



**The what, how and why of  
RISC OS**

# INTRO

This may be the first time you hear of RISC OS computers. You may think that RISC OS is new on the PC market. And you may wonder whether it is a reliable and viable system; whether it may be interesting to you and whether it is compatible with other systems. There is only one answer to these questions: read, try, ask, test, and compare.

The British firm Acorn has produced computers since the nineteen-seventies that are very pleasant to work with indeed: the Acorn Atom, the legendary BBC, the Electron, the Master, the Archimedes, the A-

series and the RiscPC. In collaboration with several other companies, RISCOS Ltd have taken over the development and production from the original Acorn company. New energy is being put into the further development and renewal of this concept. Others have joined in as well. The British firm RiscStation is developing the R7500, MicroDigital are developing the Mico and Millipede are developing the Imago motherboard. In this leaflet you will find images of the RiscPC produced by Castle Technology.

The proof of the pudding is still in the eating. So, don't be afraid, have a go. You'll be surprised...



# HARDWARE

## Processor

**T**he RiscPC offers the use of several processors.

**T**he primary processor is always an ARM processor (Advanced Risc Machine). ARM processors have been specially designed as RISC processors (Reduced Instruction Set Computers), enabling exceptionally fast processing. Standard ARM clock speed is 75 MHz, while StrongARM clock speed is 200 or 233 MHz. This may seem a little sluggish today, but it amounts to as many as 140 Mips or more. 600 MHz and 750 Mips ARM processors are currently under development. In case you are wondering if the fan isn't working, ARM processors require no cooling, and very little energy indeed. Which is why you may find these chips in Psion palmtops and many mobile phones. ARM operating systems are of course RISC OS, but also UNIX (Risc BSD) and Linux

**A** secondary ARM processor may be used, or a PC-card if you want to use PC applications. So DOS, Microsoft Windows, BeOS, Unix, Linux, anything goes. The processor makes full use of the internal memory, devices that function with RISC OS as well. In

this way all options like telebanking, trying out alternative operating systems, operating programmes that you use at your workplace or running PC-oriented CDs and CDRoms are open.

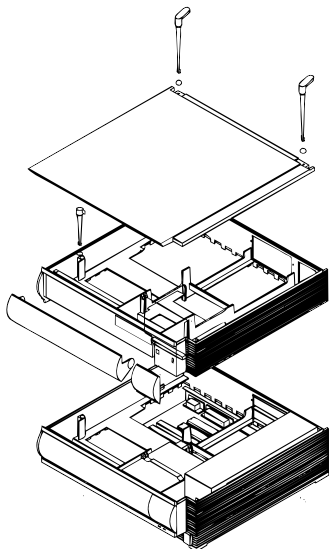


*The RiscPC*

## The casing

**T**he RiscPC motherboard is situated at the bottom of the casing, which has

room for the power supply unit, cards and several drives. If you need more



*The modular slices*

room, extra slices may be mounted on top. In this way you can stack up to seven storeys, enlarging the system at your will.

## Controllers

**D**isk drives, hard disks or CD drives can be connected to the built-in IDE controller. If you wish, a second IDE controller can be installed. Several SCSI cards can be fitted as well. There's room to move for scanners, zip, jaz or DVD drives, CD writers or rewriters, which, incidentally can be connected to parallel ports as well.

## Video/memory/sound

**1** or 2 Mb VRAM is provided for the screen image. That is enough for a range of up to 16 million colours. Resolutions go as far as 1280 x 1024. Specially designed technology enables lightning-speed generation or refreshing of the image.

**R**AM memory can be expanded to 256 Mb. Usually 4 or 8 Mb is more than enough, since operating system and programmes are very small in size.

