Provides interconnection for both 8085 and 8085A Microprocessor-based Systems to the µScope™ Microprocessor System Console

Complete with cable, buffer box, personality ROM, and µScope system console overlay

Has user system interconnect cable with integral ground plane for low noise operation

Increases diagnostic capability via four user positioned external inputs

Operates over a broad range of environmental conditions

Provides complete control over the system under test, yet causes minimal interference with system under test operation

Fits securely in the console carrying case during transit

Provides complete protection for plug pins during transit

The probe 8085 provides the µScope Console with the ability to interact with 8085 and 8085A Microcomputer-based systems. The purpose of the probe is to interface the µScope Console to the CPU of the system under test (SUT). All of the interface signals and the associated circuitry have been designed to be effectively transparent to the SUT. CPU data, address, and clock lines are sensed by the probe 8085, with only the CPU control lines being switched. In addition, all SUT loading and timing degradations have been minimized by specially designed buffer circuitry.

The mechanical design of the probe is compact, rugged, and allows proper operation of the probe and the console over the full ambient range specified. The buffer circuitry and the ground plane design of the interconnect cable provide low noise electrical signals while allowing the SUT to be 4 feet from the system console.

The probe can be reconfigured to test either 8085 or 8085A microprocessor-based systems. The user can operate the microprocessor from either the system under test crystal or one adjacent to the probe 8085 CPU socket. User control of the probe interaction with CPU control signals insures maximum compatibility with the system under test. Test and diagnostic capability is increased by integrating four external inputs into the probe 8085.
GENERAL

µSCOPE CONSOLE INTERCONNECT

The probe interconnection to the µScope Console is accomplished via a 1.2m (4 ft.) flat cable. 50-pin mating connectors plug into a board edge connector in the power cord compartment of the instrument and into a flat cable connector on the buffer box.

SYSTEM UNDER TEST (SUT) INTERCONNECT

Interconnection from the buffer box to the SUT is accomplished with a 200mm (8 in.) flat cable, complete with an integral ground plane, which is terminated with a low profile 40-pin DIP connector. The DIP connector is inserted into the SUT 8085 socket and the 8085 itself is plugged into the 40-pin socket provided on the probe buffer box.

µSCOPE CONSOLE CONFIGURATION

Several features of the µScope Console are directly determined by the probe being used with it. The features that are determined by the 8085 interface probe are:

- Single Registers: A, B, C, D, E, H, L
- Double Registers: BC, DE, HL, PC, SP
- CPU States: Flags, CPU pins, Interrupt Masks, and Interrupt States
- Trace/Breakpoint Word Size: 32 bits with 16 bits of address, 8 bits of data and 8 bits of CPU status
- 4 external inputs included in the 8 bits of CPU status for examining, recording in trace memory, and transferring control

ELECTRICAL SPECIFICATIONS

All DC specifications are in addition to user system parameters. All capacitance values include cables and connectors.

Non-Intercepted Signals

x1, x2, reset out 16Pf typical
AD0-AD7, A0-A15 -0.25 mA max @ 0.45V; 10 µA max @ 5.25V; 26 pF typical
SID 40 µA max @ 2.7V; -0.6 mA max @ 0.4V; 20 pF typical
SOD 20 µA max @ 2.7V; -0.4 mA max @ 0.4V; 20 pF typical

Intercepted Signals

Output to user system:
ALE 19 mA max @ 0.5 volt; -900 µA max @ 2.7 volt
CLK 2 mA max @ 0.64 volt; -400 µA max @ 2.6 volt
SS0, SSI 8 mA max @ 0.5 volt; -400 µA max @ 2.7 volt
RD, WR, IO/M 24 mA max @ 0.5 volt; -2.6 mA max @ 2.4 volt

ORDERING INFORMATION

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<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
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<td>PRB-85</td>
<td>8085 Interface Probe</td>
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