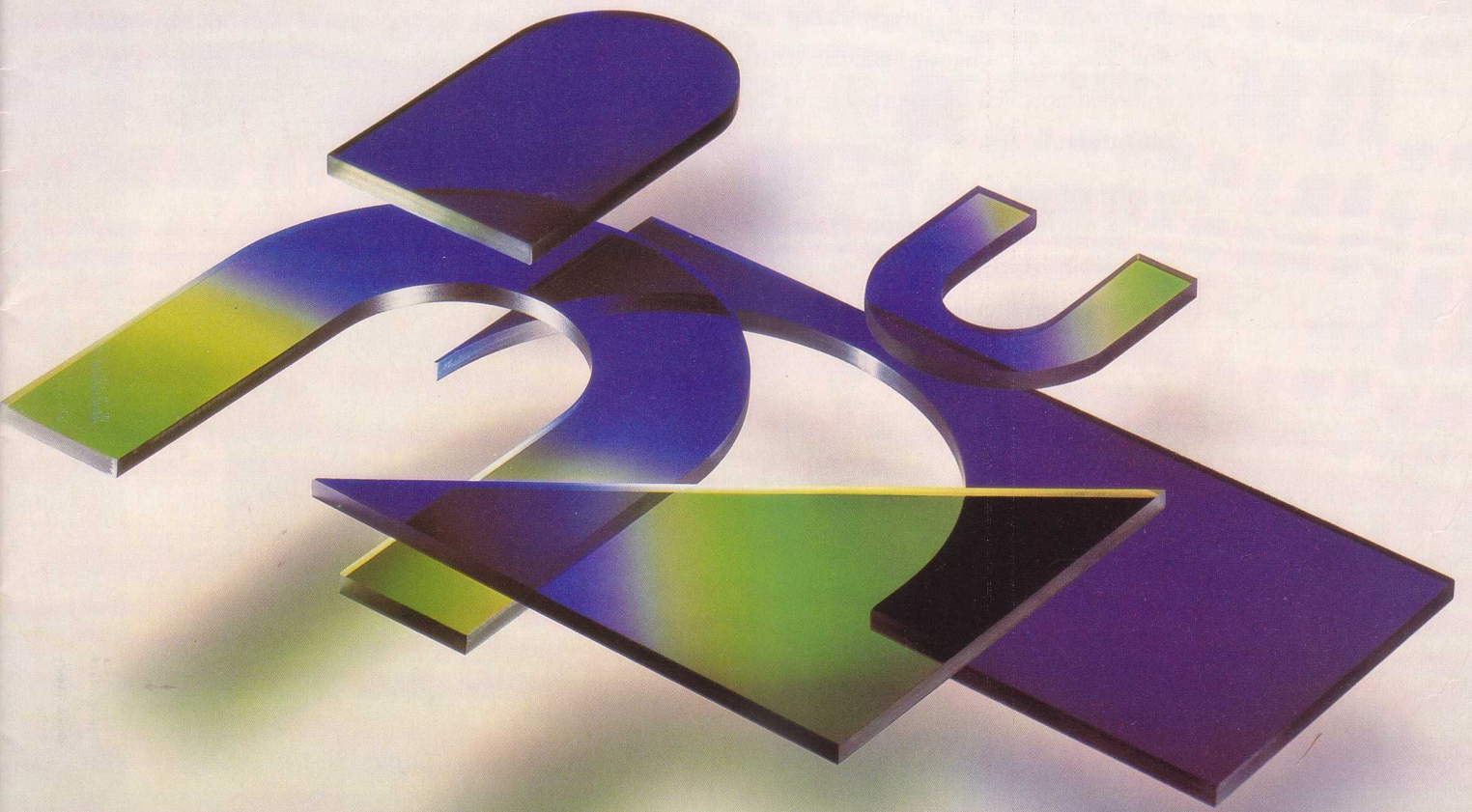


# RiscPC





## **Risc PC from Acorn**

RISC processing is now widely recognised as the way of the future. RISC (Reduced Instruction Set Computing) processors are more efficient than their competitors, and offer the levels of performance, now and into the future, which the world's most creative software developers are exploiting to bring to the users unparalleled capabilities in true interaction with, and exploitation of, technology.

Risc PC from Acorn offers all the traditional strengths of **RISC** processing, and a great deal more - at a remarkably **affordable** price. Risc PC offers immensely **powerful** products to meet today's requirements. It allows increasing **interconnection** and **interworking** with other technologies and products. And Risc PC's uniquely modular design and architecture provides virtually unlimited potential for **upgrading** to and benefiting from the technologies of **the future**.

As the **world's leading supplier** of 32-bit RISC-based personal computers for over seven years, Acorn is unique in its experience of developing and implementing affordable, robust RISC-based solutions. Solutions which, as other manufacturers are now realising, point the way forward for personal computing.

Risc PC demonstrates Acorn's unrivalled knowledge and understanding of the needs of the educational, individual and professional users who make up Acorn's chosen markets. Over the past seven years Acorn has sold hundreds of thousands of RISC-based systems, enabling literally millions of users to experience and enjoy the benefits of **RISC OS**, Acorn's powerful yet easy-to-use operating system.

Risc PC opens the door on **a wealth of software**. Thousands of existing RISC OS titles, together with software written for DOS/Windows, are available to Risc PC users. And Risc PC's phenomenal capabilities offer software developers an elegant and supportive development platform, paving the way for a whole new generation of multimedia software development.

Risc PC is further proof of Acorn's world class technological skills in designing complete, innovative systems at prices its customers can afford.

Welcome to Risc PC. The new generation of personal computing.

