Chuck Peddle

The brain behind the 6502 microprocessor, now mass-produced and used in most personal computers

A whole generation older than 'whizz-kid' entrepreneurs like Steve Wozniak and Steve Jobs, Chuck Peddle's first involvement with microprocessors was in 1973, when he joined Motorola to work on the 6800 microprocessor design project.

Since it was one of the first microprocessors on the market, Motorola was able to demand a high price for the 6800 — $200 per unit. Peddle considered the product to be vastly over-priced and left Motorola to join MOS Technology.

At this relatively small company he went to work on another microprocessor design project that was to become the 6502 MPU, arguably the most successful microprocessor in the first decade of microcomputing. At the time, however, no one realised that the product on which they were working was destined to become the mainstay of an entire industry, and contribute in great measure to a social revolution the like of which the world has not seen for 200 years.

One of the few people to grasp the significance of the microprocessor in general, and the potential of the MOS Technology 6502 in particular, was Jack Tramiel, Commodore's President. Until that time, Commodore Business Machines had been involved in a range of office products and pocket calculators, without significant success.

Commodore was MOS Technology's chief customer, regularly purchasing large numbers of dedicated four-function calculator chips. Tramiel, despite his own difficulties in keeping Commodore's head above water, had enough faith in the 6502 to find the money from somewhere to buy out MOS Technology. With the company he acquired the services of Charles Peddle, now Microprocessor Development Engineer.

By this time, Peddle had realised that his brainchild could perhaps power a conceptual breakthrough — the personal computer. The same idea was being pursued independently by Wozniak and Jobs at Apple Computer, Inc. So concerned was Peddle that the new technology should be properly used that he got together with Bill Gates, founder of Microsoft — famous for its BASIC interpreter — in an attempt to buy Apple, which coincidentally came up for sale at the same time as MOS Technology. However, Wozniak and Jobs were asking $150,000 for the company, and Peddle and Gates could come up with only two-thirds of that amount.

Peddle stayed with Commodore and took on the task of originating the Commodore PET (Personal Electronic Transactor). It was launched in 1977, at roughly the same time as the Apple II. The PET was different in that it had a built-in monitor and cassette deck, and the 'feel' of the keyboard was closer to that of a calculator than a typewriter. Within a short time of its debut Commodore had secured orders for a thousand units (at £695 per unit), and the first generation of microcomputers designed specifically for use in the home was born.

It was three years before Peddle was to realise his second major ambition — that of running his own computer company. With Chris Fish, one of the financial brains behind Commodore's sudden rise, he joined Victor United, a subsidiary of the giant Walter Kidde Corporation, and started Sirius Systems Technology.

Development work in the personal computer industry was firmly concentrated on 16-bit chips like Intel's 8088. IBM, it turned out, was also working on a desk-top personal computer based on the same chip, but by chance Sirius was able to present the fruits of its labours just a few weeks earlier. The machine won wide acclaim, and soon established a strong presence in the market, being the first mass-produced, low-cost microcomputer to offer the advantages of the new generation of 16-bit microprocessors.

The Sirius 1 was relatively cheap and easy to use. With its detachable keyboard, high-resolution graphics and anti-glare screen, it set new standards for office microsystems. Users found the vastly enhanced speed and addressing capabilities of the 16-bit microprocessor tremendously beneficial.

All in all, Chuck Peddle had gone a long way towards fulfilling his ambition — to bring computing power within reach of all. And in the process he set a standard for others to follow.

COURTESY OF SIRIUS COMPUTING

The First Personal Computer
After developing the 6502 microprocessor, Chuck Peddle set about designing something called a 'personal computer' that was completely self-contained, could be plugged into the mains and used immediately, for whatever purpose the user required. The resulting Commodore PET, which appeared at almost the same time as Steve Wozniak's Apple II, featured a built-in screen, cassette recorder and Microsoft BASIC interpreter. Although it has since gone through several re-designs and face lifts, such as the full-size keyboard pictured, the PET is still popular. One of the early machine's most appealing features was the physical design which subtly suggested a head and shoulders. The 6502 is now the most widely used microprocessor in home computers