**A** 16 bit Soundblaster compatible soundcard is included in the system.

# RISC OS

## The advantages of OS in ROM

The operating system is contained in ROM. It is located in two 4Mb ROM chips. It is very small but at the same time very powerful, because it was written especially for the ARM processors. This gives it a headstart from the moment you switch on the computer. In addition, hardly any disk space is needed for the operating system to work, and all the infamous viruses that many people are worried about cannot affect it. Consequently, re-installing your operating system to get rid of any bugs or malfunctioning is never necessary. All programme designers have kept to the original concept through the years, which means a pleasant consistency in design. Routines that apply in one programme apply similarly in another.

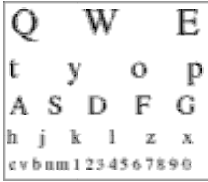
## The art of multitasking

The multitasking capabilities are among the strong points of the RISC operating system. No matter whether one, ten, or fifty programmes are active at any given moment, whether there are just three or three hundred windows open on your screen, operating speed is hardly affected. On top of that, the whole system has been so consistently designed that active programmes can work together because

they were meant to do so from the outset. This makes for easy and speedy action.

## The desktop

The desktop is the entire working area visible on your screen. It shows the windows of your programmes. The large area occupying most of the screen is called the pinboard. It can be specially set up at the click of a button for any kind of work environment that a particular job requires. To do this, you drag and drop all icons representing the programmes that you want to use to the pinboard, and save this constellation under a suitable name. In this way,



*With anti-aliasing*



*Without anti-aliasing*

a small file is saved that brings back your tailor-made set-up at the click of a mouse. The status bar is situated along the bottom of the screen and contains icons of installed devices on the left, and active programmes on the right. Very neat, and no need

for any wizard-like constructions to find what you want.

## The mouse

**T**he mouse has three buttons: the one on the left is used for selecting, the one in the middle for context-defined pop-up menus, and the one on the right for various tricks and treats. You will find some of them mentioned under 'windows and tricks' but there are many more. Because this system is so simple and effective, your mouse has an easy time and chances of RSI are small.

## Drag and drop

**A** frequent action is exporting and importing files or objects. With RISC OS this is simply a matter of dragging and dropping text or icons. Simply drag a picture you just made with programme A into the active window of programme B and it's there! No cutting and pasting! Quick and easy.

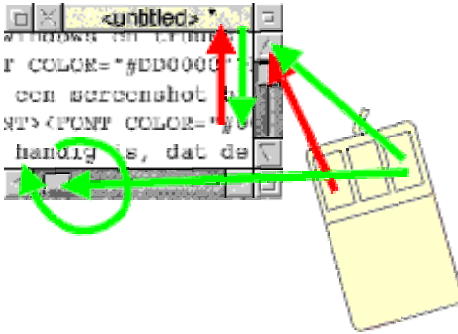
## Anti aliasing or 'fuzzy font technique'

**I**n order to produce on your screen crisp, easily readable letters, even small eight-point ones, RISC OS uses Anti-Aliasing: a hardly visible edge of grey pixels is generated around each letter which eliminates the jagged effect along the outline. This produces beauti-

fully smooth letters which are easy to read, however small they are. The pictures shown here illustrate the effect. Less strain on the eyes!

### The fonts

**F**onts are managed by the operating system as well. The bare system includes six standard fonts. But there are thousands that can all be installed. They can all be scaled smoothly from two-point size to whatever size fits onto



*The three buttons of the mouse*

your paper. There is no distinction between screen fonts and printerfonts.

### Windows and tricks

**O**ne handy trick to know is that the buttons for scrolling up and down have a reverse effect if they are

clicked on with the right-hand mouse button. The same effect applies to the left-right buttons. Moreover, both vertical and horizontal scroll-bars can be moved simultaneously by dragging either of them with the right-hand mouse button. If you have a window lying 'behind' another window, you can move it around by 'grabbing' it by its title bar with the right-hand mouse button without it popping to the front.