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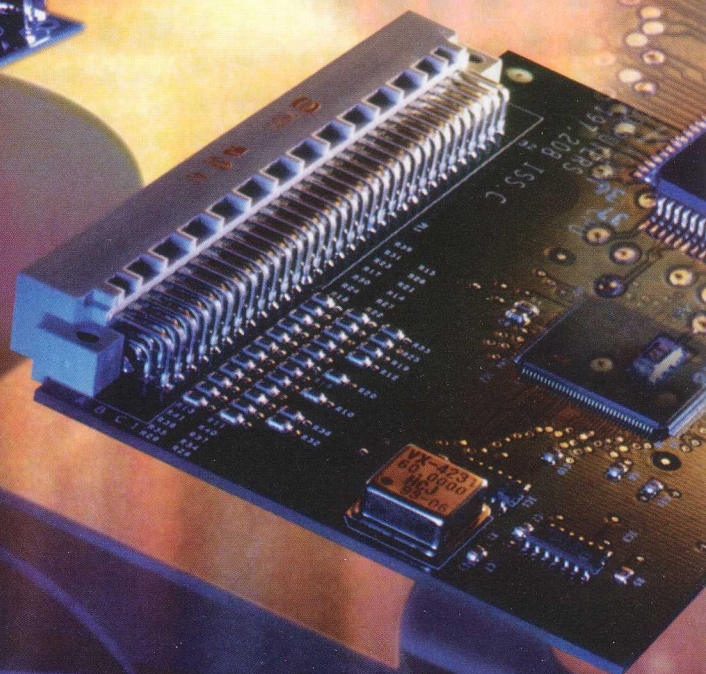
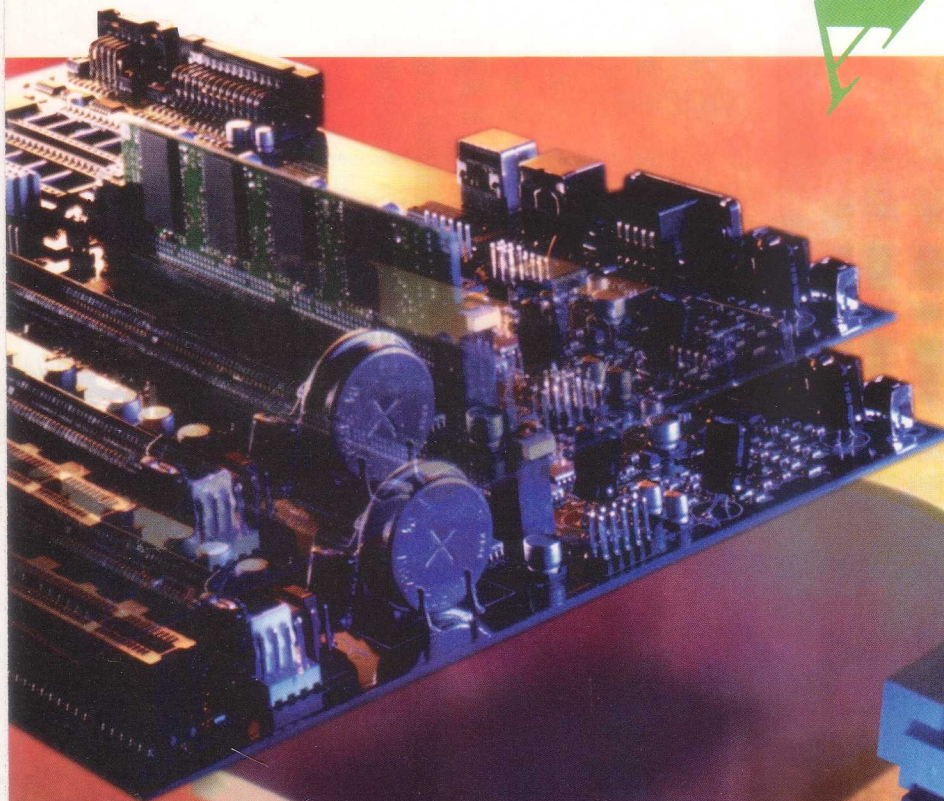
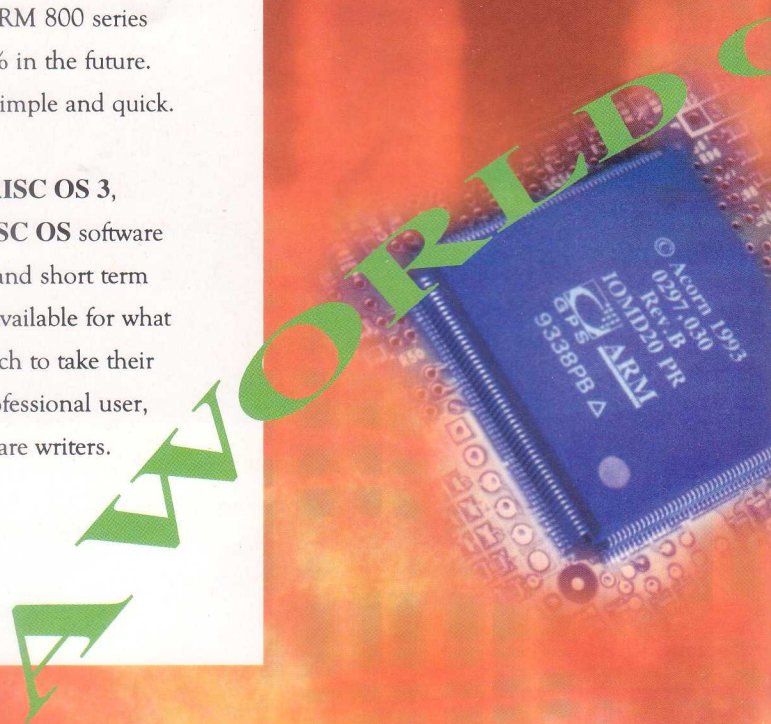




Risc PC is powered by **ARM**, the world's most efficient, most cost-effective 32-bit RISC processor. Risc PC delivers scorching performance and it comes with a guaranteed **low-cost upgrade path** to future ARM processors.

Risc PC will accept any of the ARM 600, ARM 700 and future ARM 800 series processors offering an increase in processing power of up to 300% in the future. And Risc PC's **innovative case construction** makes upgrading simple and quick.

