8080 SYSTEM DESIGN KIT (SDK-80)

- **Complete Single Board Microcomputer System Including CPU, Memory and I/O**
- **Easy to Assemble Kit-Form**
- **High-Performance (2µs Instruction Cycle)**
- **Interfaces Directly with most Terminals (75-4800 Baud)**

- **Large Wire-Wrap area for Custom Interfaces**
- **Extensive System Monitor Software in ROM**
- **PC Board Format and Power, Compatible with INTELLEC® MDS**

The 8080 System Design Kit (SDK-80) is a complete, single board, microcomputer system in kit form. It contains all necessary components, including resistors, caps, crystal and miscellaneous hardware to complete construction. Included is a pre-programmed ROM that contains the system monitor for general software utilities and system diagnostics.

All that is required for operation are power supplies and a suitable terminal; TTY, CRT, etc., (level conversions and baud rate generation included on board).

The SDK-80 is an inexpensive, high-performance prototype system that has designed-in flexibility for simple interface to the users application.

GENERAL

The SDK-80 is a complete 8080 microcomputer system on a single board, in kit form. It contains all necessary components to build a useful, functional system. Such items as resistors, caps, sockets and connectors are included. Assembly time varies from 3 to 5 hours, depending on the skill of the user.

A compact but powerful system monitor is supplied with the SDK-80 to provide general software utilities and system diagnostics. It comes in a pre-programmed ROM.

The SDK-80 communicates with the outside world through the user's console terminal (TTY, CRT, etc.). The interface to most common terminals is direct and the baud rate is jumper selectable for complete flexibility. Both memory and I/O can be easily expanded by simply soldering in additional devices in locations provided for this purpose. A large area of the board (12 sq. in.) is laid out as general purpose wire-wrap for the users custom interfaces.

Only a few simple tools are required for assembly; soldering iron, cutters, screwdriver, etc. Once construction is complete, the user connects his console terminal and power supplies (3) to the SDK-80, lights it off and is ready to go. The monitor starts immediately upon power-on or reset and all commands are available to the user at that time.
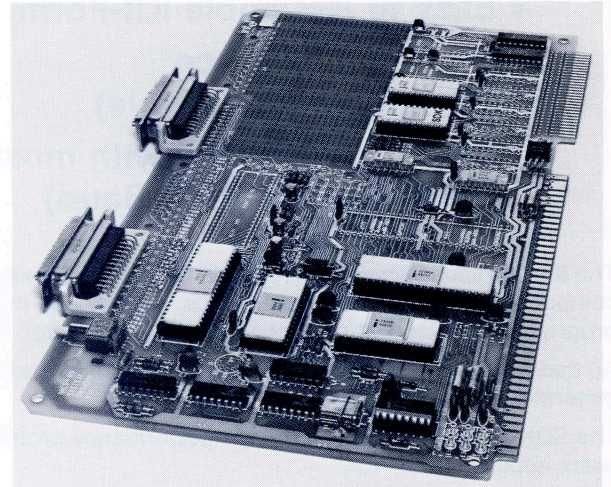
Completed Board.
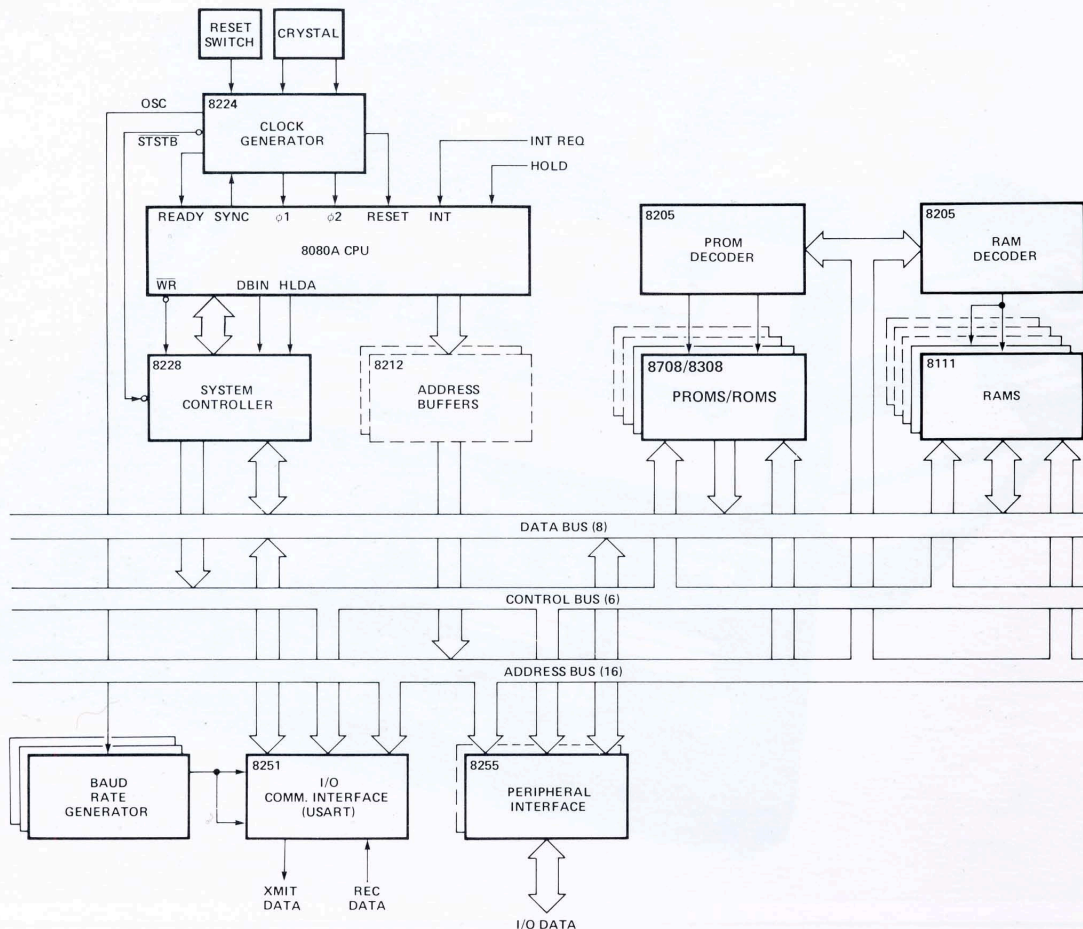
SDK-80 Functional Block Diagram.

