Z8400/84C00

NMOS/CMOS Z80 CPU
CENTRAL PROCESSING UNIT

FEATURES

- The Extensive Instruction Set.Contains 158 Instructions, Including the 8080A Instructions Set as a Subset.
- Single 5 Volt Power Supply
- NMOS Version for Low Cost, High Performance Solutions; CMOS Version for High Performance, Low Power Designs.
- NMOS Z084004 - 4 MHz
  Z0840006 - 6.17 MHz
  Z084008 - 8 MHz
- CMOS Z0840006 - DC to 6.17 MHz
  Z84C0008 - DC to 8 MHz
  Z84C0010 - DC to 10 MHz
  Z84C0020 - DC to 20 MHz
- 6 MHz Version can be Operated at 6.144 MHz Clock Speed
- The Z80 Microprocessors and Associated Family of Peripherals can be Linked by a Vectored Interrupt System. This System can be Daisy-Chained to Allow Implementation of a Priority Interrupt Scheme.
- Duplicate Set of Both General-Purpose and Flag Registers
- Two 16-Bit Index Registers
- Three Modes of Maskable Interrupts:
  - Mode 0 - 8080A Similar
  - Mode 1 - Non-Z80 Environment, Location 38H
  - Mode 2 - Z80 Family Peripherals, Vectored Interrupts
- On-Chip Dynamic Memory Refresh Counter

GENERAL DESCRIPTION

The Z8400/Z84C00 CPUs are fourth-generation enhanced microprocessors with exceptional computational power. They offer higher system throughput and more efficient memory utilization than comparable second- and third-generation microprocessors. The speed offerings from 6 - 20 MHz suit a wide range of applications which migrate software. The internal registers contain 208 bits of read/write memory that are accessible to the programmer. These registers include two sets of six general purpose registers which may be used individually as either 8-bit registers or as 16-bit register pairs. In addition, there are two sets of accumulator and flag registers. A group of "Exchange" instructions makes either set of main or alternate registers accessible to the programmer. The alternate set allows operation in foreground-background mode or it may be reserved for very fast interrupt response.

The CPU also contains a Stack Pointer, Program Counter, two index registers, a Refresh register (counter), and an Interrupt register. The CPU is easy to incorporate into a system since it requires only a single +5V power source. All output signals are fully decoded and timed to control standard memory or peripheral circuits; the CPU is supported by an extensive family of peripheral controllers.

GENERAL DESCRIPTION (Continued)

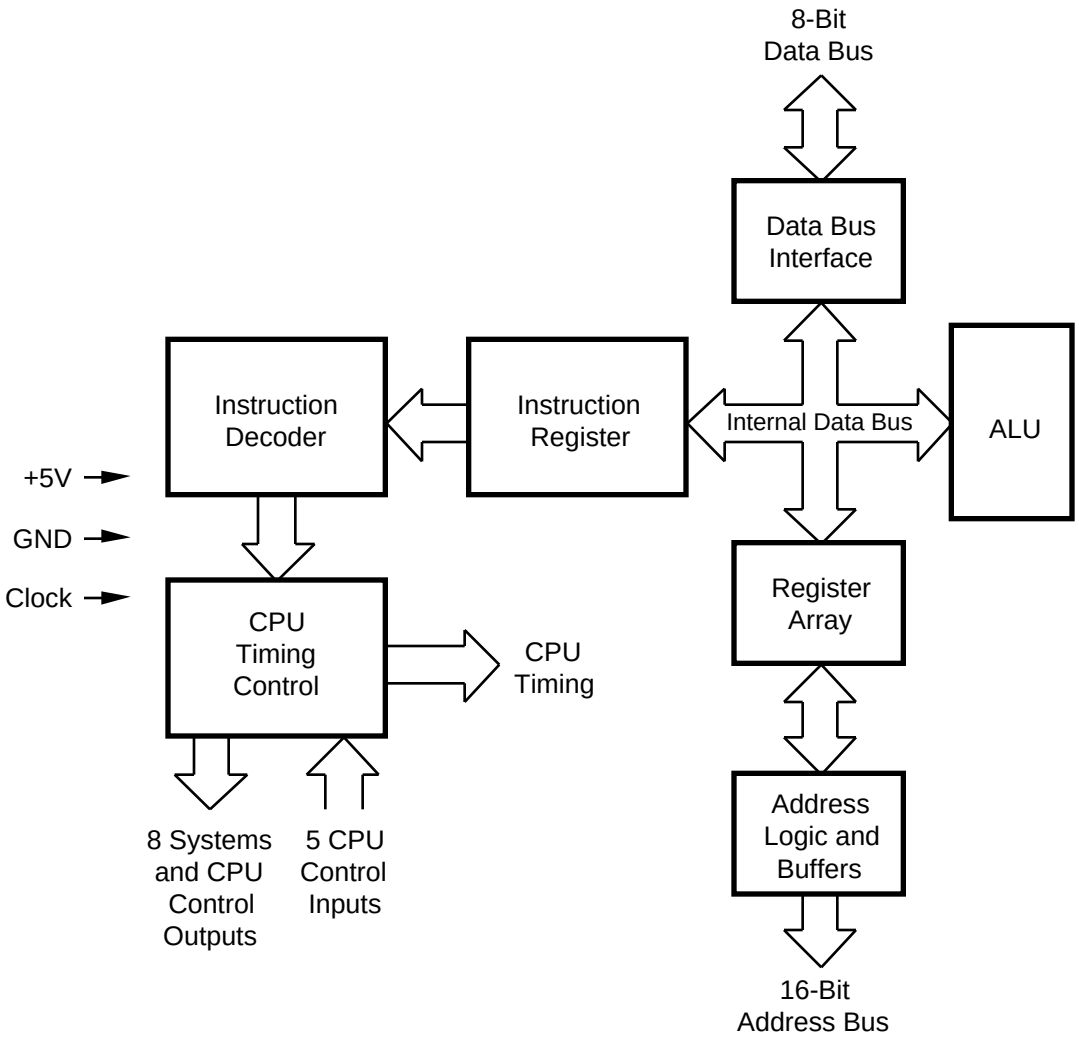

Figure 1. Z8400/C00 Functional Block Diagram

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