Risc PC's **powerful intuitive** and **efficient** operating system is **RISC OS 3**, which provides compatibility with the vast majority of existing **RISC OS** software and support for up to 256MB of memory, catering for your long and short term needs. RISC OS is ROM-based and leaves all of your hard disc available for what you want. It offers newcomers a comfortable environment in which to take their first steps, is powerful enough to cater for the most discerning professional user, and provides a state-of-the art development environment for software writers.







OF OPPORTUNITIES

ARM  
POWERED

**DOS/Windows applications?** No problem. Risc PC's radical Open Bus capability allows a second processor to be fitted and utilise the memory and other facilities of Risc PC. So, fit a 486 or Pentium alongside the Acorn RISC chip, for the perfect blend of **outstanding performance** and DOS/Windows capability.<sup>1</sup> You can run Risc PC with RISC OS, or as a PC, or multi-task between the two from a RISC OS desktop.

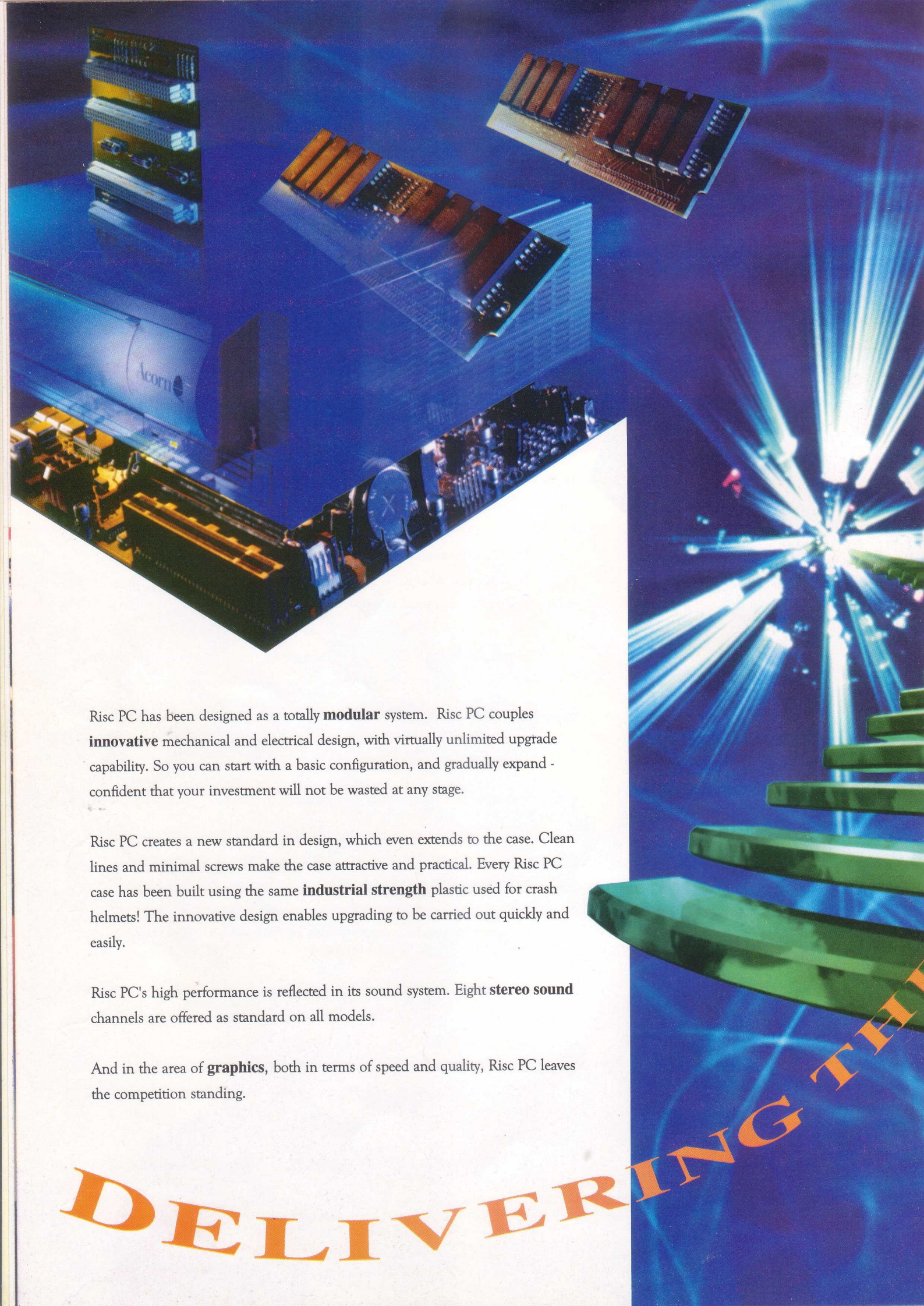
Risc PC offers you technology with a difference. All the advantages of an advanced RISC operating system, with the assurance of broad-based system compatibility.

#### **Why Risc PC from Acorn?**

- **The world's most cost-effective, efficient 32-bit RISC computers.**
- **Low cost processor upgrade strategy, protecting your investment today and into the future.**
- **RISC OS - a powerful, multi-tasking operating system, tried and tested by millions of users.**
- **A wealth of powerful applications software from personal productivity tools to true multimedia.**
- **Low cost access to DOS and Windows applications.**
- **Lightning fast manipulation of still and moving images.**
- **High-performance multi-channel stereo sound as standard on all models.**
- **Modular and upgradeable computer systems that grow with your needs.**

<sup>1</sup> The first card to exploit this second processor capability, providing high performance 80486 compatibility, will be available from 4th quarter 1994.





Risc PC has been designed as a totally **modular** system. Risc PC couples **innovative** mechanical and electrical design, with virtually unlimited upgrade capability. So you can start with a basic configuration, and gradually expand - confident that your investment will not be wasted at any stage.

Risc PC creates a new standard in design, which even extends to the case. Clean lines and minimal screws make the case attractive and practical. Every Risc PC case has been built using the same **industrial strength** plastic used for crash helmets! The innovative design enables upgrading to be carried out quickly and easily.

