25 Pin D Type Female to 25 Pin D Type Female	£10.75	b £12.63
4 - 1 Way Serial 25 Pin D Type Female to 25 Pin D Type Female	£14.95	b £17.57
2 Scart - 1 Scart TV Standard Euroscart to Euroscart	£11.75	b £13.81



Specialist Laser & Inkjet Labels
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£5.00 or Free
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INKJET White
J8160M 63.5x38.1mm (21 lps, 40 shts)
J8161M 63.5x46.6mm (18 lps, 40 shts)
J8162M 99.1x34mm (16 lps, 40 shts)
J8163M 99.1x38.1mm (14 lps, 40 shts)
J8165M 99.1x67.7mm (8 lps, 40 shts)
J8666M 70x52mm (10 lps, 25 shts)
J8651M 38.1x21.2mm (65 lps, 25 shts)

INKJET White For COLOUR Printing!
J8365 99.1x67.7mm (8 lps, 25 shts)
J8363 99.1x38.1mm (14 lps, 25 shts)
J8362 99.1x34mm (16 lps, 25 shts)
J8360 63.5x38.1mm (21 lps, 25 shts)

INKJET Clear
J8562M 99.1x34mm (16 lps, 40 shts)
J8563M 99.1x38.1mm (14 lps, 40 shts)
J8565M 99.1x67.7mm (8 lps, 40 shts)

LASER
L7000 Mixed Trial Pack
L7159 64x34mm (24 lps, 100 shts)
L7160 63.5x38.1mm (21 lps, 100 shts)
L7160M 63.5x38.1mm (21 lps, 40 shts)
L7160E 63.5x38.1mm (21 lps, 250 shts)
L7611 63.5x46.6mm (18 lps, 100 shts)
L7162 99.1x34mm (16 lps, 100 shts)
L7162M 99.1x38.1mm (14 lps, 100 shts)
L7163 99.1x38.1mm (14 lps, 100 shts)
L7163M 99.1x38.1mm (14 lps, 40 shts)
L7163S 99.1x38.1mm (14 lps, 25 shts)
L7164 63.5x72mm (12 lps, 100 shts)
L7165 99.1x67.7mm (8 lps, 100 shts)
L7165M 99.1x67.7mm (8 lps, 40 shts)
L7165E 99.1x67.7mm (8 lps, 250 shts)
L7612 99.1x38.1mm (14 lps, 100 shts)
L7167 199.6x289.1mm (1 lps, 100 shts)
L7168 199.6x143.5mm (2 lps, 100 shts)
L7169 139x99.1mm (4 lps, 100 shts)
L7173 99.06x57mm (10 lps, 100 shts)
L7263 99.1x38.1mm (14 lps, 25 shts)
L7363 9

CABLES & ADAPTORS

Mains Lead 3 Pin Moulded 5 amp	£3.70	£4.35
Mains Lead Extension M-F	£3.70	£4.35
4 Gang Extension	£6.50	£7.64
Parallel Printer Cable 1.8M	£2.55	£3.00
Parallel Printer Cable 3M	£4.55	£5.35
Parallel Printer Cable 5M	£6.50	£7.64
Bi-Directional Parallel Printer Cable	£11.00	£12.93
Centronics - Centronics Cable 2M	£4.28	£5.03
Centronics - Centronics Cable 3M	£6.50	£7.64
Serial Cable 2M 25 Pin M-F	£4.28	£5.03
Serial Cable 5M 25 Pin M-F	£6.50	£7.64
Laplink Cable 1.5M 25A/F-25B/F	£8.50	£9.99
Midi Leads (Pair)	£8.00	£9.99
Phono Leads (Pair)	£3.50	£4.11
Phone to Stereo Jack Converter	£3.00	£3.53
VGA/SVGA Monitor Extension Cable 2M	£6.50	£7.64
Keyboard Extension Cable 2M	£6.50	£7.64
Keyboard Extension Cable 2M PS2	£6.50	£7.64
Mouse Extension Cable 2M	£6.50	£7.64
Joystick Extension Cable 2M PC	£6.50	£7.64
Joystick Splitter	£6.50	£7.64
A3010/3020/4000/5000 - Scart Lead 1.5M	£15.00	£17.50
A3010/3020/4000/5000 - CM8833 MKI	£15.00	£17.50
A3010/3020/4000/5000 - CM8833 MKII	£15.00	£17.50
A3010/3020/4000/5000 - AKF17 & AKF30	£15.00	£17.50
SCSI 25 Pin D - Centronics	£15.00	£17.50
SCSI 50 Way IDC Ribbon Cable 1M	£15.00	£17.50
SCSI Centronics to Centronics 1M	£15.00	£17.50
IDE 40 Way Cable 15' for 2 Hard Drives	£15.00	£17.50
IDE 40 Way Sub Miniature Cable Short	£15.00	£17.50
IDE 40 Way Sub Miniature Cable Short	£15.00	£17.50
Panasonic CD Ribbon Cable 40 Way	£15.00	£17.50
Panasonic CD Audio Cable	£15.00	£17.50
Sony CD Ribbon Cable 34 Way	£15.00	£17.50
Sony CD Audio Cable	£15.00	£17.50
Mitsumi CD Ribbon Cable 40 Way	£15.00	£17.50
Mitsumi CD Audio Cable	£15.00	£17.50
2xFloppy Disk Drive Ribbon Cable	£15.00	£17.50
Power Cable Splitter 5.25" or HD/CD 2-1	£15.00	£17.50
Power Cable Splitter 3.5" 2-1	£15.00	£17.50
PS2 Keyboard Adaptor	£15.00	£17.50
PS2 to 5 Pin Keyboard Adaptor	£15.00	£17.50
PS2 Mouse Adaptor	£15.00	£17.50
Dongle Dangle 6cm	£15.00	£17.50

For other cables not listed or specialist cables, please call with specification and we'll make it for you.

Computer or Printer Power Lead	£3.70	£4.35
Computer to Monitor Power Lead	£3.70	£4.35
1 Mains Socket converted to 4, Fused	£6.50	£7.64
Normal Printer Cable PC/Acorn/Atari etc	£2.55	£3.00
Normal Printer Cable PC/Acorn/Atari etc	£4.55	£5.35
Normal Printer Cable PC/Acorn/Atari etc	£6.50	£7.64
Fast Data Transfer Cable	£11.00	£12.93
Switch Box Cable	£4.28	£5.03
Switch Box Cable	£6.50	£7.64
All Pins Connected/Printer Cable	£4.28	£5.03
All Pins Connected/Printer Cable	£6.50	£7.64
Data Transfer Cable Null Modem (X-Over)	£8.50	£9.99
Music Data Transfer Cables 5 Pin Din	£8.00	£9.99
2xPhono Transfer/Extension Cable	£3.50	£4.11
3.5mm Stereo Jack to 2xPhono Plugs	£3.00	£3.53
15 Pin HD M-F	£6.50	£7.64
Curly 5 Pin Din M-F Standard PC Keyboard	£6.50	£7.64
Curly PS2/Risc PC M-F Keyboard Ext	£6.50	£7.64
9 Pin D Type M-F Extender Cable	£6.50	£7.64
15 Pin D Type M-F Extender Cable	£6.50	£7.64
15 Pin HD D Type to Eurocard (Not Sony)	£8.50	£9.99
15 Pin HD D Type - 9 Pin	£8.50	£9.99
15 Pin HD D Type - 9 Pin & Phono Leads	£8.50	£9.99
15 Pin HD D Type - 9 Pin	£8.50	£9.99
SCSI Interface to External Box/CD or HD	£12.00	£14.10
Internal SCSI Cable (Can be Custom made)	£12.00	£14.10
External Daisy Chaining/Switch Box Cable	£12.00	£14.10
Internal for 2x3.5" IDE Hard Drives or CD's	£12.00	£14.10
Internal Cable for 2.5" IDE Hard Drive 6cm	£12.00	£14.10
As above but only 4cm long (A1200, etc)	£12.00	£14.10
Internal Cable for CD ROM to Interface	£12.00	£14.10
CD to Soundcard/Interface for Audio CD's	£12.00	£14.10
Internal Cable for CD ROM to Interface	£12.00	£14.10
CD to Soundcard/Interface for Audio CD's	£12.00	£14.10
Internal Floppy Disk Drive Cable 3.5/5.25"	£12.00	£14.10
Splitter to add an Extra 4 Pin Power Lead	£12.00	£14.10
As above but for 3.5" Floppy Disk Drives	£12.00	£14.10
Converts Std 5 Pin Din Keyboard to PS2	£12.00	£14.10
Converts PS2 Keyboard to Std 5 Pin Din	£12.00	£14.10
Converts Serial 9 Pin Mouse to PS2	£12.00	£14.10
For use on Restricted Access Computers	£12.00	£14.10

Education Specialists

Our PC's are built to very high and exacting standards to take advantage of today's Multi Media applications.

KCS are offering any school or teacher that wants to upgrade from an old Acorn computer to a new Multi Media PC, the chance to do so at unbelievably low prices. We can take one Acorn or an entire network of them in Part Exchange. As budgets get smaller and resources, tighter. The Multi Media PC's offer an excellent way of utilising your IT budget to maximum effect.

All PC's for schools now come supplied with Inguard Protect, which is a program that makes Windows a captive system. This means that the transition from Acorn to PC is as painless as possible. Inguard Protect will stop any unauthorised access to the computer and ensure that the PC gives years of trouble free performance.

We are able to offer finance for single machines and leasing for several machines, we even incorporate the network installation costs into the lease if you require.

KCS, with a wealth of experience in school networks and Multi Media machines are now best placed to serve your needs, please call or fax your requirements and we'll show you how we can be extremely competitive yet show excellent support when you need it most, in I.T.

Schools & Networking Section

NEW

School Network SERVER

KCS have developed the KCS NetServer system for entire school network management.

The NetServer utilises the advanced Networking and security features of Microsoft Windows NT environment and the recently launched Arcshare, Acorn to PC networking software.

The NetServer will allow Acorn computers to talk to PC computers and Macintosh at the same time on the same network. Files and printers can be shared no matter where they are on the network. The high performance nature of the two models of NetServer are ideal for illustrating in establishments that require a high level of usability and integrity.

NetServer 1000

100MHz Processor, 24Mb RAM, 1Gb IDE Hard Drive, Quad Speed CD ROM, Windows NT 3.5x, 1.44Mb Floppy, PCI Graphics Card, MPR2 Colour Monitor, 100Mb PCI Network Card.

Free Installation £2750.00

NetServer 2000

100MHz Processor, 32Mb RAM, 2Gb SCSI Hard Drive, Quad Speed CD ROM, Windows NT 3.5x, 1.44Mb Floppy, PCI Graphics Card, MPR2 Colour Monitor, 100Mb PCI Network Card 2Gb DAT Backup Unit.

Free Installation £4250.00

Using the NetServer at the heart of a network enables easy network management in one machine with access to Macs, Acorns, PC's, and even Unix systems. The real beauty about this system is that the "Client" machines don't notice anything different about the network, as Arcshare and Windows NT effortlessly blend together to give full control and file manipulation.

An add on for the NetServer 2000 is the CD Tower system which comprises of 10 Quad Speed CD ROM Drives. These can each be used simultaneously over the entire network.



MULTI - MEDIA KITS

Twin Speed IDE CD ROM	£50.00	£58.00
Twin Speed External CD ROM	£175.00	£205.00
Quad Speed IDE CD ROM	£110.00	£129.25
Twin Speed SCSI CD ROM	£110.00	£129.25
Quad Speed SCSI CD ROM	£160.00	£188.00
External CD Box & PSU	£65.00	£76.38

ACORN UPGRADES

4-8 MB Up. (310,440,400/1)	£248.00	£292.57
4-8 MB Up. (A3000/5000)	£248.00	£292.57
Arm 3 (A3000/400) & FPA Socket	£114.00	£133.95
Arm 3 As above with FPA	£179.00	£210.32
FPA Upgrade for A5000/540	£79.00	£92.82
A3010 1-2 MB Upgrade	£45.00	£52.87
A3010 2-4 MB Upgrade	£89.00	£104.57
A3010 4-8 MB Upgrade	£132.00	£155.10
A3000/20 2-4 MB Upgrade	£63.00	£75.52
A5000 2-4 MB Upgrade	£79.00	£92.82
A3000 1-2 MB Upgrade	£52.00	£61.10
A3000 1-4 MB Upgrade	£114.00	£133.95
A3000 Serial Port Upgrade	£19.00	£22.32
A310 4MB Upgrade	£137.00	£160.97
Risc OS Carrier Board (A310)	£22.00	£25.85
MEMC 1A Upgrade Kit	£29.00	£34.07
A4000 1Mb Upgrade per meg	£75.00	£88.12
Risc OS 3.1 Up. Rom & Books	£79.00	£92.82
Medi Expansion Card	£79.00	£92.82
CD ROM Drives SCSI	£175.00	£205.62
CD ROM Drives IDE	£175.00	£205.62
Scanlight Junior Handheld	£55.00	£64.62
Vidi Archimedes	£55.00	£64.62
Hard Drives (Int) A3010/3020	£69.00	£81.07
A3010 HD Interface	£79.00	£92.82
A3010 HD Int Face & User Port	£85.00	£99.88
85Mb Hard Drive 2.5" IDE	£85.00	£99.88
120Mb Hard Drive 2.5" IDE	£100.00	£117.50
170Mb Hard Drive 2.5" IDE	£100.00	£117.50
210Mb Hard Drive 2.5" IDE	£130.00	£152.75
340Mb Hard Drive 2.5" IDE	£160.00	£188.00
Hard Drives (Int) A4000/5000	£105.00	£123.38
420Mb Hard Drive 3.5" IDE	£125.00	£146.88
560Mb Hard Drive 3.5" IDE	£175.00	£205.62
520Mb Hard Drive 3.5" SCSI	£245.00	£287.88
1Gb Hard Drive 3.5" SCSI	£245.00	£287.88
Hard Drives (ext) A3000	£300.00	£350.00
A3000 Reg Interface & Case	£59.00	£69.07
A3000 IDE Interface Module	£55.00	£64.62
A3000 Hard Drive Case	£55.00	£64.62
210Mb Hard Drive 3.5" IDE	£85.00	£99.88
420Mb Hard Drive 3.5" IDE	£105.00	£123.38
560Mb Hard Drive 3.5" IDE	£125.00	£146.88
Acorn Original Mouse	£25.00	£29.38
KCS Replacement Mouse	£12.00	£14.10

MONITORS

14" SVGA Monochrome	£79.00	£92.83
14" SVGA 0.9 Colour	£150.00	£176.25
14" SVGA 0.28 MPR2 Colour	£165.00	£193.88
15" SVGA 0.28 MPR2 Colour	£250.00	£293.75
17" SVGA 0.28 MPR2 Colour	£490.00	£576.75
20" SVGA 0.31 MPR2 Colour	£735.00	£863.63
Acorn AKF53 Med Res Colour	£235.00	£276.13
Acorn AKF60 Hi Res Colour	£295.00	£346.63
Acorn AKF85 As Above, 17"	£690.00	£810.75

CD ACCESSORIES

CD Caddy Holder	£5.00	£5.88
CD Disk Cleaner	£2.99	£3.50
CD Tray Flipper Holds 20	£2.55	£3.00
Empty CD Jewel Case	£0.50	£0.59
CD Protector Rings (Pack of 5)	£1.50	£1.76

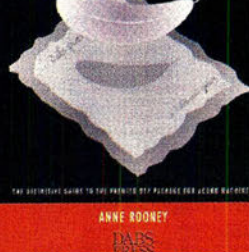
ACORN Software

10 out of 10 Software All Titles	£16.90	£19.86
1st Word Plus	£17.50	£20.56
Acc Comm2	£35.00	£41.13
Artworks CD Ver	£130.00	£152.75
Avery Label Templates	£5.00	£5.88
Black Angel	£22.99	£27.00
Borders for Impression 1	£8.51	£10.00
Borders for Impression 2	£8.51	£10.00
Canon Fodder	£18.48	£21.71
Crystal Maze	£24.00	£28.20
The Crystal Rain Forest	£35.50	£41.71
Dataword	£11.91	£13.99
Dune II	£28.50	£33.49
Eastword v2	£25.00	£29.38
Easyfont 3	£25.00	£29.38
Euclid 2	£25.00	£29.38
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Labeller	£7.00	£8.23
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Micro English	£18.00	£21.15
Micro French	£18.00	£21.15
Micro German	£18.00	£21.15
Pendown Ettoles	£41.70	£48.99
Pendown Plus	£58.00	£68.99
Pinpoint	£45.00	£52.88
Pinpoint 2	£65.00	£76.38
Pipedream 4	£90.00	£105.00
Quest for Gold	£12.00	£14.10
Simon the Sorcerer	£28.00	£32.90
Tech Writer 2	£125.00	£146.88
Tower of Babel Comp.	£21.28	£25.00
Wolfenstein 3D	£22.00	£25.85
Words	£65.00	£76.38
Worra Cad	£18.00	£21.15
Xenon 2	£14.00	£16.45
Zool (1.44MB HD Only)	£14.00	£16.45

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Want your own EMAIL address?

We'll show you how, and provide all the information and software you need, be it for the Acorn or the PC. Call now and speak to our technical staff who will be happy to advise on the best type of modem, who provides the services and who is the best priced on the market.

Arcshare

Arcshare is an Acorn to PC networking packages which makes the PC behave as if it was an Acorn Access system. This allows fast easy transfers of data from or to either machine via a simple to control interface on the PC. The Acorn on the other hand needs no special software other than Access. The Acorn is then able to see all the files on the PC just like any other networked drive, what's more, all the files stored on the PC have the correct file type, so they can be loaded and used straight away.

Available Now, no special hardware required. Arcshare Server 1.4 £99 & Vat



Version 2 now available. Includes Printing Facility. ArcShare

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Premier Matt Coated Inkjet Paper for Colour Printing A4 200 sheets	£14.00	£16.45
Premier Matt Coated Inkjet Paper for Colour Printing A4 50 sheets	£5.00	£5.88
Hewlett Packard Glossy Paper 51636J A4 50 sheets	£41.00	£48.18
Premier Gloss Coated Inkjet Paper for High Quality Colour Printing A4 50 sheets	£35.00	£41.13
Premier Gloss Coated Inkjet Paper for High Quality Colour Printing A4 20 sheets	£16.00	£18.80
Canon LC-101 Coated Inkjet Paper for Colour Printing A4 200 sheets	£18.00	£21.15
Canon LC-101 Coated Inkjet Paper for Colour Printing A3 100 sheets	£41.00	£48.18
Epson Coated Inkjet 720 DPI For High Quality Colour Printing (Stylus) A4 200 sheets	£19.00	£22.32
Epson Coated Inkjet 360 DPI For Colour Printing on Stylus Colour A4 200 sheets	£17.00	£19.98
Premier Inkjet Transparencies for Overhead Projectors A4 20 sheets	£30.00	£35.25
Premier Inkjet Transparencies for Overhead Projectors A4 50 sheets	£15.00	£17.63
Hewlett Packard Inkjet Transparencies for Overhead Projectors 51636G A4 50 sheets	£40.00	£47.00
Avery Inkjet Transparencies for Overhead Projectors A4 50 sheets	£34.00	£39.95
3M Laser Transparencies for Overhead Projectors A4 50 sheets	£25.00	£29.38
Premier Laser Transparencies for Overhead Projectors A4 50 sheets	£25.00	£29.38
Premier Laser Transparencies for Overhead Projectors A4 20 sheets	£12.50	£14.69

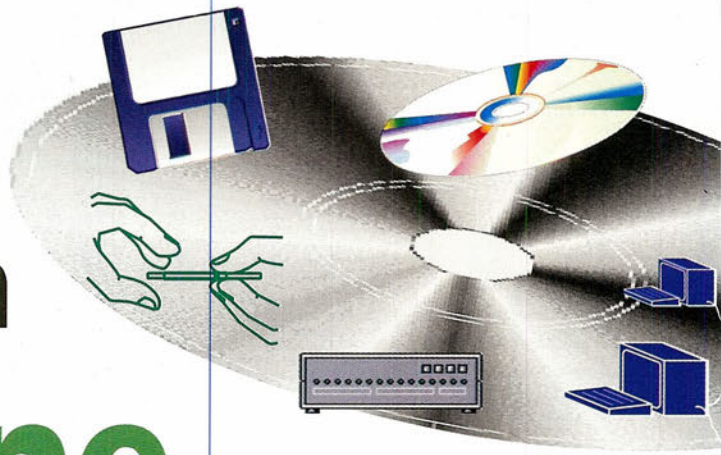
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office data

Copy Holders	Ex Vat	Inc Vat
Paperclip - Monitor Arm	£4.26	£5.00
Copytravel - Portable	£4.26	£5.00
Copyplus Desktop	£7.50	£8.81
Copyplus Solid Base	£12.00	£14.10
Copyplus Flexible Ac	£12.72	£14.95
Copyplus A3 Extension Kit	£7.00	£8.23

Various Accessories	Ex Vat	Inc Vat
Ergo Mouse Pad - Hard Mat	£4.26	£5.00
Ergo Mouse Tray & Wrist Rest	£6.00	£7.05
Mouse/Scanner Holder	£2.50	£2.94
Novelty Cat Mouse Holder Red	£2.50	£2.94
Novelty Cat Mouse Holder Black	£2.50	£2.94
Novelty Cat Mouse Holder Grey	£4.00	£4.70

Starting out on the scene



The Public Domain is an unofficial 'system' of distributing free or low-priced software. A lot of software available for the Archimedes is fully commercial, meaning that it cannot be copied or distributed, except by the company that owns the copyright. This company will sell it for a profit. However, programs in the Public Domain are completely different.

Ordinary users often write their own – anything from utilities to full blown applications. In many cases it wouldn't really be viable to sell the software commercially. Perhaps it is a small utility; it may be very handy, but you couldn't really sell it. In this case, the solution is to distribute it in the Public Domain. The author may not make any money from it, but thousands of other users will be able to take advantage of it.

Many people, like myself, produce software specifically to release into the Public Domain. I believe most commercial products are vastly overpriced, and PD software is one way to combat this.

There are many types of software that can come under the general term of 'Public Domain' – these include Shareware, where the user is expected to make a small

Paul Wheatley has advice for readers new to Public Domain software.

monetary contribution to the author. A brief description of some of these types is given below:

PD software

Public Domain is a general term for the 'free software scene' but it can also be used to describe a specific type of software. To avoid confusion I'll use the term PD (rather than Public Domain) to describe this type.

PD software, like Freeware, is freely distributable by everyone. It can be copied by ordinary users, put on ftp sites on the net and distributed by PD libraries. Unlike Freeware, the author does not retain copyright of the programs, which may be modified by the user.

Many people wrongly state that their software is PD, and then go on to say that they retain copyright. Always check the accompanying documentation with these programs (usually the *!Help* file inside the application) and follow the terms laid down.

Freeware

Freeware is very similar to PD, in that it can be distributed freely. However, the program's author retains copyright. This means it may not be changed or individual parts distributed separately without the author's consent, nor may anyone sell it commercially without permission. As with PD, always check a program's documentation to make sure you are complying with the author's wishes.

Shareware

Shareware is a compromise between the freedom of distribution of Freeware, and the money making alternative of commercial software. The conditions of distribution often vary between programs but, in general, it works like this:

Shareware can be distributed freely as for other PD software, but the conditions of use are different. You usually have a

trial period of maybe 30 days, in which to experiment with the software and see if you want to use it on a regular basis. If you like it and want to continue using it, you have to register with the author. This usually involves sending him a small fee.

Shareware is often met with indifference by the average user. Many people simply do not register. Technically, this is against the law and has a dramatic effect on the authors. Anyone producing Shareware who receives very little in the way of registrations is likely to make their next program commercial, most likely selling for 10 times the Shareware price.

My own belief is that Shareware can succeed in opposition to expensive commercial programs, but it's down to the commitment of the individual user to make it work.

Many authors have gone for the cut-down demo strategy. This usually involves disabling the save facility, or stopping the program from functioning after a certain date. You can still try it out, but this 'demo' version isn't really usable. After registering, a fully working version is provided by the author.

Technically this isn't really Shareware, and many enthusiasts will probably throw up their arms at my next comment, but I think this form of 'Disableware' may be a better alternative.

That said, the two Shareware packages we ran on the cover disc recently – *CLICBack* and *MacroLife* – both attracted a lot of registrations, so perhaps there is hope. I'd like to hear your ideas on the Shareware issue, so please send your views to me at the usual PD page address.

Further beginners' information can be found in the PD section of the *Acorn User World Wide Web* pages. **AU**

Recommended PD Libraries

The Datafile

71 Anson Road, Locking, Weston-Super-Mare, BS24 7DQ

Naked PD

'Fayence', Fulford Road, Stoke-On-Trent, Staffs, ST11 9QT

APDL

39 Knighton Park Road, Sydenham, London, SE26 5RN

Arch Angel PD

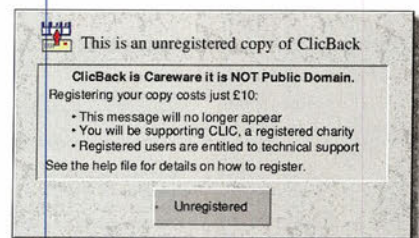
PO Box 41, Exeter, EX4 3EN

ARM Club PD Library

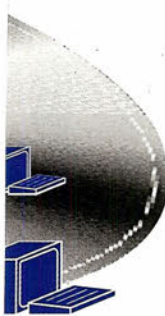
Freeport ND6573, London, N12 0BR

Beebware PD

83 Forrest Road, Huncote, Leicester, LE9 3BH



Shareware packages often encourage you to register when you run them.



There are plenty of ways that you can participate in the PD scene, and put something back into it, as Paul Wheatley explains.

The Public Domain has an awful lot on offer to the ordinary user. There's a massive range of programs available for free on the Internet as well as an even better selection held by PD libraries. Anyone can take advantage of this glut of free software, but there's a lot more to the world of PD than that. In this article I'm going to talk about the other side PD: putting something back into the scene.

As PD editor of *Acorn User*, I want to encourage as many people as possible to get involved with PD software. However, my regular column in the magazine is usually devoted to reviews and descriptions of how to get hold of PD software. The real situation with this kind of scene is that at least some people have to put something into this pool of free software, for anyone to get anything back.

Getting involved

There are many ways to play an active part in the PD scene. The simplest is to build up some contacts with other users and swap the software you have. Many PD libraries have swap schemes, offering new software in exchange for programs that you pass on to them. Uploading programs to the Internet or reinstating a reasonable upload ratio on your favourite BBS is also a good start.

The real way to get into the scene however is to produce your own software. Most people think that this means you have to be some sort of amazing programmer who can patch RISC OS and implement vector interrupt routines in machine code with ease. Not true; in my experience, practically everyone with an Acorn machine has customised it in some way, whether it is by programming, or just by re-designing some icons for the Desktop. Any of these things can be placed in the Public Domain.

Starting off with some sort of release into the scene is very important. After you send something off to a PD library, it's not long before you get in touch with other PD authors and users. The realisation that people are actually out there using your own software is a great feeling. As a PD author myself, I find it very addictive.

The team

Although producing large-scale PD releases usually does involve some programming, many people make the mistake of tackling a project on their own. Programmers often tend to write a really good program and then patch some naff-looking

The *Blu* demo from The XPerience team shows what teamwork can do.

Public Domain round-up

The real deal

FEATURE

graphics and design together to go with it. At the same time many artists with no coding knowledge never succeed in implementing any of their ideas.