### Modular construction

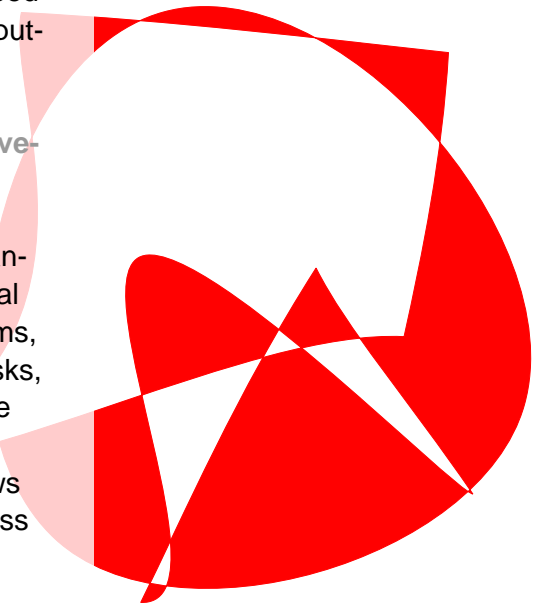
**T**he operating system contains dozens of modules working together, which in their turn are used by active applica-

tions. Many indispensable items are therefore present from the start and need not be defined separately for each individual programme. In this way, programmes remain small and need little memory space, thus speeding up the computing process.

allows for childishly simple installation of programmes (drag-drop-instant action) and enables the user to set up his work area at will, depending on the nature of the job to be done. Moving and removing of programmes and files is as simple as can be. Saving and copying of programmes and files is a matter of one click and one drag. Simplicity itself!

**Computing achievements are impressive**

**R**ISC OS manages several filing systems, devices and tasks, co-ordinates the active programmes, allows for sheer limitless multitasking, provides clear messages for the user through a beautiful and comfortable user interface, can be configured with ease,



# PROGRAMMES

## Programmes in ROM

**R**OM contains a range of ready-to-use programmes and applications for sound (Maestro), bitmap editing (Paint), vector editing (Draw) and text editing (Edit), a compression utility (Squash) and interactive help (Help). Although they are small, they do excellent work. For those who have high demands there are fine additions in the form of the following programmes:

### DTP

Impression, Ovation Pro, Publisher, EasyWriter, TechWriter, Formulix, HTML-Edit

### Editors

Edit, StrongEd, Zap

### Database

Datapower2, Masterfile, Squirrel, S-base

### Spreadsheet

Eureka, FireWorkz, Pipedream, Schema

### Bookkeeping/administration

DiagramIt, Prophet3, Planning/Projecting, Shares, Tablemate Pro, Vera, 1Statistics, Organizer

### Graphical vector editors

ArtWorks, Draw, DrawWorks, Font Design

Kit, Vantage, Vector, Topmodel2

### Graphical bitmap

Aim, Compo, Photodesk3, Studio24 Pro

### Presentation

CableNews Professional, OHP

### CAD/3D-CAD

WorraCad, ProCad, Architech, Da Vinci90

### Sound/music/midi

Sibelius, Rhapsody

### Multimedia/video/animation

VideoDesk, Optima, 24i16, Cineworks, Animator

### Internet, communication

Hearsay, ArcTerm7, ANT Internet Suite II, Webster

### Games

Doom, Quake,  
Destiny

### Conversion (file import en export)

ImageFS, Translator,  
ChangeFSI,  
Creator, TypeOne  
To Font, InterGif all  
free of charge.

### compression

ARCFS, PackDir,  
SparkFS,  
SparkPlug (Zip,  
Arc, Tar), Split

### Networks

Acorn Access+, NFS,  
Omniclient,  
LanManager,  
AppleTalk (optional  
via OmniClient),  
TCP/IP Protocol  
Suite, !X, X-  
Window Terminal,  
IPX-protocol  
(Novell)

### Public domain

Too many to mention.  
High quality.

**A** lot of specific software has been developed for education and institutional care, but also for special needs groups like people with mental and physical handicaps (image and motion recognition).