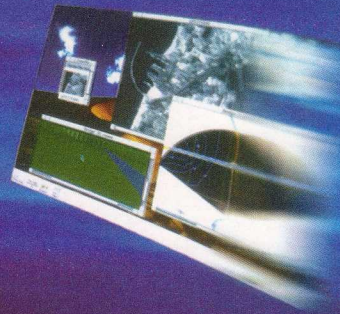
Risc PC's high performance is reflected in its sound system. Eight **stereo sound** channels are offered as standard on all models.

And in the area of **graphics**, both in terms of speed and quality, Risc PC leaves the competition standing.

DELIVERING THE



MAKING A DIFFERENCE



- Risc PC still picture manipulation six times faster than on a typical 66MHz 486DX2
- True 24-bit colour delivering 16 million colours
- Full PhotoCD capability
- Photographic-quality image editing
- Superb image manipulation and special effects
- New full scale 1600x1200 resolution desktops
- Smooth full motion video with Acorn Replay, achieved on the widest range of configurations

Acorn





Risc PC takes all the standard computing tasks, such as word processing, databasing and spreadsheets, in its stride - as you would expect from a high performance personal computer. But as today's users increasingly look for more powerful, flexible and sophisticated solutions, Risc PC offers a world of capabilities.

### **Risc PC Multiplatform**

Risc PC's second processor slot allows you to plug in a range of complementary processors. With Risc PC, you can enjoy true multiplatform operation. With the addition of a CD-ROM drive, it is also possible to exploit CD-ROMs under other operating environments. Run as a RISC OS system, run as a PC, or multi-task from a RISC OS desktop.



### **Risc PC for Interworking and Networking**

The Risc PC motherboard has a new dedicated network slot, ensuring easy integration with industry standard Ethernet networks. In addition, for server applications, the DEBI and Open Bus interface provides extremely fast connections to support the most demanding server-orientated applications. Risc PC supports all the industry standard protocols, TCP/IP, NFS and X Windows as well as ACCESS, Acorn's easy-to-use and peer-to-peer networking capability.





## Risc PC for Multimedia

Every model in the Risc PC range comes with true multimedia capability. Risc PC has more than enough RAM capability to load and manipulate the largest full-colour images, and combine them with text, graphics, video and sound. Risc PC is ready to receive an integral CD-ROM drive, providing Kodak's Photo CD as part of the package. And with Full Motion Video on Acorn Replay, and eight channels of stereo sound built into each model, Risc PC demonstrates the full potential of multimedia in every sense.

## Risc PC for Graphics

Risc PC offers professional graphics capability with 24-bit colour, 16 million colours on screen, full size desktops (1600 x 1200), lightning speed re-draw capability and access to fast direct laser printers and industry standard output devices such as imagesetters. RISC OS supports this with a unique anti-aliased outline font system, allowing crystal clear definition whatever the text or image size, ideal for anything up to and including professional printing solutions.





# Key Risc PC Technical Features

## GRAPHICS DISPLAY

(up to 1600 x 1200 resolution)  
(up to 16 million colours)

## LID

A monitor of 16 kg can be placed on top!

## FIXING DEVICES (NO SCREWS!)

You can padlock the lid if you want!

## ADDITIONAL SLICES

(you can have up to seven in all)

## 5 1/4" DRIVE BAY

(e.g. tape streamer, magneto optical)

## 3 1/2" DRIVE BAY

## FIRST SLICE

A Base Machine contains one slice

DEBI CARDS GO IN THROUGH THE BACK  
(2 per slice - max 8 cards)

## ROLL DOWN COVER

(keeps dust + fingers out!)

5 1/4" DRIVE BAY (e.g. CD ROM)

3 1/2" 1.6MB FLOPPY DISC DRIVE

## BACKPLANE

PARALLEL PORT + SERIAL PORT  
NETWORK EXPANSION behind here

OPERATING SYSTEM (RISC OS) IN ROM

ARM PROCESSOR

2nd PROCESSOR

HARD DISC

DRAM

(2 sockets - total supported 2MB-256MB)

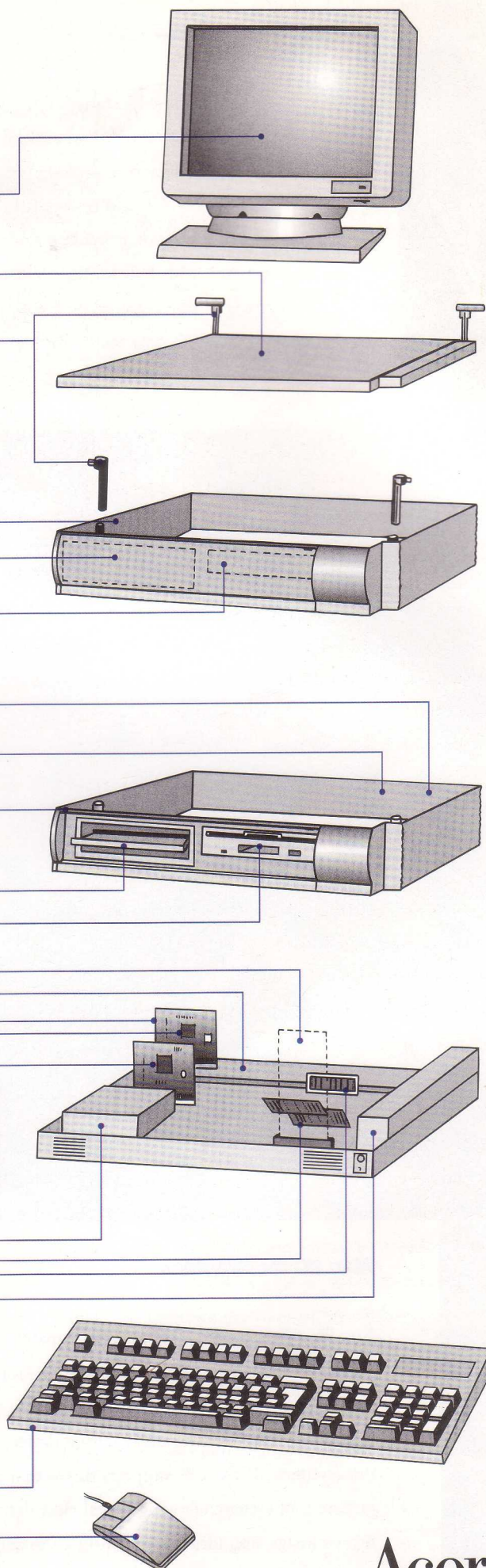
VRAM (0,1,2MB Options)

POWER SUPPLY

KEYBOARD

(PC Compatible)

MOUSE (3 button)



For full specifications and pricing of models available in the range, see separate data sheet or contact your local dealer.

