Providing a powerful tool of devices and networks, the V/I (Voltage/Current) analysis technique is a powerful and rapid way to compare signatures learnt from a known good PCB with those on a faulty PCB.

The technique is ideal for testing networks with passive components such as resistors, inductors, capacitors and semiconductor junctions. However, it can also be applied to test the input and output stages of active devices e.g. ICs, FPGAs etc. providing a rapid indication of possible damage e.g. static damage destroying the protection diodes or damage to output/input transistors.

The technique applies an AC signal to a network by measuring the voltage and current relationship can display a four quadrant trace signature. The TestVue software automatically compiles a trace signature with the one being measured and will make a pass or fail decision based on a user programmable tolerance envelope.

The technique can also be used in a virtual instrument mode, where the real-time signature is displayed and analyzed by the user. This will give an experienced user an indication of the likely cause of a failed or damaged semiconductor junction, incorrect resistance, incorrect capacitance.

The TestVue software will automatically determine the best frequency and voltage to apply to a network and then take three readings, one above, one below and one in the middle to compare the signals. The measured trace and in this case is clearly outside the programmed tolerance band around it, the red trace is the signature learnt from the known good PCB and this case is clearly outside the acceptable tolerance band showing a failure.

When the AutoPoint DT is integrated with the PinPoint system for more extensive testing can be applied to a circuit.

The user can select any or all of the following for a device:

- Dynamic digital tests to ensure the correct functionality
- V/I signature to check the presence and operation of analog devices, e.g. pull-up, pull-down resistors, internal semiconductor junctions, external junctions etc
- PinPoint system far more extensive testing

A typical signature is shown in the diagram on the inside page. The Green trace is the inferred signature with a programmed tolerance band around it, the red trace is the measured trace and in this case is clearly outside the acceptable tolerance band showing a failure.

AutoPoint DT Specifications:

- **AutoPoint DT**
  - Maximum Board Under Test Area: 10.9” x 12.9” (281 x 330mm)
  - Maximum Component: 220 mils (5.71cm)
  - Weight on Board: 1.25 lbs (0.569kg)
  - Power: 115VAC or 230VAC; 100W Total
  - Dimensions: 2.375” W x 4” H x 24.5” D (60.8cm W x 10cm H x 62.3cm D)
  - Accuracy: 0.0007874” (±20 microns)
  - Resolution: 0.000131” (3 microns)
  - Resolution: 1.271” (32.3cm)
  - Camera: Color CIS 5 x 5.5M pixels
  - Power: 115VAC or 230VAC
  - Controls: LEHR 12 and 24V Dual
  - Warranty: 1 year limited

AutoPoint DT

- **AutoPoint DT Plus**
  - Maximum Board Under Test Area: 13.8” x 16.5” (350 x 419mm)
  - Maximum Component: 220 mils (5.71cm)
  - Weight on Board: 1.25 lbs (0.569kg)
  - Power: 115VAC or 230VAC; 100W Total
  - Dimensions: 2.375” W x 4” H x 29” D (60.8cm W x 10cm H x 73.6cm D)
  - Accuracy: 0.0007874” (±20 microns)
  - Resolution: 0.000131” (3 microns)
  - Resolution: 1.271” (32.3cm)
  - Camera: Color CIS 5 x 5.5M pixels
  - Power: 115VAC or 230VAC
  - Controls: LEHR 12 and 24V Dual
  - Warranty: 1 year limited

AutoPoint DT

- Automatic diagnostics and probing
- Power-off test techniques for safe testing
- No knowledge of board required so can be used on all circuits
- Error-free probing for accurate and fast diagnostics
- Powerful and intuitive TestVue software for ease-of-use
- Standalone or Integrated implementation for suitable levels of test
- Small desk-top footprint for maximum space impact
- Rapid introduction for fast returns on investment

For your local office please visit our web site: www.diagnostics.com

AutoPoint DT

Automatic Probe System for Fault Finding

Analogy V/I Vectorless Testing

Keeping your electronics fully operational
A compact, fully automatic electronic circuit diagnostic and probing system

AutoPoint DT

The AutoPoint DT system is a small desktop flying probe system that provides automatic probing of an electronic circuit. Powered by TestVue software for ease of use and an intuitive graphical programming interface, the AutoPoint DT rapidly probes required networks on a circuit. By measuring analog signatures on each network and comparing them with previously stored and stored signatures, the AutoPoint can identify causes of failure on a circuit on a single pass.

Using a single probe for access to difficult board topography, the system locates and probes all required networks on a circuit. The signature measurement is then compared to previously stored signatures in the system. If a signature is not found, the probe automatically changes position to locate a signature on a hold contact. By measuring analog signatures on each network and comparing signatures to previously stored signatures in the system, the AutoPoint DT automatically learns the signature of a good board and stores these in a test program. The system is now ready to start testing boards.

Programming the AutoPoint DT

The AutoPoint DT is powered by TestVue Software and requires no special training to operate. The system can be used to locate and probe all required networks on a circuit. The Prober can be configured to automatically learn the signature of a good board and store these in a test program. The system is now ready to start testing boards.

Configurations

The AutoPoint DT can be implemented in 2 ways:

1. Connected to a standalone PC (supplied for an automatic flying probe tester: PC + TestVue + Video card + AutoPoint + accessory pack + TestVue software)
   - Provides a low cost and very effective test and diagnostic system for any type of circuit. This system uses the analog signature technique to identify causes of failure.

2. Integrated with PinPoint or UDA systems. PinPoint or UDA with Vectorless test card + Video card + accessory pack
   - By integrating the AutoPoint DT with a PinPoint or UDA system the necessity to manually probe networks, e.g. for large devices or analog components, is completely removed. By simply selecting the AutoPoint DT from a device properties menu, the device will be automatically identified for test on the AutoPoint DT. By structuring the test program with the TestFlow tool, all the devices requiring probing can be tested automatically in one pass.
   - The powerful test and diagnostic capabilities of the PinPoint system can also be applied to the circuit to provide a thorough test of the circuit that includes power-on, dynamic tests of digital, analog and mixed-signal components.

For your local office details please visit our website: www.diagnosys.com