### Other platforms under or parallel to RISC OS

#### Linux

ARMLinux under RISC OS or Linux on the PC-processor

#### UNIX BSD

UNIX under RISC OS or on the PC-processor

**Dos and Windows 3.x, 95, 98 and NT** on the PC-processor

### Programming languages programmability

**P**rogrammes are written with the operating system's task as point of departure, to ensure import and export and processing of events. All aspects are subsequently forwarded to the programme which in turn processes the events. This is what the programmer is required to define. Apart from this, there are four aspects that should be taken into account: one file defining the programmes operating environment, templates defining the appear-

ance of the windows, icons to be used for the programme symbol and any tailor-made buttons, and a set of help and message files. Since the operating system knows all these facilities (remember the modules mentioned earlier) any defining can be compact and efficient. The programmer is expected to adhere to certain rules to ensure consistency of all programming. This will reduce learning time for the end user.

Programmability of RISC OS is outstanding, thanks partly to an excellent Programmer's Reference Manual and the Style Guide.

ARM-assembler

Basic IV

C++

Java

### RISC OS networking

In Maastricht, Holland, the Regionaal Pedagogisch Centrum has 36 RISC OS machines operating in a network. It has three printer servers, one network server and one database server. This network never fails or crashes. The manager is credited 40 work hours on a yearly basis.

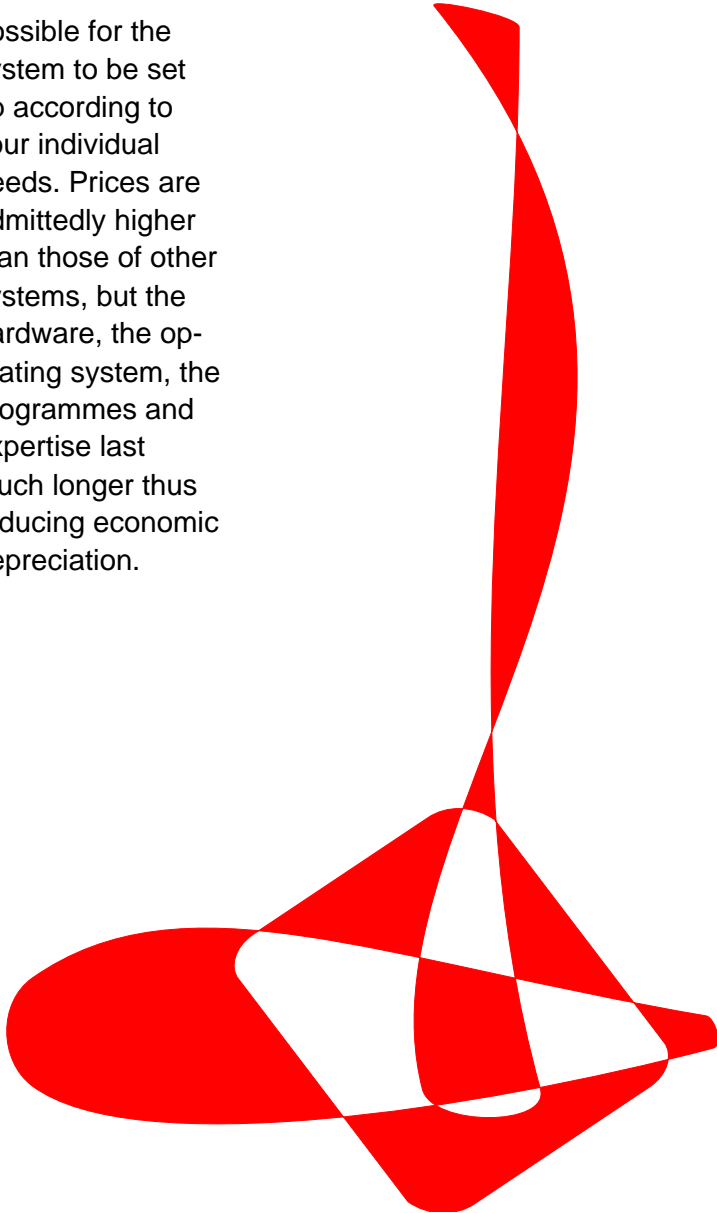
### Citrix ICA client

RISC OS computers can be incorporated in a Citrix ICA client network. Even ten-year-old machines can be still be used in a network.

