MODEL 1505 SPECIFICATIONS

DISPLAY:

Signature: four digit hexadecimal; characters 0,1,2, 3,4,5,6,7,8,9,A,C,F,H,P,U.

Clock: panel light - indicates clock activity when on or blinking.

Data: panel light - indicates data activity when on or blinking.

Gate: panel light - indicates that instrument is acquiring signatures when lit.

PROBABILITY OF CLASSIFYING CORRECT DATA STREAM AS CORRECT: 100%

PROBABILITY OF CLASSIFYING FAULTY DATA STREAM AS FAULTY: 99.998%

DATA PROBE:

Loading: less then ½ TTL load.

Set-up time: 15 nanoseconds (data must be valid at least 15 nanoseconds prior to selected clock edge).

Hold time: 0 nanoseconds (data must be valid until occurrence of selected clock edge).

GATING CONTROL LINES:

Loading: less than ½ TTL load.

Set-up time (Start/Stop): 15 nanoseconds (signals must be valid at least 15 nanoseconds prior to selected clock edge).

CLOCK: 15 MHz

OVERVOLTAGE PROTECTION:

Start, Stop, Clock: 20 VDC.

Data: diode clamped to VCC and GND.

VCC, GND: regulated and reverse voltage protected.

POWER REQUIREMENTS:

+5VDC (±.25 VDC) at less than 400 milliamps (derived from unit under test).

DIMENSIONS:

135 mm. X 102 mm. X 38 mm.
(5.3 in. X 4.0 in. X 1.5 in.)

ENCLOSURE:

High impact, ABS thermoplastic (non-conductive).

BUGTRAP
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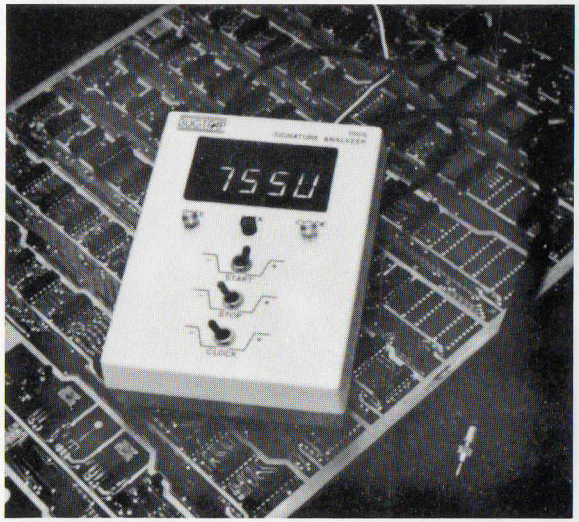
MODEL 1505 SIGNATURE ANALYZER



ACCURATE AND SIMPLE

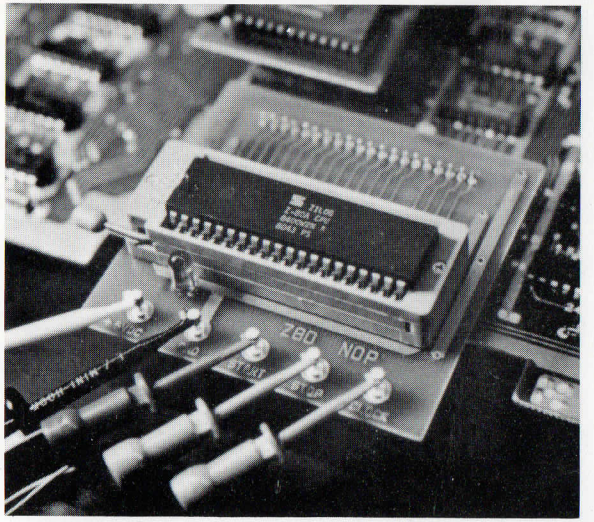
Signature analysis has proven to be an accurate and simple method for troubleshooting microprocessor based products. Many manufacturers have adopted the signature analysis technique and are now supplying troubleshooting guides for the use of signature analysis. The signature analysis technique is rapidly becoming an industry standard. The Bugtrap Signature Analyzer has been designed not only for simplicity of use, but to provide the same accuracy and reliability as those costing hundreds of dollars more. Because of its compact size, light weight, and low power requirements, the Bugtrap Signature Analyzer is ideal for field use. If marginally trained personnel and expensive down time is a concern, you will find the Model 1505 Bugtrap Signature Analyzer a useful, cost effective test instrument.

VERSATILITY

Because of the rapid pace that new microprocessor based equipment is introduced to the marketplace, it is unreasonable to expect service technicians to become thoroughly familiar with one particular item. Signature analysis has been acknowledged by manufacturers in growing numbers as the solution to this problem. With its universal digital applications, A signature analyzer can take the place of many pieces of expensive test equipment and individual test fixtures. At less than half the price of comparable units, the Model 1505 Signature Analyzer has proven its cost effectiveness, even for low volume repair requirements.

PRINCIPLE OF OPERATION

Signature analysis provides component level fault isolation in microprocessor based logic systems. This is accomplished in three main stages. First, exercise of the components in a circuit under test with repetitive digital information is necessary. Second, the signature analyzer test probe is used to probe system test points for "samples" of this information. Lastly, these test sample results are compared to documented results from a "known good" circuit. The results appear as industry standard, four digit, hexadecimal "signatures" displayed on the signature analyzer instrument. Each of the test points will be assigned one of over 65,000 possible signatures. In a test circuit functioning properly, the correct or expected signatures match those documented from "known good" circuits. Test points can be probed in an orderly fashion and any incorrect signature can be identified and traced to failure down to the component level. This includes such complex components as ROMS, RAMS, and microprocessors. The components are tested in circuit at full system speed, just as they would be working in a fully operational product.



FREE RUN FIXTURES (NOPs)

To aid the signature analyzer user, Bugtrap Instrumentation manufactures several free run fixtures, commonly called NOPs. These fixtures hardwire a NOP instruction to the microprocessor of the system you are testing. This instruction "tells" the microprocessor to become a 64K counter, counting off on the address lines. This repetitive counting creates all possible address combinations and allows the user to easily check signatures on the microprocessor, the address decoding circuitry, and any I.C.s addressed by the microprocessor, such as ROMs. In addition, the Bugtrap NOP fixtures provide convenient test points for hooking up the signature analyzer control lines.

To use a NOP fixture, simply remove the microprocessor from its socket, plug the NOP fixture into the empty socket, and then plug the microprocessor into the zero-insertion-pressure socket on the NOP fixture. When your board is powered up, all address lines will be repetitively exercised. This type of exercising is also valuable when using other types of test equipment, such as logic analyzers., oscilloscopes, and logic comparators. Repetitive, predictable logic activity can make troubleshooting much easier.