# The development of home computer

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# The root of the mountain -- SIMM memory

- Motherboard was first launched In 80286, memory chips used SIMM (Single In - lineMemory Modules, unilateral contact memory module) interface, the capacity of 30 pin, 256 KB, must be by 8 pieces of data and 1 piece of parity of a bank, because of this, 30 pin simms we see four are used together.Since the PC entered the civil market in 1982, the 30pin SIMM memory with the 80286 processor is the ancestor of the memory field

- The root of the mountain – 30Pin SIMM memory
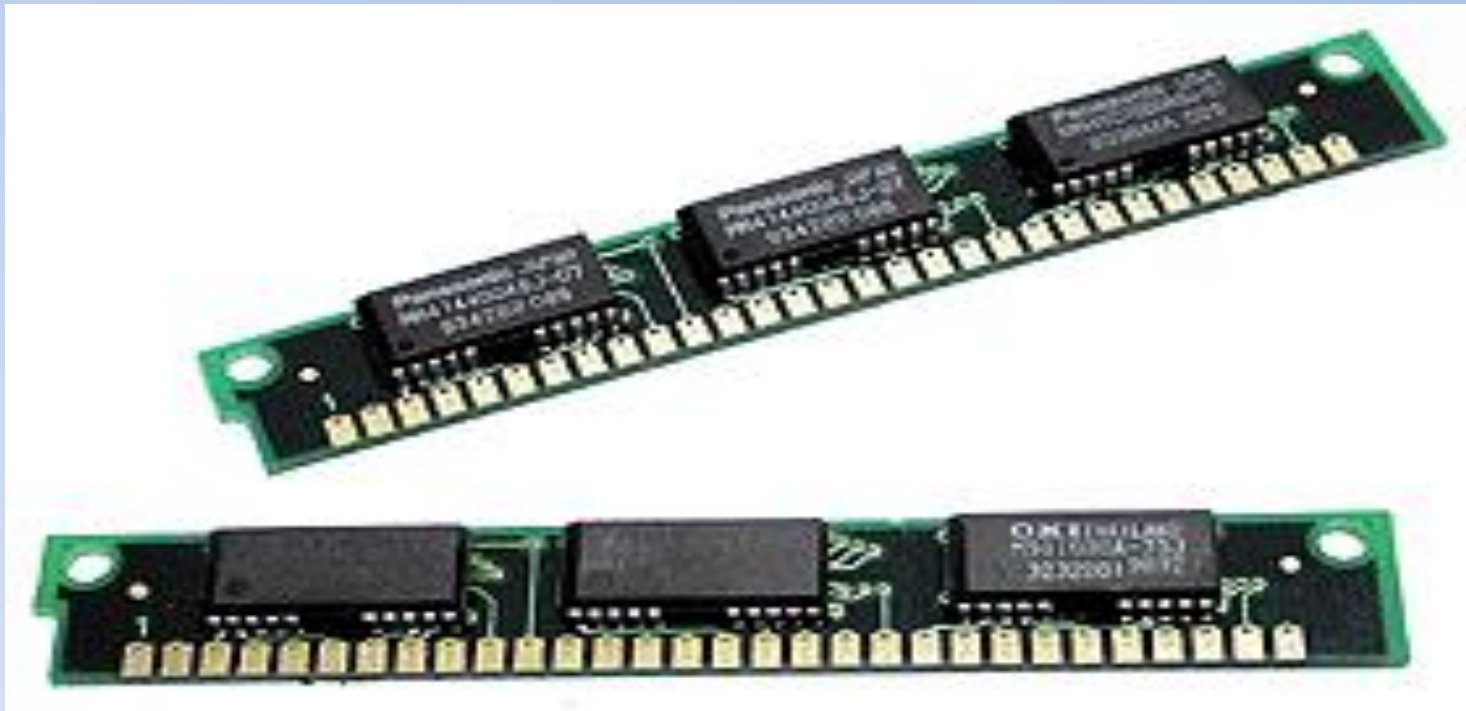
The root of the mountain -- SIMM memory