### Manageability and costs.

In the RISC OS world 'only' two hundred viruses are known, which are quite controllable. RISC operating systems cannot be affected by viruses of other operating systems. There are all kinds of backup facilities, learning time is very short on account of the consistency of programmes, and programmes can be installed, relocated or removed very simply indeed, making it

possible for the system to be set up according to your individual needs. Prices are admittedly higher than those of other systems, but the hardware, the operating system, the programmes and expertise last much longer thus reducing economic depreciation.



## LINKS

### Dealers

If the nearest dealer is not close to your home, you can order through the post or by telephone, fax or e-mail. Your order will be delivered at home within two working days and you will be the proud owner of a RISC OS computer. Of course they are ready to help you with any queries you may have.

#### RISCOS Ltd

[www.riscos.com](http://www.riscos.com)

#### Castle Technology

[www.castle.org.uk](http://www.castle.org.uk)

#### RiscStation

[www.riscstation.co.uk](http://www.riscstation.co.uk)

#### MicroDigital

[www.microdigital.co.uk](http://www.microdigital.co.uk)

#### Millipede

[www.millipede.co.uk](http://www.millipede.co.uk)

### Desk

Desk has been a support centre for RISC OS users since 1991 and has most software and hardware in stock.

<http://www.deskvof.nl>

telephone: +31 (0)10 2860541

fax: +31 (0)10 2860542



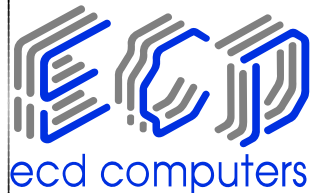
### ECD bv

Patrijsweg 16

2289 EX Rijswijk

<http://www.ecd.nl>

telephone: +31 (0)70 3194343



### Uffenkamp Computer Systeme (UCS)

UCS is a german dealer for Acorn, RISC OS, Psion hard- and software with an extensive web-shop

<http://www.ucs.de>





X-Ample Technology

## XAT

Scheldestraat 6  
5347 JD Oss  
<http://www.xat.nl>  
telephone: +31 (0)412 634433  
fax: +31 (0)412 643884

## RISC OS based businesses

**M**any of the companies mentioned below have been using RISC OS computers for years to their great satisfaction. The motto is: RISC OS works, also professionally.

## Busser & Busser facility management

- facility management
- interim-management
- management ondersteuning
- advisering

## Busser & Busser facility management



**B**&B offers professional help in setting up, reorganising and maintaining supportive processes in organisations.

<http://www.feniks.demon.nl/start.htm>  
telephone: +31 (0)478 512123  
fax: +31 (0)478 511633

## Stichting Creatief Beeldwerk

**C**omputer illustrations and DTP entirely with RISC OS.  
<http://www.beeldwerk.demon.nl>  
telephone: 0161 433226

S T I C H T I N G  
**creatief** **BEELD** **WERK**

Haarbeemd 59 4854MH Bavel  (0161)433226  
<http://www.beeldwerk.demon.nl>  [creatief@beeldwerk.demon.nl](mailto:creatief@beeldwerk.demon.nl)

## Ottens' Dutch Designs

**O**'dd is a company for graphic design that makes 2D, 3D and 4D designs with RISC OS computers.  
<http://www.ottensdutchdesigns.com>

**O'dd**  
*Ottens' dutch designs*

## Topix

Software/demogroup  
[topix@dse.nl](mailto:topix@dse.nl)  
<http://www.dse.nl/~topix/>

