intel®

4040

obsolete no sub

SINGLE CHIP 4-BIT
P-CHANNEL MICROPROCESSOR

- **Functionally and Electrically Upward Compatible to 4004 CPU**
- **14 Additional Instructions (60 total) Including Logical Operations and Read Program Memory**
- **Interrupt Capability**
- **Single Step Operation**

- **8K Byte Memory Addressing Capability**
- **24 Index Registers**
- **Subroutine Nesting to 7 Levels**
- **Standard Operating Temperature Range of 0° to 70° C**
- **Also Available With -40° to +85° C Operating Range**

The Intel® 4040 is a complete 4-bit parallel central processing unit (CPU). The CPU can directly address 4K eight bit instruction words or 8K with a bank switch. Seven levels of subroutine nesting, including interrupt, and 24 randomly accessable index registers (24x4) are provided as convenient facilities for the designer. The index registers may be used for addressing or for scratch pad memory for storing computation results. The interrupt feature permits a normal program sequence to be interrupted, with normal program execution continuing after the interrupt service routine is completed. Provisions have also been made to permit single-stepping the CPU using the STOP and ACKNOWLEDGE signals.

The 4040 is an enhanced version of the 4004 and as such retains all the functional capability of that device. It will execute all the 4004 instructions, and is also electrically compatible with all components used with a 4004 CPU.

MCS-4/40

BLOCK DIAGRAM