Acorn 



# The proof of the pudding

**What does the Risc PC offer graphic designers over existing hardware? We set Natalie Lawton of Roedean the challenge of finding out**

DURING a recent HMI inspection at Roedean School, Technology and Art inspectors couldn't find enough words to praise the work of a particularly talented A level Art and Design student, Natalie Lawton. She has her eyes firmly set on a professional design career path via St Martin's College in London and has created a remarkable series of images based on Kimono textile design.

Using Clare's ProArtisan software, Natalie has achieved a very high level of image control, conveying sophisticated nuances of shading and light on the realistically textured silks of her designs.

If Natalie has been able to create design of this standard using existing Archimedes computer equipment, it seemed only logical to let her loose on the Acorn Risc PC. After all, the new machines are supposed to take graphics capabilities to previously unscaled heights, so who better to put it through its paces?

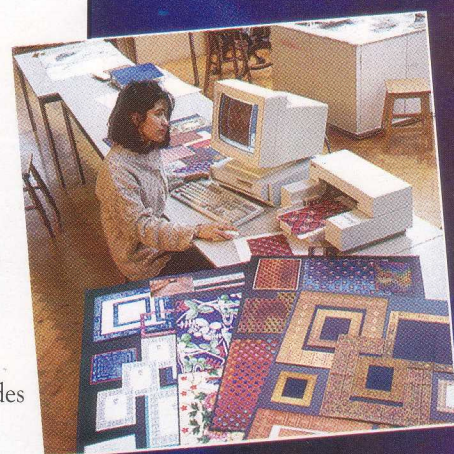
Ray Pinchard, UK Sales Manager, set off for Roedean clutching a precious prototype and we waited anxiously for Natalie's report.

Her first impression confirmed everything we believed about the product, "There has been an absolute explosion in the number of colours enabling me to create very subtle tonal qualities." Besides, the sheer quality of image on the Acorn Risc PC, Natalie immediately picked up the practical design benefits of the new generation of Acorn technology. "The new computer provides a much wider range of tools and applications, allowing endless possibilities," she pointed out.

Acorn has a long history at Roedean and Sue Stanway, Natalie's tutor and a teacher in the school's Art and Design Department recalls her first encounter with the Archimedes computers. "I was enchanted from the start."

"Natalie and I were happy with our Arcs and the HP printer – until we experienced the Acorn Risc PC. Her beautiful kimono silk from the A410 was transformed on-screen to an iridescent fantasy that practically jumped into three-dimensions so brilliant was the resolution. The colour was mind-bending. From my perspective, Acorn Risc PC means a quantum leap forward in computer graphics, sure to transform the way in which Art and Design students here at Roedean and elsewhere will live and breathe."

The last word goes to Natalie – torn between affection for the familiar and a realisation of the opportunities created by the Acorn Risc PC. "While the older machine was good," she confessed, "I feel that the new Acorn Risc PC will encourage exploration into whole new areas of Art and Design."





ACORN is a world leader in providing educational information technology solutions. The experience gained in this field enabled Acorn to identify educational needs and wants and take a major step forward with the new Acorn Risc PC.

### **A geographer's perspective**

Alexander Koh at Bath College of Higher Education described some of the most significant benefits of the new Acorn Risc PC.

"The display resolution and the handling of colour information are significantly improved and these have placed this new generation of Acorn 32-bit machines in a league of their own.

The speed of redrawing and scrolling within the windowed environment is very impressive and is immediate, a factor of immense importance in the management of the lecturing and teaching environment.

There is no doubt that it is now the most affordable and powerful off-the-shelf

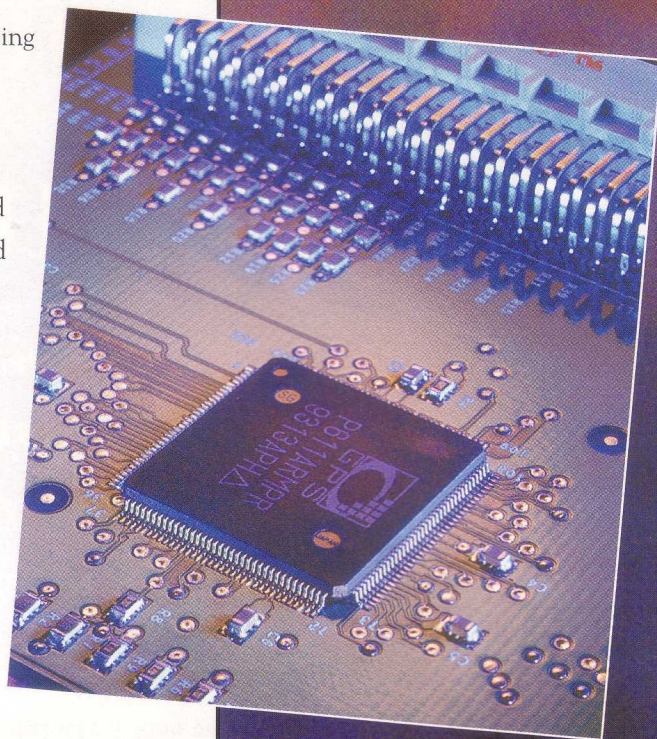
platform for image processing and remote sensing.

