

The CI1000 Robotic Controlled Impedance Tester is the answer for controlled impedance testing!

It's perfect for boards, coupons, prototypes and 100% testing of batch jobs. Computer guidance software, test results storage, test failure alerts and results reporting locally or over a network make the CI1000 easy to learn & operate, very efficient and highly cost effective. The CI1000 meets all industry standards.



CI1000 System

CI1000 Benefit Highlights

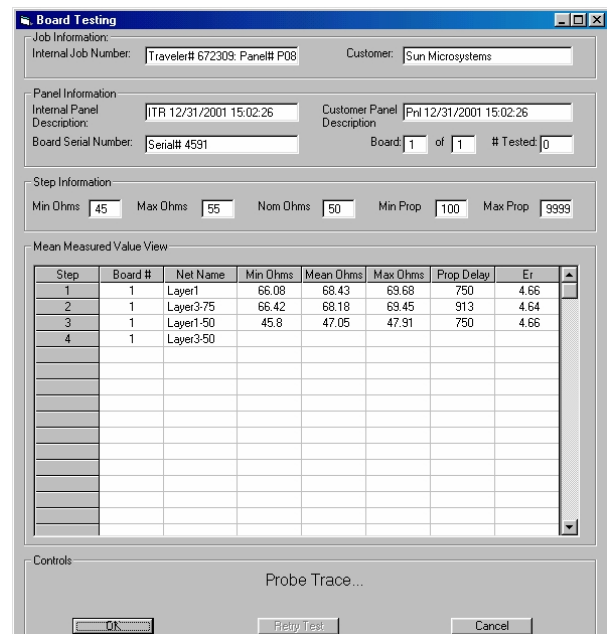
- Increase TDR test throughput (5-10X)
- Eliminate TDR test bottleneck
- Reduce operating cost of TDR test
- Eliminate repetitive motion injuries due to hand probing
- Satisfy customer requirements including:
 - Measure image area traces
 - Measure Dielectrics(Er) and trace Prop Delay
 - Measure Trace Signal Integrity (Bandwidth)
- More accurate test data
- State of the art equipment
- Achieve full compliance with IPC TM-650 2.5.5.7 TDR Test Requirements
- Ability to more accurately control etched line widths and material variations-increase yields
- Ability to provide +/-8% or +/-5% impedance tolerance at a lower cost
- Eliminate shipping failed boards or scrapping good boards.
- Ability to more quickly determine failure or out-center conditions.

CI1000 Test Results

All test results are stored in a relational database for local or remote access.

The test results can be correlated by:

- Time of tests , Test operator, Location of tests, Customer, In-process or final, Serial number, Test facility, Job or work order
- TDR Waveform Viewer™



Test Results Screen

CI1000 Test Suites

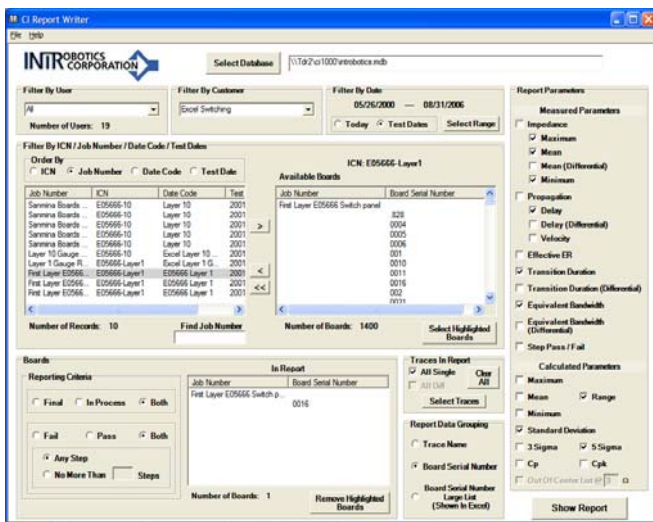
Single-ended and Differential Measurements for:

- Mean/Min/Max Impedance
- Propagation Delay & Velocity
- Effective Dielectric Constant (Er)
- Interconnect Loss (Equivalent Bandwidth -3db)
- TDR Waveforms
- Prompts operator (download CAD/CAM files, computer guidance, network access to results, and more)

HFT Report Writer

Reports can be generated locally or sent over the net. Extensive data sorting capability is provided to support process analysis. Hardcopy printouts and electronic outputs are available in the following formats:

- Word, Excel, Adobe Acrobat (.pdf), Rich Text Format (.rtf)



Print Report Selection Screen

Industry Test Standards Compliant

- IPC TM-650 2.5.5.7 (IPC-2141)
- Intel (Rambus) PCB Test Methodology
- IEC 326-3 (IEC 61188) Controlled Impedance

CI1000 Capabilities

Run-Test capability is used quick and simple test runs. Tester delivers numerical impedance results.

Run and Config capability enables a standard Or custom test specification with guided steps or imported CAD/CAM file. Propagation Delay and TDR waveform data collection can be selected. Test coupons (pre-routed or in- panel), panels, or individual boards can all be accommodated.

Differential Measurements are provided by the simultaneous generation of coupled TDR pulses. This simple, very effective technique provides true differential measurement. The probe calibration procedure eliminates probe-induced errors.

Measurement Automation accuracy is ensured by taking of up to eight (8) measurements per test point. Automatic fault detection eliminates false data production. Measurement automation ensures a very repeatable measurement process.

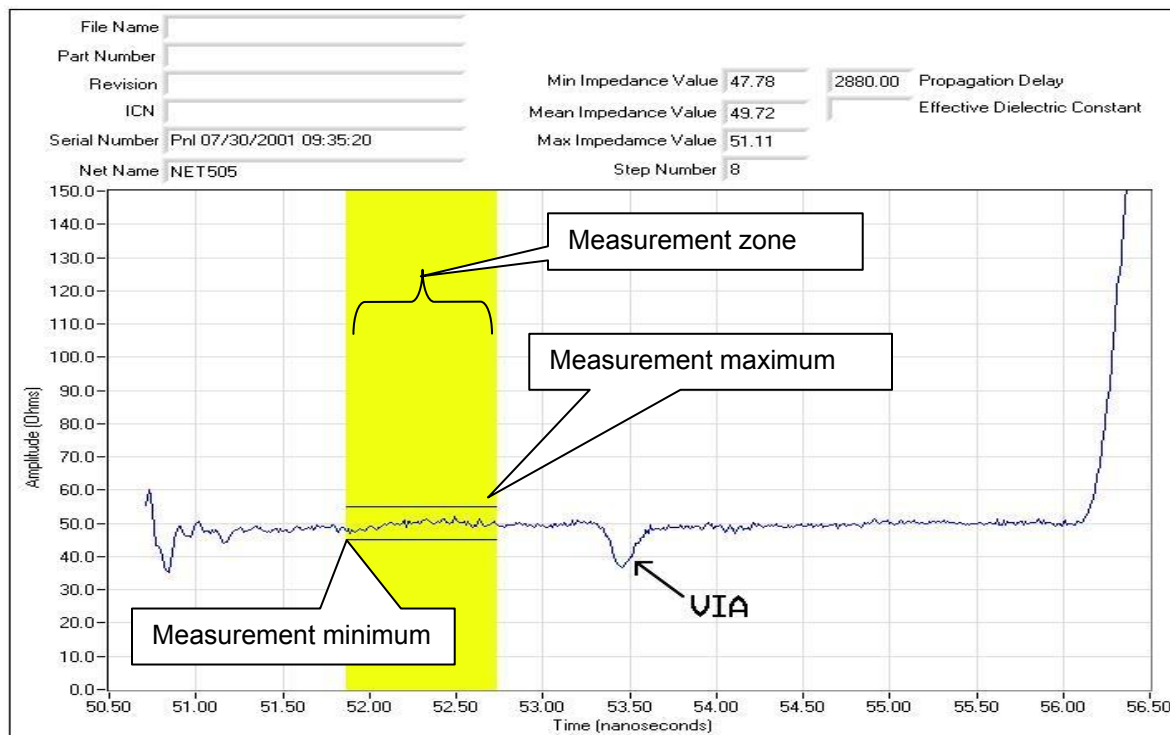
Intranet Network Support provides access to the test database, all reports and results and the WaveView viewer. CAD/CAM data can be downloaded to the CI1000™ to set up the computer guidance screen and set all test parameters. Report Writer and WaveView screens can be viewed and sent through your network.

