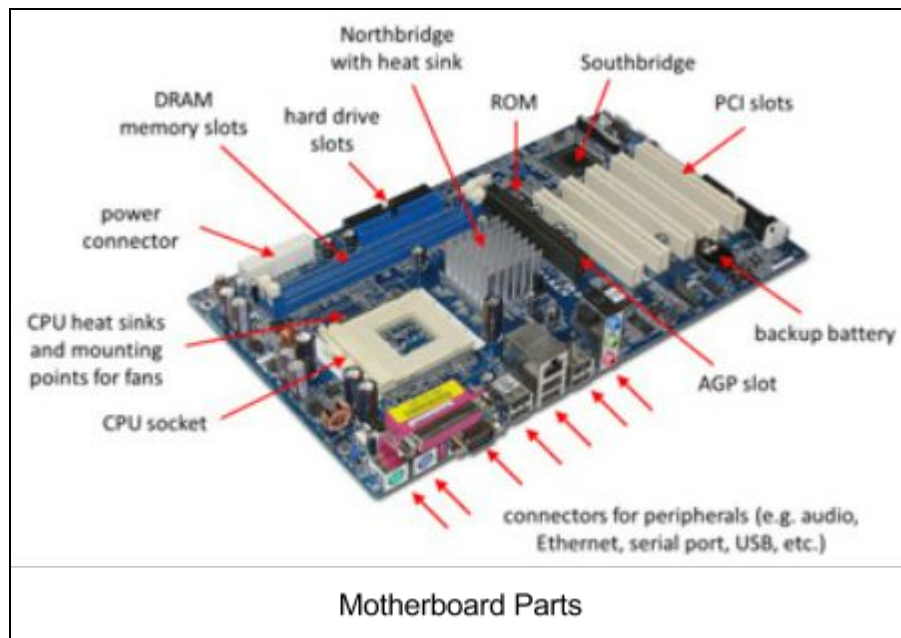


Chapter 7 - Motherboards

- **Motherboards** are **PCBs**, printed circuit board
- **Form Factors:**
 - **AT (legacy)** → Has only the keyboard connector
 - NLX
 - LPX
 - **ATX** → 12 x 9.6 in
 - **Micro-ATX** → 9.6 x 9.6 in
 - **Flex-ATX (intel)** → 9 x 7.5 in
 - **ITX (VIA technologies) :**
 - Mini-ITX → 6.7 x 6.7 in
 - Nano-ITX → 4.7 x 4.7 in
 - Pico-ITX → 3.8 x 2.8 in
- **Super I/O chip :** Provides support for legacy devices such as IDE drives
- **Chipset :** Circuitry that supports the CPU's interfacing to all the other devices on the motherboard
- **AMR** (audio modem riser): slot designed to take specialized AMR devices
- **CNR** (communications and networking riser) : replacement for **AMR**
- **RAID :** Redundant Array of Independent Disks
- Every device connects to EDB and Address Bus
- **All** expansion slots connect to the chipset
- **Clock Crystal :** controls CPU and chipset speeds, however, expansion slots run at a much lower speed than the frontside bus
- **Expansion Slots :**
 - **PCI :**
 - Peripheral Component Interconnect
 - Original slot ran @ 33 MHz, 32-bit wide
 - **Mini-PCI :**
 - Designed for laptops
 - Uses low power
 - Lies flat
 - **PCI - X :**
 - PCI extended
 - Accepts regular PCI
 - 64-bit bus @ 66/133/266/533 MHz
 - **PCIe :**
 - PCI express



- Point to point connection (exclusive bandwidth)
 - Direct communication to Northbridge
 - Serial communication
 - Has lanes (one wire for receiving and one for sending)
 - **AGP :**
 - Accelerated Graphics Port
 - Legacy
-

References :

- Mike Meyers - CompTIA A+ Certification All-In-One Exam Guide 8th edition
- Images :
 - Motherboard :
http://study.com/cimages/multimages/16/computer_motherboard_annotated_600.jpg