Highest Pin Count Production Solution

TESTSTATION

Teradyne's TestStation LX system provides accurate, reliable and safe electrical test of heavily integrated PCBAs up to 15,360 hybrid test pins.

TestStation LX has the industry's highest test points capacity and validates complex PCBAs in less test time with a lower recurring cost. Using one test fixture and program, TestStation LX eliminates the redundant cost and time of multiple handling, fixture and programs associated with 'split fixture' techniques of smaller pin-count ICT systems.

Designed to support large fixtures up to 800 pounds, TestStation LX provides high-volume electronics manufacturers with a true single-insertion solution for the most complex PCBA requirements.

Comprehensive Fault Detection

FEATURES

- Single fixture & program solution for 15,360 test points
- Easily upgrade from a few thousand test points without costly adapters
- Can support large & complex fixtures up to 800lbs
- Configured for in-circuit test, in-system programming, Flash Memory programming and function test
- Backwards compatible with existing TestStation test programs and fixtures that use 124, 128, and 128L pin cards

BENEFITS

- Eliminates fault escapes cause by coverage gaps from split test programs
- Faster test times compared to split fixture solutions
- Reduce test programs and handling
- Generate test automatically with Teradyne's Design-to-Build CAD preparation software

TestStation LX can perform shorts/opens detection, vectorless test and component value measurement; digital vector test, boundary scan test, FLASH / ISP programming, frequency / time measurement; mixed signal device test, and functional cluster test. Tests are generated automatically with Teradyne's Design-to-Build CAD preparation software. Teradyne's advanced test quality software analyzes programs to display test coverage and potentially unreliable test scenarios.

Common TestStation Architecture

TestStation LX shares the common software and hardware of the award-winning TestStation system platform. The TestStation Pro software environment for program development, debug and production is common across all TestStation system models to preserve your existing training investment. TestStation LX systems support current UltraPin II 124, 128L and new 128HD pin cards and related options. TestStation LX can be deployed into existing test floor operations without expensive onboarding or redeployment effort.

TestStation LX systems provides a flexible manufacturing test platform for testing the latest PCB technologies as well as direct transfer of existing test programs and fixtures from legazy GR228X and prior generation TestStation in-circut systems. Current TestStation LH, LX and standard size test systems fixtures and programs are directly reusable on the TestStation LX platform.

TERADYNE

System Specifications

Base System	• Synchronized Analog and Digital Subsystems • Maximum pin capacity configurations: 3840, 7680, or 15360 • All pins utilize parallel drive and sense capability • Windows 7 PC Controller • Color LCD monitor on adjustable height platform • Premium software support • Ethernet Networking Interface • Hardware Warranty • Automatic Vacuum Control for single and dual well fixtures • System Footprint 66" x 44.5" • Keyboard with integrated mouse • Capable of supporting fixture weight up to 800 lbs.

System Software
- Windows 7® Support
- Test/Debug System Software License
- Advanced AutoDebug / TestStation Debug Pro
- Automatic Fault Coverage Grading
- Test Execution Software
- Panel-Test Software
- Diagnostic Software Tools
- SoftProbe & BusBust Real-Time Data Collection
- Data Display & Data Logging
- Throughput Optimizer
- Production Assistant
- SafeTest Protection Technologies

Analog Hardware
- Measurement Matrix: 8 channels scannable to any pin
- 2 Sources, configurable as current or voltage
- DC Voltage Source: programmable , 16-bit, 0 to ±18 V over 4 ranges, to ±1500mA, programmable current limiting
- DC Current Source: programmable, 16-bit, 0 to ±1500mA over 8 ranges, to ±18 V, programmable voltage limiting
- DC Voltmeter: 0 to ±1200 V over 9 ranges
- DC Ammeter: 0 to ±160 mA over 7 ranges
- Arbitrary Waveform Generator
- Reactance Module
  - Programmable frequency from 15Hz to 100kHz
  - Programmable AC level to 7 Vrms, 12-bit
  - Programmable DC offset, 16-bit
- True RMS-DC Detection
- Differential Detector/DVM/Digitizer
- Coherent Transfer Function Measurement
- Component Measurement Capability
  - Resistive (R) Range: 0.1 to 30 Mohm
  - Capacitive (C) Range: 1 pF to 10,000 μF
  - Inductive (L) Range: 10μH to 1,000 H
- External Instrument Matrix: 9 BNCs to 8 line to internal instruments or n pins
- Traceable Calibration Daughterboard
- High Voltage Source configurable as current or voltage, programmable voltage limit, ±120V, ±50mA
- IEEE-488 Interface Controller

Software Options
- Program Preparation License:
  - TestStation Development Pro software
  - D2B Alchemist CAD preparation software
  - Analog, Digital, Boundary Scan and Mixed-Signal Device Libraries
  - Hybrid Test Generator for functional applications
  - Panel-Test Development Software
  - Flash ISP Development Software
  - Xpress Model
  - Circuit Analyzer-Based-Test Generator
- ScanPathfinder II boundary scan test generation, execution, and diagnostics for boards with a mix of boundary scan and conventional devices
- BasicSCAN model generator for boundary scan devices
- Junction Xpress vectorless test technique for detecting open device pins and marginal solder connections
- Framescan Vectorless Test Technique for detecting:
  - Open device pins
  - Open connector pins
  - Polarized capacitor orientation
  - Correct device orientation
- Powerful test program language for easy creation of custom tests

Digital Hardware

Common Driver Characteristics:
- Range: 26 programmable drive levels from + 5.5 V to - 2.5 V
- Automatic drive verification at each pin: four voltages selectable for each pin
- Output Current (with automatic compensation circuitry)>600 mA;
- Programmable Slew Rates 100 - 300 V/μS
- Typical Output impedance: <0.6 ohm
- Software Programmable Pull-up/Pull-down loads
- Driver Memory: 64K behind each pin

Common Sensor Characteristics:
- 26 programmable dual sense thresholds + 5.5 V to - 2.5 V
- Sense thresholds independent of programmed drive level
- Input impedance = 100 Kohm
- Bit by bit compare and CRC capture modes
- Sensor Memory: 64K behind each pin

Clock Generation/Synchronization Characteristics:
- Clock Generation frequency programmable up to 20 MHz
- Clock Synchronization frequency programmable up to 20 MHz

Hardware Options
- Test Points expandable to 15,360
- Dedicated Accessory Slot:
- Multi-Function Application Board
- PXI Functional Expansion Board
- Flexible Power Supply Package - choose up to 14 power supplies from the following: 0-60 V @ 2.5 A, 0-20 V @ 8.0 A, 0-7 V @ 15 A
- Fixed Power Supplies: +5 V @ 6 A, ±15 V @ 1 A or +5 @ 6 A, ± 12V @ 1.3 A
- Deep Serial Memory Instrument
- System Frequency Test Module
- Automation Ready Option
- Power Tilt
- Choice of pin board options:
  - UltraPin II 124L (7,680 pins max., 1,920 real pins)
  - UltraPin II 128L (7,680 pins max., 960 real pins)
  - UltraPin II 128HD (15,360 pins max., 1,920 real pins)

TERADYNE