



Teseda Diagnostic Test Hardware™

Developed for Scan-Based Diagnostic Test and Failure Analysis

Diagnostic Test Hardware™ Highlights:

- Purpose-built for silicon debug, scan-based diagnostics and Failure Analysis
- Foundational Hardware for the **Teseda Field Triage System™**, **Diagnostic Test System™** and **DI Lab System™**
- Parametric Measurement Board for DC parametric testing
- Provides stimulus for dynamic FA applications such as LIVA, TIVA, XIVA, OBIRCH, OBIC, LADA and SEI
- Footprint fits in most commonly used FA equipment inducing no vibration
- Supports available board fixture solutions, such as **DTS Level Shifter Board**, **General Purpose** and **Field Triage Mother Boards** (www.Dynamic-Test.com)



Key Benefits:

- 64M per pin vector depth for high force, expect and failure capture data
- Multiple internal power supplies and optional external power supplies control capability
- High reliability, small form factor, air-cooled and portable at 13.5 lbs for easy transport between office, lab and remote locations

Scan Testing Capabilities on your Bench

Teseda's Diagnostic Test Hardware™ is designed specifically for design validation, silicon debug and failure analysis. The **Diagnostic Test Hardware™** works with the **Teseda WorkBench™** or **Curve Tracer™** software for integration into design and test environments. The system has 512 I/O, full 100 MHz data rates and per-pin timing capabilities. The system footprint of enables scan-based testing on the bench-top.

Characterize DC Performance using the Integrated Parametric Measurement Board

A Parametric Measurement Board comes standard as part of the **Diagnostic Test Hardware™**. The Parametric Measurement Board gives the user a comprehensive suite of built-in device DC measurements. Easy to use screens enable the user to quickly verify fixture continuity and measure device DC performance for specifications such as IIL, IIH, VOL and VOH.

Diagnostic Test Hardware™ Specifications

Signal Pins

- 512 I/O pins
- 4 independent timing domains with 128 I/O pins per domain
- Clock or data format selectable per pin
 - Up to 8 wave shapes per pin selectable
 - Up to 40 drive edges per pin
 - Up to 2 strobe times per domain

Result Capture Modes

- Pass/Fail mode
 - 64M vectors force and expect data
- Full and Fail Capture mode
 - 40M vectors force and expect
 - 40M vectors capture

Timing

- Frequency range: 25kHz – 100MHz (10ns – 40us period)
- Edge placement resolution
 - Clock: 50ps, Data: 2.5ns, Strobe: 50ps
 - Accuracy: ± 600 ps (typical)
 - Jitter (typical): 30ps RMS, 400ps p-p

Clock Waveform Characteristics

Logic Family	Min. pulse width	Min. pulse separation	Max delay test rate (effective)
LVC MOS 3.3V	2.0ns	2.0ns	250MHz
LVC MOS 2.5V	2.0ns	2.0ns	250MHz
LVC MOS 1.8V	2.0ns	2.0ns	250MHz
LVC MOS 1.5V	3.0ns	2.0ns	200MHz

DC Characteristics

- Maximum 8 independent DC voltage domains
- 64 pins per DC voltage domain

Logic Families selectable per DC domain

- LVC MOS families: 3.3V, 2.5V, 1.8V, 1.5V
- V_{OH} adjustment: ± 600 mV
- V_{OH} resolution: 10mV
- I/O interface supply range: 1.1V – 3.6V
- Drive strength: 12mA

Device Power Supplies (Internal)

- Total DUT power supplies: 7
- 4@ 4A, range 0.75V – 3.8V
- 2@ 200mA, range 0.75V – 3.8V
- 1@ 30mA, range 5.0V – 25.0V
- Resolution: 10mV
- Optionally control up to 8 external GPIB-based power supplies (requires LAN to GPIB converter)

Utility Power Supplies (Internal)

- One fixed 5V, 1A DUT card supply

PMU Board (Internal)

- 512 total pins
- 32 independent PMUs
- Force/Measure voltage range: ± 8.0 V
- Voltage resolution: 200uV
- Force/Measure current ranges: ± 5 uA, ± 20 uA, ± 200 uA, ± 2 mA, ± 37.4 mA
- Current resolution: 15.25pA in lowest range
- DC Test Templates (Continuity High, Continuity Low, IIL, IIH, IOL, IOH, IOZL, IOZH, VOL, VOH)
- External instrument connections: 4

Physical Characteristics

- 4.0" (10.16cm) H X 15.5" (39.37cm) W X 14.5" (36.83cm) D
- Weight: 13.5 lbs (6.13 kg)

Operating Conditions

- Operating temperature: 15° - 30° C
- Operating humidity: 30% - 80% Non-Condensing
- AC input voltage range: 90 – 265 VAC, 50/60Hz

Regulatory Standards

- CE

PC Requirements (PC not included)

- Microsoft Windows 7 or 8.1
- 2 GHz (minimum)
- 6 GB RAM (minimum)
- 40 GB available disk space
- 10/100 Base-T Ethernet

Teseda Diagnostic Test Hardware™ is controlled by the Teseda WorkBench™ or Teseda Curve Tracer™ software



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