PC hardware teardown

Mendlesham Computer Club

By Giles Godart-Brown

Introduction

- These slides describe the various components inside a PC or laptop.

- Laptop components are much smaller and more difficult to isolate, so the pictures here are for a tower or desktop PC, though many of the components are very similar.

The power supply

Provides power to all the components in the box at all of the different voltages, e.g. 12V for Disk drives, 5V for USB.

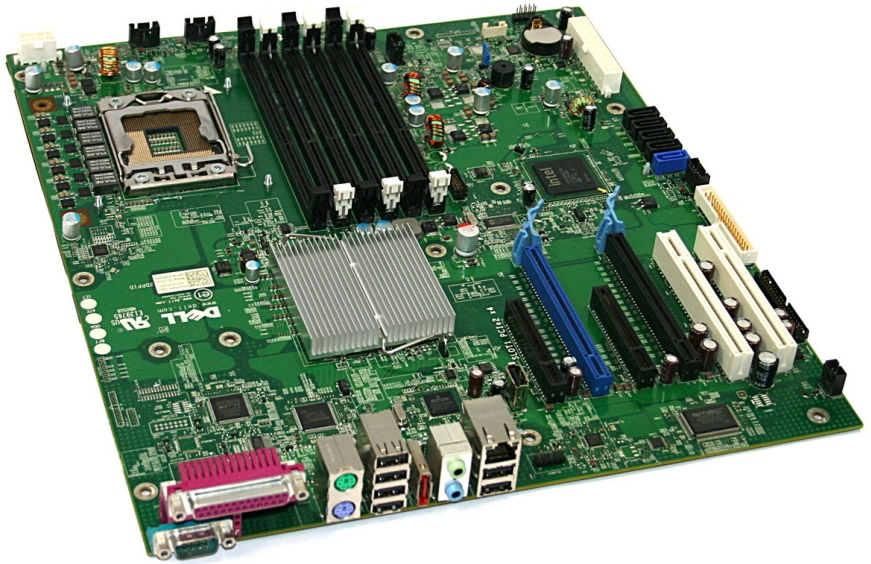
They are designed for;

- Load
- Efficiency
- Noise

The Motherboard

Connects together all of the chips and the Processor

- Matches the processor
- Provides connections to all peripherals



The Processor

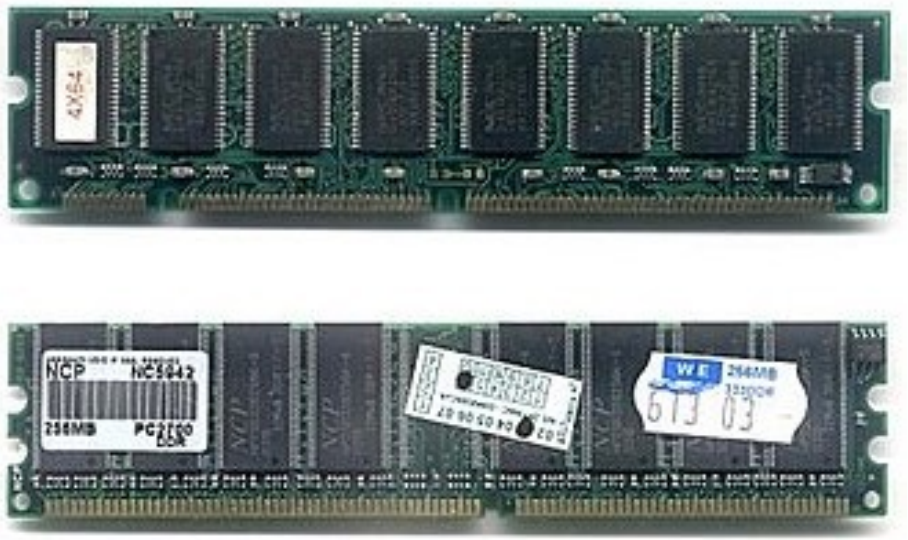
The Brain of the PC

The heat sink and fan

- Keeps the Processor cool
- Uses a thermal paste to seal to Processor

Random Access Memory (RAM)

- Volatile memory that is lost when power is turned off.
- Has a big effect on PC speed, especially as software gets bigger.



Video card

- Connects to the monitor(s)
- Often integrated into the Motherboard
- Typically uses an HDMI cable

Hard Disk drives

- Memory that is retained after power is turned off
- Much slower than on-board RAM memory
- Modern PCs use a Solid State disk (SSD) with no moving parts to go wrong and much faster than spinning disks

Optical disk drive

- Can read and write to DVD and CD.
- Rarely used today, mostly replaced by USB flash memory sticks