Alexander – a remote sensing application – performed extremely well and comparative tests on speed of satellite image processing gives the new Acorn Risc PC a 10:1 advantage over a 486 DX2 running at 66MHz, for a three band 512x512 image.

The new Acorn Risc PC, with its no nonsense approach, is probably the most appropriate system for new users of Information Technology. It is the only platform currently available that can deliver image, cartographic, document and music processing at an affordable price.

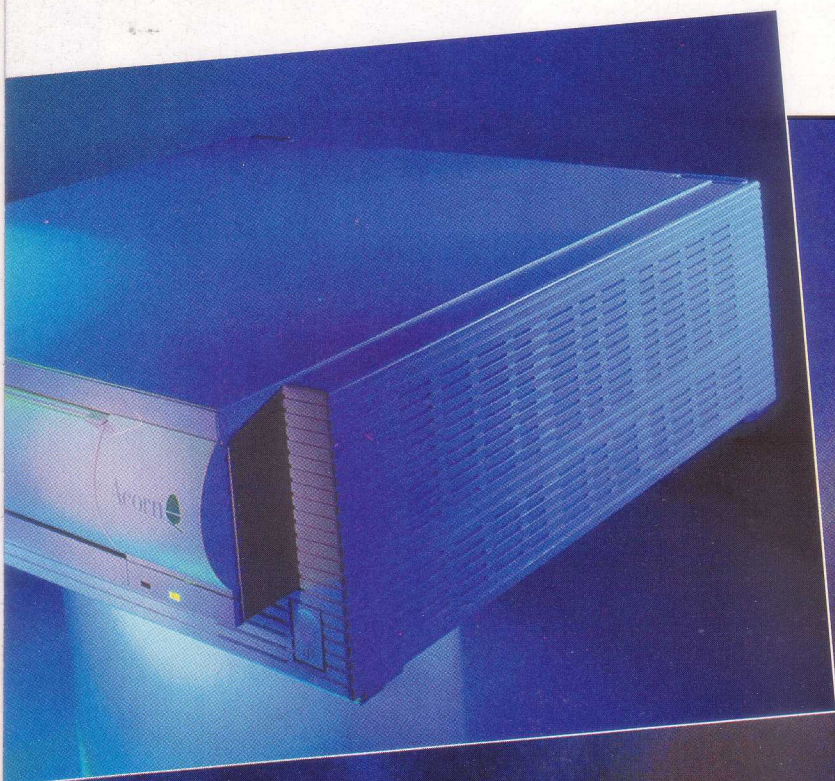
The running and upgrade costs will be significantly lower than that of traditional PCs with the increased modularity and use of standard PC components".

**Alexander Koh**



# Risc

**Alexander Koh,  
Course Director of Remote  
Sensing and Digital Terrain  
Modelling at Bath College of  
Higher Education and John  
Jessel of the Department of  
Educational Studies at  
Goldsmith's College assess  
the practical implications**





## An educational context

"It's nearly twice as fast, the resolution is greatly improved and it's capable of displaying many more windows," was the initial reaction to the Acorn Risc PC from John Jessel of Goldsmith's College.

Jessel is quick to put these benefits in an educational context. "Speed and enhanced graphics mean a more responsive learning environment. If, for example, when designing something or exploring a simulation, it takes several seconds for an action to take effect, you are less likely to act than if it had taken a fraction of a second."

One problem encountered at Goldsmith's will be familiar to most of our readers, "We tend to get a proliferation of mutually incompatible machines," points out Jessel.

"With the Acorn Risc PC, one machine can pick up data from different systems which makes life a lot easier. In

addition, the Acorn gives you flexibility in terms of all sorts of peripherals."

Graphic capability in IT is a particular interest for Jessel – not so much for its own sake – but for its wider impact on the experience of teaching and learning. "In many areas the generation of images representing three dimensional space and movement can be important in the understanding and development of many concepts.

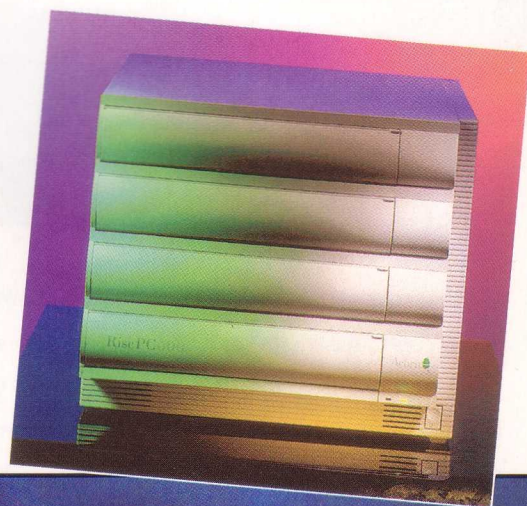
"Furthermore, not only are we addressing conceptual development but along with this we are also creating a broader agenda for literacy where new dimensions are being opened up. In view of this and in regard to the use of computers in education generally, it is not simply a matter of what can be done, instead it is a matter of what can be done quickly and easily.

"The demands that a wide range of imagery and control make upon com-

puters are heavy and obstacles exist if the machines fail to meet these demands. A machine such as the Acorn Risc PC can only help in this respect.

"The Risc PC is unique in putting learners in control of such imagery and many applications used in education today are beginning to use this to advantage. This can have implications at all levels and in all areas of the curriculum."

John Jessel



# PC – in action

## Ordnance Survey digital mapping

GEOGRAPHY in the UK is in the enviable position of having one of the most advanced suppliers of digital mapping data in the world – the Ordnance Survey. The problem for most geographers in schools – and even universities – is that access to digital maps requires expensive, non-standard computing equipment. But no longer...

With the development of NTF2, the second version of the Ordnance Survey's National Transfer file format, a wealth of digital material is now available to students – in theory. In practice, the problem of access remains, but for Acorn users at least, a solution seems to be very close.

