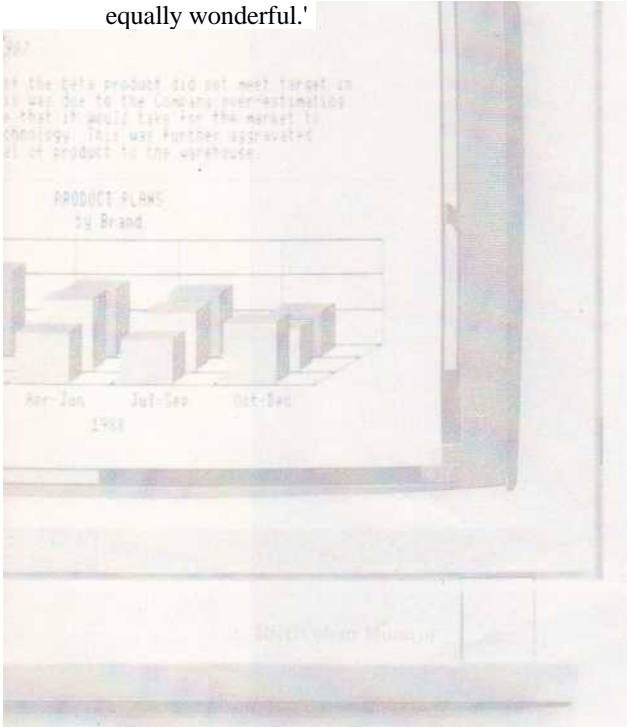# ACORN

HIGH PERFORMANCE COMPUTER SYSTEMS

Archimedes 310

Acorn
The choice of experience.

The Archimedes 310 personal workstation - world beating technology in an affordable microcomputer. The Archimedes range of microcomputers represents a British breakthrough in the application of RISC technology to personal computing. Acorn has designed and developed the RISC microchip for the Archimedes range to bring practical benefits to all microcomputer users.

Acclaimed at its launch with the British Microcomputing Awards 'Micro of the Year' title, the Archimedes system has also won the 1988 TOBIE award for Best New Technology Application of the Year. In the words of Personal Computer World magazine, The fact is that the ARM chip is amazing, and the Archimedes which uses it is equally wonderful.'

Easy to Use

If you are new to computing, the Archimedes system makes it easy for you to get started. Within minutes of switching on your Archimedes computer for the very first time, you find, yourself confidently using the mouse and pointer system to control the computer. Insert the Archimedes Welcome disc and enjoy exploring some of the machine's extraordinary potential. You can paint a picture or design a character font while you become familiar with the Archimedes way of working.

When you begin using one of the wide array of software packages available for the Archimedes computer, you will be delighted at how easy it is to get up and running with practical computer applications. The actions to control programs are listed in menus that pop up on the screen under the control of the Archimedes mouse. Entering an instruction is as easy as pointing. This ease of use and responsive feel are among Lae benefits of the speed and graphics capability of the Archimedes system.

Professional Performance

While new users appreciate how easy the Archimedes system is to use, experienced computer users are impressed by the productive advantages of its processing speed and sophisticated graphics. Professional software applications are fast and efficient, and ease of use carries little performance penalty with the power of RISC technology at your fingertips.

The exceptional speed of the Archimedes computer brings many benefits to professional software users. Large computations are executed more quickly, and so recalculating complex spreadsheets or reformatting long documents, that would cause tedious delays on an ordinary PC, can be performed in moments by an Archimedes machine.

Software developed for the Archimedes system covers a wide and growing range of business and professional applications, and such is the scope of the Archimedes 310 processing power that it can also run MS-DOS software on IBM format discs by emulating a PC. As a result, users of the Archimedes system can choose from thousands of software packages.
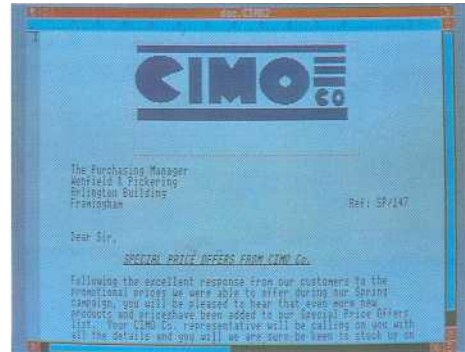
Desk-Top Publishing

Arranging and changing the layout of text and illustrations on the screen places great demands on the processing power and graphics capability of a microcomputer, making the Archimedes computer a natural choice. The Archimedes DTP package * sets new standards in document design at an affordable price.