The solution is to produce programs as a team. If you look at the very best software (whether commercial or PD) it's usually produced by more than one person, which speaks very much for itself.

I've been writing PD for several years now, but right from the start, I've always worked as a team with other people. My programming group Quantum started off as three friends from the same area who had an interest in computers. We've now built the team up to around 20 members who are working on various projects, from music software and utilities to games and demos.

With a number of people having various specialities in graphics, programming and music, the ease of producing software (never mind the increase in quality) is a major incentive to form a group.

Getting together

If I've managed to convince you that forming a group is a good idea, you're probably wondering how to go about it. The easiest and most direct route is simply to contact some existing PD authors. Most people who have gone to the bother of writing PD software will more than likely be interested in chatting to fellow users and PD authors.

My own group has been formed by a combination of people seeing our software and then writing to me and asking to join the group, or simply by writing to authors of other programs.

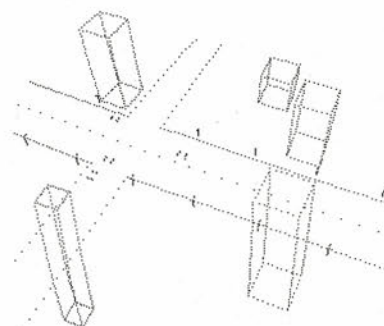
An excellent example is the software produced by Tom Cooper. *Cycloids* and *Wavelength* feature the graphics and music of two of the founding members of my group. This came about after we first saw Tom's first PD game, *Gyrinus*, and decided that we'd like Tom to be a member.

The Net

If you have a modem, one of the best ways to get in touch with other PD writers is to use the newsgroups and chat areas available on the Acorn BBSs and Internet sites. As featured in the comms column recently, the Digital Databank offers an excellent array of helplines and skillbases designed to get authors together.

The Public Domain has everything going for it really. It's a superb place to start out and produce your own programs, while offering thousands of software packages to users for free. Get out there and take part!

AU



My own group produced the *Liquid Dreams* demo above.



Essential P.D.

Mike Enderby looks at three tried and tested Public Domain programs that no Acorn computer should be without.

The Public Domain page normally reviews software that has only recently been released, but a large amount of excellent software has been available for some time and many newcomers to the PD scene may not be aware of it.

To try and remedy this, I shall review three of the best packages that are no longer new but are worthy of finding a permanent place in your collection. All these applications were written some time ago, but new and updated versions have been released by the authors as new features are added and errors removed.

Zap

Zap can be described as a text editor, but every RISC OS computer comes supplied with *Edit*, so why should you get another one?

The reason is that *Zap*, besides being much faster, also comes with a large number of extra features. These range from an undo buffer for putting things back to how they were before you altered them to a whole host of special modes.

Although it may seem a bit harder to use at first in comparison with *Edit*, it is well worth persisting with.

Over 18 different modes are available which are set up to assist with the editing of different types of files, ranging from simple text files to languages such as BASIC, Pascal and C. If a file is dropped onto the *Zap* icon it will attempt to select the correct mode.

An example is a text file which is C source code; this will be loaded into the C mode, formatted and the text coloured to identify items like keywords, numbers and text (since C source code files have the &FFF text file type, *Zap* identifies them because they are stored in a directory called *c - cunning*). When writing C code

it is possible to compile and run the code, examine a list of functions and use throw-back when errors are found.

Other features of *Zap* are the ability to use bitmap versions of the system font for a more attractive display and to grab areas of memory or a disc for editing.

Fsck

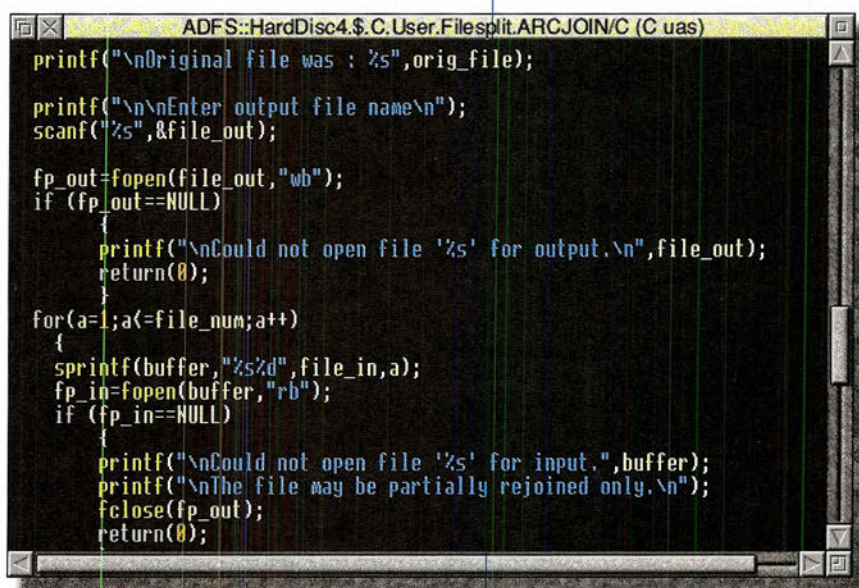
This is rather unusual in that it is one of the programs you should have but hope you don't need to use. It's a set of three utilities which can be used to fix problems with both floppy and hard discs. You should remember to keep it on a floppy

make the disc unusable. *Fsck* is easy to use and comes with instructions for both relative beginners and the more experienced.

BlackHole 2

It is all too easy accidentally to delete a file which you did not mean to and RISC OS does not allow you to undelete files. Using *BlackHole* will minimise the effects of such mistakes. Among the many features it offers is the ability to intercept files which are being deleted and to copy them to a waste bin.

Files in the bin can be restored if



```
ADFS::HardDisc4.$C.User.Filesplit.ARCJOIN/C (C uas)
printf("\nOriginal file was : %s",orig_file);

printf("\n\nEnter output file name\n");
scanf("%s",&file_out);

fp_out=fopen(file_out,"wb");
if (fp_out==NULL)
{
    printf("\nCould not open file '%s' for output.\n",file_out);
    return(0);
}

for(a=1;a<=file_num;a++)
{
    sprintf(buffer,"%s%d",file_in,a);
    fp_in=fopen(buffer,"rb");
    if (fp_in==NULL)
    {
        printf("\nCould not open file '%s' for input.",buffer);
        printf("\nThe file may be partially rejoined only.\n");
        fclose(fp_out);
        return(0);
    }
}
```

Zap's colour-coding makes programming much easier.

disc so that if you are unlucky enough to corrupt your hard disc you can still run it from floppy.

Fsck will scan a disc, seeing what the disc map says it contains, and compare this with what is actually there. Hopefully this will reveal that nothing is wrong but if errors are found, these can be fixed by *fsck* which can normally also recover the affected files. *Eliminate* can be used to delete broken directories which are otherwise not deleteable by RISC OS with the contents being recovered by running *fsck*. *Hardfix* will try to fix any problems with the boot block, maps or root directory which normally

required or after a configurable time period automatically deleted. This process works quite well although the contents of the bin do need to be watched as it is quite easy to end up with several Mb of files stored.

There is a file finder which will search according to file type, file size and even files which sound like the filename specified. Lists of the modules left behind by programs can be entered and easily deleted which is very useful for machines with under 4Mb as this memory is otherwise wasted. *BlackHole* also includes several screen savers and an icon bar clock.

Availability

Zap, *fsck* and *BlackHole 2* are available from Digital Databank and Northern Arm BBSs and also from the Stuttgart and Hensa ftp servers, as well as from good PD libraries. *Zap* and *BlackHole 2* are Freeware, *fsck* is Shareware with registration costing £5 or equivalent.

A3000 upgrades

Memory

1-4Mb	£109
1-2Mb	£39
(See also the "2nd user" section)	
1-2Mb (upgradable to 4Mb)	£54
2-4Mb upgrade pack	£72
4-8Mb	£224

The above upgrades are all constructed on four-layer boards, as recommended by Acorn. Gold plated connectors are used for reliable contact with the A3000 main board. There are no clips or wires, and no soldering is required. Some older types of 2Mb board cannot be upgraded to 4Mb, but we offer a trade-in allowance. Please phone for details.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. Also suitable for the A3010.

80Mb	£149
120Mb	£185
170Mb	£205
240Mb	£230

RISC OS 3	£39
ARM3 (25MHz)	£129
(Dealer fitting recommended for the ARM3)	

A3010 2-4Mb RAM upgrade Introductory price £79

RISC PC 8Mb SIMM £185

A5000

Memory

2-4Mb	£74
4-8Mb	£234
Dealer fitting for the 8Mb upgrade is recommended for the 25MHz A5000.	

A3020/A4000

Memory

2-4Mb	£74
Hard drives	
80Mb	£89
120Mb	£125

A400/1

Memory

Per Mb (up to 4Mb)	£38
4-8Mb	£224
RISC OS 3	£39
ARM3 (25MHz)	£129

Hard drives. For prices, refer to the A310 section.

Various

SCSI card	£79
Alsystems SCSI 2	£170
ARM3	£129
RISC OS 3	£39
MEMC1a	£39
MEMC1a (2nd User)	£20
Hard disc cradle	£6
Fan filters (pack of 5)	£3
RISC OS manuals, no vat	£22
Dongle dangle	£6
Chip extractor tool	£4
(for eg MEMC, ARM2)	
CDFS upgrade for Oak SCSI card	£25
The following item is reduced to clear. Please phone to check availability.	
Wordworks	£23

How to order: Please add VAT (17.5%) to all prices. Cheques made payable to IFEL. Most Credit cards accepted, and Switch. Official orders welcome.

Educational and quantity discount available.
Dealer enquiries welcome.

IFEL

34 Culver Road, Saltash, Cornwall PL12 4DR. Tel (01752) 847286. Fax (01752) 840029

A3010 upgrades

Memory

1-4Mb	£115
1-2Mb	£38
2-4Mb	£79

The 2-4Mb upgrade is constructed on a compact four-layer board. No soldering is required.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. For prices, refer to the A3000 section.

A310 upgrades

Memory

1-2Mb	£89
1-4Mb	£119

All our A310 memory upgrades are constructed using four-layer circuit boards. There is no other 300 series RAM upgrade which has been available for as long as this one, and which has the same reputation for quality and reliability. A fitting service is available.

4-8Mb	£224
-------	------

Hard drives

A range of internal hard disc upgrades is available. Prices below are for complete systems, including metalwork, controller card and cables as appropriate. No specialist knowledge is required either for installation or use. A backplane is normally required in order to fit a hard drive.

IDE

425Mb	£165
540Mb	£195
Larger sizes	£Call

SCSI

540Mb	£215
1Gb	£284

Backplane (4-slot, four-layer)

Fan for above	£49
RISC OS 3	£8
RISC OS carrier board	£39
ARM3 25MHz	£17
MEMC1a	£129
	£39

RISC PC

Extra RAM (SIMM)

4Mb	£95
8Mb	£185
16Mb	£323
32Mb	£Call
SIMMs taken in part exchange (4Mb or larger).	
2Mb VRAM	£139

RiscPC600

4M, HD425 AKF60	£1148
4M, HD425 AKF85	£1426

RiscPC700

5M, HD425 AKF60	£1360
5M, HD425 AKF85	£1635
10M, HD850 AKF60	£1692
10M, HD850 AKF85	£1970
486PC card	£99
(when ordered with RISC PC)	

2nd User

Please phone to check availability.

A3000 1-2Mb	£27
A3000 RAM board	£5
(ie bare board, no chips)	
A5000 2-4Mb	£58
4Mb SIMM (Risc PC)	£85

Spares/Repairs

We carry stocks of most replacement chips for the Acorn range. (MEMC, VIDC, IOC and most memory devices). We can also fit any upgrades and offer a computer repair service.

All products (except some marked "2nd User") are fully guaranteed for 12 months. All items normally carried in stock have a 14-day money-back guarantee. Please note that the cost of memory products varies - please phone for the latest pricing.



The Arc of the Covenant

Explan's HolyBible software has been praised as one of the best resources of its kind on any platform. The Reverend Colin Randall finds out why.

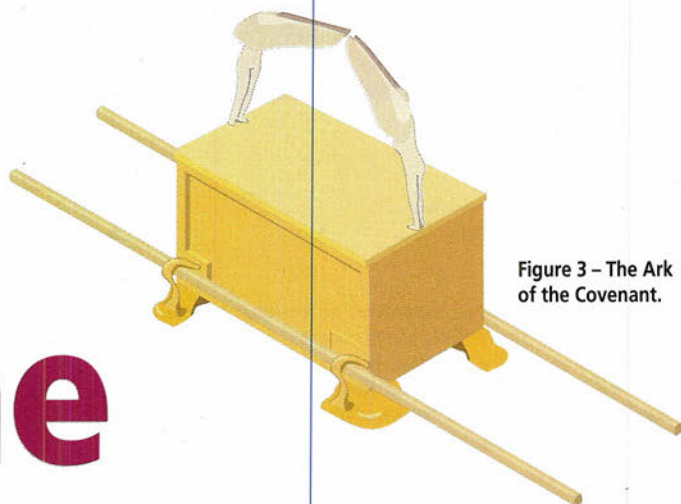


Figure 3 – The Ark of the Covenant.

Acorn computers are excellent for churches because of their excellence for DTP; indeed last year the joint winners of the Anglican Parish Magazine award were both produced on Acorn systems using *Impression*. However in the past Acorn users have had to look somewhat enviously at PC packages of church specific software, such as *Bible study*. Now at last Acorn users have their own Bible software thanks to Explan's *HolyBible*.

The total software project is very large and comprehensive. The aim is to provide software for serious Bible study in the original languages, resources for use in schools, and foreign language versions, Russian and Welsh for instance, all of which can interact together as a real multimedia package. The project is still in its early days, but what is currently available is very good and what is coming out will make this potentially the best Bible software on any platform.

Different versions

The package is modular and the base pack comes with the King James version which, contrary to popular belief, in its English form is not in the Public Domain (unlike in America). Other versions currently available are the New International Version (NIV – anglicised) and New Revised Standard Version (NRSV – American edition). By the time you read this the Good News version should be available (including the

apocrypha), as should Hebrew (Old Testament) and Greek (New Testament and Septuagint). The Revised English Bible will be available later.

The scale of the total project becomes clearer when you learn that foreign language versions of the Bible are being produced. Russian is currently available (complete with Cyrillic font) and a Welsh version should be available soon in the new year.

Text display

The first thing that strikes you is the quality of the text display (figure 1). The fonts are those used in printed Bibles together with the paragraph headings and translator footnotes. This is no mere frill, it makes the text readable, and if you don't like the default setting you can always change it to any size or colour. This is one of the main ways in which this is superior to other Bible software; being easy to read makes it easier to find what you are looking for on the screen with fewer headaches.

Poetry is displayed as poetry, prose is displayed verse-by-verse. The translator's footnotes are a feature of most printed Bibles yet are missing from many software packages.

They are very useful as they often show variant readings. For example, Genesis 1:26 has a different translation in the NIV and NRSV; the translator's footnotes show that the NIV is following the Hebrew text

and the NRSV is following the Syriac.

Multiple windows can be opened from either the same or a different translation. It is possible to 'link' translations so that changing the verse in one translation automatically changes the verse in another – invaluable for study purposes. The info bar shows where you are, and there are a variety of ways of moving through the text: scrolling, by choosing a reference from a menu, or moving by book, chapter or verse.

Text can be exported as paragraphs, which is when you are most likely to want it in that format (for study purposes, when comparing translations, verse-by-verse display is actually preferable). Exporting text is very simple and is in plain text (or with styles if you use *Impression*). The latter will make this product very attractive to *Impression* users wanting to produce Bible Study materials (although please read the licence agreement).

Verse numbering displayed is for the version you are using, but hidden away (although available at the touch of a key) is the Hebrew verse numbering which means that everything links up to an international standard. This is unimportant if you only use English versions, but necessary when you start to use the original languages.

Other resources

As well as Bible texts Explan is producing various other resources. These are in a number of formats: text, images, or even video (though there are no videos available yet). With the base pack you get two maps – one for the Old Testament period (figure 2) and one for the New Testament. These are both in *Draw* format and can be exported.

There is also a drawing of the Ark of the Covenant (figure 3), a photograph of a baptism (in Tavistock), some text commentary, and Strong's dictionary. Apart



Figure 2 – One of the maps that comes with the base pack.

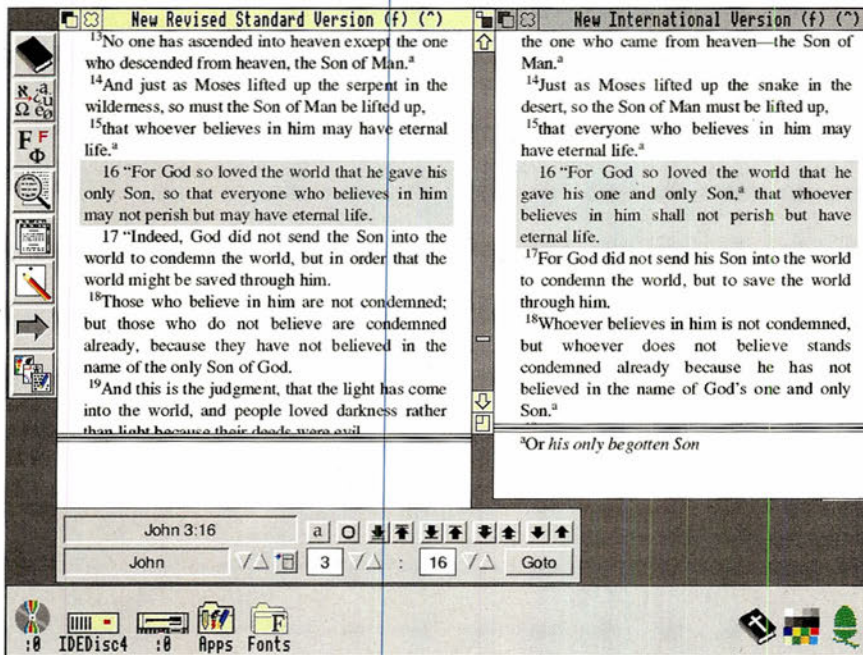


Figure 1 – The verse-by-verse display, here allowing two Bible versions to be compared easily.

from the dictionary all resources can be accessed from the resources button on the tool bar. Resources are 'tagged' to Bible references and so whatever passage you are looking at, the relevant resources are displayed.

The other resource currently available is a set of NRSV Study Notes written by American scholar Howard Kee. These come with the NRSV, but once loaded any resources can be accessed with any Bible version.

With the Good News Bible will come about 70 of the Annie Vollton line drawings (with hopefully more later); more exciting is that there will be an Educational Pack coming with the REB which will include many more maps and illustrations (both drawings and photographs from Israel). Also in the pipeline is a resource builder utility which will

enable you to 'tag' your own resources to the text.

Strong's Dictionary allows people who don't know Greek or Hebrew to find out what does lie behind the English. Almost every word in the King James Version has a number and from that number you can get window showing what the Greek or Hebrew word was, how many times it is used in the Bible, and what the different ways it is translated are. ExpLAN is also planning to add more Dictionaries.

Searches and notes

Searches can be by single word, word combination, or phrase. Wildcards can be used and verse proximity set. Searches are very easy to set up and very clearly displayed, 'OR' options are shown horizontally, 'AND' options are vertical (figure 4). The way this is displayed is again far better than I have seen in any other Bible software package.

Finds can be just counted or displayed as a list which can be saved. All the references are dynamic and double-clicking on them calls up the passage (this is the case with commentary and notes files as well, even your own). You can also search using Strong's numbers. Searches can be entered by dragging a word to the dialogue box, which makes searching with the original languages a lot easier.

One slight niggle is that although the text of a verse is displayed, it is only one line of a verse and not the whole verse (unless the verse is very short), which is a nuisance if you want to print out the list of verses found.

Notes files can be verse lists of your own, or saved from searches. Verse lists

can be re-ordered or sorted into Biblical order. All this is very flexible, but notes files do have to be stored and loaded from another Directory and cannot be accessed from within *HolyBible* itself until they are loaded, which can be a bit of a fiddle.

It's a shame there isn't a way of at least entering a Directory address so that *HolyBible* could find notes by itself. Once the Resource builder is available I think that will be the best way of compiling your own notes.

Conclusion

This is an excellent piece of software and very easy to use (interactive help is supported). In certain respects it surpasses much on the PC platform, and what it currently lacks (more translations and resources) are being worked on – my only regret is their slow appearance; at least it gives time to save up for them.

Nevertheless I still have a wish-list based on what is available with some PC packages: a set of cross-references such as that supplied by *The Treasury of Scripture Knowledge*, the ability to do searches on the resources and to compile my own dictionary, and finally lots more resources (commentaries, dictionaries and so on).

When you bear in mind what ExpLAN has achieved with this software (and software development is only part of what it does) it is to be congratulated on a very valuable product. **AU**

● Rev Colin Randall is an Anglican vicar in Oxfordshire and runs the Christian Acorn User Group, Tel: (01993) 881270.

Product details

Product: HolyBible

Supplier: ExpLAN

Tel: (01822) 613868

Fax: (01822) 610868

Prices:

HolyBible base pack inc. King James version, Strong's – £70

NIV – £25

NRSV and Cambridge Study Notes – £45

Russian Synodal Text and Cyrillic font – £45

Good News Bible inc. Apocrypha and 70

Draw file illustrations – £45

Revised English Bible and maps, photos and line-drawings – £45

Biblia Hebraica Stuttgartensia and Hebrew font – £45

Novum Testamentum Graece (Nestlé Aland 27th) and fonts – £45

Welsh Bible – £25

Multimedia resource builder utility pack – £30

(All prices + VAT)

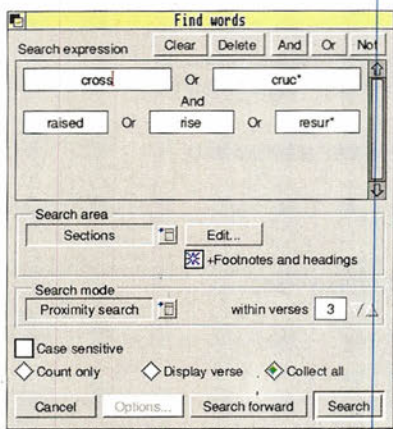


Figure 4 – Searching in *HolyBible*.

It's time to
get *sensitive*
about the way
you *create*
your graphics

.....

Many computer users feel that a graphics tablet is more natural to use than a mouse and without doubt it gives a much faster, smoother and higher resolution response. The mouse remains functional and can be used at the same time as the pen — however the pen has such a natural and precise feel, you will probably prefer it for many operations such as moving windows, drag and drop, region selection etc.

The new (approximately A6) ArtPad tablet offers a superb specification, even by Wacom standards; resolution exceeding 2000 dpi, 200 samples per second and 256 levels of pressure. All Wacom tablets include a cordless pen for added ease of use and flexibility.

The tablets are pressure sensitive, so in combination with suitable applications they can produce realistic effects such as variable width (the Eesox ArtWorks pressure sensitive tool) or variable density airbrush painting (PhotoDesk). The Computer Concept's drivers will be compatible with these and other software that can take advantage of the pressure information, such as Studio 24 and DA Picture.

Computer Concepts can supply the tablets with either Photodesk or the Eesox Pressure Tool at special prices. **PHOTODESK** is a photo retouching package from Spaceteck, which offers a wide range of advanced image manipulation features; for example an airbrush, paintbrush and magic wand, full 24 bit colour support, the use of virtual memory, OLE with Impression, complete undo, effects such as colouring, toning and masking, motion blurring, cloning and smudge and smear.

The package contains the Wacom tablet (A6 ArtPad, A5 or A4) and manual, a cordless pen, Computer Concepts driver software suitable for all models of Acorn RISC computer (A3000 must have serial port upgrade) and PC drivers. Requires 1Mbyte or more.

Price: A6 ArtPad & drivers: £169 + VAT (£198.57 incl.) A5 tablet & drivers: £399 + VAT (£468.82 incl.)
A4 tablet & drivers: £549 + VAT (£645.07 incl.)

ArtWorks Pressure Tool with tablet: add £10 + VAT (£11.75 incl.)

PhotoDesk with tablet: add £125 + VAT (£146.87 incl.)

ArtWorks Pressure Tool: £39 + VAT (£45.82 incl.) PhotoDesk: £169 + VAT (£198.57 incl.)




Computer Concepts Ltd


The diagram shows a network setup. On the left, a desktop computer with a monitor and a tower unit is connected to a server rack on the right. A cable runs from the desktop tower to the server rack. Both the desktop monitor and the server rack's screen display lines of text, representing data being transmitted or stored.

47

New Product



Multi-format ClipArt for Acorn & PC Computers



TopicArtCD

The TopicArt CD-ROM contains over 2000 TopicArt clipart files, each available in Draw, ArtWorks & Corel EPS format. Many of the ArtWorks files are improved versions of the Draw files and the EPS files have been produced from the ArtWorks files. The Draw and Artworks files can be viewed before loading using the !Thumbnail clipart browsing application located in the root dir. The disc also contains some Replay, Render, digitiser files.

£34+VAT (£39.95 Inc)

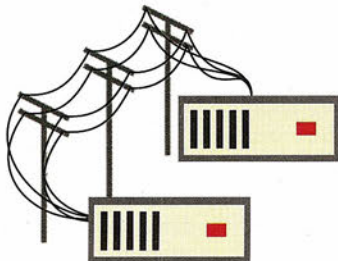
QuickLynk

Software only £28+VAT
Software & Cable £34+VAT

(Please specify which computers you will be using with QuickLynk when ordering)

QuickLynk

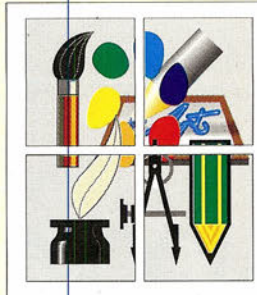
allows you to automatically access another Acorn RiscOS computer remotely using the serial port via modems or locally using a cable to connect the two computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Ring for further details.



QuickTile £25+VAT

(Version 1.02)

Up until now it has only been possible to print posters from Draw & Sprite files. Now with QuickTile you can create posters from any RISCOS application, including



Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. RiscPC compatible. **Requires RISCOS 3.10 or later. Return Disc with SAE for upgrade from earlier version. Upgrade from Tiler for £15+VAT.**

QuickShow £10+VAT

The easy to use slide show presentation and video titling package. Create sequences of frames in

!QuickShow

Video Titling

&

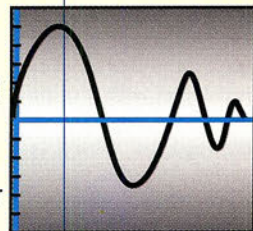
Slide Show Presentation

Has never been easier!

modes 15/21 containing text of any colour with drop shadows, outline shadows and rubout boxes using the RISCOS fonts. Sprites can also be included in frames and positioned and resized as necessary. Several screens can be linked together with the sequencer which allows you to fade each screen out and in with the many fades provided. Completed sequences can be converted into stand alone applications. 2Mb RAM required and a hard disc is recommended.

QuickSnd £10+VAT

Load, play, convert & resave existing Armadeus, Tracker and raw data sound samples. Apply special effects including Reverse, Echo, Max Vol, alter replay rate and



resample frequency. Convert samples into modules for use with the RISCOS sound system etc. Create stand alone Utility modules which when called, via star commands, automatically play and then remove itself completely from memory (this feature is not available on any other sound package). Use Utility sound modules with RISCOS Alarm to play on activation of an alarm. On screen VU meter included.