A leading RISC OS software developer is currently working on a converter program that will take any Ordnance Survey NTF file and put it into Draw format. Making the Ordnance Survey information treasure chest readily accessible to users of Archimedes and RISC OS systems alike.

In the meantime, Alex Koh – a course director at the Bath College of Higher Education – has come up with an interim solution specifically for Acorn Risc PC users. Koh points out that it is possible to obtain OS digital maps at various scales in DXF format.

"One of the most impressive improvements represented by the Acorn Risc PC from our point of view is the ability of

the Draw package to read DXF files," Koh comments, and "this will make the Acorn Risc PC the most appropriate and powerful system for the teaching of cartographic, remote sensing and information technology skills as defined by the Key Stages of the National Curriculum."

Koh goes on to put the question of Ordnance Survey digital data into perspective. "Libraries of digital maps/drawings are now readily available to cover a wide range of disciplines and the most relevant aspect of this is the availability from the Ordnance Survey, of United Kingdom maps at various scales in DXF format.

"The benefits of a digital map solution over the traditional paper map library are well known. With the new Ordnance Survey copyright and licensing agreement, educational establishments will – at no additional cost – be able to take advantage of the many improvements in efficiency offered by using digital data. Data can be easily updated and overlays produced with the Draw application and maps produced on demand."

Some readers may prefer to await the development of a full NTF converter program, but we'd be interested to hear from anyone who has a chance to explore the Acorn Risc PC's ability to view DXF files.



# Risc PC supp

**The hardware may just have been announced, but the third party software and hardware houses are already well prepared**



*Giving you the facilities of 16.7 million colours*

WE approached a selection of the top Acorn developers to see what they had in store for the Acorn Risc PC – in particular how they planned to exploit the new graphics capability of the machines...

**Clares Micro Supplies (0606 48511)** were involved with the original launch of the Archimedes range and have been closely involved with the Acorn Risc PC project. They are particularly excited about the graphics side and as well as making sure that almost all of their current products are compatible with the Acorn Risc PC they are working on new and enhanced applications.

An obvious starting point is a 24-bit painting package – the working title of which is ProArt24. This is able to use 16.7 million colours for image display and creation. This gives you extremely realistic tools such as brushes mimicking natural media like charcoal, pastels, felt tips and so on. These brushes can also be made to follow pre-defined Draw paths.

Add to this the ability to load and manipulate Kodak Photo CD images in 24-bit colour, an exceptional clone spray for photo retouching, a full range of sprite cutting and pasting facilities with soft edges, realistic textures, a full range of image processing filters, a frisket and a highly intuitive interface for colour picking and what you get is a quite extraordi-

nary painting tool for the Acorn Risc PC.

Composition is another working title for an image composition program, which lets you combine a number of 24-bit pixel based images – each one treated as an object – from a variety of sources such as Kodak Photo CD and colour scans.

As well as combining objects using several masks per image they provide 256 levels of transparency or tint. The objects in Composition remain independent and can be dragged around and moved backwards and forwards in the depth stack interactively.

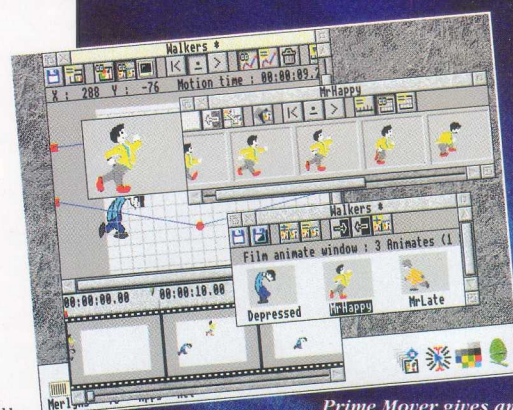
Masked objects can also cast shadows. Objects can have a tint of any RGB, CMYK or HSV colour applied to them and the tint can pass through another 8bpp mask to provide smooth colour graduations of the tint across the object.

Composition will also import sprites, Draw and ArtWorks files and is planned to output in Sprite, Clear, TIFF and EPS formats as well as its own format. Other possibilities include facilities such as motion blur, mist or rain and lighting effects such as evening or moonlight.

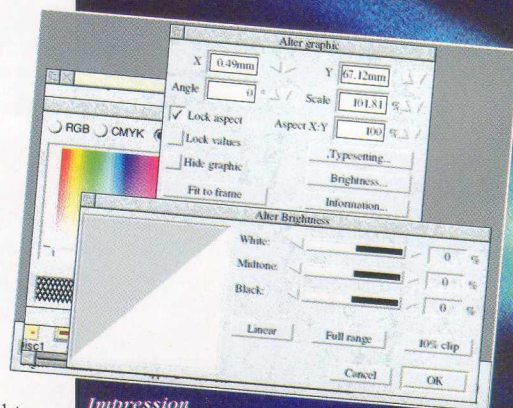
Their third title is Plot24 which uses the 24-bit colour picker giving up to 16.7 million colours which are particularly useful in the surface graphs and when providing gradu-



*Photobase – control over your visual resources*



*Prime Mover gives an educational perspective*



*Impression Publisher provides enhanced facilities*



# ort

## STOP PRESS

The Acorn Risc PC can be converted into an exceptionally powerful video-graphics workstation by adding the new APEX Imager Expansion Board from Millipede Electronic Graphics (0284 850594). A number of software applications are planned and a special feature of the Board is its real-time Alpha channel with pixel-by-pixel blending.

Longman Logotron have secured the rights to publish a complete library of four RISC OS CD-ROMs featuring images from the world famous Hulton Deutsch picture library just in time for the first Acorn Risc PC systems. With over 2,500 quality images on each disc these superb resources are accessed via Photobase.

ated backdrops. In addition they will be providing additional graph types covering a wide range of areas including statistics.

**Minerva (0392 437756)** have had considerable success this year with their Prime series and in particular with their educational packages PrimeSolver and PrimeMover. They are currently involved in a project of interest to geographers both in the business and educational world. Discussions have been taking place with Ordnance Survey and they will be publishing full information soon.

