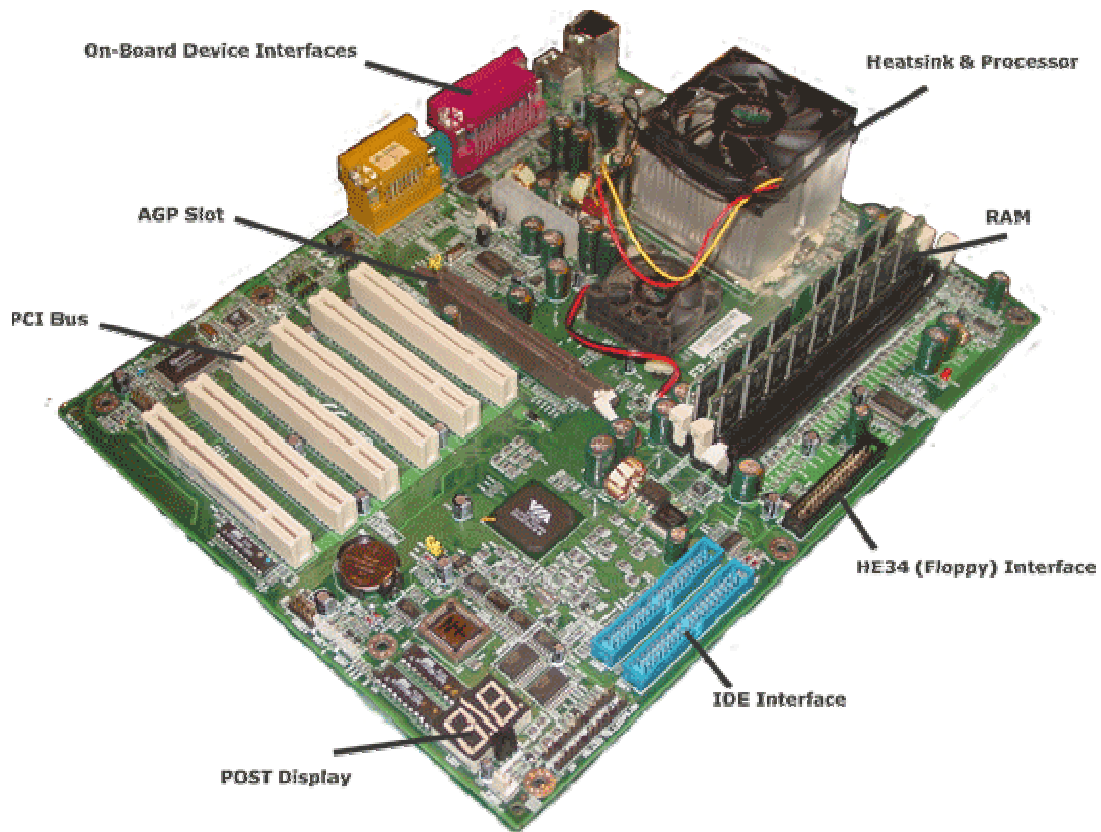


90% of being a successful troubleshooter is having a strong familiarity with the parts and the functionality of the parts in question. Once you know the makeup of a system you can better narrow down the source of your problem by eliminating components that could in no way be causing your problem.

MotherBoard

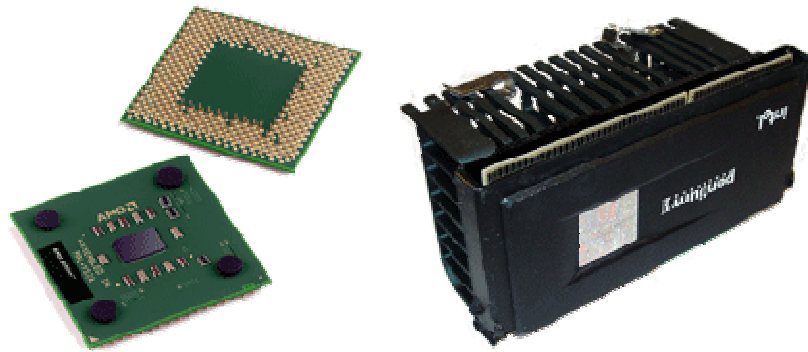
The main circuit board of a microcomputer. The motherboard contains the connectors for attaching additional boards. Typically, the motherboard contains the CPU, BIOS, memory, mass storage interfaces, serial and parallel ports, expansion slots, and all the controllers required to control standard peripheral devices, such as the display screen, keyboard, and disk drive; sometimes you will find that the motherboard has other integrated devices such as an audio card and video card. The motherboard is the largest circuit board in most computers and is held on by several screws.



Central Processing Unit (CPU)

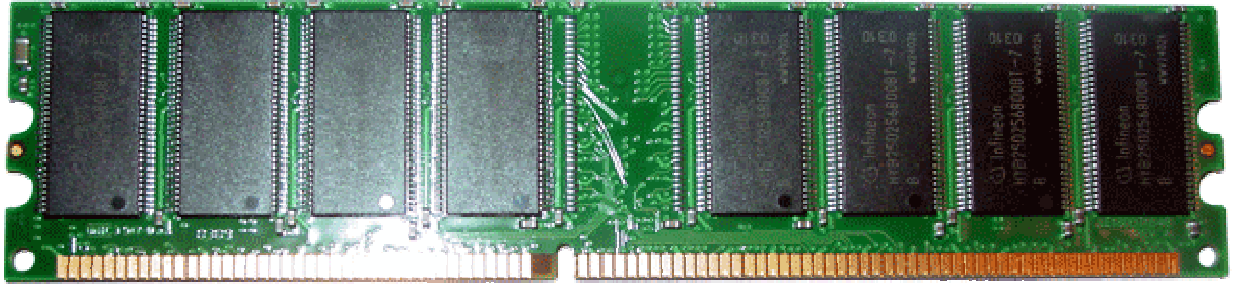
The CPU is the brains of the computer. Sometimes referred to simply as the processor or central processor, the CPU is where most calculations take place. In terms of computing power, the CPU is the most important element of a computer system. There are currently two manufacturers that own the majority of the market, Intel (Pentium & Celeron) and AMD (Athlon & Duron). There are two general flavors of processors:

- Socket - When the heatsink and the processor are completely removed from both the motherboard and each other you will observe that the processor itself is very small and very flat. The processor will only take up a portion of the "board" you remove. The board is there in order to separate the numerous pins you will find on the underside. The processor will usually be somewhat raised above the surface of the "board" in order to allow maximum contact with the heatsink.
- Slot - The slot form processor is being phased out, and you will not be able to find one on current x86 machines. This form of processor is much easier to install, but costs much more to manufacture. Intel felt that their market share was being threatened by lower cost AMD socket processors, and halted production of their slot processors. You can recognize this processor from its built-in heatsink and PCI-like contacts. To install this processor you simply push it down into the contacts.



Random Access Memor (RAM)

A type of computer memory that can be accessed randomly; that is, any byte of memory can be accessed without touching the preceding bytes. RAM is the most common type of memory found in computers and other devices, such as printers. There are various types of RAM, including Static RAM (SRAM), Dynamic RAM (DRAM), Synchronous DRAM (SDRAM), Double Data Rate SDRAM (DDR-SDRAM), & RDRAM (Rambus DRAM).



Power Supply

Every computer has a power supply to change the electricity from the wall outlet into electricity the computer can use. The capacity of a power supply is measured in watts. A typical computer requires 400 watts to operate. This isn't very much, when you consider that an average hair dryer uses three and a half times as much power.