Ring now for further details

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 SK3 0BT. Tel: 0161-474 0778, Fax: 0161-474 0781

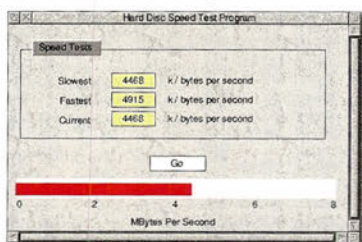


Desktop Projects Ltd

RapIDE interface

Many applications require a great deal of speed to be of use. Thankfully, a Risc PC can offer enough speed for many processor-hungry applications, but that's no good if your hard drive can't keep up with the demands of the processor.

The internal IDE interface of the Risc PC is not what you might call fast, although it's better than the old drives fitted to original A300 and A400. Usually, if you want greater speed, you go for a SCSI interface and drive. This gives the added bonus of upgradability with a



The performance figures from RapIDE 32 and a Quantum Fireball 1Gb drive.

possible eight devices being permitted on the chain, but the costs are higher. Now there's an IDE answer – RapIDE 32.

Using this interface card – which simply plugs into a podule slot – you can connect a further four IDE (ATA-2) hard drives to your Risc PC. One of these can be the drive already in the machine – the interface

should almost double its speed – or you can buy a Quantum Fireball 1Gb drive with the interface.

If you're running RISC OS 3.5 you'll only be able to format the drive to 512Mb because of the size restrictions with FileCore.

If you've got a new machine with RISC OS 3.6 or are running the soft-loadable FileCore modules, you can format the drive to its full 1Gb capacity. Unfortunately, the review model does not support partitioning, but this facility is promised for the future.

Yellowstone claims that with a fast drive such as the Quantum Fireball RapIDE is faster than competitive SCSI-2 systems. This is a bold claim but the test figures certainly do indicate that this system is fast.

The following timings are approximate and are taken without Interactive File Copying a 29Mb directory from the original 420Mb Risc PC drive back onto itself took 95 seconds; doing the same on the Quantum Fireball took 35 seconds, one minute quicker than the original drive in the Risc PC.

Such figures back up the claims of the speed test software supplied with RapIDE. My original drive showed a maximum throughput of 1,694K a second while the Fireball, controlled by RapIDE, showed 4,915K a second; nearly three times faster.

If you want to produce power-hungry video or top-notch graphics where the speed of data transfer is imperative, you will need something a little faster than the standard drive. If you don't need a SCSI system, bearing in mind that many new peripherals support IDE, RapIDE 32 is a good investment.

Andrew Banner

Product details

Company: Yellowstone Educational Solutions

Telephone: (01582) 584828

Fax: (01582) 562255

Price: Card only £145.70 inc VAT

With Quantum Fireball 1.08Gb drive £380.70 inc VAT

Pros: Cheaper than SCSI 2 equivalents

Controls up to four devices

Exceptionally fast for an IDE interface

Cons: Not as flexible as SCSI 2 systems

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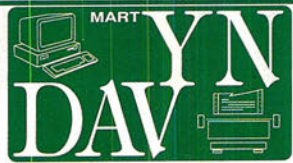
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Logix

Stephen Wade examines a circuit simulator from Silicon Vision.

Logix is a digital circuit simulation tool that allows electronics students to investigate the logical behaviour of circuits. Supplied in a typical Silicon Vision video box, the package comprises a 68-page, A5-size manual and two discs. Contained on these are three RISC OS applications – *Logix*, *Integrate* and *PinOut* – and a large library of components. Each application initially consumes a mere 64K, presenting entry-level, 1Mb floppy disc-based machines with no problems.

The bulk of circuit design and all simulation is performed using *Logix*. Circuits are constructed by selecting components from a device window, affixing them to a design sheet (the main window) and wiring them together. The device window features a subset of the component library, including:

- 2-, 3- and 4-input AND, NAND, OR and NOR gates
 - D-type, JK, SC and toggling flip-flops
 - an inverter
 - a buffer
 - a clock with adjustable pulse
- The range can be enlarged by dragging component files to the window.

Wiring is achieved by clicking close to the output of one component and the input of another respectively – connections cannot be made in the opposite order. The *Logix* routing algorithm is primitive, each wire featuring only one horizontal and one vertical section. Up to 12 nodes can, however, be manually inserted in each connection to

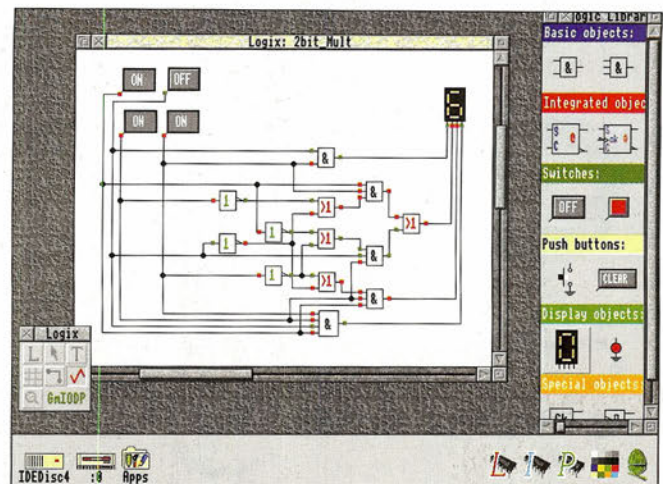
reach a more suitable wiring pattern.

Nodes also act as junctions from which other wires can be spawned. This allows each output line to feed a large number of inputs. Any piece of wire that has another connected to one of its nodes cannot be adjusted to contain a different number of nodes.

During the wiring process, the pointer has a tendency to jump between the inputs or outputs of the constituent components as the pointer is moved. This can prove quite distracting and is unnecessary, since you are still required to click on the desired outputs and inputs to form a connection.

To run tests on a design, the *Logix* simulation mode is engaged. Clicking on devices such as switches or open inputs to components changes the test data set. This in turn causes logic levels to be updated throughout the circuit, reflecting the change in input. Similar changes to the test data are made by automatic devices such as clocks.

Outputs can be observed directly at each component, through a display unit such as



A simple 2-bit multiplier is put to the test.

an LED or using the special oscilloscope feature if probes are positioned in the circuit.

Circuits are saved either as special circuit files which can be reloaded into *Logix*, or in *Draw* file format. As well as permitting circuit diagrams to be included in DTP documents and so forth, the latter provides the only solution to printing from *Logix*.

The two remaining applications are much less sophisticated than *Logix* and used less frequently. *Integrate* lets you seal a finished circuit in a casing, thus creating a stand-alone integrated component which can be added to the library and used in other circuits. Whenever a suitable casing can't be found in the library, *PinOut* lets you build a custom unit.

Through these applications, *Logix* promotes modular circuit designs in which the upper levels contain only a few integrated components and input/output devices. This could be usefully exploited in the classroom by assigning several teams of pupils to design component modules for a large, sophisticated circuit.

The functionality of the software is generally well described in the manual, but there is a noticeable lack of tutorial material. Thankfully, the package redeems itself through effective use of the interactive *Help* system – something which

is too often forgotten by software developers.

Because the software is concerned with logical and not physical circuit characteristics, it can't be used to simulate circuits which contain capacitors, inductors, multiple power supplies and so forth. This is not necessarily a shortcoming, but does somewhat limit the potential of the software.

Logix is a good package with enough features to satisfy most students of digital electronics. Though certain attributes could be improved – the wiring scheme in particular – it produces clear, accurate simulations from which design flaws can be detected with greater ease than conventional hardware-based investigations. **AU**

Product details

Supplier: Silicon Vision

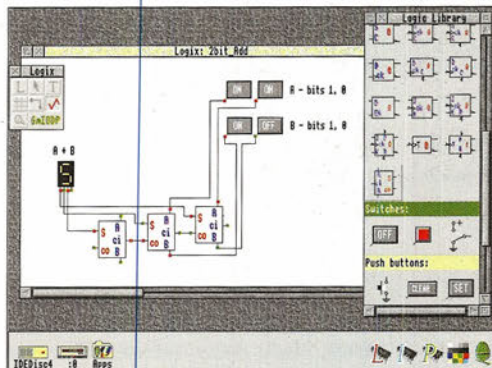
Tel: 0181-422 3556

Fax: 0181-248 3589

Price: £99.95 + VAT (£300 + VAT for 20-machine site licence)

Pros: Single- and multi-tasking simulation modes • Zoom facility for fine-tuned positioning • Good interactive help • Runs easily on 1Mb machines

Cons: Unfriendly wiring scheme • Printing only possible via *Draw* • Manual lacks tutorial material



Half-adder integrated circuit modules are combined to form a 2-bit adder.

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Even a quad-speed CD-ROM like proTeus is slow in comparison to most hard discs.

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PaperOut

This software, free with the offer, allows Electronic Books (EBs) to be used in a normal CD-ROM drive such as the proTeus. EBs are small 8cm discs developed by Sony for use with the Sony Data Discman. Over 130 titles are available (a catalogue is supplied with the software) including the *Hutchinson Guide to the World*, the *Chambers Science and Technology Library* and *The Concise Oxford Dictionary and Thesaurus*.



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The recommended minimum specification for a proTeus drive is 4Mb RAM, RISC OS 3.1 and a hard drive. You will also need a SCSI card – you can order one with the proTeus if you don't have one; note that an A30x0 or A4000 series will need the SCSI card to be fitted to the internal expansion slot, so this slot will have to be free. With these limitations in mind, a proTeus may be used with any Acorn RISC OS computer except the A4.

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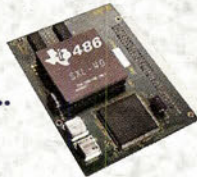
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3D

Studio

Pete Worrall enters a new dimension in the third part of his design tutorial.

We all exist and move about in a 3D world and, in the past, artists and designers have attempted to understand and depict this world using constructed models and 2D pieces of paper as a medium.

It comes as no surprise that a computer system is able to create and visualise 3D structure and space in a new way that enhances and enriches our conceptual understanding, whether we are designing a new food container, building a conservatory or creating whole new environments in which to live.

Acorn users are spoilt for choice when it comes to 3D design software, so how do we get started and what's available?

Cubes in Draw

A simple way to begin, as always, involves that all-powerful *Draw* application (supplied free with the machine). A simple cube drawing can be constructed using the isometric grid (accessed from the Grid submenu).

With the grid locked you can create a simple cube by using the straight line segment tool; figure 1 shows an example. Each parallelogram can be assigned a different hue to give the illusion of shadow and once one cube has been created it can be grouped and copied.

When two further cubes have been joined you have created the

illusion of 3D on a flat

screen, an optical illusion. Further enhancements can be made by loading the cubes into *Revelation Image*

Pro - £49 + VAT from Longman Logotron: (01223) 425558 - and applying graduated fills on to each surface; in figure 1 I exported the drawing into *ArtWorks* - £169 + VAT from Computer Concepts: (01442) 351000 - and used the perspective tool to place graphics on to the sides of the cubes. This method could be applied to different sorts of packaging design work for a whole range of commercial products.

Conservatory design

One of my recent 3D modelling projects has been my house extension. My garage was to be converted into a room with a conservatory on the back. I decided to visualise the conservatory design using my trusty Acorn computer so that instead of submitting a rough drawing for the builder he would receive a computer print-out. To do this I digitised the back of the house and saved it as a greyscale image so it would contrast with the colour outline I would use (in *Draw*) for the extension.

Next the digitised sprite was loaded into *Draw* for treatment. It was exciting to build the structure on to the house and the strong perspective viewpoint helped me to create a reasonably accurate drawing which was completed in about half an hour. This 'virtual design' - more on this next month - was presented to the builder who was delighted and immediately started work on the job. He reckoned this had saved him time in discussion and I felt I had ownership of the original design. Anyway judge for yourself and have a look at the result (figure 2).

Euclid - the original

Euclid - £50 + VAT from Oak Solutions: 0113-232 6992 - is an object-oriented 3D graphics system and it was my initial introduction to 3D on the Archimedes

many years ago. Strictly speaking, it's really a mindboggling 3D version of *Draw*, albeit showing its age (like me) these days.

The guidebook states that you can use it to construct scenes made from collections of 3D objects and then view the results from any angle and in a variety of styles. Ignoring this I discovered that *Euclid* also has great artistic appeal, and one of the first things I ever did was to create modern sculpture.

The easiest way to use *Euclid* is to form groups from predefined objects: a sphere, cylinder or cuboid. The objects created have markers on them which respond in different ways, not unlike *Draw*.

My first attempt involved creating three wire-frame cuboids and one distorted sphere (see figure 3). It is possible to merge structures, stretch them into outrageous shapes and apply colour under different lighting conditions.

As you create and edit different objects, in this case four, you begin to appreciate the hierarchical system that *Euclid* uses to move through the design process, activated by the Adjust and Select mouse buttons when pressing on the blue and yellow markers. The final sculpture was exported into *Draw* and individual sections were coloured in. Interestingly, *Euclid* exports the whole of the 3D object into *Draw*, so that when it is disassembled you can see every bit including the back, which is very interesting from a conceptual point of view.

3D modelling

Described as a 3D concept modeller, *Architech* - £169 + VAT from Aspek: (01822) 611060 - is currently the definitive package - though *Top Model* and *Architech's* successor *DaVinci* look set to re-write the standard soon; see the

Figure 3 - abstract art with *Euclid*.

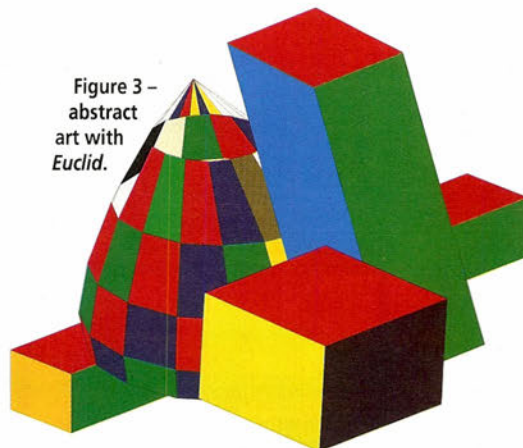
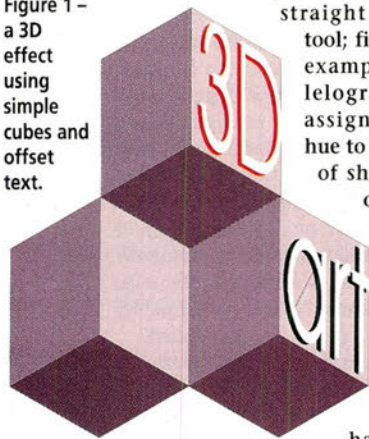


Figure 1 - a 3D effect using simple cubes and offset text.



Design using your Acorn



Figure 2 – the design for the conservatory in *Draw* and the finished building.

Graphics page for details. There are two main windows, an Edit window for the 2D design process and a View window displaying the coloured or textured 3D (rendered) model. This powerful package allows you to design and see the results simultaneously on screen.

The icing on the cake lies in options for texture mapping on to your object; basically this means a digitised texture, pattern or even freehand sprite can be loaded into the Render tools window and stretched on to selected parts or all of your creation. Lighting, strength and direction are available in the View control window. What's more, you can print, cut out and glue your design together to make a real model that you can handle.

The nets window generates each shape with the textures visible (if rendered) and even includes the folding tabs for construction. The model can even be animated and saved as an Ace format film.

Architech is supported by an excellent collection of models, textures, backgrounds and films to try out. My favourites are the film of the working lathe and an orchid with a butterfly's wing mapped on to the surfaces (figure 4).

Architech is easy to use and the comprehensive guidebook is a joy to read. Working drawings showing different elevations (1st or 3rd angle) can also be saved as *Draw* files with four different elevations on one screen for printout. *Spex* files can also be saved which means you are able to create your very own 3D environments as long as you own a copy of *Spex*+

Environment planning

Spex + £34 + VAT from Aspex – is 3D environment planning software and is supplied as a single program on one disc with a second items disc containing an

environment. More environments can be added and are available from Aspex including a street scene, leisure pool, home environment and moonbase. *Spex* + is easy to use and bridges the gap between a plan and a 3D visualisation.

Once *Spex* + is installed on the icon bar, the Place setup window will allow you to choose the type of place you want to design; in this case I have loaded the street scene. After entering the floor size and checking out my budget (an excellent real world feature, in this case £250,000), I began my design. The street scene environ-

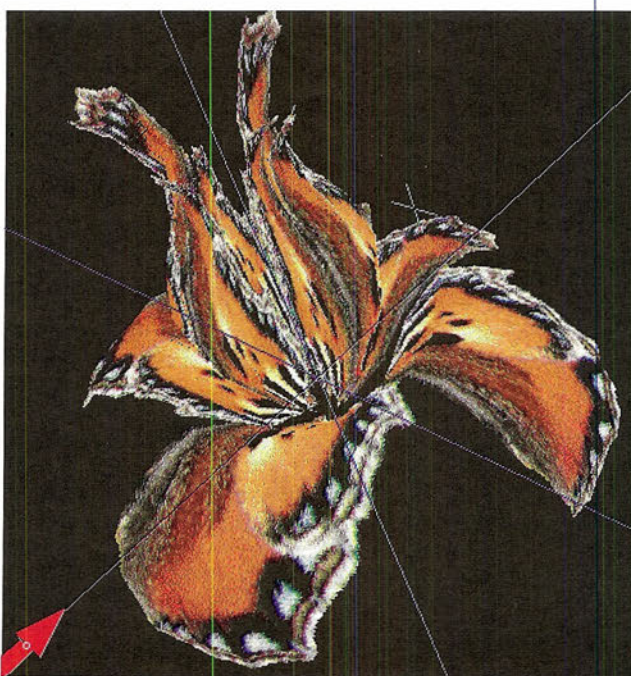


Figure 4 – the Butterfly Orchid created by *Architech*.

ment includes houses, pavements, people, public buildings, road signs and shops. All you have to do is drag objects on to the plan and keep a check on your budget.

Objects can be rotated by placing the pointer on the plan view and pressing the Adjust button; the Menu button will display an isometric view. New items created in *Architech* can be added to the item

Figure 5 – town planning using *Spex* +.



libraries by simply dropping them into the window, and items can be shared between environments.

The isometric view (see figure 5) is the exciting bit and it is easy to toggle back to alter the plan; for example, if the bus is too close to the pavement it can be relocated. These environments can be saved in *Draw* file format and large printouts are possible.

Topographer

To finish off let's take a step into the future with *Topographer* – £68.04 + VAT from Clares: (01606) 485111. This incredible software package will turn your 2D map designs into 3D landscapes and will even perform on a 1Mb machine. Before you begin, remember to load both the map editor and 3D generator applications on to the icon bar. The first creates and edits maps so that Ordnance Survey type symbols such as roads, contour lines, buildings, antiquities, canals, coniferous woodland, and so on can be positioned as required; the map can also be saved in *Draw* file format.

Once created, an 'Export to 3D' option converts the 2D map to a 3D landscape which can be saved in sprite file format. The view of your landscape is configurable by using the view cone (area) and view arrow (direction of the line of sight). If you really want to get serious you can plot the position of a new housing estate or motorway to evaluate its impact on the local environment. This is virtual reality in the making and highly recommended.

All this is this is great concept building stuff, but is it the end? No – next month I am going to finish off by looking at the way in which image manipulation can assist in producing a whole range of new solutions for professional designers and take a peek at the emerging role of multimedia design.

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Note for those with pre-A5000 machines

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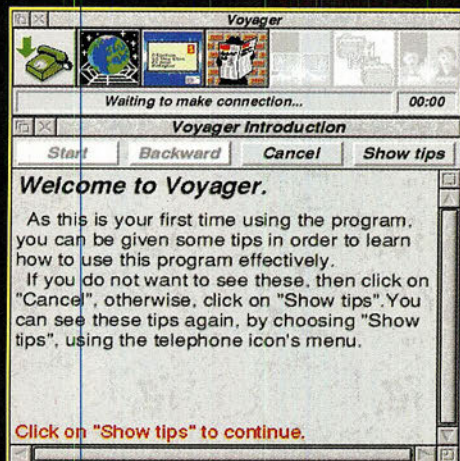
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Letters

The name game

To computer users everywhere; this is an important announcement.

There has been wide speculation on why Sam Wauchop stepped down as MD of Acorn. I believe I have the answer. You only have to look at the new MD's name - David.

Yes, they have been gathering their forces for years, and they are almost ready to strike. The fact that they could replace the MD of Acorn itself with one of their own shows the power they wield. They are wiping us out one by one, and they already hold many key strategic positions. Beware of: David Lee, Dave Acton, Dave Lawrence, Dave Walker, David Matthewman, David Dade, David Wren and David Watkins.

They are everywhere, working their way into influential positions. They now occupy the top posts in *Acorn User* and Acorn itself. If we don't act now, we shall all be doomed. We must rise up, and overthrow the tyranny of the Daves.

Arise all you of interesting names, and unite. We *must* overthrow the Daves before the world falls under their evil spell.

Phil Norman
(self-confessed student)
Exeter

Curses! And our plane would have worked, too, if it hadn't been for those pesky students... (DM)

RISC OS 2 users

When *Acorn Computing* was discontinued I moved over to *Acorn User* and was impressed by the magazine's format.

However, I was not prepared for the number of items on the cover disc which all claimed to require RISC OS 3.1 or higher. I



The Big Ben Acorn user's group who travelled over from Holland to be at Acorn World - they enjoyed it, did you?

don't want to stand in the way of progress, and programs that require upgrades are all well and good, but being by nature an experimenter I try to modify them to run on RISC OS 2.

It is surprising how many programs will run after changing just one line in the main BASIC file; I suspect that similar tricks are possible with machine code, although I personally cannot use them.

This seems unfair to those people who lack the knowledge to experiment in this way. Is it not possible for someone at *Acorn User* to check whether RISC OS 3.1 requirements are necessary, or are simply included as a 'standard disclaimer' by the programmer?

RJ Waters
Spalding

We do try to test software here at *Acorn User*; there's a 1Mb, RISC OS 2, ARM 3 A310

sitting in the labs for just this purpose. If it's clear why a program isn't working we will modify it if possible, but sometimes we simply can't work out why a program won't run while having a sneaking suspicion that it's obvious really.

Sometimes the program will fail to run because of memory restrictions on the 1Mb machine - in this case it can be hard to tell if it would have run in a machine with more memory.

We do try to ensure that as much of the disc as possible does work on RISC OS 2, as we realise that there are still some of machines out there that haven't been upgraded. Mind you, our last survey suggested that the proportion was less than 2% - fewer than still had RISC OS 3.00 - but we're taking

that result with a pinch of salt. (DM)

Show disappointment

Well I thought that this years show was a bit bland. Help from Acorn though was first class. The Cyber Café's network links were so slow that it turned the World Wide Web from the brilliant place it is, into a bore.

My children thought that it was the worst Acorn Show ever and we have been coming for three years now. No games arcade and the Disney film show was a total waste of space.

Stands that had games to play were not policing the teenagers from pushing in front of, or pushing off, the smaller children.

Hope next will be better, or it will be our last.

Don Jacobs
via the Internet

See Viewpoint.

Robust computers

As IT coordinator of a secondary school I have, over the years, gained some experience at fixing computers, but I was faced with the ultimate challenge when a teacher brought me his A3000 and asked 'can you do anything

ARM710 performance table (corrected)

Operation	ARM710 time (s)	ARM610 time (s)	%performance increase
Loading 170K JPEG into FYEO2	7.88	9.81	19.7
Loading 170K GIF into FYEO2	1.81	2.01	10.0
Redraw of ArtWorks CanonEOS picture	10	13	23
Loading etc Fireworkz Pro file	11	14	21
Query on 1000-record Squirrel file	2	3	33
Publisher page redraw	5	8	38
Mean			24



with this?' He had taken the computer home for the weekend, put it down next to his car while he loaded the boot, forgotten about it and driven over it.

It looked rather battered and had developed a rattle or two on tipping. The case had lost one of its clips at the rear and was split at each side, but otherwise it didn't look too bad. Inside casualties were:

- one keyboard – bent in the middle and unplugged.
 - two speakers, now U-shaped.
 - one disc drive, apparently squashed with a few bits loose and a missing eject button.
 - the RISC OS chips – two dislodged and one loose inside, all with mangled pins.
 - memory expansion – an Atomwide board with two missing RAM chips sitting at a very odd angle.
 - central case pillar snapped off.
 - keyboard case pillars – two missing and the others bent.
- Surprisingly, neither the main circuit board nor the power supply seemed to be damaged apart from a few bent pins.

I went to work with two pairs of pliers, a screwdriver and a little brute force. The speakers were straightened out, the pins on the chips and the circuit board likewise while the disc drive was removed. Underneath was a totally smashed reset switch – oh well, there's still a working on/off switch.

Once the cover of the disc drive was removed it didn't look too bad either – a bent cover and bent mounting brackets, both of which responded to persuasion with the pliers. It also had a snapped drive slot cover and eject button, neither absolutely essential.

The keyboard I straightened by gently bending it over my knee. Back in place went the OS chips and in went the missing RAM chips which had been found after a search of the car park.

Time to power it up, but not until the pins in the mains plug had been straightened; he'd run over that, too. A familiar beep (rather quieter than before), the red and blue

memory-checking screens completed and we were at the 'initialising' message followed by the Desktop. Pressing F12 allowed me to test all the keys – all working perfectly. In went an (old) disc which verified, loaded perfectly and would write a file.

Congratulations Acorn (and Atomwide), your products survived what must be the ultimate in destruction tests. However, had the central case pillar been made a little thicker than the A3000 would have been totally ZX-proof (Citroen, that is).

John Chapman
Norton

I'm a bit cautious about printing this story, for fear of sparking off a rash of 'I dropped my computer into the core of a nuclear reactor and all it did was set the system clock back five seconds'-style letters. (DM)

Calculation error

I was amazed by the article on page 51 of the December issue of *Acorn User* where statistics were presented in support of Acorn's claims that the ARM710 is approximately 34 per cent faster than the ARM610. In short, your sums appear to be wrong.

Your figure of 60 per cent for the speed increase on the page redraw in *Impression Publisher* seems to have been calculated by comparing the three second increase in speed with the five seconds redraw time of the ARM710.

In effect you are saying that the ARM710 is 60 per cent faster than itself, which is a bizarre statement to say the least. The percentage should be 37.5 per cent for this operation.

S Antczak
Surrey

You're quite right of course, and we didn't even use a Pentium to work out the results. A couple of other people spotted this as well. The corrected table appears here. It does make the card look less impressive than Acorn's initial predictions. (DM)

Viewpoint

Acorn World was a show full of promise. Well, promises, anyway.

Beebug promised to have *Ovation Pro* finished in the very near future; similar promises were made regarding the *Ant Internet Suite*, *Global Effect*, Irlam's MJPEG card, *Studio 24 Pro*, *TopModel*, *Sibelius* release 3 – this list could go on. Peter Bondar from ART was certainly very free with promises about what was possible with multi-processor cards and StrongARM chips; if he's right that by this time next year there'll be some very fast machines around.

Acorn users are used to taking all of this with a pinch of salt, and quite rightly, too. Software companies seem to operate on a totally different time scale to the rest of us, at least as far as predicted release dates go. After all, *Ovation Pro* was on display at last year's show, too.

There were some notable releases – *Alone in the Dark* was there and on sale, as were *The Big Picture*, *EasyClip*, the new faster Aleph One PC cards and the *Mechanisms* CD-ROM. A number of products which had been released in the last few months were on display to the general public for the first time – it's hard for us on the magazine to get too enthusiastic about Cumana's proTeus drive (which we've had our hands on for a couple of months now) but it attracted a lot of interest at the show.

