R140

ACORN R140 WORKSTATION IN COMMERCIAL AND TECHNICAL APPLICATIONS

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 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.

UNIX was developed at AT&T's Bell Laboratories specifically to provide an operating system capable of running on computer hardware made by different manufacturers. As a result of a growing demand for just such a hardware-independent operating system, UNIX has been adopted worldwide 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 WORKSTATION

The Acorn R140 workstation extends the opportunities for new systems 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. Key markets such as office automation, financial information and services, government, defence, computer aided software engineering (CASE) and manufacturing automation are all areas where UNIX is a significant and growing requirement.

THE ACORN R140 WORKSTATION IN EXISTING UNIX ENVIRONMENTS

The Acorn R140 workstation presents an affordable opportunity to add to and extend existing UNIX systems. Each workstation has its own powerful processor, hard disc and floppy disc drive and software with windowing and graphics capability. Users can run applications or develop software locally, without affecting the performance of other stations. The R140 can be connected to workstations, PCs, mini and mainframe computers from Sun, AT&T, ICL, Olivetti, IBM and other manufacturers without difficulty or disruption to the network.

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. 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 ANSI 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 networking 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.

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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
  $640 \times 480 \times 4$ 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

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