

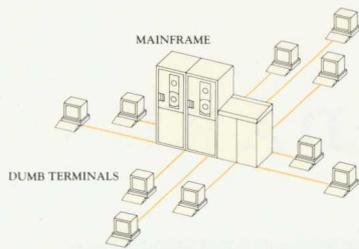
A WORLD OF STANDARDS



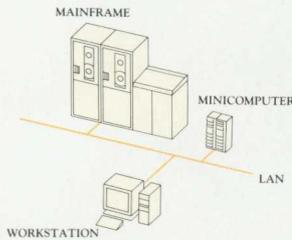
ACORN R140

Acorn   
The choice of experience.

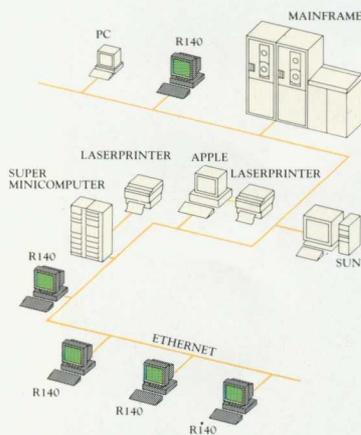
# A WORLD OF STANDARDS



**Centralised system**  
Conventional time-sharing systems have proved extremely costly in the search for acceptable levels of performance.



**Distributed system**  
The distributed system brings cost reductions and also enables distributed processing and efficient file sharing across the network.



**Open distributed system**  
The Acorn R140 presents the affordable way of developing or expanding a fully integrated computer environment with equipment from a variety of different manufacturers in a single distributed network.

The Acorn R140 workstation represents a major price breakthrough for UNIX systems. Acorn has exploited the performance of its award-winning 32-bit RISC processor to produce the first in a series of personal workstations running the UNIX operating system at a price below that of any comparable product.

The RISC processor designed and developed in the UK by Acorn is an outstanding example of pioneering technology leading to radical cost savings. By launching the R140 workstation, Acorn has transformed the economics of making UNIX available to users in all fields.

Combining processing power, windowing and graphics, in-built data storage and standard UNIX software, the Acorn R140 workstation supplies low-cost desktop power to the user whilst maintaining full connectivity with other workstations, PCs and multi-user systems.

UNIX was developed at AT&T's Bell laboratories specifically to provide an operating system capable of running on computer hardware supplied by different manufacturers. As a result of a growing demand for just such a hardware-independent operating system, UNIX has been adopted world-wide by computer users in commerce, industry, science and administration. This growth in UNIX has placed increasing emphasis on software development in commercial applications throughout the industry.



## NEW UNIX OPPORTUNITIES WITH THE ACORN R140

The Acorn R140 extends the opportunities for new systems by placing a true UNIX workstation on the desktop at a price previously associated with PCs. The Acorn R140 allows an integrated UNIX system to be developed or expanded affordably. Office automation, financial information and services, government, defence, computer-aided software engineering (CASE) and manufacturing automation are all key areas where UNIX is a significant and growing requirement.

## THE ACORN R140 IN EXISTING UNIX ENVIRONMENTS

The Acorn R140 presents an affordable opportunity to add to and upgrade existing UNIX systems.

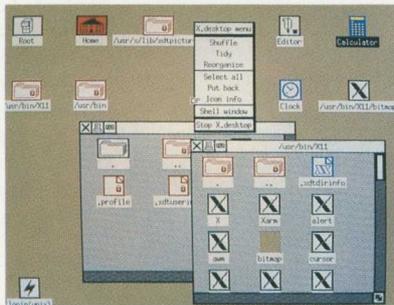
Based on the concept of open distributed processing, Acorn R140s can connect to workstations, PCs, mini and mainframe computers from Sun, AT&T, ICL, IBM and other manufacturers to form part of a fully integrated computer environment with efficient file sharing and distributed processing across the network.

Furthermore, adherence to leading standards including Berkeley UNIX, Ethernet, TCP/IP protocols, NFS and the X Window system, means that this integration can be achieved without difficulty and disruption to the network.

The Acorn R140 in a network adds processing power, increases data storage and supplies graphics capability, avoiding the performance degradation and network management problems caused by adding 'dumb' terminals or PCs.

## EASY TO LEARN USER INTERFACE

To make UNIX applications accessible to end users without specialist knowledge, the R140 workstation features X.desktop from IXI Limited. This easy-to-learn window, icon, mouse and pointer environment facilitates the introduction of UNIX systems to the workplace. Major software titles now work within the X.desktop environment and allow closer integration of packages from various manufacturers.



## ACORN'S UNIX SOLUTION

The Acorn R140 workstation provides access to UNIX for many more people who have been previously restricted by budget. Acorn offers a standard UNIX workstation with integrated multi-tasking, multi-user, graphics, windowing and networking capabilities built in at a very competitive price.