It was both heartening and worrying to see the same old faces at Acorn World. It's always nice to meet loyal readers and to continue conversations which were temporarily suspended a year ago, but it's worrying that for the first year there was a lack of new faces. I don't really enjoy explaining for the nth time that 'no, it doesn't have a 386 or a 486, it has a 610' (always confuses them, that one) but when I do it at least I feel that people are entering the Acorn market from outside. There wasn't much evidence of that this year.

In fact, the reverse was true. Some of the biggest crowds at the show were clustered round the Computer Concepts stands watching demonstrations of *Corel Xara* on the PC. People were impressed with the program, as I was, though the conclusion (that if you program a 486 properly it actually runs at least as fast as an ARM610) wasn't one most people wanted to hear.

It was remarkable how many products at the show had some connection with Intel-based machines but it perhaps wasn't surprising. The trend these days is increasingly towards mixing platforms together, often in one machine, so applications like *PC Exchange* and hardware like the ISAdaptor are really signs of the times.

The Cyber Café was a bit of disappointment, largely because people have been given unreasonable expectations of how quickly the Internet runs by TV programmes which always have 'tweaked' displays. Even down a dedicated line, Web browsing can be rather slow if there are 20 of you trying to do it at once.

It was a big mistake not to have a games arcade – it's the best and most direct way to show off the power of the Acorn to kids of all ages, and a big relief to parents with easily-bored offspring in tow.

Pocahontas was all very well as an attraction, although anyone with a stand nearby had good cause to complain about the noise. However, *Pocahontas* has a fairly limited appeal with no relevance whatever to Acorn Computers. Thankfully TBA Software had a small-scale arcade with an impressive black cover and a smoke machine where its games could be tried out – other games companies take note.

The enthusiasm evident at shows is always welcome. You have no idea what a morale boost it is for us to meet crowds of people who clearly both read and enjoy the magazine. Even criticism shows that readers are paying attention. To everyone who dropped in at the *Acorn User* stand and said hello to me, Mike Cook or any of the other editors: thanks, and I'll see you again next year.

David Matthewman

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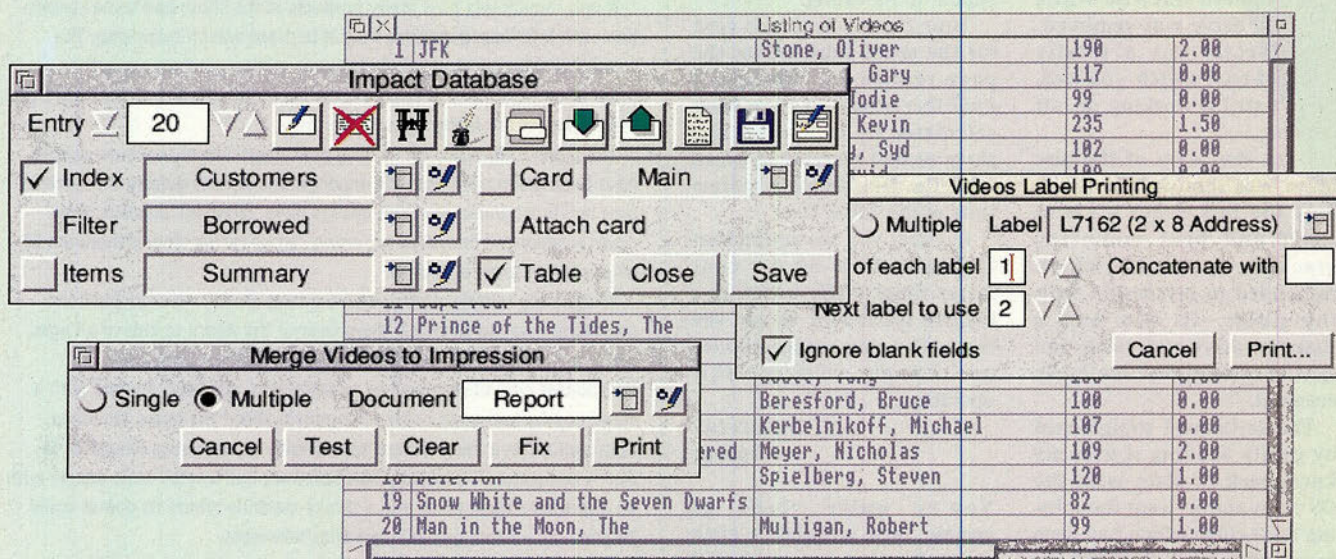
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GAME SHOW

Well, it's nearing Christmas and another Wembley exhibition has passed us by, so how do things stand in the big wide world of Acorn games? There were a rash of new releases from various companies at Acorn World, and I've been promised a clutch of fresh titles just round the corner. One was brought to my attention whilst I was browsing the comp.sys.acorn.games newsgroup, and Peter Ottermann has been good enough to talk to me about the game he's been working on for over a year.

Proposal

Peter is currently working on what might be described as a space epic – a four-part game involving the disruption of the evil Rebel forces currently trying to overthrow the goodly Solar Federation. To squeeze the plot into a nutshell, the President of the Federation has hatched an idea to destroy the Rebels by sending in a lone soldier on a sabotage mission.

Of course, it wouldn't be a space epic unless you played the part of the psychotic nut who volunteers, and that's where you find yourself at the start of the game. In order to wreak your intended havoc, you need to find the self-destruct

keycards capable of reducing the Rebel-occupied starbases into so much twisted steel, and this involves searching the solar system until you do.

Peter has divided up the gameplay into four main sections, consisting of an *Elite*-style simulator which allows you to visit most of the planets in the solar system, as well as find yourself being shot at by all and sundry. Space stations are dotted about, and *Proposal's* second part allows you to communicate with other pilots and uncover information leading to the locations of the keycards.

Thirdly, it's possible to land on some of the planets and their moons, and if you do, you'll find yourself enjoying a bit of *Wolfenstein*-style gameplay as you wander about on the surface. Once you discover an entrance to one of the Rebel bases, the final section consists of running round the corridors until you find the self-destruct mechanism.

Peter hopes to finish *Proposal* in time for spring next year, and he's writing the code so that it will play at the same rate on any Acorn, with an extra detail setting



Throw explosive potions at each other in Intertek's *Sorcery*.

for the faster machines. Apparently, it's a little hard to find many Acorn machines suitable for testing – Peter's living in Stellenbosch in South Africa...

Problem corner

I've had a request from Gary Hughes in the Republic of Nauru relating to an Acornsoft game by the name of *Labyrinth*. He's having problems resisting the urge to throw his BBC Master out of the window, and he's looking for a cheat to ease his troubled soul. Can anyone out there lend a hand? If so, please let me know and I'll pass the information on to Gary, who describes himself as the only Acorn user in Nauru.

Forthcoming attractions

As usual, a couple of games didn't make it in time for this month's Game Show, so next month I'm hoping to take a look at TBA's latest games including *Cobalt Seed*.

You might be aware that this makes use of the sophisticated TAG graphics system – I've been told that the second-generation TAG2 engine is on the way, so I'll try to dig up a few bits of information for you.

Also reviewed next

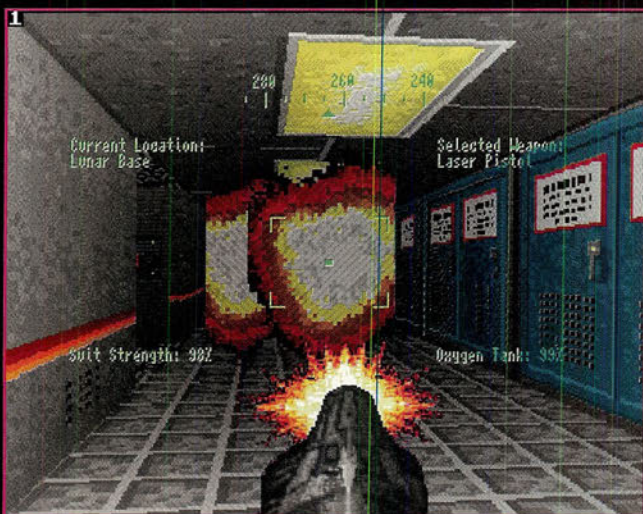
month will be Generation Design's *The Last Cybermoch* and the Hitmen's *Rick Dangerous*.

I've just received Graham Nelson's latest text adventure, *Jigsaw*, which takes the player through a whole host of time zones as a string of complex puzzles unwinds. It's wonderfully crafted and since Graham's releasing it free of charge, I'd advise any fans of interactive fiction to search it out – it's an absolute gem.

Intertek, the team behind *Aggressor* and *Blood Sport*, has sent me a demonstration of a future game called *Sorcery*. It's along the lines of *Dynablast*, and allows up to four players to blow themselves to kingdom come while trying to decide who's the mage with the most. You can write to Intertek at 7A Lovat Close, Neasden, London NW2 7RU.

Finally, I'm proud to announce that I, too, have a new e-mail address on the Argonet internet server. If you'd like to drop me a line, you can contact me at azimuth@argonet.co.uk or by post at Game Show, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. See you next month.

Steve Mumford



Wolfenstein-style gameplay as you run through the Rebel bases in *Proposal*.

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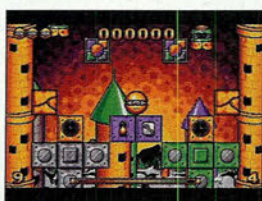
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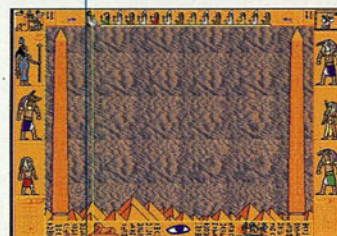
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(Spobbleoid) This is a good game. It's certainly addictive. I'm impressed and look forward to the next offering.

Steve Atherton, Acorn User. November '94.

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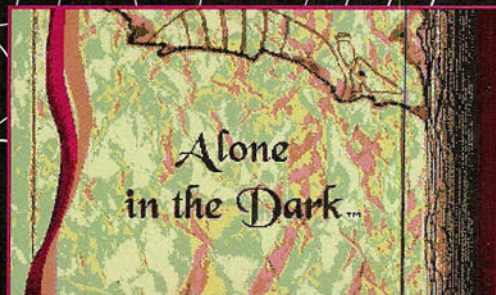


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Alone in the Dark

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Are you hard to scare? Do Lovecraft's Cthulu horrors leave you unmoved? Do you mind being alone in the dark? You see, in this long-awaited PC conversion you're on your own but not alone.

Playing either Edward Carnby or Emily Hartwood you find yourself travelling to Derceto Mansion the home of the late Jeremy Hartwood. Edward is a private eye sent to check on the contents on the house by a local antiques dealer.

You're hired because Jeremy committed suicide and if you read *The Mystery Examiner* which comes in the packaging you'll soon discover that all is not as it seems.

Emily is concerned about her uncle's death and has always been afraid of Derceto. However, money and curiosity overcome both their fears and whichever character you choose you arrive in the attic of the dilapidated old house. And in true horror movie-style it is dark and a storm is gathering.

To say this game is atmospheric is an understatement. The sound effects are beautifully added such as when the click clack of Emily's heels on the wood floor are then muffled by the threadbare rug.

The game's appeal on the PC is provided by the 3D figures and realistic movement. This does get some getting used to using as you try to control your character with the arrow keys, but with a bit of practice you can soon spin around on one heel and

run across rooms. The problem is that you don't have a lot of time before you are torn to bits – complete with screams and gore – by a creature of the night jumping through the attic window.

As you move, the camera angles change giving a different perspective of the room and access to other objects. Sometimes you even see the action from the eyes of the hell-hound about to rip you limb from limb. The only real thing that irritated me was the fact that if you run into a chair or stool it becomes stuck to your leg until you manage to shake it off.

You know that you have to search the piano, but do block the window and trap-door first. When a grobby is about to appear a crashing chord will sound; close the door, get out of there or arm yourself. The monsters are blocky and not very detailed but they are in 3D, deadly and some even quite intelligent.

So within five minutes you're not trying to find out anything but just to get out of there – alive. There are different ways to die; holes to fall through, monsters to be eaten by and the like. If you're lucky you'll find the old sabre. If you're very lucky it won't snap and you'll find arrows for the bow and bullets for the gun. Personally I was tempted to burn the whole place down – I had the oil but no matches or lighter.

Do shut doors behind you and remember to save frequently. Also you'll find some respite by jumping into the options screen where you can choose to search, fight, close doors or use objects.

Read the books and papers

you come across too as some of the trinkets you'll find will only then make sense – unless your classic mythology is up to scratch.

Quite a way into the game I found that I didn't have to fight everything – just as well as my hit points were in single figures and the first aid kit was empty.

The tension mounts as the game continues and you really do feel alone and vulnerable. Suspense is there in tooth and claw and the fear of the next creature is more frightening than the real thing – horror at its best. But this is an adventure not a beat-'em-up and you can

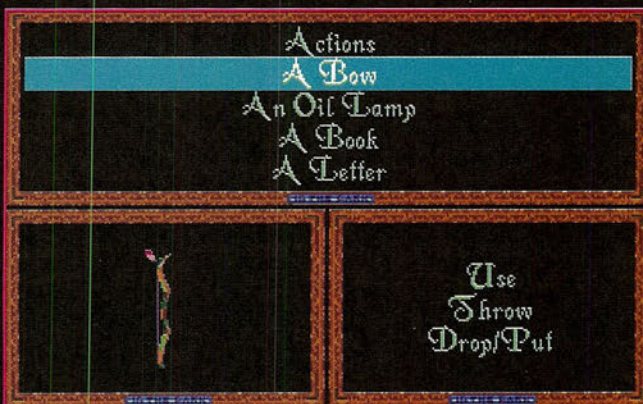
succeed using your little grey cells. Collecting items to use with others, breaking vases to find keys, it's all there.

I wish the movement – especially the fighting – were a little more intuitive and that the camera angles didn't jump quite so much which can be disorientating until you get used to it.

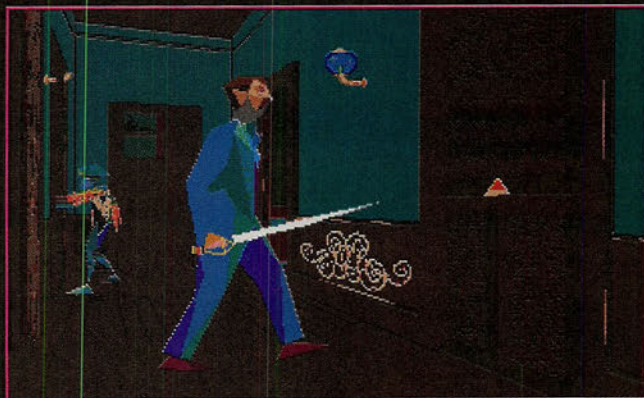
However, the overall effect is one of breathless panic. I like to play *Alone in the Dark* in short spurts as my adrenalin can't stand that much exercise at one continuous-sitting.

Definitely recommended.

Pam Turnbull



Do I hit it with the bow or the oil lamp?



Shush, it hasn't seen me yet...



Compete against up to six other people in *Tron*.

Steve Mumford looks at the best PD games available on a budget.

Cheap thrills

If you're looking for a new game to add to your collection without splashing out on one of the current full-price releases, there's a wide range of decent, cheap PD software available if you know where to look. Over the next couple of pages, I've given a brief summary of some of the products around at the moment.

Tron's Revenge

Several years ago there was a style of game that was quite popular, based on the lightcycle scene in the science fiction film *Tron*. If you've not seen something like it, the idea was to race round the screen and survive longer than your opponent by avoiding the deadly light trails that you both left behind. An enhanced version of this classic has been written by Guido Steiner and Peter Münch, and you can now pit your wits against up to five other players.

As well as the 'original', you can play a game in which the arena is scattered with obstacles and bonus objects. Pick up the credits that appear sporadically, and you're able to cross over another trail. Find the key-swapping icon, and you can watch as your opponents lose all control and veer off into a wall. There's even an icon that creates an electric storm in the immediate vicinity – especially useful if you've got a fellow racer right on your tail. *Tron* is one of those games that looks

simple but hides a great deal of playability – although getting six people round one keyboard for any length of time could be tricky.

The Pits of Angband

If you've seen *Doom* once too often and you're disillusioned with creeping through 3D passageways coated with texture-mapped slime, you might care to take a look at one of its predecessors. *Angband* is a text-based dungeon role-playing game in which you have to work your way through networks of caverns, fighting all manner of monsters both animal and human. The aim is to gain experience, learn new spells and of course, rake together a large pile of cash in the process.

Due to its heritage, *Angband* displays everything as text, from the lists of equipment at the local armoury to the monsters that spring out at you in the dungeons, so if you've never been attacked by a lower-case 'c' before, here's your opportunity. The use of text as graphics might sound a little damaging to the game-play, but believe it or not each type of monster has its own recognisable character. It doesn't take long to learn that the wizards who wander the later levels are somewhat more harmful than the metallic blue centipedes that potter about near the surface. The version I'm playing, ported by Kevin Bracey, runs in the Desktop



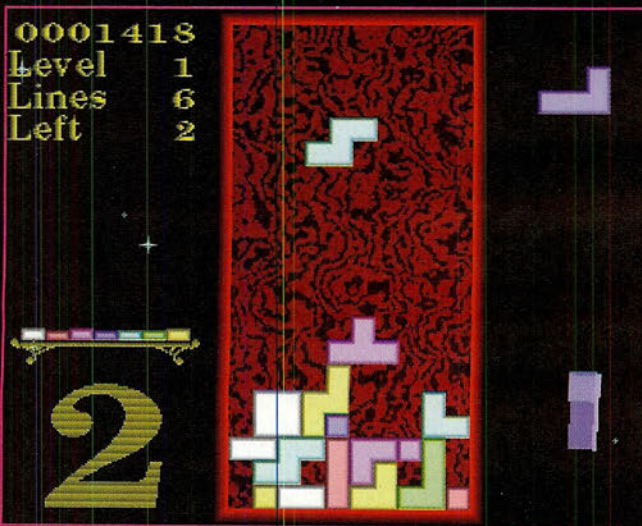
Who needs complex texture mapping for a decent maze game?

and displays the text in various colours to make things a little easier to follow.

There are two main parts to the game – as well as battling against the denizens of the Pits of Angband, you can ascend to ground level to replenish your stocks and haggle with the shopkeepers

to sell the various trinkets you've picked up. After scraping together a few bags of gold from scavenging the labyrinths, you'll be able to afford such things as magical armour or more powerful weapons.

Your ultimate quest is to find and eliminate a mage



Slick presentation marks *Tertis* out from its competitors.



Slide the blocks to cover the crosses – not so easy



Two-player Bloxed – a great way to lose friends.

named Morgoth, and the adventurer who wishes to face him must be prepared for a tough battle. *Angband* will be familiar to those who have already spent some time on role-playing games, and it boasts a wide range of features to keep players interested. It might not be everybody's cup of tea, but for some reason I enjoyed the simple nature of the presentation – perhaps I've been spending too long playing 3D games recently.

I downloaded *Angband* over the Internet by anonymous ftp from the server at the University of Stuttgart. There's a wealth of material there, so if you have access to the Net, it's well worth logging on to see what they've got – ftp to ftp.uni-stuttgart.de and log on with the user name anonymous.

From there, it's just a matter of navigating your way through the maze of directories until you get to the Acorn archive – for instance, the *Angband* executables are stored in the directory *pub/systems/acorn/riscos/games/angband*. Two points of advice – it's normally better to try to

connect during the evening or at the weekend, and it's advisable to check your ftp software is downloading in Binary mode.

Anyone for Tetris?

This column wouldn't be complete without giving *that game* a mention, and I've been taking a look at a couple of variants. The first, *Tertis*, was written by the programming team Sick some time ago, but it still remains a firm favourite. One-player only, it contains many of the ideas of the original and plays smoothly.

To complete each level you must fill a certain number of lines, and later in the game you start each screen with a few blocks carefully dumped in the bucket in order to cause maximum disruption. The controls respond well and are redefinable, and if you want a little more excitement you can spice up the graphical effects – the screen wobble that accompanies the completion of a line is particularly good at inducing motion sickness.

Currently, my favourite Tetris clone is *Bloxed*, written by Steven Singer. Come to think of it, calling it a clone is a little unfair since it parades a substantial number of additions including a particularly competitive two-player mode and several interesting bonus blocks.

If you're skilful enough to fill a line containing a token, you might well find an object such as a bomb or a laser falling from the sky – with careful application of either leading to the disappearance of much of the population in your bucket.

If you can afford to lose one or two friends, the simultaneous two-player mode is great fun – you both play as normal, but if one of you happens to complete more than one line at once, they're removed from your side and shoved into the opponent's playing area. *Bloxed* isn't perhaps as graphically impressive as *Tertis*, but the addition of the extra functions adds a lot to the gameplay. If you've not seen it yet, it's well worth a look; it was on the *Acorn User* CD-ROM in April 95.

Pushy puzzles

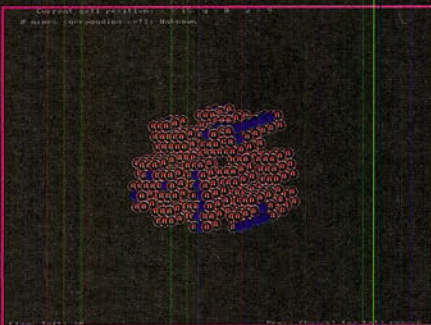
You might be familiar with a puzzle game that involves manoeuvring crates over target squares in order to complete the level – there seem to be a lot of variations about at the moment, but one that caught my eye is a game called *Pushy*. It's presented in a colourful arcade style, and there are 25 levels to tackle as you guide your charge through each maze.

It's easy to become stuck by pushing one crate up against another and some thought is required if you don't want to get trapped in a corner. *Pushy* is a gentle, relaxing game just right for unwinding after a hard day's work – or indeed, a productive alien-bashing session.

Staying with the puzzle theme, if your version of *Minesweeper* is looking a little dated, there are some variations on the game that might interest you – *3DMine*, *Crazymine* and *Storm-Sweeper*, all written by Andrew Garrard. The first allows you to pit your wits against a 3D minefield which you can examine by using a combination of the keyboard and mouse. The graphics aren't particularly flashy, but it's definitely challenging – if you consider yourself to be a *Minesweeper* expert, this game's for you.

Crazymine produces a crazy-paved minefield tiled with irregular shapes, so the number of neighbours each cell shares can vary wildly. It's slightly easier to get to grips with than the 3D version, but the time taken to create large grids can be somewhat prohibitive. Luckily, the game comes supplied with a 64-cell precalculated grid – large enough for my tastes.

Finally, *Stormsweeper* provides a new twist. The gameplay is similar to the original but after a certain time has elapsed, a storm hits the minefield and any remaining mines shift their positions. Once it subsides, you have to start where you left off, with the disadvantage of having to guess where they've all moved. This version's a real race against time – the longer you take, the more likely you're going to plough into a mine.



Minesweeping in three dimensions.

Product availability

The games mentioned in this column have been culled from several sources, including the Risc Disc II CD-ROM distributed by Uniqueway and discs from The Datafile PD library; many thanks to those companies for their help. Uniqueway can be contacted on (01222) 644611 and The Datafile on (01934) 823005.

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DESIGN AND ILLUSTRATION R. VICKERS

Darkwood

GAMES

Supplier: Eclipse
Tel: (01243) 531194
Fax: (01243) 531196
E-mail: eclipse@argonet.co.uk
Price: £24.99 inc VAT

What do you get if you cross a fake papier-mâché cat, a handful of irate deities, a florist with hayfever and an apprentice wizard? Frankly, I wouldn't like to comment, but it might just bear a passing resemblance to Tom Cooper's new title.

Darkwood is a graphical adventure game at heart, but if you're expecting something with a 2D point-and-click interface, prepare to be surprised. The entire game is rendered in 3D, from the cosy interior of Acklebert's bijou cottage to the foreboding cells in the castle's dungeon. Outside the buildings, you're free to walk wherever you choose, and the landscape rotates beneath you as you turn.

The story opens with Acklebert the wizard preparing for a quest to rid



A tribute to Imogen – close the gate when someone's beneath it and, well, it makes a mess.

similar to that of *Simon the Sorcerer* – suitable phrases are presented at the bottom of the screen and a click of the mouse will select one.

From then on, it's a matter of collecting the correct objects and using them in the right place at the right time. Two other characters join you later on in the game, and certain puzzles are impossible to complete unless you get them to act as a team.

Darkwood's plot is perhaps a little simple when compared to some of its 2D

they don't seem to harm your assailants. It goes without saying that the action of despatching an adversary makes quite a mess, and if you've seen Tom's earlier game, *Hamsters*, you'll already have the general idea. Fans of the BBC classic *Imogen* might like to take a quick stroll down to the lower recesses of the castle – there's a contraption there reminiscent of the *Hamster Jam* level.

Darkwood's graphics engine is the most noteworthy feature of the game – all the action takes place in three dimensions, whether your character is wandering up a steep hill to gather some rare berries or sneaking through the depths of the local dwarf mine. If you're outside, you see the landscape around your character as a Zarch-style polygon projection – objects such as bridges, buildings or trees are added on top.

To control Acklebert in the outside world, it's a matter of turning him to the direction you want to go, rather than heading in one of the four standard compass bearings. This allows a greater degree

of flexibility, but it takes a few minutes to become accustomed to the movement. Inside, the view changes to one that's a little more conventional. Each room is presented to you as a view from above, and you control the character by the four standard direction keys.

I should perhaps point out that *Darkwood* needs a fairly high-specification machine to run smoothly; those of you who don't possess a hard drive face the unenviable prospect of a heavy disc-swapping session whenever you change location – I really wouldn't recommend this unless you've got an industrial-strength disc drive and the patience of a team of saints. Having said that, if you've got 4Mb or more of memory, it's possible to install the game to a RAM disc. On the less serious side, the graphics require a meaty processor to show them off to full effect, but the levels of detail can be altered to provide a reasonable update on slower machines.

I was particularly impressed when I saw *Darkwood* – Tom's come up with an original idea and has implemented it well, proving that the Acorn games market doesn't have to rely on conversions to keep it going. This game's got tremendous potential and if Tom continues to develop it, we might be looking at a title that could cause a splash on certain other platforms I could mention. Keep up the good work, Berty!

Steve Mumford



Acklebert's face to face with the head monk himself.



3D Zarch-style landscapes.

Ecklespit village of a nefarious curse, bestowed by the gods when the high priest blundered their annual sacrifice. At the outset you'll have no idea of how to go about your task, but a few conversations with the locals dotted about will set you on the right tracks.

The talking mechanism is

brethren; you won't find a high proportion of brain-bendingly difficult puzzles within, but you might be interested to hear that there's a large number of sentient skeletons with which to do battle – Acklebert does a nice line in fireballs and the archer has a

Supplier: Psycore
 Address: PO Box 3837,
 London NW3 1JF
 Price: £14.95 inc VAT

Anyone familiar with Psycore's earlier games will immediately recognise the style of *Revolver*, with bright colours and warped graphics splashed about the screen. However, this game differs from their other titles such as *Big Bang* in that it's more abstract – you won't find any cute characters wandering about here, just odd patterns and geometric shapes.

It's also a departure from the usual platform game style, and instead of anything as mundane as a 2D view of the playing area, it takes the map of the level and wraps it onto a sphere placed on a scrolling star field. If you've ever dreamt that you were a one-eyed fish trapped in a maze, it's possible that you might have had the same sort of experience.

The aim of the game is to complete each level by collecting all the tokens scattered about. Once you've succeeded, a gate is unlocked and if you're able to return to that within the set time limit, you can move on to the next world.