1993 was a busy and successful year for **Longman Logotron (0223 425558)** and this year promises to be the same with a brand new CD-ROM development – Photobase. The aim of this package is to solve the problem of giving users access and control over large numbers of visual resources. With the enhanced modular and hardware approach of the Acorn Risc PC, Photobase will be a boon.

It provides a superfast, easy to use keyword search and selection and a novel filmstrip facility, allowing sequences of pictures to be saved on to floppy discs for use elsewhere. Expect to see further CD titles using Photobase from other companies using it under license.

**Computer Concepts (0442 63933)** wholeheartedly welcome the new machines. In one fell swoop the main limitations that have prevented Acorn machines competing with the high-end DTP and graphics machines have been removed.

The support for dramatically bigger screen modes with more colours and expandable RAM way beyond the current

limit benefits all Computer Concepts' applications, but particularly ArtWorks and their printer drivers.

Due to the subtle changes to some areas of the computer architecture, such as the way of selecting screen modes and the fact that the processor handles interrupts in a different fashion, many of the older products do not function. However, over the last few months Computer Concepts have been working with Acorn to make sure their products are made compatible with, and take advantage of, the new machines.

All new products released since October last year are compatible with the machines, this includes all versions of Impression Style, Impression Publisher, ArtWorks 1.5, AudioWorks, WordWorks (the Eagle Multimedia card requires an upgrade). Upgrades are available for nearly all of the earlier products – details on request.

On the hardware side, **Calligraph's (0223 566643)** new A4-1200 and TQ-1200 direct drive laser printers are fully compatible with the new Acorn Risc PC. The Calligraph printer driver takes full advantage of the higher processor speed and large memory available with these new computers. Printers require at least 4Mb for A4-1200 and 8Mb for the TQ-1200.

The A4-1200 is a very affordable, high resolution eight page per minute direct drive laser printer and is the latest addition to Calligraph's existing range. It is economical in capital outlay and running costs with

the photoconductors lasting 30,000 pages and toner set 15,000 pages at four per cent coverage.

Calligraph's professional printer and plate maker – the TQ-1200 – runs at up to eight pages per minute and will print on to oversize A3 format. With a variety of paper feeds for different formats and materials.

The printers are fully controllable from the computer and printer status messages appear on your screen – no more obscure menus and buttons on the laser printer.

Both printers are hardware and software enhanced from true 600dpi to 1200dpi, giving perfectly smooth characters and curves and print quality further enhanced by microfine toner. The resolution can be varied depending on whether speed or high quality is required. The higher the resolution, the greater the numbers of greys the engine can display – no more image degradation in the high resolution modes.

The new printer software drives all of the current Calligraph printer and includes many features required by professional printers and publishers producing final camera-ready copy. The software supports variable screen density – between 30 and 170 lines per inch screens are ideal, higher densities are available too.



*Laser printers to enhance your work*



# Risc PC 600 Series

	Risc PC 600 2MB HD210	Risc PC 600 5MB HD210	Risc PC 600 9MB HD420
Processor	30MHz ARM610	30MHz ARM610	30MHz ARM610
Main memory expandable to... <sup>[1]</sup>	2MB 256MB	4MB 256MB	8MB 256MB
Video memory expandable to...	0MB 2MB	1MB 2MB	1MB 2MB
Second processor option	YES	YES	YES
Internal hard disc	210MB	210MB	420MB
3.5" floppy disc (formatted)	1.6MB	1.6MB	1.6MB
Maximum desktop colours	32,000 <sup>[2]</sup>	16 million	16 million
Standard monitor <sup>[3]</sup>	14" colour to 1024 x 768	14" colour to 1024 x 768	14" colour to 1024 x 768
Network options	Ethernet/Econet	Ethernet/Econet	Ethernet/Econet
Warranty	12 months with on-site support	12 months with on-site support	12 months with on-site support
<b>RRP</b>	<b>£1249</b>	<b>£1399</b>	<b>£1699</b>

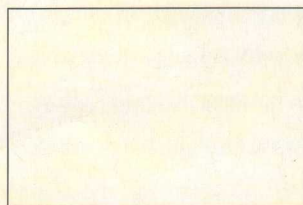
<sup>[1]</sup> 2 memory sockets provided. Each can take 2, 4, 8, 16 or 32 MByte SIMM modules. Support is also provided for when 64 and 128 MByte SIMMs become available, enabling support for up to 256 MBytes.

<sup>[2]</sup> 16,000,000 when 1 or 2 MByte VRAM option fitted

<sup>[3]</sup> optional monitor 17" colour to 1600 x 1200

Prices quoted exclude VAT. Acorn reserves the right to update without prior notice. Every effort has been made to ensure that the information in this brochure is true and correct at the time of going to press. However, the products described on this brochure are subject to continuous development and improvement and Acorn Computers Limited reserves the right to change the specifications at any time.

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## United Kingdom

Acorn Computers Ltd  
Acorn House  
Vision Park  
Histon  
CB4 4AE

Tel: (0223) 254254  
Int: +44 223 254254  
Fax: (0223) 254262

## Australia

Acorn Computers  
Australia Pty Ltd  
29 Cromwell Street  
Collingwood  
Victoria 3066

Tel: (03) 419 3033  
Int: +61 3419 3033  
Fax: (03) 419 2892

## Australia

Acorn Computers  
Australia Pty Ltd  
Unit 7, 190 George Street  
Parramatta  
New South Wales 2150

Tel: (02) 891 6555  
Int: +61 2891 6555  
Fax: (02) 635 9641

## Germany

Acorn Computers GmbH  
Jürgensplatz 36-38  
40219 Düsseldorf

Tel: (0211) 308494  
Int: +49 211 308 494  
Fax: (0211) 394386

## New Zealand

Acorn Computers  
New Zealand Ltd  
1 Ngaire Avenue  
PO Box 26-287  
Epsom, Auckland 3

Tel: (09) 520 4049  
Int: +64 9520 4049  
Fax: (09) 520 3321  
Telex: A.A. 178559SATCOM