

# MOSTEK®

## Z80 MICROCOMPUTER SYSTEMS

### Software Development Board (SDB-80)

#### HARDWARE FEATURES

- Available with choice of either 4K or 16K bytes of RAM
- Four 8-bit I/O ports with handshake lines
- Serial ASCII interface (110-9600 BAUD)
- Fully buffered for system expandability
- Four counter/timer channels
- On board capacity for 5K bytes of PROM or 20K bytes of ROM

#### SOFTWARE FEATURES

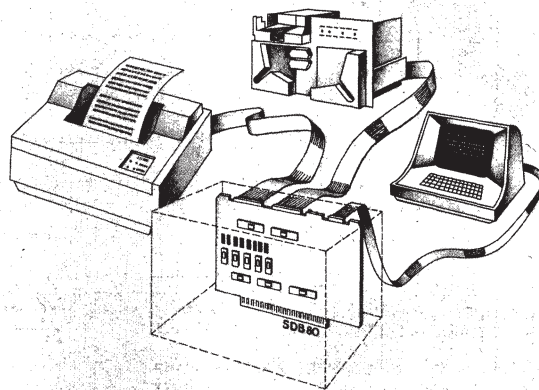
- 2K x 8 Operating System in ROM (DDT-80)
- 8K x 8 assembler/editor in ROM (ASMB-80)
- Channeled I/O for user convenience

#### GENERAL DESCRIPTION

The SDB-80 is a stand-alone microcomputer designed by MOSTEK around the advanced Z80 microprocessor family. It contains more on-board firmware and RAM memory than any previously offered single board microcomputer, plus all the features of the industries' most sophisticated microprocessor. This board represents the very latest in state-of-the-art technology by utilizing MOSTEK's new 16K Dynamic RAM memories. The SDB-80 also is the first single board microcomputer to offer a complete package of software development aids in ROM. This 10K byte firmware package is included with the SDB-80 and provides the ability to generate, edit, assemble, load, execute, and debug Z80 programs for all types of applications.

#### USING THE SDB-80

In addition to functioning as a stand-alone development aid, the SDB-80 is fully expandable through the addition of optional add-on circuit boards. It may also be utilized directly in OEM applications by inserting custom programmed ROM or PROM memories into the sockets provided on the board. For these OEM applications, partially populated versions of the SDB-80 (designated OEM-80) are available without the standard system firmware, and with quantity discounts.



#### SYSTEM FIRMWARE

A standard feature of the SDB-80 is a complete package of development software aids which are resident in the five MK34000, 2K x 8 ROM memories located on the board. This firmware includes a sophisticated operating system, debug package, assembler, and text editor. Among the many features provided are execute and breakpoint commands, console routines for examining and/or modifying memory and port locations, object load capability for both absolute and relocatable object modules, I/O driver routines for a variety of standard peripheral devices, and channeled I/O for user defined peripheral drivers. The presence of this software in ROM provides instant access to these development aids, eliminating the time-consuming requirement of loading the software from some peripheral device into RAM. Another key feature of having the development aid software in ROM is that the entire RAM space is available for the user's programs.

#### ELECTRICAL SPECIFICATIONS

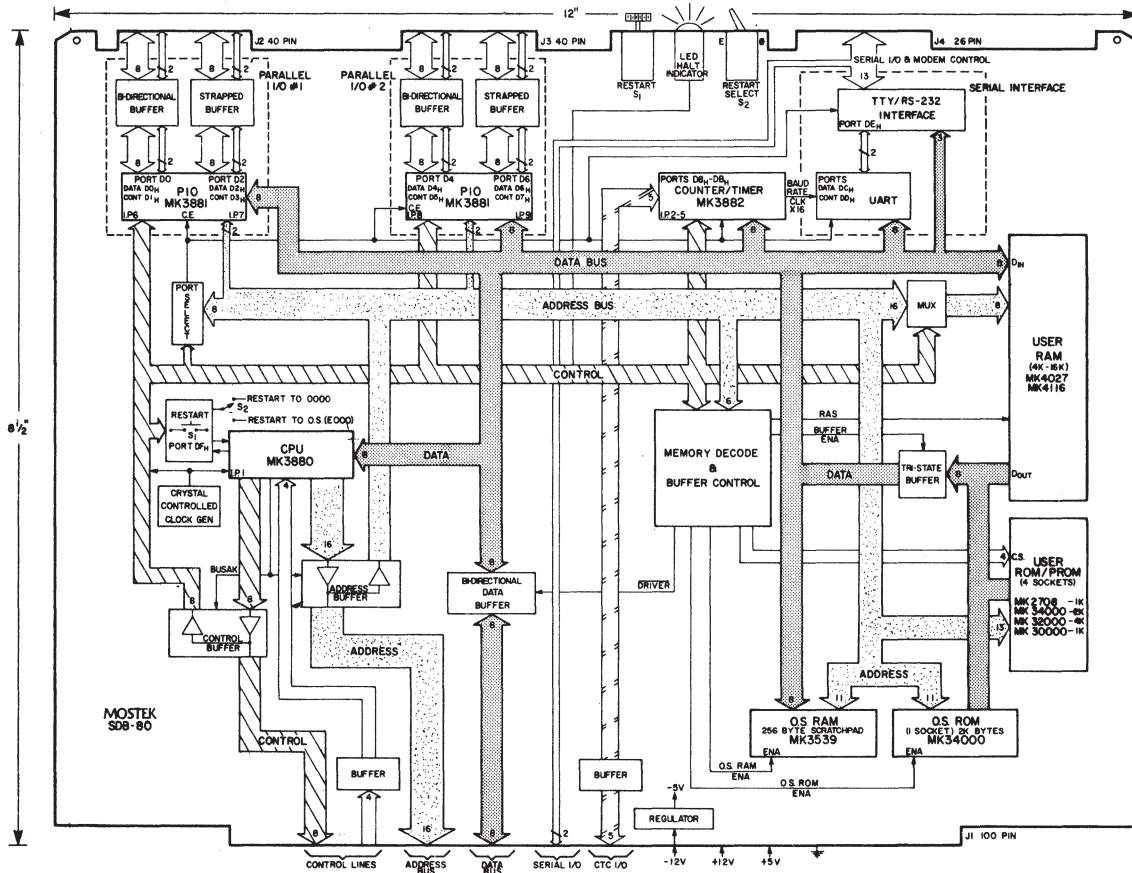
Operating Temperature Range . . . 0°C to 50°C