However, it's not as easy as it sounds because the only control you have on the character, something which looks like a spiky Catherine wheel, is the ability to twist the world around it. Using gravity to assist progress, you have to bounce off the walls and synchronise turns carefully to roll over the all-important tokens.

Each gives an extra second of time for the task, which is somewhat of a relief because there are plenty of objects to slow you down. They range from disks that send you spinning to

bubbles that change the polarity of the gravity, but the most malicious is the stinger, an object that drains time as you roll over it.

There are 30 levels in the full game, and they start off gently to let you get to grips with the control mechanism. However, the maps grow quickly in both size and complexity, and it goes without saying that the time limits plummet.

When I first caught a glimpse of *Revolver* in action it didn't look particularly enticing, but after I found myself tackling the eighth level for the fifth time, I was forced to admit to myself that it's actually quite playable – it feels a little like a diverse relation of *Tetris*.

Visually staid it isn't, and with pixel-bursts reminiscent of *Spheres of Chaos* coupled with the fish-eye distortion of the map and the multicolour star field in the background, it's one of those games that begs to be played in the dark. There's no music as

such, but your movements are accompanied by various clangs and whistles.

One of the nice features is that it's possible to edit both the sound and the graphics by altering the files within its directory. Brief instructions are given in the help file, and if you're fairly competent at poking around with sprite files and samples, you'll be able to customise *Revolver* as much as you want.

What happens if you complete all the levels? Well, there's no designer, but the maps are stored as sprites in

the 'Machine' sub-directory – if you're feeling adventurous, you can even fiddle with those. Each pixel colour represents a different object on the ground, so some judicious cross-referencing should allow you to create your own labyrinths.

The only thing I would have liked to have seen was a highscore table which recorded the quickest times taken to complete levels, but I'm afraid you'll have to keep your own achievement record.

The help file includes a line that states *Revolver* is 'value for money entertainment, not a big empty box'. I'm inclined to agree – not just because my version was tastefully presented in an individual case barely larger than the disc, but because I've genuinely enjoyed playing it.

Revolver might not pack the same sort of gut-wrenching gameplay that you find in products such as *Star Fighter 3000*, but it's satisfying in its own colourful way. If you're looking for an absorbing game that doesn't involve hacking your way through teams of malevolent robots or saving the world, I'd wholeheartedly recommend *Revolver*.

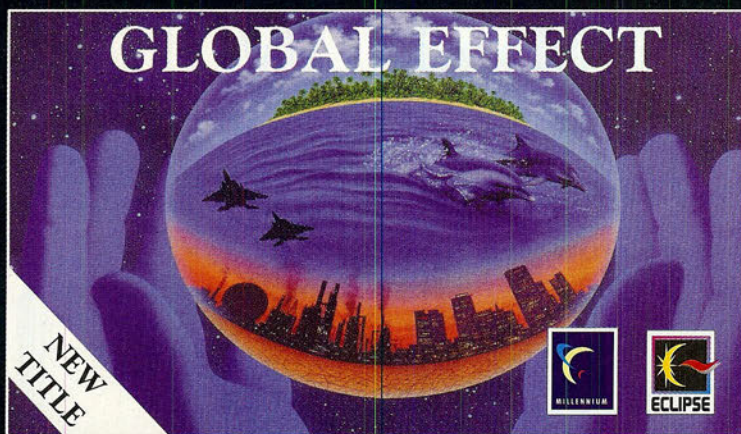
Steve Mumford



Twist the world around the spiky Catherine wheel.



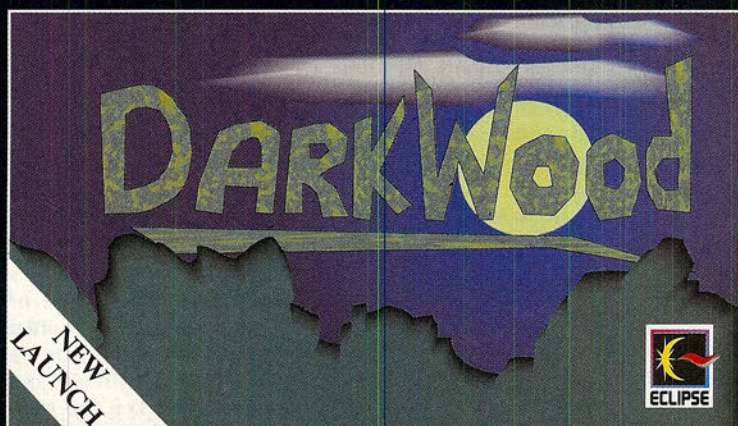
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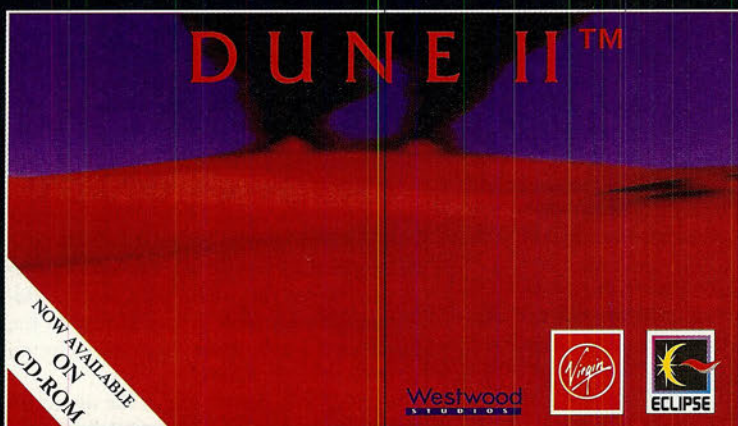
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Report writing software

... more effort needed

Tries hard ...

Reports without

Rebekah Gall looks at computerised report writing.

School reports have become increasingly detailed in recent years, progressing from one-line comments on a single sheet to A4 booklets with a full-page allocation for each subject. Teachers must now describe achievement in terms of National Curriculum levels, outline topics studied and indicate effort and general attitude, together with an analysis of attendance figures and an action plan for future improvement.

Producing reports or Records of Achievement is time-consuming and elicits grumbles from most teachers. Last year I spent around 200 hours writing reports. Record-keeping has also become more onerous. The latest National Curriculum language syllabus contains 36 level descriptions and continuous records must be kept, showing the date and number of times that an individual pupil has achieved each level.

During the summer term of 1995 I spent every available minute compiling a National Curriculum statement bank for Modern Languages. This, I believed, would enable me to produce reports which complied with National Curriculum requirements and also looked professional. However, I could have saved myself a great deal of time and effort if I had known that sophisticated report-writing packages such as *NStore* and *Report* were already on the market.

NStore

HS Software's reporting program can store data for classes of up to 36 pupils which seems very appropriate in the current educational climate. It can hold data on all the National Curriculum subjects (including RE) from level one up to exceptional performance, and supplies a bank of com-

ments on effort, attitude and presentation.

All files can be customised to the subject teacher's requirements. SAT results and exam and classwork percentages can be stored too. Data can be sorted and displayed in graph form. At the end of the selection process, the report is printed out, neatly incorporating the school name and logo.

All comments are adapted to the pupil's name and sex, for instance: 'William usually enjoys class and group activities - he usually asks interesting questions about past events.' Attendance figures, including unauthorised absence, can also be displayed.

The finished product is an attractive, clearly-printed leaflet which gives detailed comments on the child's achievements in all subject areas. I imagine that most parents would welcome such well-presented information in compact form.

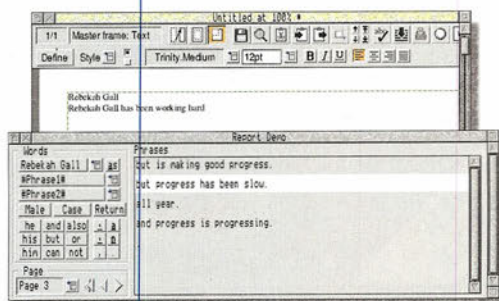
Although I use Acorn computers regularly at school, I would not describe myself as a computer expert. When trying out new software it can sometimes take a long time to decipher what to do. However, this was not the case with *NStore*. The screens and menus are easy to understand, and the accompanying booklet is quite simple to read.

The first screen shows the class register. After typing in the name of the class (e.g. 7A), pupils' names, sexes and personal details can be entered. It is then possible to select one pupil and move on to the National Curriculum records for that individual.

On the National Curriculum screen all subjects and level descriptions are displayed. Select the subject and choose the

statements which apply to the pupil. Next, simply click on the appropriate level description boxes.

One click indicates that the activity has been introduced to the child,



Report - used alongside a document processor - creates some very professional reports.

and may be transcribed on the report as 'Hannah is just beginning to...' Two clicks indicate that the child has performed the activity with the teacher's aid. This may translate as 'Hannah is developing her ability to...' Three clicks show that the child has performed the activity without aid, and may be translated as 'Hannah has developed the ability to...'

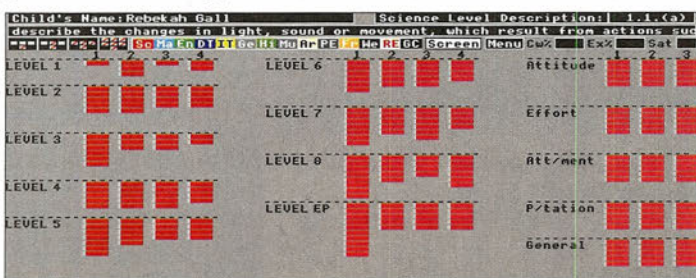
I found this particular method of recording achievement helpful. It is often difficult to keep such records neatly on paper without resorting to different ink colours and so on. I checked the level descriptions for French, and they have been lifted directly from the National Curriculum level statements.

Although this is, of course, helpful for teachers, I am less confident that it will be appreciated by parents as it is liberally peppered with educational jargon. In my department we have already agreed that many of the statements need to be modified before presenting them to parents.

Also, it is not always considered appropriate to write reports in the third person (William can...). Schools producing Record of Achievement-type reports often prefer to use the second person (you can...), allocating more personal responsibility to the individual pupil. There appears to be no scope for this in *NStore*.

I have some doubts about the appropriateness of generalised comment banks for attitude and effort, but *NStore's* comments seem quite reasonable as a starting point.

Attitude comments range from 'Hannah works with great enthusiasm in class, and has a very positive attitude' (A) to 'Hannah tends to interrupt lessons at inappropriate times, and often has to be reminded that she should take the needs of other members of the class into consideration, as well



NStore can display the NC targets as a graph for each subject.

Could do better!!

Writer's

Satisfactory year's work

cramp

as her own' (E).

Typical effort comments are: 'William is a very conscientious pupil, who always gives of his best in class' (A) and 'William greatly lacks motivation, and needs to develop a much greater level of self-discipline' (E).

Statement banks are also available for presentation and general comments. The general comments are perhaps the least sound part of the package and will need to be tailored to the individual pupil if they are to prove useful to parents. One example is 'William is a happy child who is popular with his peers'; however, it is a simple job to alter these in *Edit*.

One slight concern I have is that children often perform at a similar level in different school subjects. This means that different subject teachers may generate the same effort and attitude sentences, which could make repetitive reading. Alternatives are provided for each level, but it will be necessary for one teacher, perhaps the form tutor, to read through the report to check that there is not too much duplication.

These are minor quibbles. On the whole, I like the package and would be happy to use it, both for report-writing and day-to-day record-keeping. At £44.95 for *NStore*, it has to be a worthwhile investment for any Acorn school.

A demo disc is available from HS Software for £5 refundable against a purchase.

Further reading

Two other report writing and pupil monitoring packages were reviewed in the April 1994 issue of *Acorn User*. These were *CLASS* from Curriculum Learning Assessment Dept, LSU College (Tel: (01703) 228761) and *Report Writer* from CCS (Tel: (01422) 340524, fax: (01422) 346388). There was a demo version of *Report Writer* on the November 1994 cover disc and on the CD-ROM, and a demo of *Report* on disc 2 last issue.

In the May 1995 issue, Fred Grieve looked at compiling reports using more generic software such as *Impression* and *Ovation*. It is well worth reading these articles to get an idea of all the options.

Report

Report, which is produced by Room 20 Software, offers a more flexible approach to computerised report-writing, but this requires considerable input from the user. This will no doubt be attractive to many teachers as it produces a completely personalised document.

A basic statement bank is provided to use as an example, but the statements are too general to be of any real use: for example 'Hannah has picked up the language quite well during the year'. The teacher therefore compiles a comment bank and enters his or her own selection of statements into the program.

Obviously, this will prove time-consuming, but the end result will be a set of statements which have been tailored to individual requirements and can be used for many years. This gives the subject teacher much more scope to produce statements which are meaningful and appropriate, and will appeal to those people who dislike the generality of 'ready-made' statements, such as those in *NStore*.

Once the statement bank has been compiled, it can be used again, or adjusted if necessary (this is no small advantage, taking into consideration the number of changes which have been made to the National Curriculum in recent years).

When the name and gender of the pupil have been specified, sentences are automatically adjusted to refer grammatically to the named pupil. Conjunctions are provided in order that sentences can be linked to flow freely.

Once the statement bank has been entered, the report can be compiled on screen by pointing and clicking or by using an optical mark reader. The final report can then be exported for mail merging onto a master WP or DTP file. Examples of statements provided by *Report* are:

- William has found a lot of mathematics difficult.
- William has worked reasonably well with all things considered.

Report writing software

Contact details

HS Software

Tel: (01792) 204519

Room 20 Software

E-mail: sales@rmtwenty.demon.co.uk

- William has been working hard.
- William has made good progress with his mathematics.

Pupils can be selected individually, as teaching groups or as whole year groups for reporting, saving, printing or exporting. The maximum group size is 200, which could be useful for combining and comparing the achievements of several teaching groups.

I was interested in the use of the program for sequencing exercises in English and modern languages. Pupils could use a pre-programmed set of sentence banks to create a story or poem and then print out their own personalised version. This would be of particular use to pupils with learning difficulties.

As a non-expert, I found the instruction booklet quite difficult to follow, but I can imagine that if I were to set aside a couple of weekends, I could devise a simple statement bank and produce a set of reports for a Year 7 class which would be acceptable to pupils, parents and my head teacher. I would, of course, need to include suggestions for alternative wordings for each statement. Although the end result would be adapted to my own requirements, one of the main problems facing teachers is lack of time; for this reason I would choose *NStore* which requires fewer modifications, but produces less individual results.

However, I believe that *Report* is a useful and welcome application which will assist many teachers in the production of professional-looking reports which have an individual flavour. At £149.99 including site licence it is quite expensive, but a worthwhile investment for a school prepared to offer relevant training and support to its staff. A demo of *Report* was on last month's cover disc.

I am now looking forward to the program which takes one look at the pupil and then writes the report for me. **AU**
Any offers?

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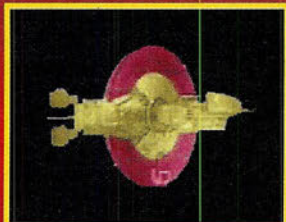
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SOFTWARE

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I'm a big fan of software which can be adapted for different subjects and for different levels. Because such software is context-free, it can be used at home for several years and hence represents excellent value for money when compared to subject-specific software which frequently is only suitable for a relatively short span of time.

At school, context-free software can be used across different key stages and

use *Gemini* with Modern Languages classes for teaching both numbers and colours.

More recently we've created files for learning the names of members of the family (mother, uncle, sister etc.) It's a great way to learn, and creating files for others to use can be a very rewarding exercise, but is simplicity itself. Each 'game' consists of a sprite file containing the pairs of pictures (up to 20 pairs) and a text file to tell the computer the

Versatile software

frequently staff can quickly generate material for students with different abilities. To use the latest jargon, differentiated material which could include work for students for whom English is not their first language or for those with special learning needs.

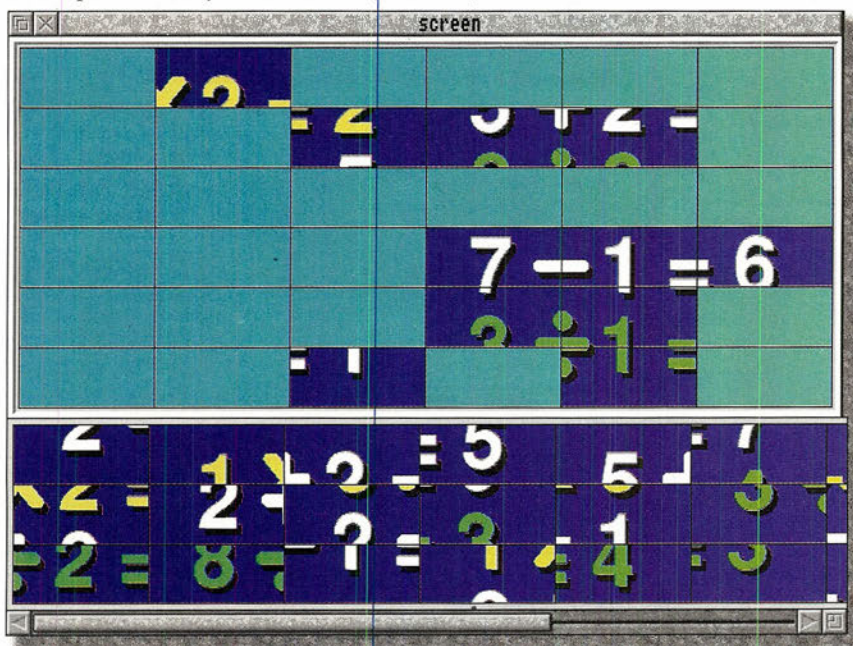
Gemini

CSH has had a great deal of success with *Gemini* which is based on the matching pairs game. The difference between *Gemini* and all the other 'Pelmanism' games is that teachers (or parents) can easily produce material for almost any subject. The material can then be used to teach or reinforce work in that particular subject area. At HWS, we

Geoff Preston looks at a couple of new programs from Cambridgeshire Software House which are non-subject specific.

correct matching pairs. Both files are placed inside a blue directory folder.

Two new programs, also from CSH, have just been launched and are also non-subject specific.



Puzzler splits a sprite into tiles. The missing tiles must be dragged into position.

Puzzler

This is aimed at Key Stages 1 and 2 and it is very popular. My six-year-old twins were immediately captivated and spent several hours using the program. It installs on to the icon bar and from there either sprites or squashed sprites can be dropped on to the icon. *Puzzler* then divides the picture into 36 rectangular tiles and displays a random selection of the tiles. Below is another window with the remainder of the tiles which must be dragged into the correct position.

The picture can, of course, be on any subject and with care can be used to reinforce or learn. The example picture is of sums and solving these helps locate the correct pieces.

What Do You Know?

This program was 'pinched' from part of CSH's *World of Robert Burns*. It's a multiple choice program which reads text files of questions and answers.

Each contains a number of questions with the correct answer and three bogus ones. The program reads the questions and randomly displays the correct answer with the three bogus ones. The user has to choose the correct answer by clicking Select over it.

I have one small reservation with multiple choice tests: they can degenerate into multiple guess tests. Another stumbling block is that when writing multiple choice tests, you must devise three incorrect but plausible answers.

This program is a well-worn theme, but this is an excellent implementation containing all the special effects that make software so popular with the younger ones.

Although squarely pitched at Key Stages 1 and 2, it can be used at any level, providing the content is suitable. Some examinations have multiple choice tests and *What Do You Know?* could be used to practise.

Conclusion

All three programs include an assortment of ready-to-use files for a wide variety of subjects and for different abilities.

More importantly, instructions are provided so that new 'purpose-built' files can be produced by either the teacher or the parent. This in itself is a fun activity and many slightly older children will enjoy creating their own files.

Gemini costs £19.95 + VAT; the other two packages are cheaper at £14.95 + VAT. **AU**

Contact details

Cambridgeshire Software House
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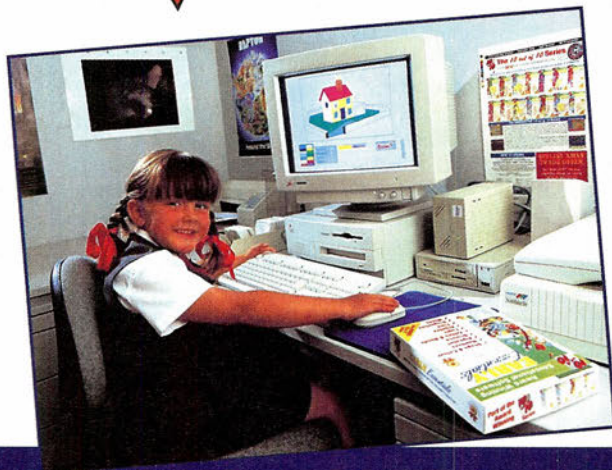
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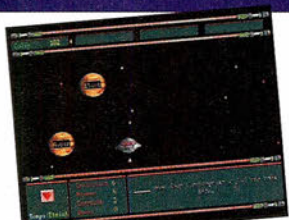
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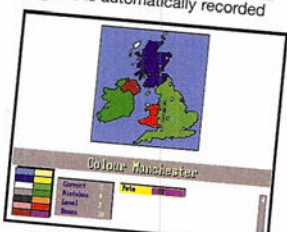
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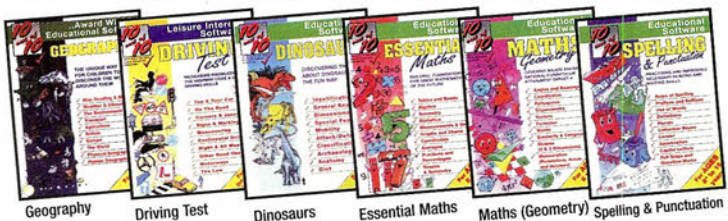
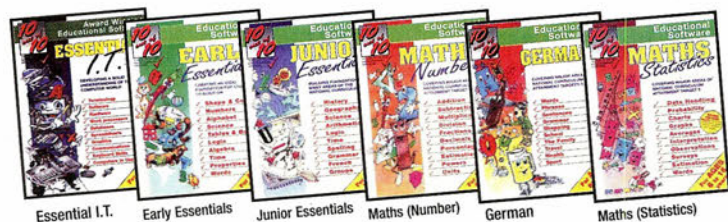


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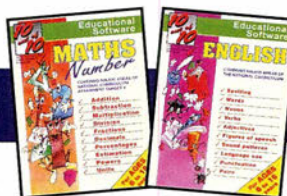
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Dyspell, the award-winning software package from Sally Systems, is aimed at providing an integrated learning system for dyslexic pupils. Sally Systems was founded for the express purpose of helping children with specific learning difficulties.

About the program

Dyspell is designed to help the pupil to improve spelling accuracy, increase speed, use the correct eye movement, develop long-term memory and improve eye to hand control. It is designed to help the teacher improve the use of his or her time by handling revision, practice and record keeping and it is designed to help the parent by maximising the benefit the child obtains from each hour of special tuition, in a fun way.

It is recognised that English spelling has been analysed into about 250 topics. Each topic has been presented in a tutorial which describes, with speech, the spelling or rule, how it sounds and where it can occur. The tutorial includes examples with graphics and sound to emphasise the rule, and ends with a display of the related wordbank.

Following each tutorial session is a series of graded games to reinforce the concept. These are divided into three themes; there is also an opportunity for the pupil to test familiarity with the letters of the alphabet. Each topic has its own word bank which can be added to using the edit program contained within *Dyspell*.

The teacher or parent can control many variables which makes it possible to personalise the running of the program to the specific needs of individual pupils. These variables are stored on the pupil's own personal disc so that the software can be configured for a wide range of needs.

Also held on this disc is the pupil's statistics file. This will keep a record of the score and time taken for every game played along with other information about the pupil's attainment. You can

Under another spell

Colin Rouse continues his look at software to help dyslexic pupils.

report attainment in a number of ways and print out a certificate of achievement. In addition to the statistical records, details are held of all the words on which the pupil made errors.

These can then be printed in a worksheet format for special attention or reinforcement.

As not all spelling practice is necessarily based on particular topics, *Dyspell* has a spelling sub-test system which allows the teacher or parent to establish a category or theme and set up wordlists connected to that particular area. For example, the names of characters and events from a particular point in history could be selected and applied to the spelling games and the print formats, thus providing relevance to the curriculum as well as developing spelling skills.

In the classroom

Having used *Dyspell* in my classroom I have found it to be a useful tool in developing skills in the dyslexic child and others with specific learning difficulties, although I have not yet managed to take advantage of the full range of options offered by the software.

Although simple and easy to use, time is needed to establish individual programs for pupils initially, using the option to develop personal pupil discs which store details of how the system is set up to run just for him or her. This would hold all the statistical information produced at the end of each game and the mistakes made.

I feel that this is a very valuable option but will initially use a lot of your time. Another point to consider is that, to run the program successfully, at least 22Mb of hard disc space is required and installation takes a (one-off) half an hour. Once done however you have a very powerful resource available to help those children with

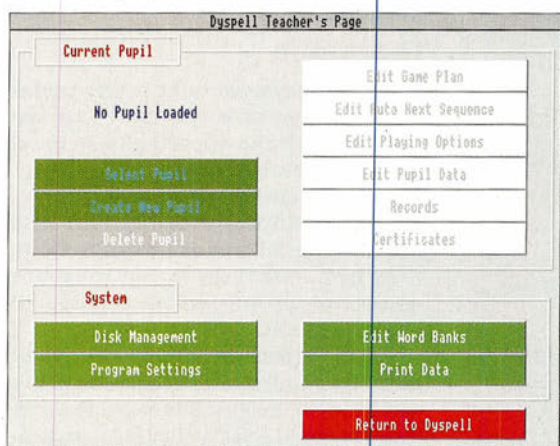


Can you build a bridge with words?

specific problems in this area of the curriculum.

Conclusion

Dyspell is a very comprehensive program for pupils with specific learning difficulties, though its price tag will put off home users. Its range of options allows for a wide variety of problems to be addressed in a selection of different ways and Sally Systems are pleased to advise accordingly. It would be a useful addition to any special needs software library if the teacher or parent has the time to establish the individual programs necessary to make full use of the software's capabilities. **AU**



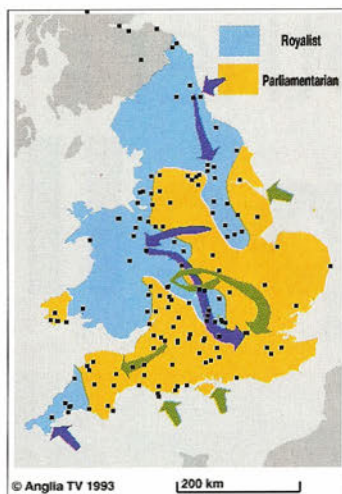
The teacher's master page, showing the numerous options available.

Product details

Product: Dyspell
Supplier: Sally Systems Limited
Tel: (01628) 24626
Fax: (01628) 782224
Price: £148.94 + VAT (Entry system £71.46 + VAT with modules extra). Site licences available at two and a half times the single user cost.

Pros: Very comprehensive • Can be tailored to meet the needs of individual pupils • Your own words can be added

Cons: Needs a lot of hard disc space • To set up all the options properly is time-consuming • Expensive



The temple of Nefertari . . .

. . . or the position of the opposing forces in 1642. Both for Key Plus data file packs.

Turning the key

Colin Rouse has discovered how to unlock the secrets of Anglia's Key Plus database system.

Key Plus by Anglia is the latest addition to its growing Key data-handling system. It is a powerful database program designed to meet the requirements of the National Curriculum. It offers an extensive and wide range of facilities in the handling of text and graphics, in statistical analysis and in integrating information for spacial mapping.