SDK-80 SPECIFICATIONS

Central Processor

CPU: 8080A
Instruction Cycle: 1.95 microsecond
Tcy: 488 ns

Memory

ROM: 2K bytes (expandable to 4K bytes)
    8708/8308
RAM: 256 bytes (expandable to 1K bytes) 8111
Addressing:
    ROM 0000-0FFF
    RAM 1000-13FF

Input/Output

Parallel: One 8255 for 24 lines (expandable to
    48 lines).
Serial: One 8251 USART.
    On-board baud rate generator (jumper
    selectable).
    Baud Rates: 75   1200
                  110   2400
                  300   4800
                  600

Interfaces

Bus: All signals TTL compatible.
Parallel I/O: All signals TTL compatible.
Serial I/O: RS232C/EIA
            20mA current loop TTY
            TTL (one TTL load)

Interrupts

Single level: Generates RST7 vector.
              TTL compatible input.

DMA

Hold Request: Jumper selectable.

Software

System Monitor: Pre-programmed 8708 or
    8308 ROM Addresses; 0000-03FF.
Features:
    Display Memory Contents   (D)
    Move blocks of memory   (M)
    Substitute memory locations   (S)
    Insert hex code   (I)
    Examine Registers   (X)
    Program Control   (G)
    Break Point Capability
    Power-up start or system reset start.

I/O: Console Device (serial I/O)

Literature

Design Library:
    8080 Users Manual
    8080 Assembly Language Manual
    PL/M Programming Manual
    MDS Brochure
    Reference Card (Programmers)
    SDK-80 User's Guide

Connectors

I/O: 25 pin female (RS232C)
PCB: MDS format

Physical Characteristics (MDS Mechanical format)

Width: 12.0 in.
Height: 6.75 in.
Depth: 0.50 in.
Weight: approx. 12 oz.

Electrical Characteristics (DC Power)

V_{CC}	5V $\pm$5%	1.3 Amps
V_{DD}	12V $\pm$5%	.35 Amps
V_{BB}	-10V $\pm$5%	.20 Amps
or	-12V $\pm$5%	

Environmental

Operating Temperature: 0-70°C