Word Processing

Archimedes word-processing packages provide advanced facilities for writing and manipulating the written word, and yet they are quickly learned by beginners. Thanks to the graphics capability of the Archimedes system, you can also incorporate drawings, designs or logos, created using screen drawing software, within your text.

1st Word *Plus* with Artisan *graphics*
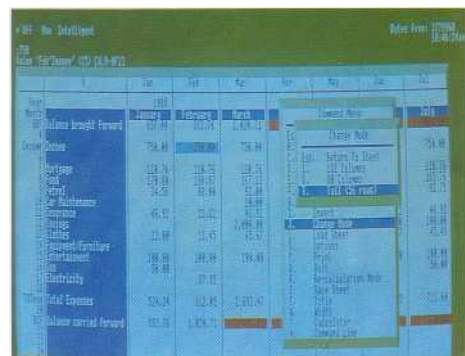
Databases and Accounting

From the simplest address list to the most complex data enquiry system, from the smallest club or society to a substantial commercial enterprise, the Archimedes system offers you a choice of database management and business accounting solutions. The processing power of the Archimedes computer gives you systems that are easy to set up, without sacrificing speed in handling entries and enquiries when the database grows in size.

Sigma Sheet
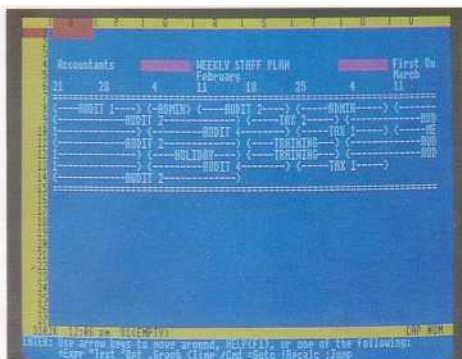

Flying Start II

Ready Made Solutions

The Archimedes computer is more than just a brilliant performer – it is the heart of a comprehensive hardware and software system offering ready made solutions for your business and professional requirements.
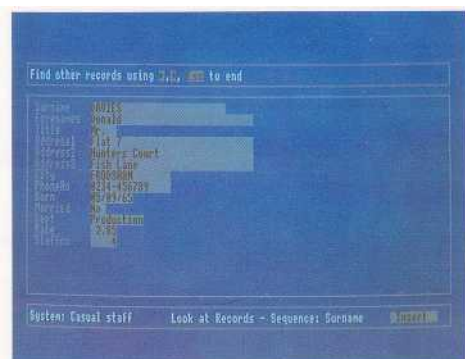
Business Planning

Integrated business planning software, combining spreadsheets and graphical presentations, has proved invaluable to management in all fields of commerce and administration. The Archimedes range has a choice of powerful and sophisticated software to meet your needs, whether you are a new or an experienced user.