## FEATURES

The Acorn R140 workstation includes a comprehensive range of features and capabilities in its specification.

### Operating system

- The Acorn RISC iX operating system is a comprehensive implementation of Berkeley 4.3 UNIX with SVID extensions and C compiler.

### Graphics

- X Windows (Version 11, release 2) software provides windowing and graphics facilities and windowed terminal emulation. A range of monitors can be used, with resolutions up to 1152 x 900 in monochrome (as found on Sun workstations) and 640 x 480 in colour (the VGA mode of PCs).

### Connectivity

- NFS, Yellow Pages, TCP/IP networking and X11 client/server software are provided to give smooth integration into network environments via Ethernet. R140 workstations can be connected together and also to mini, mainframe and super-computers as well as to workstations from all major manufacturers to share data storage, processing power or peripheral equipment. Acorn's Econet local area network provides an alternative low-cost option.

### Ease of learning

- The X.desktop user interface from IXI Limited allows new UNIX users to interact in an easy-to-learn window, icon, mouse and pointer environment where applications may be started and files manipulated by mouse clicks rather than typed commands.

### Alternative operating systems

- MS-DOS and Acorn's RISC OS give access to a vast library of inexpensive PC and microcomputer software for secondary tasks. MS-DOS and RISC OS floppy discs may also be read from, written to and formatted from within the RISC iX environment.

### Maintenance and support

- The Acorn R140 is complete with a 12-month support package which includes on-site hardware maintenance, telephone hotline assistance and diagnostics, warranty and free incremental software updates as released.



# SPECIFICATIONS

## STANDARD HARDWARE

### System unit:

- ARM (Acorn RISC Machine) 32-bit Reduced Instruction Set Computer processor.
- 4 Mbytes RAM, 512 Kbytes ROM
- 60 Mbytes (unformatted) internal hard disc
- 1 Mbyte (unformatted) internal 3.5" floppy disc drive
- Four expansion slots

### Keyboard and mouse:

- 103 key 'enhanced PC' style keyboard
- 3-button mouse

### Standard interfaces:

- Serial interface port
- Parallel interface port

### Display monitor support:

- Ultra-high resolution monochrome 1152 × 900 pixel graphics 144 × 45 or 96 × 32 characters
- High resolution colour, gray-scale or monochrome 640 × 480 × 4 bits per pixel giving 16 from a palette of 4096 possible colours 80 × 20, 80 × 24 and 80 × 30 characters
- Text applications 80 × 20, 80 × 24 and 80 × 30 characters

## HARDWARE

### EXPANSION OPTIONS

#### Ethernet:

- Combined expansion card with both Ethernet and 'thin' Ethernet/Cheapernet, compatible with IEEE 802.3

#### External storage:

- SCSI expansion card\* for external hard discs, tape drives, scanners and laser printers
- Support for a second external winchester using the internal ST506 disc controller

#### Floating point co-processor:

- Floating point expansion card\* with WE 32206 co-processor (IEEE 754 compatible)

#### Econet:

- Internal Econet expansion module (which does not use an expansion slot)

Other expansion options from third parties include a multiple serial port expansion card, video digitisers, sound samplers, fax and modem cards, IEEE-488 expansion card and an Analogue to Digital converter (12-bit) card.

## STANDARD SOFTWARE

### RISC iX operating system:

- Berkeley standard distribution 4.3, two-user licence
- demand paged virtual memory
- C shell and Bourne shell
- Berkeley toolkit
- TCP/IP with Berkeley networking commands
- uucp, telnet, ftp, micro-Emacs, Kermit
- SVID Kernel extensions (KE, OS)
- Full ANSI C compiler
- pcc compatibility mode for non-ANSI code
- NFS 3.2, Yellow Pages
- Programmers and documenters tools
- Special features for: efficient use of memory including compression for disc storage end-user system administration virtual terminal interface giving multiple VT220 terminal emulation

### Window system:

- X Window System Version 11 release 2
- awm, twm and uwm window managers
- X.desktop from IXI Limited

### MS-DOS operating system: (optional)

- via RISC OS PC Emulator software

### RISC OS operating system:

- including application suite and manuals

## DOCUMENTATION

### Included:

- R140 Operations Guide
- RISC iX Users Guide
- RISC iX X.desktop Guide

### Optional:

- RISC iX Programmer's Reference Manual
- RISC iX System Administrator's Manual

\* Available Q2 1989

Every effort has been made to ensure that the information in this leaflet is true and correct at the time of printing. However the products described are subject to continuous development and improvement and Acorn Computers Limited reserves the right to change their specifications at any time. Acorn Computers Limited cannot accept liability for any loss or damage arising from the use of any information or particulars in this leaflet.

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