Intel 8080

DPU:

The 8080 architecture consists of a register array, address buffer, ALU, instruction register, and data bus buffer/latch. The register array contains eight 8-bit registers—two of which are temporary registers—the stack pointer, the program counter, and an incrementer/decrementer address latch. The last three in the register array are 16-bits. Data is sent from the register array to the 16-bit address buffer. The ALU receives data from an accumulator, which passes through an accumulator latch first, and a separate temporary register. Both data sources are 8-bits. A 5-bit flip-flop flag unit sends a signal to and receives a signal from the ALU. The ALU also receives and sends signals to and from a decimal adjust unit. The instruction register, an 8-bit register, sends data through a decoder unit before sending it to the timing and control unit. The data bus buffer/latch sends 8-bits to the internal data bus, which is connected to the accumulator, temporary register, flip-flop flag unit, intstruction register, and a multiplexer that is connected to the register array. All of these, except for the address buffer, receive signals from the timing and control unit.