Key Plus's capabilities

This series of Key software is designed to provide progression in data-handling skills throughout the primary, school and beyond. Its files can be interchanged throughout the system with increasingly complex operations being available as the child progresses.

Key Plus offers a number of new features in addition to those of the standard databases, especially in the field of Geographical information.

Data plotted to maps can be scaled using numerical information and symbols can be dropped onto maps and stored for over-plotting. Added to this is a new facility which allows map features such as contour lines to be stored in data files and added to any Key Plus map.

I can see many uses within the classroom, especially in the fields of

Geography, Science and History.

Key Plus has all the facilities you would expect from a database, such as a variety of search choices, sorting options which include multiple choices, and the ability to display information in a variety of ways including a video facility providing you have the necessary hardware. Another feature is the ability to create your own display page if required.

As previously mentioned there is the opportunity to use maps within the database, a wide range of which are available from Anglia on floppy disc or CD-ROM.

Product details

Product: Key Plus

Supplier: SCA (Anglia Television)

Tel: (01268) 755811

Price: Between £60 and £180 (depending on the size of school)

Pros: Excellent support materials • Wide range of applications • Compatible with other Key files

Cons: Some time needs to be spent becoming familiar with the package

This gives the ability to display points from a single data file on all Key maps.

For example, if the class is studying land use it would be useful to look at the climate information and the soil type. Like all maps Key Plus maps can include a range of information such as contours, state boundaries, rivers, roads, railways, rainfall, sunshine hours or regions held by opposing armies. The real benefit of this advance is that the user decides what will be displayed on screen by switching on layers from a map legend. These maps are available from Anglia at around £22 each.

Key Plus also supports full graphing facilities such as pie, bar, line, scattergraph and offers the opportunity to create Venn diagrams from statistical information.

In the classroom

Using Key Plus in the classroom can enhance work in a variety of curriculum areas. I found it easiest to use one of Anglia's excellent data file packs to get started. The packs can be loaded directly into Key Plus and, where appropriate, are supplied with extensive printed support materials; the discs frequently include pictures and maps.

There are, at present, over 30 such packs supporting a variety of curriculum areas such as the natural world, a variety of historical topics, work in science, design and technology and geography. There is also the opportunity to obtain datafiles on CD-ROM. The packs range in price from £15 to £25 representing excellent value for money.

With no previous experience of Key Plus the children soon got used to the way in which the database worked. They soon learned to be discriminating in their choice of information – a necessary skill for the information age in which we now live – and found the graphics very useful when presenting their findings to others. Once they had discovered the way in which these data files were constructed it was relatively easy for them to design their own, and move on to interrogation of the data they had collected.

Conclusion

Key Plus has proved to be a very useful resource in my classroom providing the children with the opportunity to use a powerful database relatively easily. I would recommend using one of the prepared datafiles with Key Plus first before asking children to attempt to create their own, but these are an excellent resource to support work in a variety of curriculum areas.

One of the main benefits to come out of using Key Plus in the classroom was developing the children's ability to discriminate between useful information for a particular line of enquiry and information that was not relevant; very important in the age of the superhighway.

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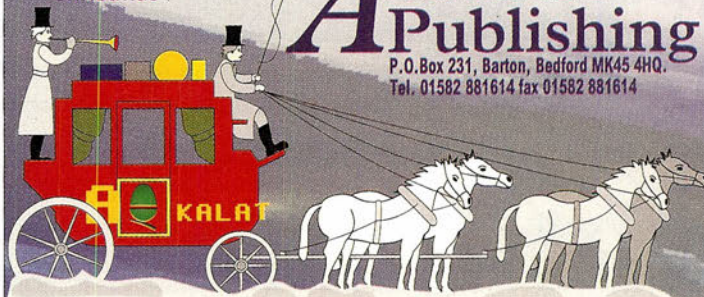
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When Acorn released the Archimedes range at the end of the 1980s there was virtually no software available for it. So, in its wisdom, Acorn produced a BBC emulator to encourage the take-up of the machine. Unfortunately, despite a number of upgrades, it never coped with 'illegal' machine code as used in many games. However, for all *Magic Mushroom* fans, Michael Borchers of Warm Silence Software decided it was about time the Beeb and Spectrum came back to life and set himself the task of writing full emulators.

The software is provided on one disc containing the emulators (which can be bought separately or together), some related 'free' utilities, a manual and a program called *Rip65Host*. An optional tape-reading program and hardware can be bought which allows tape-based software to be transferred on to discs via the printer port.

Both emulators are pre-coded with the purchaser's name and serial number – if you are buying this for someone else you will need to give details. Thankfully, no other copy protection is implemented.

Just as Acorn's PC emulator requires a copy of DOS, Warm Silence Software's two emulators (*6502Em* and *Z80Em*) require the operating systems of the machines they are going to become. While *Z80Em* has a pre-installed Spectrum ROM image (an 'image' of the OS ROM on disc), Acorn still keeps a tight copyright on the BBC series ROMs as much of the code is, in effect, present in RISC OS.

However, anyone with a copy of Acorn's *65Host* emulator already has a BBC model B ROM image; those with Risc PC or A7000 machines can request a free copy from Warm Silence. A small program, daintily dubbed *Rip65Host*, will copy the ROM image from Acorn's emulator to *6502Em*. If you own a Master or Compact, utilities are provided to copy the ROMs from these. The programmer is working on an Electron emulator as I write.

One of the most striking advantages of these new emulators is that once booted by the Filer they will intercept any BBC or Spectrum files you try to run. In other words, you can be looking at some of the old cover discs on the *Acorn User* CD-ROM, double-click on a BBC machine code program and will it run just like any other file.

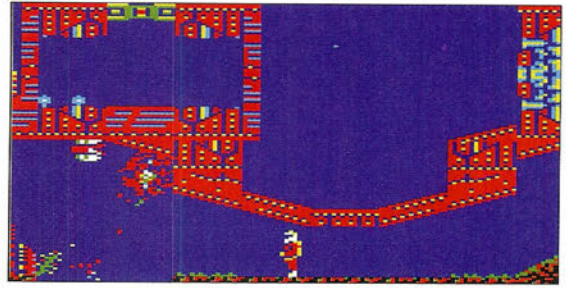
On loading either of the emulators a distinctly low-resolution icon appears on the icon bar. Clicking on this enters the emulator which displays a screen just as if you had switched on the corresponding machine. F12 will return you to the Desktop.

Each emulator's icon bar menu leads to an options sub-menu and enables a 'snapshot' of everything in the emulated computer's memory to be saved to disc. This allows you, for example, to play a

game up to a certain point, save it and then go back to it at a later point without the game actually having a save feature.

Sound is fully emulated (including the speech in *Exile*) as is BBC 'hardware scrolling' which is when a program tries to send messages directly to the BBC's video chip. The mouse can be used by games with a joystick option and the A3010 joystick port is fully supported.

So how do these emulators stack up when compared to real machines? Most emulated software feels as fast as if it were



Exile from Superior Software was hailed as the best adventure game ever created. Arguably, it still is.

Knight Lore returns

on a real machine. In fact, the emulators test how fast they are going and slow down accordingly (the BBC emulator allows this to be turned off). I performed a number of speed tests comparing the real machines with my ARM610 Risc PC and found that when running sound or maths-based programs, the emulators ran them at an accurate speed (or considerably faster with the exact speed option switched off). When running games which used hardware scrolling, the result was slightly slower but still very acceptable.

I tried running several hundred games on the emulators and all worked fine, including *Exile*, *Knight Lore*, *Elite* and *Revs*. The optional tape-reading software can handle cassettes with a number of files of the same name, which is not normally allowed on disc. It does this by saving to disc a single file containing all of them. When this is run, the emulator appears to load the files as though off a tape, taking as long. A 'snapshot' can be taken afterwards to speed up the process.

Anyone missing just one BBC or Spectrum game should seriously consider buying the emulators. However, they are far from being just for games players. Many research establishments and primary schools are still using BBC computers. And, if you do want to play games, a Spectrum CD-ROM is available containing roughly 3,000 games: a BBC CD-ROM is in the pipeline, copyright permitting.

Alexander Singleton
takes a trip down
memory lane with
the new BBC and
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Pros: Run virtually all BBC and ZX software

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Cons: No Master or Compact image supplied

- No tutorial or interactive help • No real Atom or Electron emulation yet

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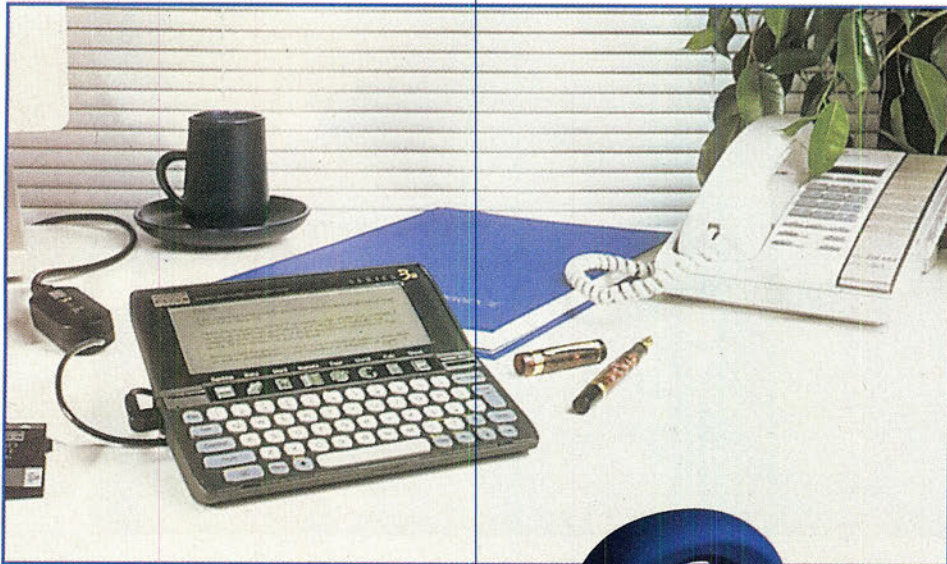
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Questions & Answers

Q After successfully writing a password program for my A4000, I have discovered that it is open to Shift-double-clicking. Is there any way of stopping this?

Tony
London

A Not easily. I have seen one form of protection where an application had a second pseudo-application inside with a !Boot file which closed the directory as soon as it was opened, using:

```
Filer_CloseDir <Obey$Dir>.^
```

Unfortunately this too is easy to get round, as if you hold down Ctrl when opening a directory the Filer won't boot any of the applications in it. There's also very little you can do about someone going through the directory structure using the command line.

If you are up to the challenge, you could always create a partition on the disc and store your files in that. If you use a suitably encrypted filing system and a good password algorithm then it wouldn't matter if anyone broke into your application, because they still wouldn't be able to get at your data.

Q My father has a Psion 3a mini computer, like the Acorn Pocket Book II. Can he transfer files to our A5000 using the A-Link software, and if so will this work on a Risc PC 700?

Simon Wilson
Wellingborough

A Yes. There should be no problems at all with this. The Psion Series 3a and the Pocket Book II are interchangeable as far as connecting them to other machines is concerned (as indeed are the Pocket Book I and original Psion Series 3). Make sure that you get the latest version of the A-Link software to run on the Risc PC - version one will not run.

Q I was interested to read the answer to a letter from Nigel Parker in the November issue of *Acorn User*. I have an A5000 with a Cumana CD-ROM drive attached to the computer parallel port, and an HP500C printer connected to the CD-ROM drive's extra printer port via *Impression* and *ArtWorks* dongles.

After start-up the system fails to print unless either the CD-ROM software or *Impression* is started. I wrote to Computer Concepts and thought that readers might find the advice of Mr A J Richardson (Technical Support Manager) useful:

'An interaction between OS diagnostic routines and hardware key tolerances can prevent data from exiting the computer until the parallel port is reset - by loading *Publisher/ArtWorks*. When the OS diagnostic routine checks the presence of the parallel port it does not reset after the test.'

Mr Richardson kindly sent me a utility called *Dpatch* (which does nothing more than reset the parallel port) and since including this in my boot sequence there has been no further problem.

John C Jones
Alton

A Hats off to CC's technical support for solving the problem here, which I believe only affects older dongles. If you are having similar trouble, you now know the solution.

Q In Questions and answers in the December 1995 issue, your answer to J William Kay about modem speeds misses the point entirely.

I don't know what an A3000 serial port is or isn't capable of, but it's irrelevant, as the 'reliably connect at 14400 to Demon'

refers only to the speed the modems have negotiated. The report

CONNECT 14400

comes from the modem.

The computer-modem speed is independent of the connection speed, although as you state it makes sense for it to be two or four times greater. Incidentally, according to the RISC OS 3 PRM, there *isn't* a 14.4 speed for the serial port - there's nothing between 9600 and 19,200.

Adam Curtin
adam@ifeng.demon.co.uk
<http://www.ultranet.com/~acurtin/adam.html>

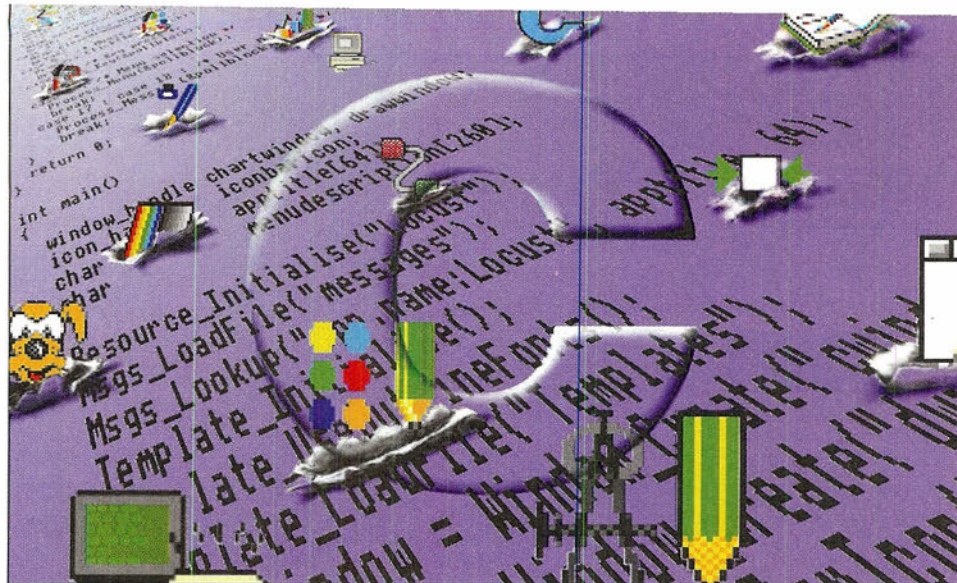
A I think that 'misses the point entirely' is a bit harsh - I did explain why you can need a faster serial port than you might expect, which was the main point of the question.

I agree that the speed that the two modems communicate at (which is the one reported as the 'connection speed') has no bearing on the speed at which the computers at either end talk to their modems (which is the speed set in, say, *Hearsay* as the TX and RX rate). However, if the computer to modem speed is less than around four times greater than the modem to modem speed, you won't be getting the theoretical best out of your system.

Obviously if your modem to modem speed is 14,400bps and your modem to computer speed is only 9600bps, then 9600bps is the maximum that you're ever going to transfer data at. The modems will send the data in short bursts, constantly filling their buffers as they wait for the computer to catch up.

AU

JACK KREINDLER



C for yourself

Steve Mumford starts to look at the initialisation of a WIMP application.

In this month's tutorial we start looking at the SWI calls needed to register a task with the WIMP. We concentrate on the WIMP's polling mechanism and the syntax associated with the various calls. Once we've got that under our belts, we can move on to their implementation.

Firstly, our prospective WIMP program must have been designed with a main loop at its core, so that when multi-tasking we can listen out for events we're interested in and call the appropriate functions from within that loop. Before we can actually start to multi-task, we have to inform the Task Manager that the code is both ready and suitable. On the same theme, we must remember to tell the Manager when the program is about to terminate.

So, how does the WIMP communicate with our prospective application? At the start of the main loop, we interrogate the WIMP to determine whether we have received any events since the program was last active. For instance, these might be due to a mouse click or a pointer entering our window. If so, a data block is passed back to the code including all the relevant information, and we can then act on it by calling separate functions as appropriate.

When we've dealt with all the events that have arisen, we pass control back to the WIMP. If there have been no events relevant to our program, we can return immediately and so minimise on the system time taken up.

In brief then, we need three functions so far –

an initialisation, a poll and a finalisation routine. These are supplied as Acorn SWIs with the names **Wimp_Initialise**, **Wimp_Poll** and **Wimp_CloseDown**. Now we know what the system calls are, here's the information we need to pass to each of them.

Wimp_Initialise is the SWI that registers our task with the WIMP, and it takes values in the registers from 0 to 3. In register 0, we must pass a number equal to the version of the earliest WIMP we can use, multiplied by 100 to convert it into an integer. This is to prevent compatibility problems when programs making use of the newer versions of RISC OS are loaded on older machines.

Next, we need to introduce ourselves as a program that can cooperate with the Desktop, and this is done by passing a particular value back in register 1 – &4B534154. This value might look a little cryptic at first, but it's the hexadecimal equivalent of the word 'TASK'.

The last vital piece of information to supply is an address in register 2 that points to a short string – to be used by the Task Manager in its application display. It's possible to pass another value in register 3 informing the WIMP as to which messages interest us – however, at this level we're still interested in them all, so we can set register 3 to 0.

If all goes well, **Wimp_Initialise** should return two values – the current WIMP version number multiplied by 100 in register 0 and a unique task handle in register 1. This is just an individual numeric name that's been allocated to us for the duration of our execution.

To interrogate the WIMP about any events we've received, we need to call **Wimp_Poll** with the address of a prepared 256-byte data block passed in register 1.

Again, it's possible to make things more efficient by passing an event mask in register 0, but for now no mask is required. After the SWI returns, register 0 contains the code of the event that's just occurred. We can then deal with that by examining the data placed in our poll block and calling other parts of our program as appropriate.

Finally, the **Wimp_CloseDown** call informs the WIMP that our program will be terminating – we simply pass our task handle in register 0 and the 'TASK' hexadecimal value mentioned earlier in register 1.

● That's all I've got space for but next time we'll start to fit these calls into the skeleton of a C program and take a quick look at how the various WIMP libraries available deal with the problem. See you soon.

AU

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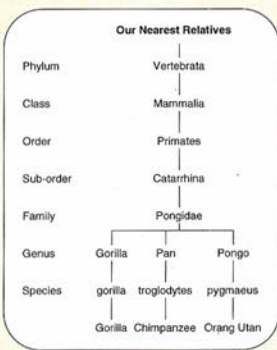
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RISC

When is a bargain not a bargain? When it's not what you bargained for. That's true whatever the price. If it's not what you're expecting it is no longer a bargain. I'm not talking about the 486 card but another disappointing buy from Acorn.

Mind you this was my fault; there I was at the computer show with my Clan Acorn bargain list when I spotted the AKA12 MIDI interface going for a song. My son Alec had just started getting interested in music composition and I thought that a MIDI interface for his keyboard would be just the thing, so out came the plastic and delivery was promised in two weeks.

When it arrived and was prised out of its box, scattering plastic squiggles all over the place, I immediately spotted my mistake; it was designed to fit internally in an A3000 and I don't have one of those. No mention was made of this on the bargain sheet but I assumed that Acorn thought a Clan member should know better.

Now I do know a bit about the architecture of the ARM computers and I know that they are all very similar, so I began to wonder if it would be possible to convert this interface to use it in my A310 or Risc PC 600. I felt sure that the electrical signals could be matched but what about the software? Would this be tied to running in just the internal slot space of the A3000?

As you might have guessed, I achieved some success or else I wouldn't be writing this now, but let me take you through the project.

What is MIDI

For those of you not familiar with the term MIDI, it stands for Musical Instrument Digital Interface and was originally designed for letting one synthesizer trigger another. It's been around for many years and now with the advent of computers it is finding many uses in composing and recording music. From the electrical point of view, a MIDI signal is quite simple – it's just a standard serial interface but running at a very non-standard speed of 31.25kbaud.

This might seem a strange speed, but it was arrived at by making the hardware simple. A UART is a chip that converts serial to parallel and back again and this needs clocking at 16 times the baud rate. Now a 1MHz crystal is cheap and easy to get and if this is divided by two – again another simple circuit – you get a clock of 500kHz. Feed this into a UART and 500/16 gives you 31.25kbaud.

This is much simpler than computers which are tied, historically, to doublings of the 300baud speed. If you were to design your computer with this in mind you could have a MIDI interface using the same hardware as the standard serial interface. As far as I know, only the Atari ST did this and so for a time there was a lot of music

Mike Cook gets the MIDI blues.

software for this machine. I could have simply designed a MIDI interface to plug into the printer port but then I would have had to write all the MIDI SWI calls to make it compatible with other software on Acorn machines.

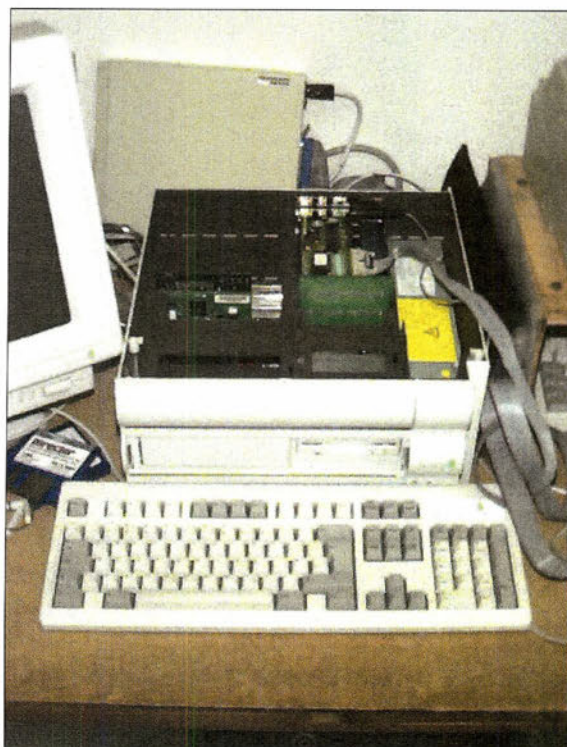
I thought a MIDI interface would be useful not only for Alec but also for me in these articles, as I have some ideas for novel musical instruments and with a MIDI connection I could get them to sound quite good as the sound would be played on dedicated instruments. So how could I adapt the board I had to my computers?

Squaring the circle

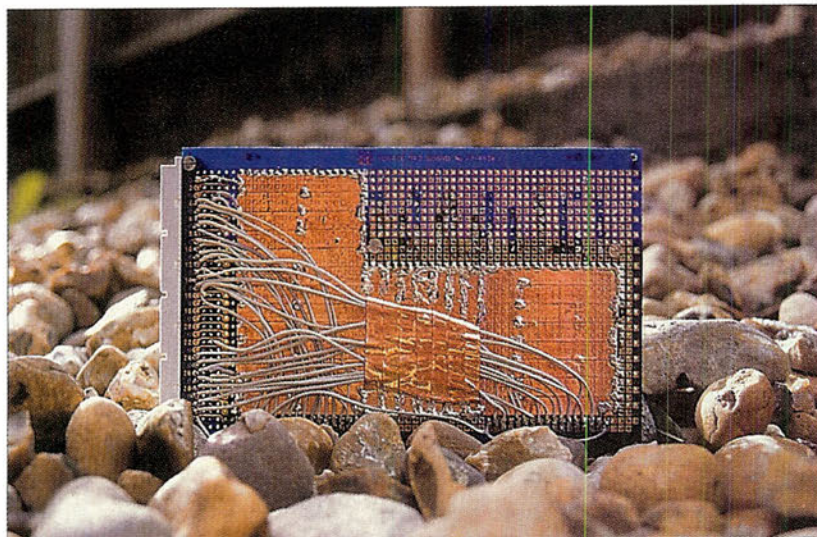
The first major problem was a physical one. The A3000's internal podule space is a totally different shape to most other Acorn machines.

Basically it's a 68mm by 160mm board fitted with two 17-way 0.1 inch pitch in-line connectors. The space for normal podules is a standard single Euro-card fitted with a three-row 64-way plug. A standard Eurocard is 100mm by 160mm so, in theory, the interface should fit on a card. Unfortunately, the standard plug on the Eurocard intrudes 12mm into the board thus reducing the space available, so on the face of it there was simply not enough room.

On closer inspection I saw that there was not much on the right hand end of the AKA12 board, and if I relocated one decoupling capacitor I could trim



The new interface card in position inside Mike's Risc PC.



The back of the board showing the copper ground plate

13mm off the end of the board and (just) fit it on a Eurocard. However, before I did this I had to remove the back panel from the AKA12 which was pop-riveted on.

It's quite easy to remove pop rivets if you get the right size drill as most of the hole is ready drilled for you. A 1/8in drill was perfect and it came off quite easily (this was the point of no return, as once I had drilled the panel off I couldn't sell it).

Now to move the decoupling resistor C4; this needed to be unsoldered from its position on the far left of the board and moved 5mm to the right. It was re-soldered with one wire on the first of the resistor-like zero ohm links and the other wire in the solder hole opposite it. This can easily be identified as there is a thick copper track going to pin 2 of the 17 way SK5 plug. Next I soldered a wire from pin 1 of this plug to the junction of the capacitor and zero ohm link, because chopping the end of the board would disrupt this connection.

To chop the end of the AKA12 I scored a line straight through the holes where C4 had been. By making several strokes with a sharp hobby knife on both sides, the fibreglass printed circuit could be easily snapped without tearing. Stage one complete; I now had a board that I could think about fitting in a standard podule.

Wiring up the new board

The next stage was to mount this board on a Eurocard board. Fortunately I had one of these going spare that I had built a circuit on many years ago. Most of the components had long since

vanished into other projects so I set about stripping it down. If you can't get hold of a scrap board, buying a new one would probably set you back more than you would gain from doing the project so your only choice would get a piece of fibreglass board – say some PCB material – and drill the holes to suit the plug.

The pins on the board were lined up with the holes at the edge of the Eurocard and pushed home. Then the pins were snipped off to leave just 3mm showing through the board and finally the pins were pushed over. I drilled a hole in the Eurocard where one of the pop rivets had been so I could secure the board with a 4BA bolt. However the other pop rivet hole was on the section of the board that I chopped off and so I had to drill another hole between the MIDI sockets and the 20-pin header.

Now, before I wired up the AKA12 to its new socket I decided to act with a little caution. The point about laying out a circuit on a printed circuit board is that there is less chance of picking up interfering signals. This is especially true if there is a groundplane on the board.

A groundplane is simply a large area of copper, normally sandwiched in the middle of the board, that is connected to the signal earth or ground. As the wires run close to this it forms an effective shield against interference. So, as I would be extending the signals from the Eurocard plug to the AKA12 board, I thought I would install a groundplane first.

I did this by laying out strips of 6mm wide self-adhesive copper foil along the back of the board. I carefully placed the foil so that the adjacent strips just butted together and then went round with a soldering iron tacking the strips together. Finally I attached the sheet of copper to zero volts; that's pin 1a and pin 1c of the Eurocard plug.

All was ready to wire up so I next consulted the technical reference manuals for the A310 and the A3000. Basically the internal expansion card of the A3000 is a subset of those normally available. It is configured as Podule 1, Module 1. There was a bit of discrepancy in the labelling of some of the signals between the two machines but I managed to sort out a wiring table shown in the box.

Then came the tedious job of running wires between the Eurocard's plug and the AKA12's pins. I used thin multi-stranded wire and made sure that they ran as close as possible to the groundplane. There is only about 0.5mm of the Eurocard plug's pins sticking out so you have to be very careful with your soldering.