Power Supply Requirements (Typical)

- +12V ± 5% @ 175 mA
- + 5V ± 5% @ 1.5 A
- 12V ± 5% @ 100 mA

Interface Levels . . . TTL Compatible

## SDB-80 FUNCTIONAL BLOCK DIAGRAM



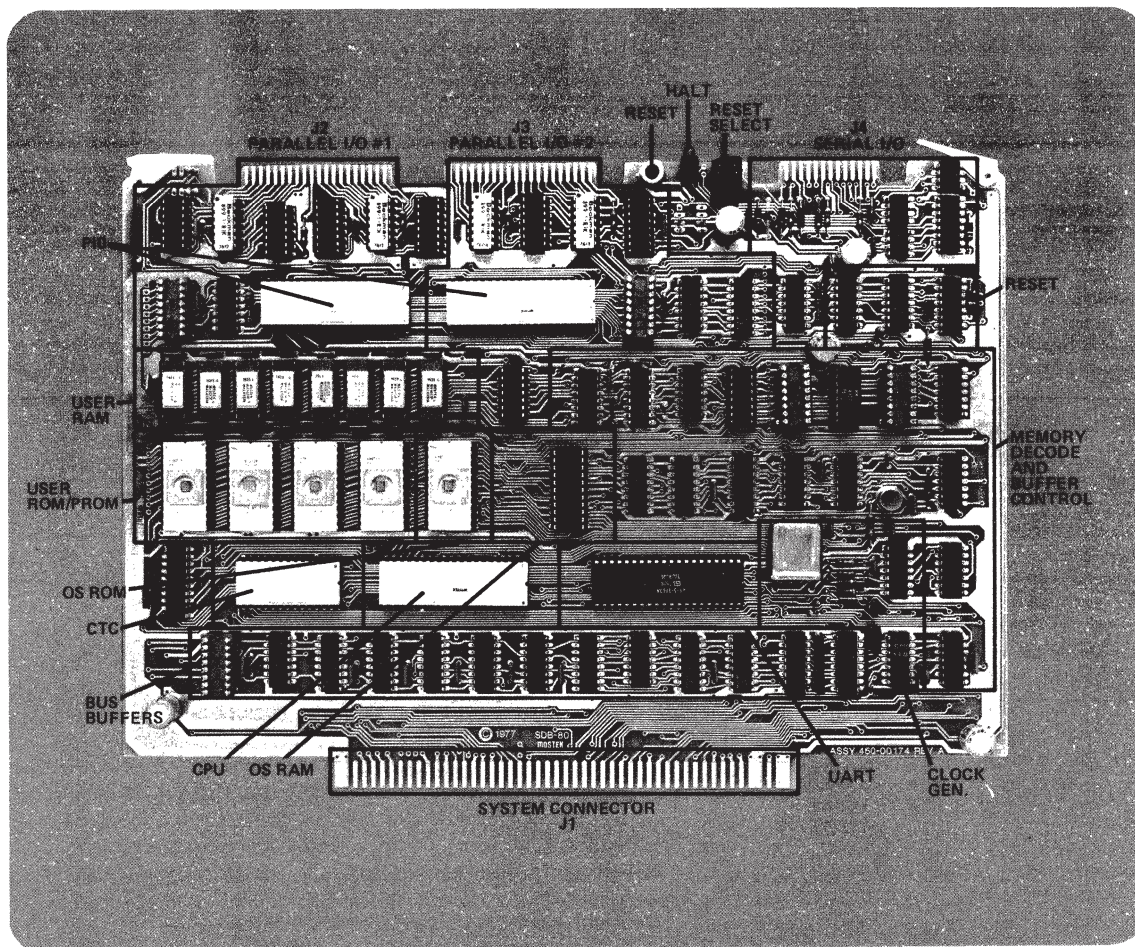
### NON-RESIDENT SOFTWARE AVAILABLE

- XFOR-80** Fortran IV Cross Assembler. Assembles Z80 programs but is written in Fortran IV. It is useful for persons desiring to perform Z80 assembly on mini-computers such as the PDP-11. It is furnished as a Fortran IV source deck. (MK78117)
- XMDS-80** 8080A Cross Assembler. Performs the same function as the Fortran IV Cross Assembler, except that it is designed to be used with an Intel MDS system. It is furnished as an object tape in Intel compatible Hex format. (MK78115)
- XMDS-80D** This is identical to the XMDS-80 except that it is compatible with Intel MDS systems which use floppy disks. It is furnished as object code on an MDS compatible floppy diskette. (MK78116)

- RAM-80B** Combination memory and I/O expansion board. The memory may be configured to have a capacity of 16K, 32K, 48K, or 65K bytes of RAM. The board also provides four 8-bit I/O ports from two Z80 PIO circuits. (MK78108)
- AIM-80** In-circuit emulation capability is added to the SDB-80 by using the AIM-80 board (Application Interface Module). This board also provides other debugging capabilities such as TRACE and SINGLE STEP, and a DISASSEMBLER. (MK78132)
- AIM-72** Provides in-circuit emulation capability for emulating the MK3870 family of single chip microcomputers. Compatible with SDB-80 only in AID-80F floppy disk system environment.

### COMPATIBLE ADD-ON BOARDS

- RAM-80A** A 16K byte RAM board for users requiring the most economical means for expanding memory. (MK78107)



FLP-80 The FLP-80 interfaces the SDB-80 to two floppy disk drives. Software drivers are included with the board. (MK78111)

XAID-102 Three-slot card cage. (MK79028)

XAID-103 Wire wrap card (MK79023)