Looking for a low cost solution for small batch processing and quick prototype testing? The Introbotics ACCU-Prober system is a manual probing solution which combines the test functionality of the CI1000 with the low cost of a manual test process.

Experts in Controlled Impedance Testing & Testers

CI1000 Waveform Viewer™ (Waveform Capture)

TDR waveforms can be captured for each test point, viewed off-line, and sent electronically to your engineers or customers. The WaveView viewer allows easy selection of the impedance measurement zone and dynamically recalculates impedance for each selected zone. The viewer displays controlled impedance, propagation delay, and dielectric constant information for each trace. End and midpoint VIA affects are displayed and a dynamic cursor provides readouts of impedance along the entire trace. Printouts can be produced for documentation purposes.



WaveView™ Display

CI1000 Probe Tips

Introbotics' patented probe tips are rugged and have extremely high-performance electrical characteristics. The 35 psec rise and 50 psec fall times gives trace resolution as short as 1/2" and as long as 100 ft.

CI1000 Specifications and Options

The CI1000 System Specifications:

Four axis (XYZtheta), floor mounted robotic table assembly with electronics cabinet. X and Y axis travel of 39.4" by 29.5" and Z-axis travel of 8.9". Accuracy: ± 0.002 ",

Includes:

- 1 Introbotics Probe Changer System, consisting of robot side assembly and probe stand and one probe side changer assembly
- 1 Introbotics Single-ended Probe Assembly
- 1 Flexible Board Holder
- 1 Guarding with operator accessible areas
- 1 Interface to Tektronix TDR Instrumentation
- 1 Verification Station with 50ohm Airline
- 1 Operator Station with ergonomic arm & flat panel display
- 1 PC controller: 1GB, , 100GB H/D, USB2 Ports
- 1 Camera and Monitor System (Simplify board teach)
- 1 On-site installation and initial set-up (2 day)
- 1 On-site training and operator manual review (1 day)

Software Suite (1 license each):

- CI1000 System Software
- TDR Waveform Viewer™ Generator & Reader
- HFT Report Writer
- HFT CAM Importer
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Options:

- Tektronix TDR Digital Oscilloscope
- Tektronix Model #80E04 TDR Electrical Sampling Head Model
- Introbotics Single-ended Probes
- Introbotics Differential Probes
- Probe Changer assembly
- NIST Standard Verification Station
- Extended warranty, 12 month (labor only)
- Software Support Services (assistance importing Gerber files that do not conform to IPC-365B)

Specifications:

System Rise/Fall Times:	35 psec rise time, 50 psec fall time
Shortest Measurable Trace Length:	0.5"
Longest Measurable Trace Length:	100 feet
Impedance Accuracy:	<0.1 ohms
Repeatability:	0.05 ohms (standard deviation)
Propagation Delay Accuracy:	TDR Jitter: 1 psec ± 5 PPM of position TDR Horizontal Accuracy: 1 psec $\pm 1\%$ of the interval
Probe Connections:	Two (2), 3.5mm connectors (SMA compatible)
Temperature	
Operating:	+10°C to +40°C
Storage:	-22°C to +60°C
Relative Humidity	
Operating:	20% to 80% at or below 40°C
Storage:	5% to 90% at or below 60°C
Power Requirements:	
Line voltage Ranges:	90-132 VAC, 180-250 VAC
Line Frequency:	48-440 Hz

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