μSCOPE™ PROBE 8080A

Provides interconnection for 8080A Microprocessor-based Systems to the μScope™ 820 Microprocessor System Console

Comes complete with cable, buffer box, personality ROM, and μScope 820 system console overlay

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

Connects via a 4 foot cable to the μScope 820 Console

Operates over a broad range of environmental conditions

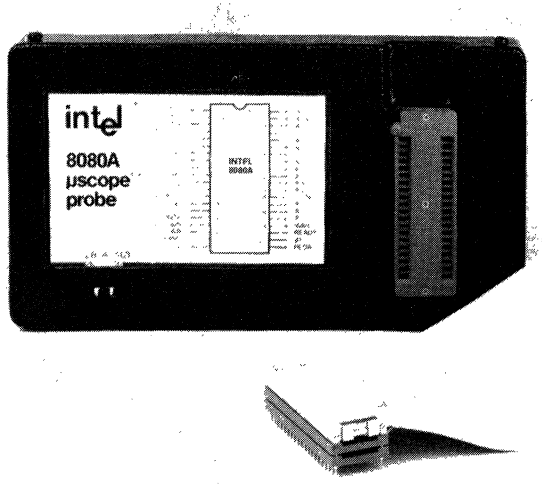
Provides complete control over the system under test, yet causes minimal interference with system under test operation

Fits securely in the console carrying case during transit

Provides complete protection for plug pins during transit

The probe 8080A provides the μScope 820 console with the ability to interact with 8080A Microcomputer-based Systems. The purpose of the probe is to interface the μScope 820 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 8080A, 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.



GENERAL

μSCOPE 820 CONSOLE INTERCONNECT

The probe interconnection to the μScope 820 console is accomplished via a 1.2 m (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 406 mm (16 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 8080A socket and the 8080A itself is plugged into the 40-pin socket provided on the probe buffer box.

μSCOPE 820 CONSOLE CONFIGURATION

Several features of the console are directly determined by the probe being used with it. The instrument features that are determined by the 8080A interface probe are:

- Single Registers: A, B, C, D, E, H, L
- Double Registers: BC, DE, HL, PC, SP
- CPU States: Flags, CPU pins (SYNC, RESET, HLDA, HOLD, READY, INT, INTE)
- Trace/Breakpoint Word Size: 32 bits with 16 bits of address, 8 bits of data and 8 bits of CPU status.

ELECTRICAL SPECIFICATIONS

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

Non-Intercepted Signals

$\phi1$, $\phi2$	±10 μA max; 55 pF typical
A_{15}–A_0, D_7–D_0	–0.25 mA max @ 0.45V; 30 μA max @ 5.25V; 49 pF typical
+12V Supply	15 μA max
WAIT	35 pF typical (capacitive loading only)

Intercepted Signals

Outputs to user system:

SYNC	20 mA min @ 0.5V; –1 mA min @ 2.7V; 40 pF typical
HOLDA, INTE, DBIN, and $\overline{WR}$	4 mA min @ 0.4V; –0.2 mA min @ 2.7V; 40 pF typical

Inputs from user system:

INT, READY, RESET	40 μA max @ 2.7V; –0.72 mA max @ 0.4V; 50 pF typical
HOLD	60 μA max @ 2.7V; –1.08 mA max @ 0.4V; 50 pF typical

CONNECTIONS

Three external connections to the probe are provided:

- 50-pin flat cable connector on buffer box
- 40-pin zero insertion socket for the 8080A
- 40-pin low profile replaceable IC DIP connector for connection to SUT

CHARACTERISTICS

PHYSICAL CHARACTERISTICS

Probe Buffer Box:

Height:	19 mm (3/4 in.)
Length:	184 mm (7-1/4 in.)
Width:	95 mm (3-3/4 in.)

User System Interconnect Cable:

Width:	57 mm (2-1/4 in.)
Length:	406 mm (16 in.) flat cable

μScope 820 Console Personality ROM PC Card:

Height:	19 mm (3/4 in.)
Width:	57 mm (2-1/4 in.)
Length:	83 mm (3-1/4 in.)

POWER REQUIREMENTS

Power supplied by μScope™ 820 Microprocessor System Console.

ENVIRONMENTAL CONDITIONS

Operating Temperature:	0° to 55°C (32° to 130°F)
Storage Temperature:	–40°C to 75°C (–40° to 167°F)
Humidity:	95% RH, 15° to 40°C (59° to 104°F) noncondensing

ACCESSORIES SUPPLIED

One μScope 820 System Console Overlay
One Personality ROM
One Hardware Reference Manual

ORDERING INFORMATION

Part Number	Description
PRB-80	8080A Interface Probe