XAID-104 Extender card (MK79024)

#### OTHER ACCESSORIES AVAILABLE

PPG-08 PROM Programmer module for programming MK 2708 UV Erasable PROM memories. Interfaces directly with the SDB-80. (MK79033)

XAID-100 System package which includes a 13-slot card cage, enclosure and power supply. (MK79034)

AID-80F Complete Z80 Microcomputer system which includes enclosure with 6 slot card cage, power supply, cooling fan, OEM-80, RAM-80B, FLP-80, two Floppy Disk drives, and FLP-80DOS software package. (MK78125)

#### MECHANICAL SPECIFICATIONS

Domestic Version

Board Size: 8.5" x 12.0" x 0.65"  
 Bottom Connector: 100 pin, 125 mil centers  
 Top Serial Connector: 26 pin, 100 mil centers  
 Top Parallel Connectors: 40 pin, 100 mil centers

Double Eurocard Version Available

Board Size: 250mm x 233.4mm x 18mm  
 Connector: Dual 64 pin Eurocard Conn.

**ORDER INFORMATION FOR THE SDB-80 AND OEM-80**

Z80 Microcomputer System Components		SDB-80 Package 'A' MK78101 includes:	SDB-80 Package 'B' MK78102 includes:
DESCRIPTION	PART NO.		
OEM-80* with 256 bytes of static RAM, 4K bytes of dynamic RAM, and sockets for ROM and PROM.	78121	X	
OEM-80* with 256 bytes of static RAM, 16K bytes of dynamic RAM and sockets for ROM and PROM.	78123		X
DDT-80 operating system in 1-MK34000 2K x 8 ROM.	78118	X	X
ASMB-80 Resident Assembler and Text Editor in 4 MK34000 2K x 8 ROMs.	78119	X	X
TTY Interface Cable (XAID-800).	79036	X	X
EIA/RS-232 Interface Cable (XAID-802).	79038	X	X

\* The Circuit Board for the SDB-80 and the OEM-80 are identical and include 2 MK3881 PIOs, 1 MK3882 CTC, and 1 UART, plus the associated circuitry for control and buffering of all bus and I/O signals. Sockets are provided for expansion of on-board system RAM and ROM/PROM.

**SYSTEM DATA SHEETS**

MK78519	RAM-80A/B
MK78537	AIM-80
MK78538	FLP-80
MK79576	AIM-72

MK79081	PPG-8/16
MK78568	AID-80F
MK79081	PPG-8/16
MK79552	XAID-103
MK79552	XAID-104