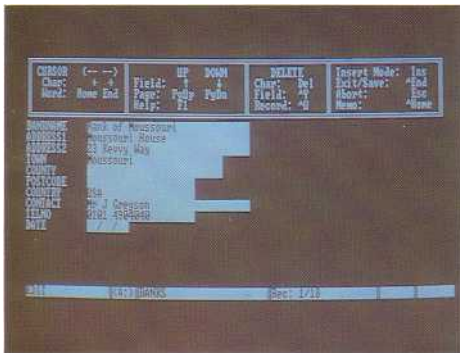*Logistix*

*Available Q1 1989

PC Emulation

Completing the Archimedes system's formidable armoury of ready made solutions is the Archimedes PC Emulator, included with the Archimedes 310M system and available separately for the 310. The worldwide library of PC compatible software is at your disposal, and every popular package so far tested by Acorn Computers Limited runs successfully on the Archimedes system, when using the PC Emulator. (Note that you should check memory and disc drive requirements before making a commitment.)
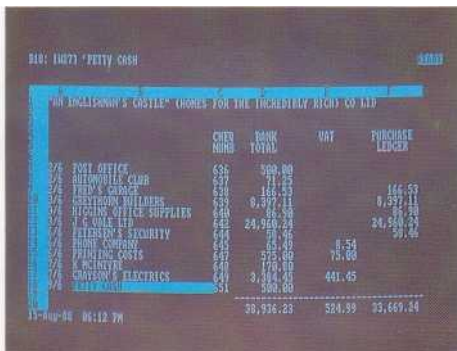

Dbase III

Lotus 1-2-3

Printing

The Archimedes system is designed to make connecting up and using your printer as easy as possible. Serial and parallel printer ports are standard, and most Archimedes software is supplied with the facility for selecting printers from a list displayed on the screen — and all the most popular printers are listed. So whether you have a dot-matrix, daisywheel, or laser printer, or any other type, configuring the system is simplicity itself.
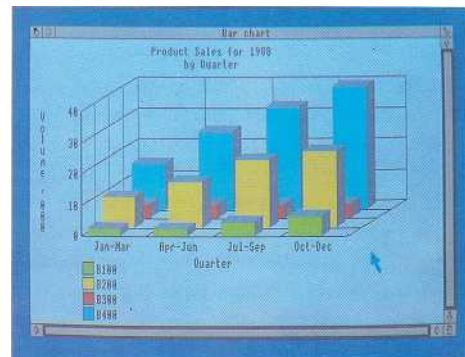
GRAPHICS AND SOUND

The Archimedes monitors, colour or monochrome, display clear lettering for text applications and stunning high-speed graphics. Displaying up to 256 colours from a choice of 4096, Archimedes colour graphics put ordinary computers in the shade.
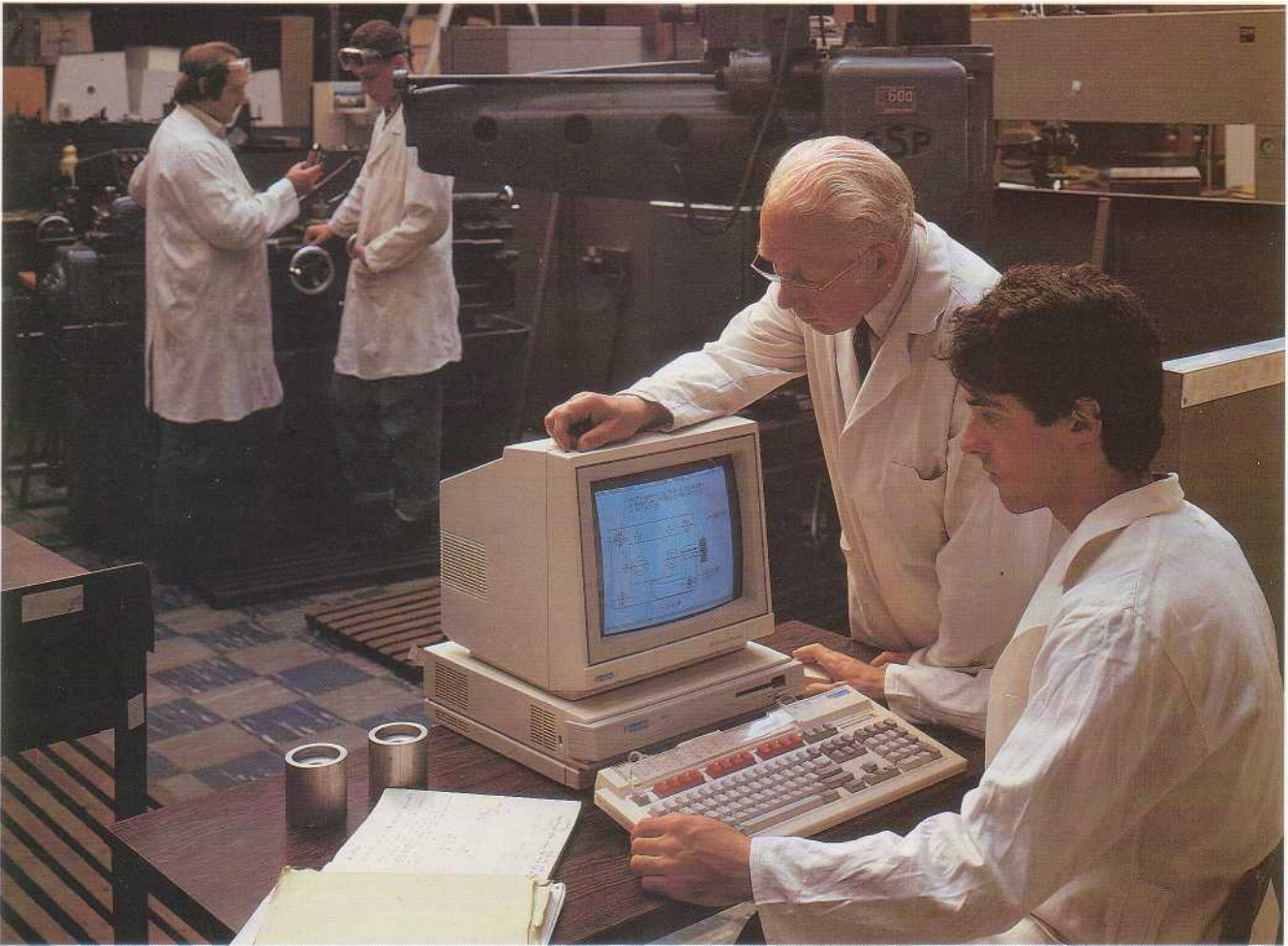