- In 1988 ~ 1990 years, PC technology develop into another peak, is 386 and 486 times, as the CPU to 16 bit development, so the 30 pin simms memory can no longer meet the demand, the low memory bandwidth has become the bottleneck of htac, so 72 pin SIMM memory appeared at this time
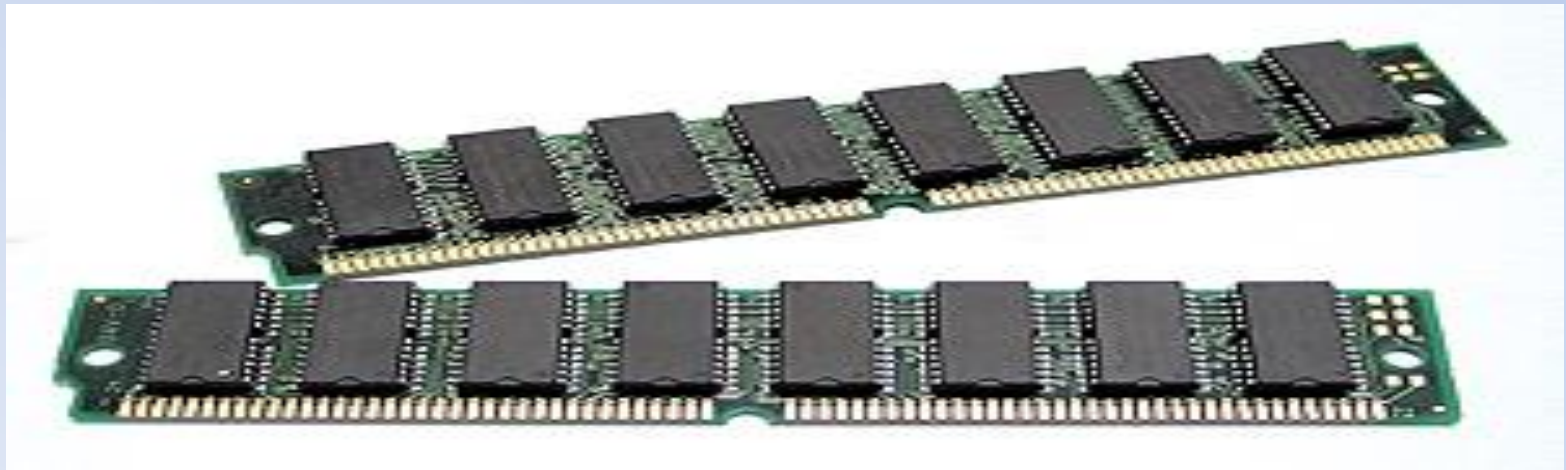
Hovered -- EDO DRAM memory

