

Apple-1 computer prototype 'Apple Computer A' from 1976 discovered

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Paul Terrell (founder of the Byte Shop) gave Achim Baqué (curator of the Apple-1 Registry, a list of all Apple-1 computer) some information recently. Thanks to Paul's support and his Polaroids of an early Apple-1 it was a great surprise to see and zoom into the pictures from 1976. The photos were taken when Steve Wozniak and Steve Jobs first showed the Apple-1 to Paul at the Byte Shop. The Polaroids were already published in low resolution, but some characteristics were not noticed so far.

It was not easy to get even a tiny bit of information about the production prototype. Achim Baqué asked Woz, Wendel Sander, Bill Fernandez, Chris Espinosa, Daniel Kottke and Paul Terrell about the production prototype and got answers from all of them. It was not possible to clarify all open questions. Howard Canter, the designer of the Apple-1 mainboard, may have some answers. Unfortunately, it was not possible to get in touch with him.

Confirming various assumptions took some time and a lot of research was needed. No one remember the prototype. We have only some pictures.

1. In the left center is on all Apple-1 the text "Apple Computer 1". However, the prototype states "Apple Computer A © 76". This could be done to mark it as a prototype or maybe the idea was to name the final version this way? Woz doesn't remember why the name was changed.
2. It is an Apple 1 prototype with a different board layout than the later final production series. It was already clear earlier that there are some differences. Thanks to the detailed pictures by Paul Terrell, it is now clear that there are many differences. Some traces are different. There is just a very small jumper section in the middle (above the IC 74154). The small caps are the same used for the 2nd batch. And so on. Unfortunately, only the front side is known/visible.
3. The Apple-1 prototype has all the extra components of the 6800/6501 CPU instead of the 6502. Woz was sent a photo of the circuit board by the Apple-1 Registry in early 2012 and commented about the production prototype: "This Apple I below was probably about the first Apple I on an Apple PC board. I had left the 6800 space because it was needed for the \$20 6501 instead of the \$25 6502. The difference was strong clock driver transistors. Paul Terrell may well have gotten a sort-of prototype since his order is really the reason we built Apple I's with parts installed. We built a couple with the 6501 but by real production time we could get the 6502 for the same cost".

According to this, the prototype was built with a 6501 CPU. For a 6501 you need the same additional components as for the 6800 CPU. The Woz monitor in the PROMs works without modification. That Paul Terrell was shown a prototype coincides with the book Little Kingdom by Michael Moritz.

The Apple-1 Registry has been updated with information about this prototype.
<https://www.apple1registry.com/en/stories.html>

Now that the mystery of the handwritten number is solved, Achim Baqué will continue to search for information about the prototypes. Well, last years he collected all information but not much is known. Steve Wozniak mentioned a fire in his garage and maybe the prototype(s) were in this garage. This would have been a terrible loss. There is a chance, that the prototypes still exist. Achim Baqué has some clues as to the whereabouts, but nothing certain.

In every story about the first Apple computer, Woz bought the 6502 and built around it the Apple-1. Not the 6501 CPU. At least for the production prototype it was the MOS 6501 CPU.

Published by Achim Baqué, curator of the Apple-1 Registry.

Further information <https://www.Apple1Registry.com/en/press.html>

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