Presenter

The audio capability of the Archimedes system is astounding. Eight voice digital stereo sound, stereo output jack for connection to hi-fi systems or headphones, and the optional MIDI interface to musical instruments, all open up exciting opportunities for creative sound generation and control.

RISC TECHNOLOGY

The heart of the Archimedes 310 computer is the pace-setting Acorn RISC Machine (ARM) 32-bit processor, designed and developed at the Acorn research centre in Cambridge. The essence of RISC (Reduced Instruction Set Computer) technology is a central processor chip, containing a greatly reduced number of simplified processing instructions, that run at vastly increased speed compared with a conventional processor. Rarely used complex instructions are replaced by a series of simple RISC instructions, resulting in a huge overall performance advantage. Computer manufacturers around the world are developing RISC technology for the computers of tomorrow.

If you write your own computer programs, you will be delighted with their execution speed on the Archimedes computer. Whether you use BBC BASIC or one of the industry standard high level languages such as C or FORTRAN, you can write programs that outperform those written laboriously in machine code on other microcomputers radically reducing software development costs. Using ready made software from the large range of applications available for the Archimedes computer, the processing speed gained by RISC technology gives you a computer that is easy to use and yet capable of performing productively under the heaviest workload.

UNIVERSAL APPEAL

It is the performance and price advantage conferred by Acorn's RISC technology that makes the Archimedes system the winning choice for so many purposes. Ready made software solutions and PC emulation take care of innumerable practical applications. Networking capability allows you to link to other computers. The productive programming environment leads to the development of effective software in all disciplines, including education, medicine, science and research, and when not engaged on these tasks, the Archimedes system is ideal for instructive and creative leisure. You no longer have to choose between a practical business system, a powerful programmer's workstation, or an adaptable hobbyist's machine. The Archimedes system offers you the best of all worlds..

Specification and Features

CENTRAL PROCESSING UNIT

ARM (Acorn RISC Machine) 32-bit microprocessor using Reduced Instruction Set Computer technology.

A typical execution rate of 4 **MIPS** *(Million Instructions Per Second) makes the Archimedes system the world's fastest microcomputer* in *its class to date.*

MEMORY

1 Megabyte of fully addressable built-in RAM.

Complex *software applications to* run from RAM *without frequent delays* for *disc reading.*
Long documents *and large quantities of data* to *be held in* memory for *faster processing.*

512 kbytes of ROM store the complete operating system and the BASIC programming environment, along with the window driven user interface.