- EDO DRAM (Extended the Date Out of RAM, and the expansion of data model storage) memory, this is between 1991 to 1995 in memory chips, EDO - very similar to RAM with FP DRAM, it canceled the extension data output memory memory and transmission time interval between two storage cycle, at the same time of the data sent to the CPU to access to the next page, and 15-30% faster than ordinary DRAM.
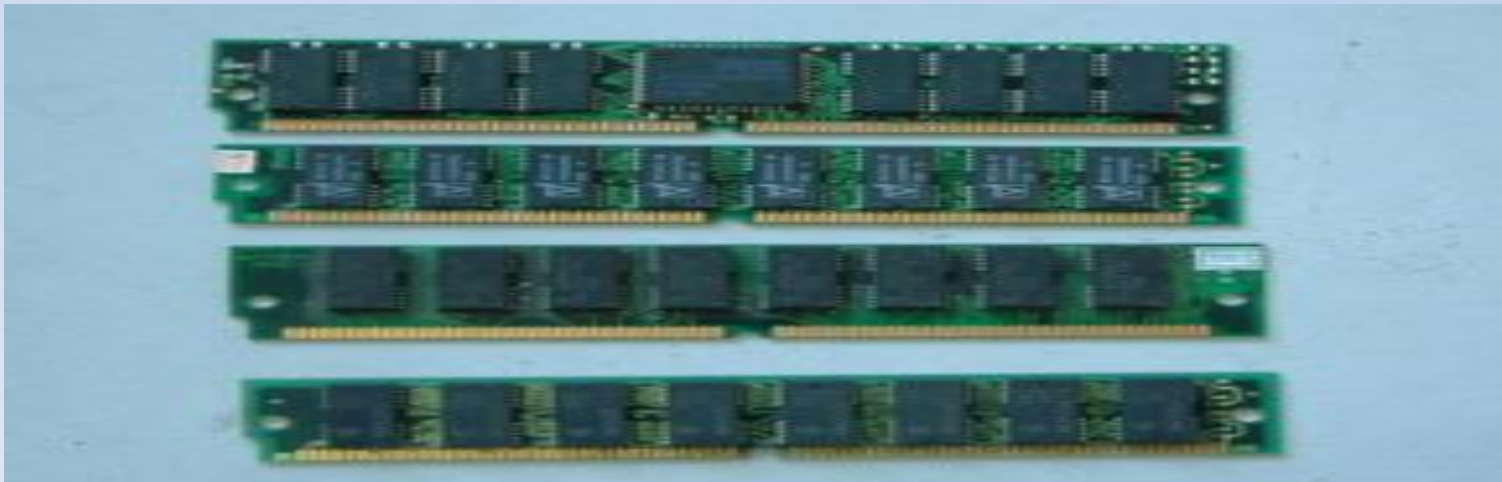
Hovered -- EDO DRAM memory

- From 1991 to 1995 years, let's see an embarrassing situation, that is memory technology develops slowly over the past few years, almost stagnant, so at this point we see EDO RAM 72 pin, 168 pin and coexist, in fact EDO memory also belongs to the category of the 72 pin SIMM memory, but it USES a new way of addressing.

Generational classic - SDRAM memory

- SDRAM memory is developed from the early stage of 66MHz and developed later with 100MHz and 133MHz

Rambus DRAM memory

- In order to achieve the exclusive market, Intel and Rambus promote Rambus DRAM memory (called RDRAM memory) in the PC market.Unlike SDRAM, its simple adopted a new generation of high speed memory architecture, based on the kinds of RISC (Reduced Instruction Set Computing, Reduced Instruction Set computer) theory, this theory can reduce the complexity of the data, make the whole system performance improved.

Repeat the classic - DDR memory

- DDR memory as a compromise between performance and cost solution, its purpose is to rapidly establish a solid market space, then rapid advances in frequency step by step, finally make up for the lack of memory bandwidth. First generation DDR200 specification has not gained popularity, the second generation PC266 DDR SRAM (133 MHZ clock x 2 x = 266 MHZ bandwidth) data transmission by PC133 SDRAM memory are derived, which brings the DDR memory to the first climax, there are still many cy young and K7 processors AMD are used DDR266 specifications of the memory, the subsequent DDR333 memory also belong to a kind of excessive, but DDR400 memory become the mainstream platform of choice at present, dual channel DDR400 memory has become the basic standard of the FSB 800 processor is tie-in, the subsequent DDR533 specification becomes overclocking user selection object.

- DDR266、DDR333、DDR400、DDR533

Today's star - DDR2 memory

- DDR2 can provide a minimum of 400MB/s bandwidth per pin on the 100MHz frequency base, and its interface will run on 1.8V voltage, which further reduces heat output to improve the frequency. In addition, DDR2 will incorporate new performance indicators and interrupt instructions such as CAS, OCD, ODT, and increase the utilization of memory bandwidth. According to the DDR2 standard set out by JEDEC organizers, DDR2 memory in markets such as PCS will have a different clock frequency, such as 400, 533, 667MHz, and so on (see figure 16).High-end DDR2 memory will have 800, 1000MHz frequency. DDR2 memory will be packaged in FBGA with 200 -, 220 -, 240- stitches. The initial DDR2 memory will be produced with a production process of 0.13 micron, with a voltage of 1.8v and a capacity density of 512MB.

- DDR2 533