

# R140

## ACORN R140 WORKSTATION IN EDUCATION AND RESEARCH

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 widely accepted Berkeley UNIX standard at a price below that of any comparable product.

The RISC processor designed and developed in the U.K. by Acorn Computers Limited 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, inbuilt 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.

### THE ACORN R140 WORKSTATION IN EDUCATION AND RESEARCH

The Acorn R140 workstation has been developed to meet the needs within the education and research communities for powerful but affordable UNIX systems.

The standalone capabilities of the R140 workstation make it possible to supply single-user UNIX systems with full windowing and graphics capability, their own powerful processors, internal hard disc and floppy disc drive.

The networking capabilities of the R140 workstation present new opportunities in education and research to extend existing multi-user systems or to create new installations that have previously been ruled out on the grounds of cost. Acorn R140 workstations can be connected to mini and mainframe computers as well as to workstations from Sun, Apollo, Digital Equipment, Hewlett Packard and other manufacturers.

Acorn R140 workstations in a network add processing power, increase data storage and supply graphics capability, avoiding the performance degradation and network management problems caused by adding 'dumb' terminals or PCs. Adherence to the leading UNIX standards means that integration can be achieved without difficulty or disruption to the network.

With the R140 workstation Acorn provides a powerful but affordable UNIX system together with the reassurance of long term commitment and support from the leading British manufacturer of computers for the education and research communities.

### ACORN'S UNIX SOLUTION

The Acorn R140 workstation provides access to UNIX for many more people who have been previously restricted by budget. For a price similar to a bare-bones PC, Acorn offers a standard UNIX

workstation with integrated multi-tasking, multi-user, graphics, windowing and networking capabilities built-in.

### 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 × 900 in monochrome (as found on Sun workstations) and 640 × 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.

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## 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 license 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 file 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:

- ▶ 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

Every effort has been made to ensure that the information in this leaflet is true and correct at the time of printing.

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