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The Motorola 68000 was a special one. I built a speaking computer with it. I also wrote a multitasker in assembler. That chip was the workhorse of learning back during my M.S.E.E. days. But wait—other chips come to mind. I also like ZettaCore's first



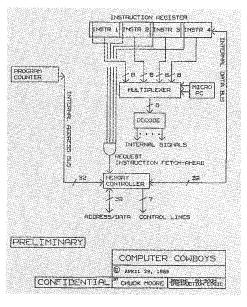
1-megabyte molecular memory chip, D-Wave's solidstate 128-qubit quantum computer processor, the Pentium (I've got an 8-inch wafer signed by Andy Grove in my office), the Canon EOS 5D 12.8-megapixel CMOS sensor, and the iTV 5-bit asynchronous processor running Forth and a custom OS—whew!

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Computer Cowboys Sh-Boom Processor (1988)

TWO CHIP DESIGNERS walk into a bar. They are Russell H. Fish III and Chuck H. Moore, and the bar is called Sh-Boom. No, this is not the beginning of a joke. It's actually part of a technology tale filled with discord and lawsuits, lots of lawsuits. It all started in 1988 when Fish and Moore created a bizarre processor called Sh-Boom. The chip was so streamlined it could run faster than the clock on the circuit board that drove the rest of the computer. So the two designers found a way to have the processor run its own superfast internal clock while still staying synchronized with the rest of the computer. Sh-Boom was never a commercial success, and after patenting its innovative parts, Moore and Fish moved on. Fish

later sold his patent rights to a Carlsbad, Calif.-based firm. Patriot Scientific. which remained a profitless speck of a company until its executives had a revelation: In the years since Sh-Boom's invention, the speed of processors had by far surpassed that of motherboards, and so practically every maker of computers and consumer electronics wound up



using a solution just like the one Fish and Moore had patented. *Ka-ching!* Patriot fired a barrage of lawsuits against U.S. and Japanese companies. Whether these companies' chips depend on the Sh-Boom ideas is a matter of controversy. But since 2006, Patriot and Moore have reaped over US \$125 million in licensing fees from Intel, AMD, Sony, Olympus, and others. As for the name Sh-Boom, Moore, now at IntellaSys, in Cupertino, Calif., says: "It supposedly derived from the name of a bar where Fish and I drank bourbon and scribbled on napkins. There's little truth in that. But I did like the name he suggested."

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