The Archimedes system is ready to run *as soon as* you *switch on.* You do not *have to load* the operating *system from disc.*
Storing *the operating* system in ROM *makes more* RAM *available for applications.*

DATA STORAGE

Standard equipment
3.5" floppy disc drive; 1 Megabyte (unformatted) capacity.

Industry standard *discs with rigid protective cases* for *safe* handling.
High storage capacity on *each disc.*
Ergonomically angled drive access slot for easy disc insertion.
Optional equipment
Second 3.5" floppy disc drive.

Rapid copying from disc to disc for *data back up. Reduced disc swapping when* running *large applications.*

20 Megabyte internal hard disc drive; continuous transfer rate 3.3 Mbit/sec.

Stores vast quantities of *data.*
Keeps all your *software* ready for instant *loading.*
Reads and writes much faster than floppy discs to increase productivity in *data intensive applications.*

DISPLAY

Colour Monitor
14" analogue ROB colour monitor, text and graphics display; resolution 640 x 256.

Clear characters and *brilliant* colours.

Outputs for alternative monitors
Analogue ROB and sync (via 9-pin D-type socket).

Allows you to *use a high resolution multiscan* colour *monitor (resolution* up to 640x512).

Composite mono video.

Allows *you* to *make use of a* mono monitor *showing grey shades in place of colours.*

SOUND

Two-channel stereo with 7 stereo positions and 8 voices.
One internal loudspeaker.
Standard 3.5 mm stereo jack for 32 ohm stereo headphones or amplifier.

The Archimedes system sound facilities present creative opportunities for:
Music composition with on-screen scoring and audio replay.
Easy connection for stereo headphones and hi-fi.
Controlling sophisticated equipment via the optional MIDI expansion *card.*

KEYBOARD AND MOUSE

103-key 'enhanced PC' layout keyboard featuring:

Full-size typewriter layout *keys with precise action. Twelve* function *keys with adjustable holder* for *templates. Separate* cursor key group *and separate numeric keypad.*

The Archimedes mouse providing:

Three buttons, software programmed to suit each application.
Accurate response to your *hand movement to give* you *'intuitive' control over the* computer.

INTERFACES

Serial and parallel interface ports are fitted as standard, allowing straightforward connection of an unlimited range of peripherals, including:

Printers and plotters to produce printed output of your *text and graphics. Modems for communication with other computers via the telephone system, for electronic mail, and for access to public data systems.*
Serial port
Standard 9-pin RS 423/232 D-type plug.
Software selectable baud rate 75-19200.
Parallel port
Standard 25-pin D-type socket.
Centronics 8-bit compatible.

EXPANSION OPTIONS

Econet module
Internal plug-in module allowing Archimedes systems to connect to the Econet low-cost networking system for sharing data between computers.
Two-card backplane
Holder and connector with two slots for the fitment of expansion cards inside the Archimedes casing.
I/0 expansion card
Double-width expansion card, fitting in the optional backplane, provides user port, 1 MHz bus and A—D port with connectors as on the Master 128, for applications in control and instrumentation systems.
ROM expansion card
Single-width card providing five 32-pin sockets for a range of ROM/EPROM types, and two static RAM sockets. This card allows the development of advanced electronic and computerisation projects. MIDI expansion card
The Musical Instrument Digital Interface gives control of music synthesizers and sound equipment.
Memory upgrade (Archimedes 305 only)
RAM upgrade from 0.5 Mb to 1 Mb for the Archimedes 305.

STANDARD SOFTWARE

In-built software in ROM
Archimedes Desktop Manager mouse and pointer system.
Archimedes Advanced Disc Filing System (ADFS).
Archimedes Advanced Net Filing System (ANFS) for Econet option.
BBC BASIC V and BASIC Editor, providing complete programming environment.
Character Sets: ISO 8859, Latin 1-4, Greek.

Welcome software suite on disc
Tutorials, Utilities and Demonstrations.
Painting Program.
Music Program.
Font Designer.
6502 Emulator.
Floating Point Emulator.
Lander Game.

Acorn
The choice of experience.