The secret is to have only about 1mm of wire sticking out through the insulation and then 'tin' it. 'Tinning' means applying the soldering iron and a little solder; you will see the solder flood between the strands of wire. The applied heat usually makes the plastic insulation retreat a little so after tinning the wires are re-trimmed. Then place the end of the wire against the pin and apply the iron and a small amount of solder.

This was such a boring and repetitive job that I did it in three separate 20-minute sessions over three days. Having made all the connections I finally ran about seven strips of copper over the

Interface wiring table

AKA12 SK5 pin	Name	Eurocard
3	/PRE	15c
4	PR/W	13c
5	LA[4]	13a
6	LA[5]	12a
7	LA[6]	11a
8	LA[7]	10a
10	LA[8]	9a
11	LA[9]	8a
12	LA[10]	7a
13	LA[11]	6a
14	LA[12]	5a
15	LA[13]	6a
16	/PIRQ	16c
SK6 pin		
2	/PWE	14c
3	/Ps1	22c
4	CLK2	27c
5	LA[2]	15a
6	LA[3]	14a
7	BD[0]	31a
8	BD[1]	30a
9	BD[2]	29a
10	BD[3]	28a
11	BD[4]	27a
12	BD[5]	26a
13	BD[6]	25a
14	BD[7]	24a
15	/RST	12c

Power connections:

0 volts: SK5 pins 1 & 17, SK6 pin16, Eurocard pins 1a, 1c, 3c, 4c, 26c

5 volts: SK5 pin 2, SK6 pins 1, 17, Euro Card pins 30c & 32a

bunch of wires going to the furthest connector.

Now I'm not saying that all this messing about with copper foil is essential, but it can't do any harm. You can get copper foil strip from craft shops where it is used to run round the edge of stained glass when making lamp shades and planters.

Plug in and play

The moment of truth; I plugged it in and powered up the computer. Pressing F12 to get to the command line and typing in ***Podules** revealed the news that – joy of joys – 'Midi and User Port internal podule' was in slot number three.

To test it out, the AKA12 manual tells you what steps to go through to get your MIDI keyboard playing the computer's sounds. It's simply ***midisound in** and again success – it was working! Actually, being honest here, it didn't work first time; after an hour of fiddling and checking I found out I had missed an interrupt signal wire off my wiring table. But, when that was in place, it worked.

I tried a few PD programs and commercial demos and they confirmed that the system was performing well. I liked Riff, this would generate a random pattern, repeat it and add extra notes. This resulted in a minimalist sort of sound reminiscent of Philip Glass – it's on the cover disc if you have a MIDI interface and you're interested.

The User Port

The AKA12 also has a User Port as well as the MIDI interface and the manual's instructions to test that did not work. For some reason the OSBYTE calls kept producing an error message of command not recognised. However, I was able to access this by using the 'Podule Raw Read' call as described on page 147 of volume four of the PRM.

The only problem with this call is that you need to know the offset address within the podule of the User Port. The AKA12 manual was not very helpful; it did provide an offset address but this was wrong, so how could I find it? Well, I know that a VIA powers up to act as an input, therefore I connected the User Port as an input and grounded the least significant bit. This gave a value of &FE or 254 when it was read.

Then I wrote a short program to look at every address in the podule until it found 254 – in that way I could find the base address of the VIA. It turned out to be &800, with each successive

register of the VIA occupying the next 15 locations. There is a small test program on the cover disc that illustrates reading and writing to the User Port.

Fitting connectors

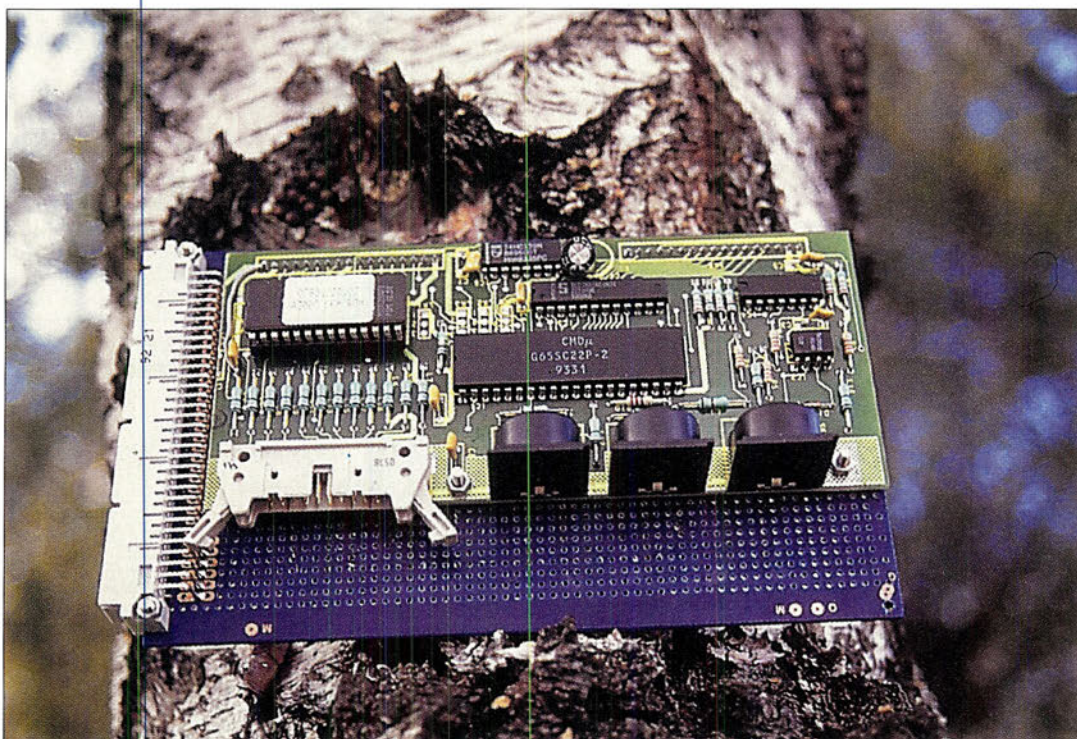
The only remaining snag was the clearance for the MIDI connectors; there is only 28mm between the sockets and the edge of the board on my RISC PC 600 and the power supply is in the way of the MIDI connectors in all but the top slot. As a temporary measure I could get round this problem by removing the plastic covers from the MIDI lead's DIN plugs, but this meant removing the lid from the computer every time I wanted to plug something in.

To get round this I installed a 6-pin DIN socket at the corner of the board facing outwards and wired this up to bare plugs. Then I made a small box that expanded this 6-core connector to the normal three MIDI sockets. Finally I made a small metal bracket to fix on the back of the Eurocard and bolt to the back of the computer.

I did not make provisions for bringing the User Port connections out but this can easily be done. What you need is a 20-way IDC (Insulation Displacement Connector) socket and plug. You can mount the plug either on the back of the bracket or bring it out on a flying lead.

Having got a MIDI capability I can now set about designing projects that can make use of it as either input or output. My initial thoughts are that on the input side you can take the stream of MIDI data from an instrument playing and use it to control graphics and shapes. On the other hand you can take all sorts of sensors and convert them into MIDI data and have your MIDI keyboard turn them into sounds. Whatever I do, rest assured I will let you know as I **AU** continue to Run The RISC.

The A3000 podule had to be cut at one end to fit on a standard podule.



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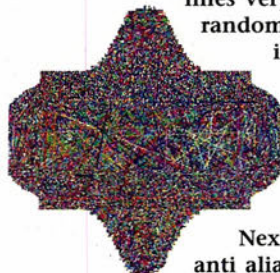
Dave Lawrence and Dave Acton present more programs, tips and techie trivia from beyond the PRM.

Lines of attack

Author: Jan Vlietinck

Here's a collection of three graphical ditties based on the surprisingly simple concept of drawing straight lines, but with our old friend Jan Vlietinck at the helm you can be sure that the results are far from boring.

The first, *Hyperline*, demonstrates a method of drawing lines very quickly. The routine is fed with randomly generated start and end points in a 256x256 grid. The lines are plotted and also clipped to a rectangular area which can be changed by moving the mouse. The algorithm for drawing the lines uses only three instructions per pixel drawn.



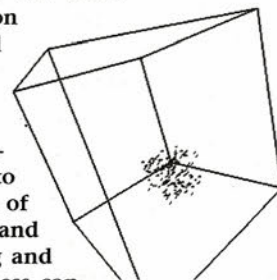
Next up is *AntiAlias*. This shows how anti aliasing can be used to great effect to smooth off nasty jaggies along the edges of

lines. A number of slowly rotating lines are drawn radiating out from a central point.

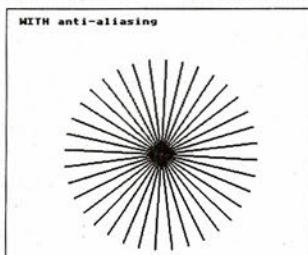
Every second or so, the display is changed between ordinary lines and anti aliased ones – the difference is really quite striking. The mouse can be used to move the pattern around the screen. This also demonstrates the clipping used.

Of course you do have to pay for this improved display with a slower line redraw

and the use of more colours. The trick behind anti-aliasing is to work on a finer grid than the physical screen dimensions of 320x256 pixels. For an arbitrarily positioned 'virtual' pixel, up to four 'real' pixels would need to be plotted. The intensity of these set to be proportional to the amount of the overlap of the virtual pixel and the real pixel. For lines starting and ending on real pixels, the process can be simplified to setting only two pixels per virtual pixel.



The final demo from Jan is *3DSwarm*. This demo is inspired by the Unix *2d-Xswarm* screensaver but taken one dimension higher; it also uses anti-aliased lines for the bees and wasp. One line bounces around in the rotating cube – this is the wasp. The other lines are the bees swarming around it. The engine behind the animation is an attractor kind of algorithm, with speed limits on the bees' movements. With anti-aliased plotting, practically all the artefacts associated with near vertical or horizontal lines are absent. The mouse buttons can be used to move or zoom the view.



Singing corner

Authors: Mr Adamson and Barnaby Rowe

Having managed to avoid the perils of Stinky Gordon last month, here as promised is the second instalment of seasonal music from regular MIDI-ite Mr Adamson. Not much more we can say about these especially as we've got to meet for cross-country on the gym lawn in 10 minutes...

By way of contrast with these classical tunes, you'll also find a techno-acid-rave-jungle-garage-dub-house Digital Symphony type piece on the disc. This comes courtesy of Barnaby Rowe (ARMan). This can be played from *Flux* (on the June 1995 cover disc) or any other music player that

can handle compressed *Digital Symphony* files.

As always music, in any form – MIDI, Tracker, *Digital Symphony* or Maestro can be submitted to us at the usual address. But please, no more Christmas cards – at least until next year.

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Up to date

Author: James Miskin

This is an extension of a program originally for the PC that was ported onto the Arc by James Noad. According to James Miskin, the original Arc version was very good it did have some draw-backs. He has provided the solution:

'It was not possible to select another date other than Today,' writes James. 'Although the program was designed for the current day, the original PC version did allow you to change the day. To add new days you had to use Edit and put in all the codes for date, year, type and day yourself. Although this would be possible I thought that it would be better if the program could do it.'

'The Arc version, although run from the Desktop, was not fully multi-tasking and I wanted a multi-tasking version to make it even easier to use with other programs.'

This new program has all these features. When it is run by double-clicking its icon in the Filer window you get a main window with all the records for the day on which you run it. There is also a line of icons across the top.

The first two alter the month and day; Select will increase and Adjust will decrease the value. 'Scan files' will take the new date that you have selected and bring up all the records for that date. The Search icon will bring up a window allowing you to perform searches in the files for specified items. The 'Add date' icon will show a

window allowing you to add data to the files on disc. This will then allow them to be found at a later date by the program.

To perform a search you must first set up the search string, which can be anything that could be in the text. The program will then scan through all the files for any record with your search string in it (you can also use '?' as a single character wild card). The three tickable icons on the right of the window allow you to select the types of record allowed.

The range facility will allow you to ignore records that are outside a range specified. To make this facility work you have to select the 'In range' icon. There is a maximum of 255 records or a little more than 30K of search text; going above either of these will cause an error. Assuming you are specific enough, these will not occur.

To add a new record to the file, select the date for the entry with the three white icons on the left. The type can be set with the three tickable icons. The 'Own file' and 'Month file' options allow you to set which file the entry will be added to.

The special day section allows you to select whether to have a special

day and which day it will be. Having a special day allows you to have dates which will only show on a certain day. For instance, if you were to have a record with a special day of Sunday, the record would only appear on a Sunday. This allows you to put dates in that are on the first Sunday of a month, or on specific days like Father's Day.

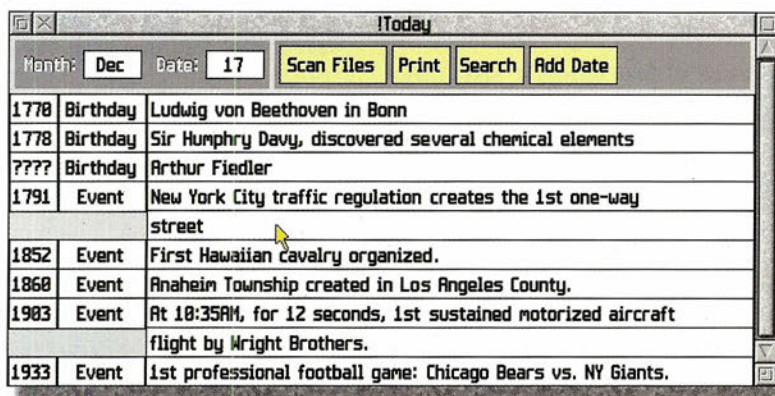
The 'Record date' icon allows you to save it to file and the 'Clear text' icon will clear the five text icons at the bottom of the window.

If you wish, you can edit the text files in a text editor

month or day cause ALL months or days to match when being scanned. For example 0001 would match the first of every month while 0400 would match every day of April.

Columns 6-9: The full year of the event as four digits, which may be left blank.

Column 10: A special processing flag. This may be blank for no special processing, C to continue a message from the previous line (note that you *must* repeat the date fields) or a day-of-the-week digit where 1 is Sunday and 7 is Saturday. A day-of-the-week entry will cause the mes-



The day today, on 17 December.

provided that each line is followed by a newline character and also that there is only one newline character at the end of the file. The format for an item is as follows:

Column 1: the record type, which can be a B for birthdays, S for special dates in history or R for a reminder.

Columns 2-5: month and day as MMDD with leading zeros. Zeros for either

sage to display only if the date falls on a certain day of the week - look in the November file for voting day examples.

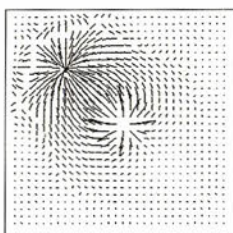
These columns should then be followed by the text and a newline character. If you want to add items with a text editor you must make sure the format is correct because the program will not check for you.

Iron filing system

Author: Sam Fernando

Sam Fernando is the creative force behind this latest of classroom physics experiments to be converted to the screen.

IronFile2 and *IronFile3* give the game away in their titles really. On screen is an array of 'iron filings' - single dots in the case of *IronFile3*, short lines in *IronFile2* - and the pointer, which has become mysteriously magnetised, has the sort of effect on them



you might expect. You may find the dot version faster, for obvious reasons, although both programs are entirely in code and so zoom along very respectably.

We're not entirely sure if this is an accurate simulation, or indeed if it is a simulation at all. The code looks pretty clever and the result is pleasing to the eye, so no matter anyway.

Get it taped

Author: David Seery

A fiendish exercise in intelligent programming now from David Seery of Lancashire. He wrote his *FitTapes* utility for a department in an inner-city Manchester school that wanted to rearrange its video resource although, as the author points out, the program could be used in any environment where a 'best fit' solution is required.

The utility is non-multitasking so is best run in a task window. The syntax is:

```
*FitTapes -s <source file> -o <output file>
```

The source is a text 'script' file and the program uses fairly sophisticated lexical analysis to decode it. David explains how:

'Videos may be declared by a construct of the following form:

```
video <video_length_specifier> id1, id2, ... ;
```

where **video_length_specifier** declares the length of the video and is one of either e60, e120, e180, e240, e360 or e480. As many video declarations as you require may be present in the script.

FitTapes allows programmes to be considered members of specific categories, which are grouped together when calculating the best fit. Categories may be declared in the following manner:

```
categories { <category_name> , <category_name> , ... } ;
```

Finally, programmes themselves are

declared with the programme construct:

```
programme {
  from <source_video>;
  starts <start time>;
  ends <end time>;
  category <category_name>;
  precedes <programme_name>;
  follows <programme_name>;
} <programme_name>;
```

'All programme names should be enclosed in quotes and the times are in the form 'hours minutes seconds'. The **category**, **precedes** and **follows** declarations are optional.

FitTapes only allows either a **category** declaration or one or both of **precedes** or **follows**, and will complain otherwise. The declarations within the programme construct may appear in any order, as may the **video**, **categories** and **programme** declarations. However, all videos and categories must be declared before use.'

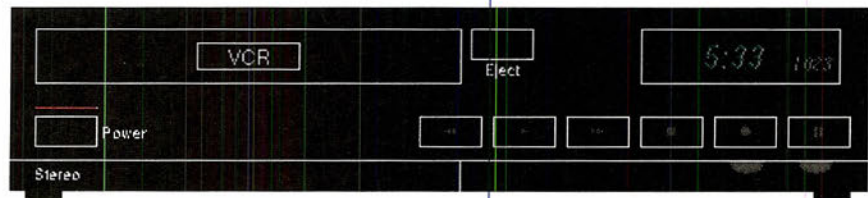
For neatness, the script should start and end with **begin** and **end** respectively. Naturally, a simple example (*testdata*) is supplied on the disc.

FitTapes's methods are related in some way to the *Ominoes* competitions (*INFO, Feb 93). *FitTapes* uses a brute force method to attack the so-called packing problem because it has all the data available to it at the start. It will always produce the best result.'

The algorithm that actually does the work is – as you might expect – recursive and in fact is only 36 lines long. David freely admits that a more intelligent algorithm could be devised, although the current version does save time by avoid permutations that don't meet the **category**, **precedes** or **follows** criteria.

The output file includes many details, including a breakdown of the final 'best fit' and the total wasted tape time. It concludes with a list of directions about copying programs from the source videos to the more efficiently arranged destination ones (note that the program assumes that you have a separate set of blank videos to copy to).

If you are running on RISC OS 2, make sure that you have the *CLib* and *FPEmulator* modules loaded before you run the program.



Vibe trio

Author: Jan Vibe

*INFO just wouldn't be the same without a graphical ditty from Mr Vibe. And one Vibism wouldn't be the same without two more.

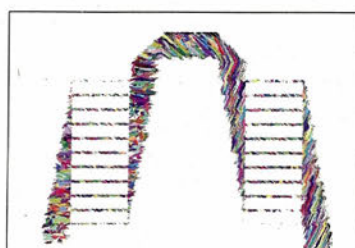
Plant and *Gate* are exercises in use of the block move command, also known as **PLOT &BD** (or **RECTANGLE FILL TO**). By repeated use of said command, a random source of coloured triangles can be sucked along channels to build up an interesting image. *BlackHole* takes the idea one stage further, as the man himself explains:

'Powerful as the **PLOT &BD** command is, it can only be used to scroll graphics vertically or horizontally. What I wanted was a procedure which scrolls the contents of a line on the screen along the line in any direction. A sort of

graphic conveyer belt. This is achieved with the procedure **PROCL** [nice name, Jan], which takes six arguments: start point and end point for the line, the width of the line, and the distance the contents of the line are to be moved. The contents are always being moved towards the endpoint.

'It works by grabbing as a sprite that part of the screen where the line is located. The line is drawn "in" the sprite's mask and the sprite is plotted on the screen again. You can make some strange graphic displays with this procedure.'

In fact there are a couple more examples of this cunning technique from Jan which will be appearing in these pages soon.



A bit pointless

Suggested by: Adam Iley

Adam Iley of Northumberland has sent in a nomination for our long running 'most useless system call' competition. His suggestion is the frighteningly pointless:

```
SYS "XOS_GenerateError"
```

Clearly, without the X the call is invaluable, taking in R0 a pointer to an error block and invoking the current error handler. However, with the X, the call just meekly returns. 'Even the manual', Adam points out, 'says this is not very useful.' What is the point, after all, of a call to generate an error that doesn't?

Well, the call *does* have one minor purpose. It sets the V flag. It is not, we freely admit, the most efficient way of doing so, but it gave us the idea of using a few column inches to expand on just how you can best alter flags in the Processor Status Register (PSR).

Long gone are the days of the 6502 where to set the carry flag a simple one-byte instruction would do nicely. As you will no doubt know, the ARM uses a single register – R15 – for both the program counter and status flags. Figure 1 shows the set up. Bits 2 to 25 contain the program counter. The bottom two bits contain the processor mode (user, IRQ, FIQ or Supervisor); they are not needed for the program counter of course, since instructions always lie on word boundaries.

Bits 26 and 27 are flags to disable FIQs and IRQs respectively. Bits 28 and

upwards are the ones you are most likely to need to fiddle with in general programming, being the overflow (V), carry (C), zero (Z) and negative (N) flags.

Of the four, V is clearly the most intensively used. To indicate an error, V is set and R0 is set to point to an error block. This is generally done just before return from a subroutine. The C flag can also be quite useful as a means of returning yes/no type information. For example, "OS_ReadEscapeState" returns with the carry set if Escape has been pressed. This means that straight after the call you can do a BCC or the like.

But how can you set these bits? There are many restrictions on the use of register R15 and because the PSR is part of R15, here lies the problem.

To set V you want to do this:

```
ORR pc,pc,#1<<28
```

but this won't work! For one thing, you don't actually want to mess about with the PC. Of course, if you are actually changing the contents of the PC you can use the opportunity to set a flag or two at the same time. So a subroutine might conclude as follows:

```
ADR r0,error
ORRS pc,link,#1<<28
```

This is the way in which we are most like to set the V flag. The S part of ORRS means *do* set the PSR flags. Without it, just the PC part of R15 will be copied from the link register, and the status of V is maintained.

It is unlikely you

will need to set V in any other context but sometimes you may wish to clear it, for example, to ignore an error. One method is to use a TEQP. This rather unpleasant instruction is generally used to change processor mode, but you could use it to clear V if you wished:

```
MOV r9,pc
BIC r9,r9,#1<<28
TEQP r9,#0
```

TEQP effectively copies bits directly into the PSR. You cannot just set one bit however, so to avoid changing processor mode or affecting the interrupt flags, you first have to read the current status of these bits into another register, ORR or BIC the bits you want to change and then do the TEQP. All a bit messy!

So, the question remains, is there a simple one-instruction way of setting or clearing V, C etc, which won't require the use of another register? Well, sort of. Because we can rely on the PC have a positive value, we can do certain comparisons with it to alter the status bits in the desired way. To clear the carry and the overflow flag do:

```
CMN pc,#0 ; = CLC or CLV
```

This will also clear the N and Z bits. To set the carry use:

```
CMP pc,#0 ; = SEC
```

This also clears V, N and Z. You can set V with:

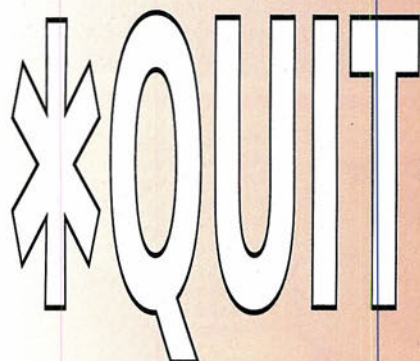
```
CMP pc,#80000000 ; =SETV
```

This clears Z and C, and sets N.

Unfortunately, as you can see, the above affect all of the status bits at once, so there may not be a single instruction to set them to the combination you want.



The layout of register R15.



All submissions – large or wee – very welcome.
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You needn't include a letter but do please put your name, address and program title on every disc and include a text file containing at least your name, address, disc contents and basic program details. An SAE will ensure your discs are returned and any other instructions, diagrams, saved screens etc are also gratefully received.

Compatibility table

All the programs in *INFO run on RISC OS 2, RISC OS 3.1 and RISC OS 3.6, except the Jan Vibe programs Gate and Tree, which don't run on RISC OS 2. All of the programs will run in 1Mb of memory. Note that on RISC OS 2 you may need to allocate 160K to screen memory to avoid 'Bad MODE' errors; choose the 'Task display' entry on the Task Manager menu and drag the slider bar that indicates screen memory.

Don't be a dummy

The *Dummies* range of books has been a phenomenal success in the USA and its recent entry into the UK market has certainly made people take notice. Realising that there is a huge number of people who want to read about computers and who can't take the in-depth academic works available in most book shops, IDG Books launched the *Dummies* series.

The style is fun, the layout easy to follow, and the information bursting at the seams. *Acorn User* has negotiated a special price for its readers enabling them to save £4 or more on each book. Of course, being American in origin, the books have never

heard of an Acorn computer, but if your interests stretch to other areas of computing, these books are essential reading. The *PCs and Macs for Dummies* titles will be especially useful for someone with both an Acorn and another computer who is just discovering that not all operating systems are as straightforward as RISC OS.

Not everything in life comes with a manual. IDG Books has added a new non-computer title to its portfolio:

- **Parenting for Dummies** – Written by parents for parents, it too takes a fun

look at the trials and tribulations of being a parent, while providing a reference whether you have a newborn baby or imminent teenager.

With 19 million *Dummies* books already in print, this new style of manual tells you what you want to know, whether you want to read it from cover to cover or use it as an essential reference work.

My only question is; what will they cover next – Acorns for Dummies?

David Matthewman
Editor, *Acorn User*

THE 3D VISUAL DICTIONARY OF COMPUTING

The new colourful dictionary of computer terms is written in jargon-free language and covers all the terms you are likely to come across, whether you want to know about virtual memory, AVI or the Internet. A must for readers of all ages.

