

Ferranti Computers 1953-64

Ferranti Ltd had established itself at the forefront of the infant computer industry by successfully delivering the world's first commercially produced computer in 1951. Between 1953 and 1962, the company built on this foundation by developing three computers that strongly influenced the future of computing – the Pegasus, Mercury and Atlas computers. MOSI holds archive records relating to each of these computers as part of the Ferranti company archive. It also holds the earliest surviving Ferranti Pegasus computer.

Ferranti Pegasus

Pegasus grew out of an idea to create a medium-priced computer that was easy to use and maintain. It was originally known as the Ferranti Packaged Computer (FPC1) because it was based on a modular circuit design. This 'package' design had been developed at Elliott Bros for its 401 computer. After about half of the Elliott 401 team joined Ferranti in late 1953, Christopher Strachey persuaded his colleagues at the National Research and Development Corporation to finance the development of an improved 401 by Ferranti. This spawned the creation of a computer department in London to develop the FPC1 in 1954.

Between 1956 and 1962, 38 Pegasus machines were built at Ferranti's West Gorton factory. The computer was used in engineering companies, banks, universities and research establishments. Pegasus used a fast random-access memory to carry out instructions. First-time programmers found it easier to understand the operation code used to carry out these instructions.

MOSI's Pegasus Mark I computer was delivered to Vickers-Armstrong (Aircraft) Ltd in Weybridge, Surrey, in 1957. It was used to perform

complex aeroplane design calculations. One of the Vickers-Armstrong aircraft designers, Donald Davies, remembered the impact of the Pegasus had at Vickers:

"It gave the engineers a greater ability to analyse more. The aeroplanes they produced became lighter, stronger and safer. It was a tremendous shot in the arm for the aircraft industry."



The Ferranti Pegasus shown in a typical office setting

Ferranti Mercury

Alongside its success with Pegasus, Ferranti continued developing computers with the University of Manchester and helped to finance the construction of the University's MEG computer. The MEG was 20 times faster than the Mark I, took up less physical space and used half its power. It became a Ferranti production computer, the Mercury, in 1957, and was a major technological and commercial success. The Mercury pioneered the use of floating-point arithmetic to make calculations faster and provided a ferrite core store, which increased storage capacity by almost 60%.

Ferranti sold 19 Mercury machines between 1957 and 1961. While the Pegasus computer enjoyed success in a wider industrial market, Ferranti sold the Mercury to research establishments and universities. In 1958, the Mercury was seen as one of the most powerful computers in Britain, and was cheaper than many of its rivals.

The Mercury also benefitted from a powerful programming language. Tony Brooker of the University of Manchester had developed the first high-level programming language, the Mark I Autocode, in 1954. When a Mercury was installed at the University of Manchester to replace its original Mark I in 1958, Tony Brooker created a more powerful version of Autocode for it. This provided the basis for its Atlas Compiler Compiler of 1960.



The Ferranti Mercury computer

Ferranti Atlas

Atlas was the last fruit of Ferranti's collaborations with the University of Manchester and also Ferranti's last general-purpose computer. It began in 1956 as the MUSE project, whose main goal was to build a transistorised computer that could operate at a speed of 1 million instructions per second. Ferranti began to work with the University on the commercial version in 1959.

When the Atlas computer was delivered in 1962, it was the most powerful computer in the world and had an extensive operating system. Averaging two to three microseconds per command, Atlas didn't quite achieve its target speed but it did introduce two important new features – virtual memory and a compiler-compiler. While Atlas succeeded in regaining technical superiority over its American rivals, it could not compete on commercial grounds. The price was £2 million and there was no rental option, which American customers preferred. Ultimately this led to the Government-engineered sale of Ferranti's computer division to ICT in 1964.

For more information:

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| <i>Read</i> | Lavington, S. <i>A History of Manchester Computers</i> . Manchester: NCC, 1975. |
| <i>Study</i> | The Ferranti Archive in the Collections Centre at MOSI. |
| <i>Visit</i> | The Pegasus computer in the 'Computing Manchester' section of the Electricity Gallery.
The Science Museum in London to see a working Pegasus computer. |