Oh Baby! First photograph of early modern computer

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A photograph of a development version of the Baby computer from around 1948.

Here is the first known photograph of the great grandfather of modern digital computers – but you couldn't use it on the train or take it jogging with you.

The panoramic black and white image, which has been unearthed in the archives at The University of Manchester, shows a development version of 'The Baby' taking up a whole room with its towering Post Office racks and jumble of wiring.

The Small Scale Experimental Machine – to give the Manchester invention its full title – successfully executed its first program on 21

June 1948 – and paved the way for the computers, iPods and mobile phones we all take for granted today.

Built and designed by Tom Kilburn and Freddie Williams at The University of Manchester, it was the first electronic digital computer capable of storing a program.

There are no photographs of the original Baby from June 1948. The panoramic image is often described as a photograph of the Baby machine, but it actually shows an intermediate stage, beginning to resemble the later University Mark 1.

The panoramic view of the machine was first published in The Illustrated London News in June 1949 and is actually a composite view made up of about 24 separate photographs taken by one of the project team, Alec Robinson. An entry in his notebook showed that they were taken on 15 December 1948.

The Baby was built using metal Post Office racks, hundreds of valves or vacuum tubes and the keyboard was a series of push buttons and switches, mounted vertically. Instead of a screen, the output was read directly off the face of a Cathode Ray Tube (CRT).

In modern terms the prototype Baby had a RAM (random access memory) of just 32 locations or 'words'. Each word in the RAM consisted of 32 bits (binary digits) and so The Baby had a grand total of 1024 bits of memory – and a computing speed of 1.2 milliseconds per instruction.

And amazingly, today a pocket-sized 80Gb Apple iPod is capable of storing 640 MILLION times more information than the original room-sized Baby.

Manchester, Cambridge and institutions in the United States all battled to built the first stored program computer but Manchester won the race – a feat that shook the world and placed the city at the forefront of a global technological revolution.

Tom Kilburn founded and led the Department of Computer Science at the University, the first in the UK.

On Friday 20 June 2008, The University and the City of Manchester will celebrate the 60th anniversary of the tremendous achievement of Kilburn and Williams with Digital 60 Day.

The programme includes a live demonstration of the working replica of The Baby at the Museum of Science and Industry (MOSI), an interactive Baby exhibit and a Computer Science Magic Show.

Four surviving member of the Baby design and development team will be awarded the Medal of Honour by The University of Manchester and also by the British Computer Society.

Professor Steve Furber CBE, designer of the BBC Microcomputer, will then deliver the inaugural Kilburn lecture on 'The Relentless March of the Microchip'.

For more information about Digital 60 please see www.digital60.org .

Source: University of Manchester