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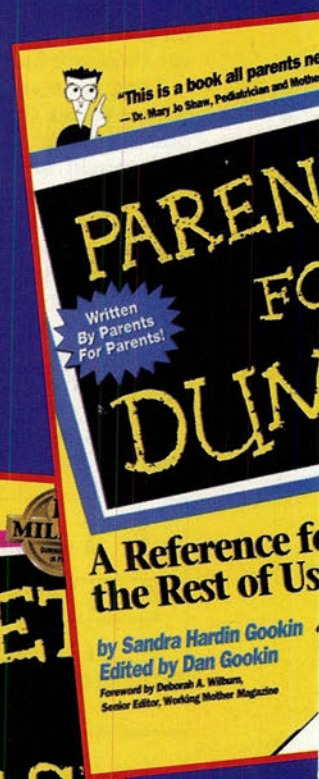
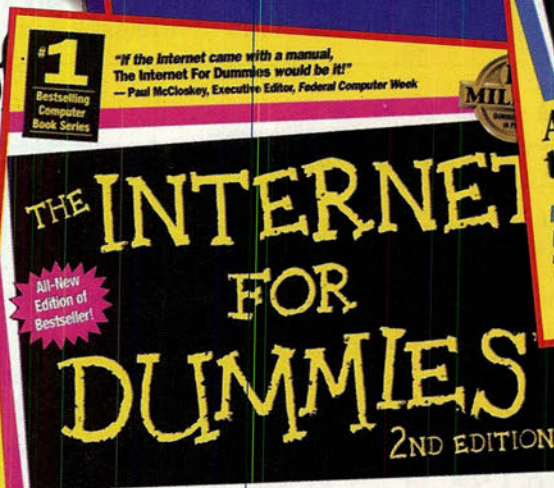
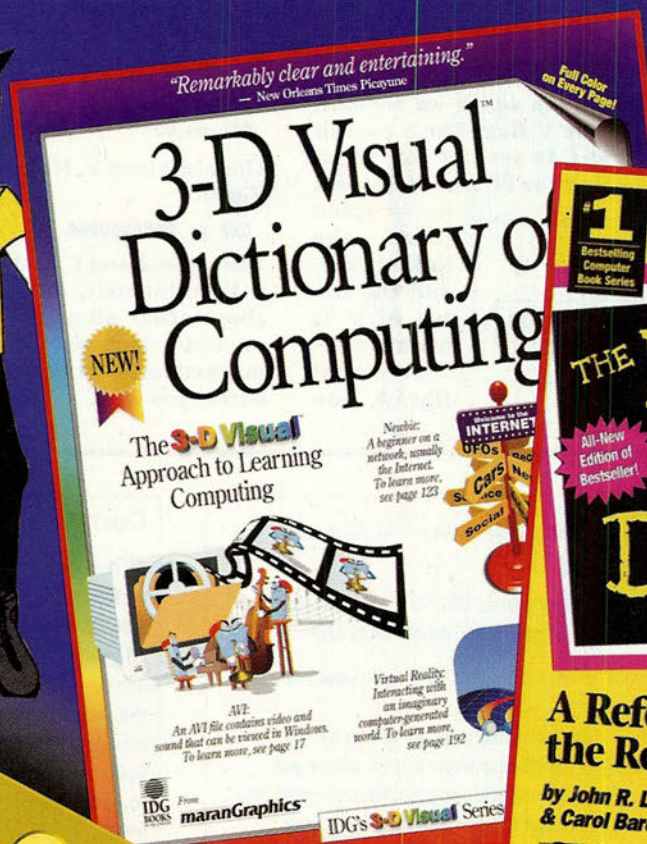
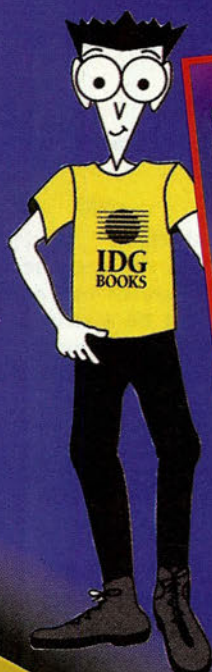
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Acorn 32-bit RISC Computer Systems



RiscPC Computer Systems

Acorn's latest RiscPC range includes the most powerful products to date at remarkably affordable prices. It allows increasing interconnection and networking with other technologies and systems, and its modular design and architecture provide unlimited potential for upgrading to and benefiting from technologies of the future.

The RiscPC is the ideal platform for multimedia applications thanks to its powerful sound and graphics capabilities. With the addition of the 486 card the RiscPC opens up a whole new world of opportunities, for running PC DOS or Windows applications.



A7000 Computer Systems

The A7000 is the new high performance low cost RISC based computer. Designed around the new ARM7500 processor the A7000 offers a compact powerful system, providing full multimedia facilities, as well as maintaining a strong market lead in both education and the home/office environment. The A7000 NET system is the ideal workstation for use on a network, where a hard disk is not necessary.



A3010, A3020, A4000 & A4

Designed for those taking their first steps into computing, these powerful 32-bit machines provide all you or your children need to start out. The A3010 and A3020 are ideal for entertainment or education, whereas the A4000 has a place in the home office environment. As with all Acorn machines they are compact in design, but powerful with it. Whatever your needs, you can be sure there is a model suitable for you.

FREE Carry Case and Mouse Mat with every A3010 or A3020 purchased this month.

RiscPC 600 Systems

	14"	17"
● RiscPC 600 2M HD210	£1089	£1319
● RiscPC 600 5M HD210	£1199	£1409
● RiscPC 600 4M HD425CD	£1259	£1529
● RiscPC 600 'X' System	£poa	£poa
● RiscPC 600 Early Years	£1189	£1469
● RiscPC 600 Learning Curve	£1189	£1469
● RiscPC 600 Home Office	£1219	£1499

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● RiscPC 700 10M HD850CD	£1799	£2079

All above systems are covered by 1-year on-site warranty

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● A7000 2M HD425 CD	£1029	£1299
● A7000 4M HD425	£1019	£1289
● A7000 4M HD425 CD	£1129	£1399

All above systems are covered by 1-year on-site warranty

A4000 Systems

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● A4000 2M HD210	£719	£759
● A4000 2M Early Years	£759	£799
● A4000 2M Learning Curve	£759	£799
● A4000 2M Home Office	£789	£829

A3020 Systems

	AKF52	AKF50
● A3020 2M FD	£509	£549
● A3020 2M HD80	£629	£669

A3010 Systems

	No Mon	AKF52
● A3010 1M Action Pack	£149	£349
● A3010 2M Early Years	£339	£509
● A3010 2M Learning Curve	£339	£509

A4 Notebook

	No Mon	AKF50
● A4 4M HD80	£1439	-

Upgrades & Options

RiscPC Options

Memory		
● 4Mb	£88	● 8Mb £203
● 16Mb	£319	● 32Mb £669
● 1Mb VRAM	£49	● 2Mb VRAM £110

IDE Hard Disk Drives

● Conner CFS420A 420Mb	£99
● Conner CFS635A 540Mb	£115
● Conner CFS850A 850Mb	£128
● Conner CFS1080A 1.08Gb	£176
● ADFSManager software	£25

SCSI Hard Disk Drives

● IBM 84G9001 1.0Gb	£299
● IBM 74G7044 2.0Gb	£699
● IBM 74G7045 4.0Gb	£1099
● 32bit SCSI Interface	£159

CD-ROM Drives

● Indigo Dual Speed CD-ROM	£175
● Indigo Quad Speed CD-ROM	£199
● Proteus 4x CD-ROM/Optical (requires SCSI-2 interface)	£549

Miscellaneous

● 486SX33 2nd Processor Card	£199
● Ethernet Interface	£99
● Additional Case Module	£99
● 3-year On-site warranty	£poa

Acorn Pocket Book II

Pocket Book II 256K	£202
Pocket Book II 512K	£249
Pocket Book II 1Mb	£279

Accessories

● 128K RAM	£49	● 256K Flash	£59
● 512K Flash	£85	● Mains PSU	£12
● A-Link	£42	● PC Link	£59
● MAC Link	£68	● Parallel Link	£25
● Plotter	£16	● OPL Editor	£21

EDUCATIONAL DISCOUNTS

are available on certain products, call 01582 745555 for details

3.5" IDE Hard Drives

Conner			
CFS540A	540Mb	12ms	£108
CFS850A	850Mb	12ms	£128
CFS1275A	1.27Gb	11ms	£176
IBM			
84G8998	1.05Gb	10ms	£189
Maxtor			
7540AV	540Mb	12ms	£109
7850AV	850Mb	12ms	£139
71260AT	1.26Gb	12ms	£199
Quantum			
Trailblazer	420Mb	12ms	£99
Fireball	540Mb	12ms	£119
Trailblazer	850Mb	12ms	£138
Fireball	1.08Gb	12ms	£174
Seagate			
ST3660A	545Mb	12ms	£102
ST5850A	850Mb	12ms	£138
ST31220A	1.05Gb	12ms	£168
Western Digital			
AC2635	635Mb	10ms	£115
AC2700	740Mb	10ms	£145
AC2850	850Mb	10ms	£134
AC31000	1.1Gb	10ms	£179
AC31600	1.62Gb	10ms	£365

Interfaces & Accessories

ADFS Manager	£25
16-bit IDE Interface - A300/A400	£39
8-bit IDE Interface - A3000/A3010	£59
Dual IDE Interface cable	£8
A300/A400 HDD Mounting Kit	£5

A3000 IDE Hard Drives

All hard drives are supplied fitted to an 8-bit interface for internal fixing

ADA2360	170Mb	12ms	£179
ADA2090	340Mb	11ms	£249
ADA2200	510Mb	11ms	£299

Syquest Hard Drives

SQ3270A	270Mb IDE	Int	£259
SQ3270S	270Mb SCSI	Int	£269
SQ3270Ex	270Mb SCSI	Ext	£369
SQ5200Ex	200Mb SCSI	Ext	£358
SQ327	270Mb Cartridge		£48
SQ2000	200Mb Cartridge		£59

SCSI Hard Disk Drives

Conner			
CFP1080S	1.0Gb	10ms	£289
CFP2105S	2.15Gb	9ms	£525
CFP4207S	4.22Gb	9ms	£838
Fujitsu			
M2684S	532Mb	12ms	£125
M1606SA	1.1Gb	10ms	£265
M2903SA	2.0Gb	12ms	£565
M2909S	3.0Gb	11ms	£849
IBM			
84G9001	1.0Gb	10ms	£299
74G7044	2.0Gb	8ms	£699
74G7045	4.0Gb	8ms	£1099
74G7073	5.25Gb	8ms	£1249
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Maverick	540Mb	12ms	£143
Fireball	1.08Gb	9ms	£249
Atlas	2.1Gb	9ms	£585
Seagate			
ST5660N	528Mb	12ms	£216
ST31230N	1.05Gb	9ms	£329
ST32430N	2.1Gb	9ms	£609
ST15150N	4.2Gb	11ms	£1220

Interfaces & Accessories

16-bit SCSI Interface - A300/A400	£89
32-bit SCSI-2 Interface - RiscPC	£159
Dual SCSI Interface cable	£9
25'D TO 50w SCSI Interface cable	£15
50w to 50w SCSI Interface cable	£15
SCSI-2 Interface cable	£20

Canon IX4015 Scanner

The IX-4015 is a compact A4 flatbed scanner offering full 24-bit colour scanning up to a max resolution of 400 x 800 dpi.

- 400 x 800 dpi resolution in 24-bit colour
- 400 x 1200dpi resolution in 256 grey scales
- Connection via SCSI interface (not included)
- ImageMaster & Twain driver

Special Offer Price

- Upgrade to PhotoDesk software £110

CD-ROM Drives

Oscar CD-ROM Drive

A low cost dual speed CD-ROM drive that attaches to parallel printer port. Suitable for use on A3010, A3020, A4000, A5000 and A4 Notebook

Oscar CD-ROM Drive - parallel £199

Bravo CD-ROM Drive

A low cost dual speed CD-ROM drive that has a built-in audio mixer. Connection to the computer can be by parallel printer port or via SLCD interface.

Bravo CD-ROM Drive - parallel £249

Bravo CD-ROM Drive - A5000 £249

Bravo CD-ROM Drive - A3000 £249

Victor CD-ROM Drive

A quad speed CD-ROM drive that connects to the computer via SCSI interface (not included)

Victor CXX442 CD-ROM Drive £299

Indigo CD-ROM Drive

A range of internal CD-ROM drives for the RiscPC. Two versions are available - dual speed and quad speed.

Indigo CAA300IA - Dual Speed £175

Indigo CAA340IA - 4x Speed £199

Indigo CXX441 - 4x Speed SCSI £199

Proteus Optical CD-ROM Drive

A quad speed CD-ROM drive that also has the ability to read and write 650Mb optical disks. Connections is via SCSI interface.

Proteus CS-ROM Drive - Internal £549

Proteus CD-ROM Drive - External £649

Speakers

Aries Stereo Speakers		£6
Aries Hi Fi Speakers	10W	£19
Aries Hi-Fi Pro Speakers	25W	£28
Aries Digital Speakers	25W	£39
Aries Digital+ Speakers	70W	£48
Aries UltraPower Speakers	160W	£99
Aries Internal Speakers		£15
Aries Stereo Headphones		£4.50
Aries Microphone		£4.50

Ratings quoted are PMPO values

Aries Fax Modems

Enter the world of high speed communications with the new Aries XLINK range of fax modems. Two models are available, offering speeds of V32bis 14400bps or V34 28800bps. Error correction and data compression is standard on all models.

When used with the ArcFax software, you can send faxes directly from your computer, as easily as printing a document.

- 14400bps V32bis or 28800bps V34 data rates.
- V32, V32bis, V22, V22bis and V21
- Error correction to MNPS and V21
- Data compression to MNPS and V42
- Call back security
- Synchronous & Asynchronous operation
- Group 3, Class 1 & II fax up to 14400 (V17)
- Group 1 and 2 fax compatible (V27ter and V29)
- 100% Hayes compatible
- 3-year manufacturers warranty
- BABT approved

XLink XL144e Fax Modem	£87
XLink XL144e Fax Modem & ArcFax	£107
XLink XL288e Fax Modem	£159
XLink XL288e Fax Modem & ArcFax	£179

Multiscan Monitors

Acorn Monitors

AKF52	14"	£199
AKF50	14"	£299
AKF60	14"	£299
AKF85	17"	£499

Aries Monitors

Alphascan Pro LR	14"	£185
EnergyPro 6000i LR	15"	£239
NEC		
XV15	15"	£279
XV17	17"	£559

Panasonic

TXD1562	15"	£260
TXD1733	17"	£449
TXD2051	20"	£1019

Sony

CDP15SF1	15"	£302
GDM17SE1	17"	£808
GDM20SE1	20"	£1395

Taxan

EV 410LR	14"	£189
EV 580LR	15"	£255
EV 895LR	17"	£795
EV 1080LR	20"	£879

Christmas Special Offers

All items advertised on this page are new, unless otherwise stated. All offers are available while stocks last and will not be repeated once stocks are exhausted. Special prices are available on certain items when purchased in quantity. Please call 01582 745555 for details.

Acorn Hardware

16bit Cached SCSI Card - A300/A400	£65
16bit IDE Interface - A300/A400	£35
16bit SCSI Card - A300/A400 (Lingenuity)	£45
170Mb Internal IDE Hard Drive - A3000/A3010	£179
1st Word Plus R2.0 Manual	£5
25MHz ARM3 Turbo Card	£95
2Mb RAM Upgrade - A3000	£49
3.5" / 5.25" Disc Interface - A300/A400	£5
486 25MHz PC Card - A300/A400	£285
486 50MHz PC Card - A300/A400	£399
486 PC Card - A3020/A4000	£200
4Mb RAM Upgrade - A3010	£129
4Mb RAM Upgrade - A540/R260	£249
8bit Internal IDE Interface - A3000/A3010	£45
A3000 External Podule Case	£8
A3000 Monitor Stand	£12
A3000 Power Supply	£30
A3000/A3010 Carry Case	£5
A3000/A400 3.5" Floppy Drive	£25
A4 Notebook Carry Case	£35
A4 Notebook Mains Adapter	£40
A4 Scanner - A300/A400	£99
A4 Scanner - A3000 External	£99
A4 Scanner Sheet Feeder	£45
A4000/A5000 3.5" Floppy Drive	£20
A5000 Power Supply	£69
Access P/P Network - A3000	£129
Access P/P Network - A5000	£145
Access P/P Network - RiscPC	£119
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Acorn DTP Manual	£10
Acorn PhotoView	£10
ARC Keyboard Extension Lead	£2
ARC Marconi Trackerball	£15
ARC MK4 Replacement Mouse	£16
ARC Quest Tracerball	£20
ARC to BBC Serial Link	£10
Artworks Made Easy	£8
Budget DTP on the Archimedes Book	£7
Calligraph A4-1200 Laser Printer	£899
Control on the Archimedes Book	£8
Dustcover - A300/A400 Keyboard	£3
Dustcover - A3000 & Monitor	£4
Dustcover - A5000 & Monitor	£5
Eagle M2 Multimedia Card (CC)	£309
Econet Interface - A300/A400	£15
EtherLAN602 Ethernet Card - RiscPC	£89
Ethernet Card (BNC) - A3020/A4000	£109
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Good Impressions Book	£10
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Mono Handscanner - A3000 External	£30
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RISC OS 3 First Steps	£10
RISC OS 3.1 Hardware Kit - A300	£17
RISC OS 3.1 Software Upgrade	£74
RISC Technical Data Manual	£2
RiscPC 16bit Sound Card	£59
RiscPC 1MB VRAM Upgrade	£45
RiscPC 2Mb VRAM Upgrade	£110
Scan256 Handscanner - A300/A400	£85
Scan256 Handscanner - A3000 External	£125
ScanLight 256 - A3000 (CC)	£199
ScanLight Video 256 (CC)	£199
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Vision Colour Digitiser - A3000 (HCCS)	£69
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Acorn Software

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10/10 English	£12
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10/10 Maths - Algebra	£12
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10/10 Structured Spelling	£12
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4thD Real McCoy 3	£12
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4thD Time Machine	£12
4thD Virtual Golf	£15
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Acorn 1st Word Plus R2	£5
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ARC Dictionary of the Living World CD	£30
ARC Granny's Garden CD	£27
ARC Inventors & Inventions CD	£138
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ARC Sherlock Holmes CD	£18
Beebug Chartwell	£18
Beebug DeskEdit 3	£19
Beebug Easy C Compiler	£40
Beebug Ovation DTP	£53
Beebug Sleuth v1.5	£36
Beebug TypeStudio	£23
CC Artworks Clipart CD v1	£14
CC Artworks Clipart CD v2	£14
CC Equasor	£20
CC Impression Business Sup.	£28
CC Show Page	£50
CC SpellMaster Disk	£10
CC WordWise Plus Disk	£5
Clares Armadeus	£20
Clares Graphic Writer	£10
Clares Plot	£56
Clares ProArtisan v2	£85
Clares Rhapsody v2	£39
Clares Rhapsody v3	£65
Clares Schema v1	£15
Clares Score Draw	£45
Clares Topographer	£53
Clares Vox Box	£20
Colton Fireworkz	£70
Colton PipeDream 4	£82
Colton Wordz	£75

Acorn Software

ESM Investigating Maths	£25
Europress Fun School 3 - 5 to 7's	£10
Europress Fun School 4 - Under 5's	£10
Gamesware Cycloids	£10
Gamesware FRED	£10
Gamesware Games Wizard	£10
Gamesware Ixon	£10
Gamesware Xenon 2	£10
Grandslam Pacmania	£5
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Iota Complete Animator	£63
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Krisalis HeroQuest	£10
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Longman Insight	£50
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Longman Landmarks - Aztecs	£14
Longman Landmarks - Civil War	£18
Longman Landmarks - Elizabeth I	£19
Longman Landmarks - Rainforest	£18
Longman Landmarks - Victorians	£20
Longman Logotron Logo	£49
Longman Look & Read - Skyhunter	£15
Longman Maggie	£15
Longman Numerator	£25
Longman Pendown	£35
Longman Pendown Etoile	£40
Longman Picture Point	£22
Longman Pinpoint	£49
Longman Revelation ImagePro	£110
Longman SBase Personal	£80
Millenium Diggers	£15
Minerva Atelier	£23
Minerva DataWord	£10
Minerva Easiword Plus	£36
Minerva GraphBox Professional	£85
Minerva Home Accounts	£20
Minerva Linkword - Spanish	£25
Minerva Multistore v2	£72
Minerva Order Processing/Invoicing	£79
Minerva PrimeWord	£39
Minerva System Delta+	£10
Oak Genesis Plus	£5
Oak Repro	£41
Oregan Arcturus	£16
Oregan Sally & Wally	£10
Quest for Gold	£10
Renegade Magic Pockets	£14
Renegade Sensible Soccer	£15
RiscPC Learn & Play Software Pack	£19
Serial Port Investigator II	£5
Sherston ArcVenture 1 - Romans	£20
Sherston Aztecs	£25
Sherston Badger Trails	£25
Sherston Crystal Maze	£21
Sherston Glimpse	£7
Sherston Highlighter	£10
Sherston Talking Stories - KS3	£26
Sherston Talking Topics - Homes	£8
Sherston Talking Topics SIX Pack	£38
Sherston Wizards Revenge	£13

Acorn Software

Silicon ARC PCB v1.7	£62
Silicon Financial Controller	£100
Silicon Power Router	£40
Silicon ProSheet	£25
Silicon Robo Logo	£15
Silicon ShareHolder v2	£50
Silicon WimpGen	£52
Superior E-Type Extra 100 Miles	£12
Superior Ego: Repton 4	£10
Superior Masterbreak	£5
Superior Play It Again Sam 1	£12
Superior Play It Again Sam 3	£13
Superior Speech v2	£15
Superior Technodream	£11
Superior Zarch	£13

BBC Products

Single Master 128 Monitor Stand	£12
BBC B/B+ Power Supply	£25
Master 128 Advanced Reference Manual	£2
Complete BBC User Handbook	£2
Understanding Interword Book	£1
Advanced BBC B User Guide	£2
Acorn to PC Book	£7
Master 128 Twin ROM Cartridge	£2
Master 128 Quad ROM Cartridge	£3
1772 DFS Kit - BBC B	£20
BBC Marconi Trackerball	£15
AMX Mouse & SuperArt - BBC	£49
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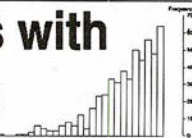
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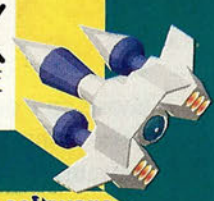
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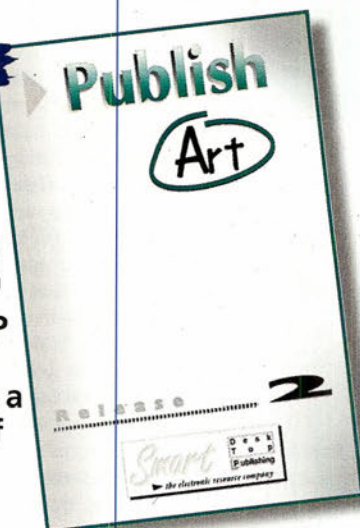
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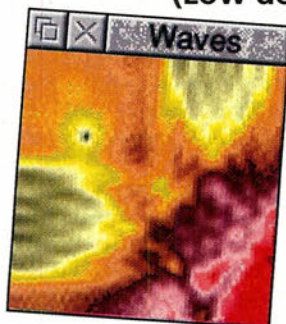
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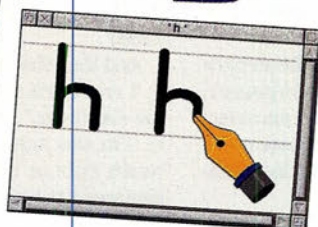


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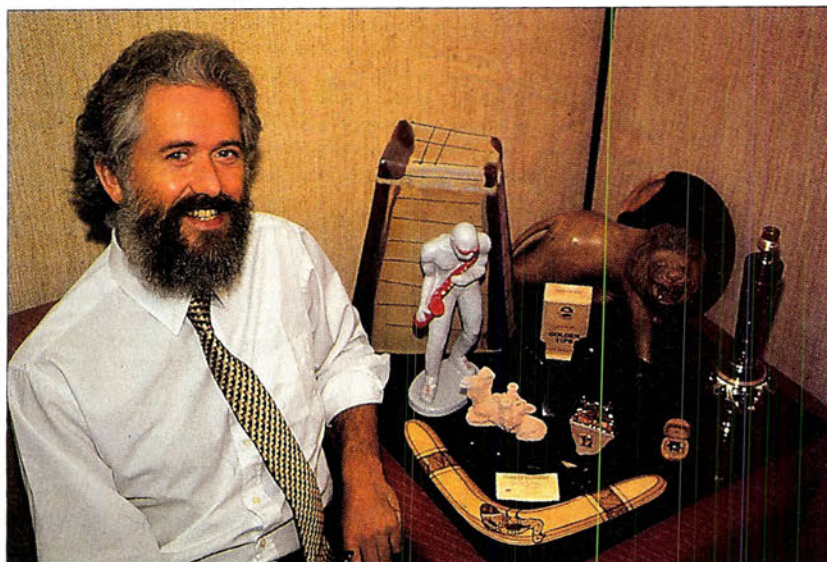
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PAUL MCKINNON



The Moxon Interview

John Simnett

...companies like BT are laying down the cabling, but we'll be concentrating on what happens in the classroom, where there'll be a mixture of new and old machines, and there's the whole aspect of how to make the best use of technology to teach children.

You can tell a lot from where people live. Some people dream of a quaint cottage in the country with climbing ivy and axes above the door; some live in a city-centre cupboard with a pull-down bed and, if they're lucky, a postage stamp-sized garden; some own acres of land with a house the size of the Taj Mahal and a friendly horse called Dobbin; the variety is endless.

John Simnett, managing director of Cumana, lives in a boat on the Thames. He's also got a strange collection of objects in his Guildford office, ranging from a genuine Australian boomerang to wooden plates and sculptures from across the world. And he drinks Camomile tea, with strange herbs floating in it.

It's a far cry from the company he runs. Since John took over the running of Cumana, it's gone from a recession-hit memory company to a successful player in the multimedia and networking arena.

The company's offices contain all the departments involved in product development, including research and development, a manufacturing floor (all Cumana products are assembled by the company itself), sales and marketing, technical support and storage.

It's a fascinating insight into the production process, and it's all under one roof. The beauty is that Cumana is in total control of the quality of its process, and this fits into the aim of the company: to be a provider of solutions for the classroom.

'The root of the company is in data storage, which has led into multimedia and networking,' says John. 'Education is our core business, and that's where our expertise lies; the trick is to make a complex process in the classroom simple, or even

better to remove that process altogether.

'A lot of effort goes into making things simple. For example, our CD-ROM drives come with an audio mixer, which isn't necessarily a massive selling point. However it's aimed at the non-technical teacher who expects to get sound when he or she expects it, and the audio mixer makes sure this happens automatically.

'The Nexus network system has a button you can press if you get a crash, and it just re-boots. These things aren't easy to design, but they make life that much easier for the teacher, so hopefully they come back to us for more products.'

This philosophy seems to be working. This year's sales are 43 per cent up on last year's, and the recent changes in Acorn's internal organisation can only help the likes of Cumana.

'From a commercial standpoint, I can fully understand why Acorn has made the changes it has,' says John. 'Without doubt, the changes should benefit Cumana; Acorn will need strong partners as it moves into its next phase. It's certainly stayed very close to us throughout the changes so far.

'Where we've always worked well in the Acorn marketplace is to see a gap, discuss it with Acorn, and then try to fill it. This still applies, and we've been through so many changes ourselves over the last few years, that we'll simply change with the market. That's what makes it so interesting.'

So Cumana is definitely continuing its strong support of the Acorn market, when some other companies aren't so convinced.

'We've always believed in the right to develop for the platform we like, rather than follow the industry platform,' explains John. 'We do produce PC products, but we design them for an Acorn first.'

So the future for Cumana is to stay with Acorn, but what about the future of Cumana's products?

'We cover a lot of areas,' says John. 'We're interested in development of broadband technologies as they develop: for example, companies like BT are laying down the cabling, but we'll be concentrating on what happens in the classroom, where there'll be a mixture of new and old machines, and there's the whole aspect of how to make the best use of technology to teach children.

'We already have products that fit into the classroom of the future, but multimedia is such a developing area - is the proTeus drive a multimedia product, a backup device, or a data storage product? - that we'll have to keep working to stay ahead'.

And the future for John himself?

'I see myself eventually ending up on a yacht in the Caribbean,' says John, meaning every word of it. 'I'm also hoping to go on an expedition to the North Pole in the near future: the travel bug is beginning to bite again.

'The average temperature there is minus 50 degrees, and the biggest danger is from the polar bear, so the recent changes in the Acorn market are a doddle in comparison'.

Like I said, some people live in pretty country cottages, but not John Simnett. He's a great example of the old adage that travel broadens the mind, and broadening your mind is obviously good for your business sense, too.

Mark Moxon **AU**

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