**TOPIX**

Arnhems Radiotherapeutisch Instituut; ArTech, (technisch illustreren), Pijnacker; Smits Reclame, Delft; BIC Benelux, Roosendaal; Bin Mahjid, Oman; Bouwman Voolbouw; British School In The Netherlands; Café Vlaanderen, Delft; Cinekid festival; Convergobreda (zorgsector); Cor de Jong Video; Delinkwentie & Samenleving, Rotterdam; Donksbergen Stichting, Duizel (zorgsector); Duits Nederlandse Windtunnel, Lelystad; DSM Geleen; ECN Petten; Erasmus Univ. Lab. v. Inw. Geneeskunde, Rotterdam; ESA, Noordwijk; Fachhochschule Bochum; Geodelta Ingenieursbureau, Delft; Haags Centrum v. Onderwijsbegeleiding; Hogeschool Enschede; Hogeschool Nijmegen (Creatieve Therapie); Inspecteur de Vriesschool (zorgsector); ITC, Enschede; Kath. Univ. Nijmegen, Tandheelkunde; Kitt, Enschede; Memo Bedrijfsinrichting, Hoorn; Milieutech, Rosmalen; Multifoon HiFi, Delft; Ned Instituut. v Hersenonderzoek, Amsterdam; Nedstaal NV, Alblasterdam; Nationaal Instituut v. Nieuwe Technologie (NINT), A'dam; Nationaal Laboratorium v. Lucht- en Ruimtevaart, A'dam; NOB Facilitair bedrijf, Hilversum; Noordelijke Hogeschool, Leeuwarden; Onze Lieve Vrouwe Gasthuis Amsterdam; Philips Drachten; Pohlkamp & van Riel, advocaten, Delft; Prince Promotions, Utrecht; RK Onderwijs Den Haag; ROTEB, Rotterdam; RPC, Maastricht;

Rijkswaterstaat Rotterdam; Severinusstichting, Veldhoven (zorgsector); Stuut & Bruin HiFi, Den Haag; TPD TNO, Delft; TU Twente; TUDelft, Bouwkunde; TU Delft, Industrieel Ontwerpen; TUDelft Technische Natuurkunde; TU Eindhoven; Univ. Leiden, Biologie; Univ. Leiden, Sociale Wetenschappen; Universiteit Antwerpen; Univ. v. Amsterdam Chem. Technologie; Vuurvogel, Den Haag; Waterloopkundig Laboratorium, Emmeloord.

## User clubs

**R**ISC OS users meet. User clubs organise meetings for ex-

those who want to ask questions by e-mail, although it is not really meant to be an official helpdesk.



**ACorner**, the user club of RISC OS in the province of Limburg.  
<http://www.cuci.nl/~pscheele/ACorner/>  
telefoon: 043 361 63 01

perienced RISC OS users and those who intend to be so. If you join (yearly subscrip-

## Acornisten

**S**end an e-mail containing in its body (not in the 'subject') the words subscribe acornisten to:  
[intacorobot@riscysite.demon.nl](mailto:intacorobot@riscysite.demon.nl)



## Big Ben Club

**T**he national user club for Acorn and RISC OS users.  
<http://www.nedernet.nl/~bigben>  
[bigben@nedernet.nl](mailto:bigben@nedernet.nl)

tion rate dfl. 55.-) there will be twelve interesting meetings each year, but you are just as welcome if all you want is to take a peek. Ask for a RISC OS demonstration. The AcornistenList is a mailing list for

## Colofon:

**C**ontributors to this leaflet: André van den Berg, Ike Busser, Wim Luinge (translations) Maarten en Steven Ottens (graphic design), Nico ter Haar, Peter Hillebrink, Frank Kraaij, Rien Mertens, Paul Reuvers, Léon Ruwette, Peter Scheele (editor), Paul Sprangers