

I INTRODUCTION and GENERAL INFORMATION

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## 1.1 INTRODUCTION

This manual supplies the information needed to assemble, test and use the Sol-PC Single Board Terminal Computer. We suggest that you first scan the entire manual before starting assembly. Then make sure you have all the parts and components listed in the "Parts List" (Table 3-1) in Section III. When assembling the module, follow the instructions in the order given.

Should you encounter any problem during assembly, call on us for help if necessary. If your completed module does not work properly, recheck your assembly step by step. Most problems stem from poor soldering, backward installed components, and/or installing the wrong component. Once you are satisfied that the module is correctly assembled, feel free to ask for our help.

## 1.2 GENERAL INFORMATION

### 1.2.1 Sol-PC Description

The Sol-PC is a single board microcomputer/terminal built around an 8080 microprocessor. Support circuitry permits full implementation of every 8080 function.

It features both parallel and serial communications interfaces, a keyboard interface, an audio cassette interface, a video display generator, 1024 8-bit words of system RAM (random access memory), 1024 8-bit words of display RAM, and a plug-in personality module with up to 2048 bytes of ROM (read only memory) stored program, and bus compatibility with all Processor Technology hardware and firmware products. Power requirements for the Sol-PC are +5 V dc +5% at 2.5 A, +12 V dc +5% at 150 mA and -12 V dc +5% at 200 mA.

Parallel interfacing is eight bits each for input and output plus control handshaking signals, and the output bus is tristated TTL for bidirectional interfaces. The serial interface circuit includes both asynchronous RS-232 and 20 mA current loop provisions, 75 to 9600 baud (switch selectable).

Seven-level ASCII encoded, TTL keyboard interfacing requires a 2 to 10 usec strobe pulse after data is stable. The dual rate, 300 or 1200 bps (bits per second), audio cassette interface is program controlled and self clocking with phase-lock loop. It includes automatic level control in both the record and playback modes. Recording is CUTS/Byte standard compatible, asynchronously Manchester coded at 1200/2400 Hz or 600/1200 Hz.

The video display circuitry generates sixteen 64 character lines from data stored in an on-card 1024 8-bit word display RAM. Alphanumeric and control characters (the full 128 upper and lower case plus control ASCII character set) are displayed black on white

or reverse (switch selectable). Solid video inversion cursors, with switch selectable blink, are programmable. The display output is standard EIA, 1.0 to 2.5 V p-p with composite negative sync, with a nominal bandwidth of 7 MHz. It can consequently be used to drive any standard video monitor. (A monochrome TV, converted for video input, can also be used. See Appendix VI.)

Included on the card are 1024 words of static, low power system RAM capable of full speed operation and a plug-in personality module which contains the software control program. Three personality modules are available for Sol:

CONSOL™--allows simple terminal operations plus direct control of the basic computer functions for entering or examining data in any memory location, or executing a program stored at a known location in memory.

SOLED™--allows advanced terminal operations with CONSOL plus screen, file and cassette tape editing/transmission operations.

SOLOS™--allows full stand-alone terminal-computer operation.

### 1.2.2 Receiving Inspection

When your kit arrives, examine the shipping container for signs of possible damage to the contents during transit. Then inspect the contents for damage. (We suggest you save the shipping materials for use in returning the kit to Processor Technology should it become necessary to do so.) If your Sol-PC kit is damaged, please write us at once describing the condition so that we can take appropriate action.

### 1.2.3 Warranty Information

In brief, parts which fail because of defects in materials or workmanship are replaced at no charge for 3 months for kits, and one year for assembled products, following the date of purchase. Also, products assembled by the buyer are warranted for a period of 3 months after the date of purchase; factory assembled units carry a one year warranty. Refer to Appendix I for the complete "Statement of Warranty".

### 1.2.4 Replacement Parts

Order replacement parts by component nomenclature (DM8131 IC or 1N2222 diode, for example) and/or a complete description (680 ohm, 1/4 watt, 5% carbon resistor, for example).

## 1.2.5 Factory Service

In addition to in-warranty service, Processor Technology also provides factory repair service on out-of-warranty Processor Technology products. Before returning the unit to us, first obtain our authorization to do so by writing us a letter describing the problem. After you receive our authorization to return the unit, proceed as follows:

1. Write a description of the problem.
2. Pack the unit with the description in a container suitable to the method of shipment.
3. Ship prepaid to Processor Technology Corporation, 6200 Hollis Street, Emeryville, CA 94608.

Your unit will be repaired as soon as possible after receipt and return shipped to you prepaid. (Factory service charges will not exceed \$20.00 without prior notification and your approval.)