

Building a CPU

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The Control Unit

There are two basic approaches for the design of the control unit:

- **Hardwire** - these control units basically are finite state machines that are specially designed to sequence the CPU based on the instruction it is executing. This approach is not particularly flexible and can be difficult to design, however, it can provide good performance for RISC type architectures.
- **Microcode** - this approach uses ROM type memory within the CPU to act like machine code for sequencing the different action within the CPU. This is a much simpler and more flexible approach.

