

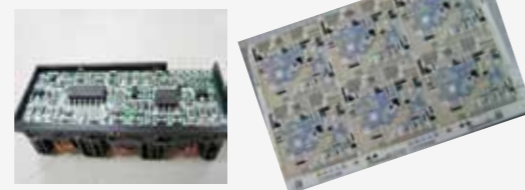
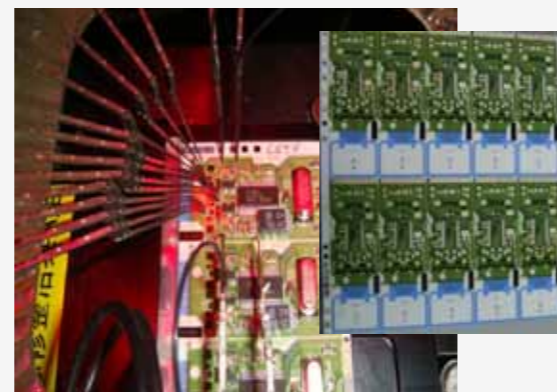
Function Trimmer TF-5900

Thick Film Hybrid circuit Laser Trim System



An advanced new platform ideal for trim and test of Thick Film components and circuits, including PCBs, SMT components and Hybrids.

- Ability to trim Thick Film Hybrid circuits with Panel size max. of 5" x 5", for Passive and Active Trimming
- Offers wide range of trim from milli-ohms (mΩ) to Mega ohms (MΩ) and micro-machining applications
- Fully integrated test functions for accurate and fast measurements
- Windows based user-friendly GUI software for easy application programming and automation integration
- Built-in pattern recognition for auto compensation & precise alignment
- Intelligent sensors to detect and Motion Interlock features
- Advanced vision and motion subsystems provide improved positioning and alignment capability
- Dual Carriage and Fully Automated with customized magazines to store additional substrates and reduce machine idle time
- Equipped with GPIB interface for custom Instrumentation for Hybrid Active Trim



The Ultimate in Laser Trim

The Function Trimmer TF-5900 is the next generation thick film laser trim system from LaserTek Group. Built on a stiffer frame for maximum process stability and featuring a larger work area for devices up to 5 x 5 inches in size, the TF-5900's modular system design helps you process the devices more effectively, more quickly and more easily.

High Speed Beam Positioning System

Beam positioning is accomplished via high-speed galvanometers with closed-loop feedback system. LaserTek Group also offers the latest in video pattern recognition technology and software for fast and precise target alignment for applications such as Hybrid circuits, where the printing of component placement is not precisely repeatable.

Advanced Optical Design

The TF-5900's vision system provides clear viewing of substrates, even under low contrast conditions. It is equipped with Full View camera to enable easy setup of bigger devices.

Multifunctional LTS2010 Software

LTS2010 Software for TF-5900 runs under Windows XP environment, enabling many features as Clean cut-out, Fast Trim, Pulse & Measure, Scan field verification, Individual component Statistics, Active trim program editor etc. to provide user flexibility and define the parameters efficiently.

Active Circuit Trimming

The Function Trimmer TF-5900 is equipped with GPIB interface for external instruments. A 7U Rack height spacing has been designed to install the GPIB instruments (Digital Power supply, Current source, Multimeter, Function Generator etc.) for trimming devices under Power-ON state and measuring the final output from the device. This enables user to process functional devices more accurately at higher throughputs.

Flexible, Advanced Mechanical Design

The Function Trimmer TF-5900 is the next generation thick film laser trim system with Auto Handler for faster throughput. This system can be customized to non handler type according to customer's requirements.

Optical System

- **Beam Positioning:** Precision high-speed galvanometer
- **Field Size:** 50 x 50mm
- **Resolution:** 1.5μm
- **Repeatability:** 2.5 μm
- **Spot Size:** 20 -40 μm (standard 1064nm)
- **Focus Len:** 255 mm flat telecentric type



Laser System

- **Laser Type:** Diode pumped Q-switched
- **Output Power:** 6W (Average @ 10 KHz)
- **Wavelength:** Standard 1064nm
- **Pulse Width, nominal:** 70 nsec
- **Power Measurement:** Thermal pickup



Measurement System

- **Dual Mode:** Force Current & Force Voltage
- **Range:** 0.1Ω ~ 30 MΩ, 10 mΩ Optional
- **Accuracy:** 0.02% Midrange
- **Repeatability:** 0.01% Midrange
- **Resolution:** 0.005%
- **Measurement Time:** 50 μsec
- **Calibration Standards:** 6 pcs 0.01%
- **Guard Drive Current:** 100 mA
- **Guard Offset:** 1 mV

Utilities Requirements

- **Power:** 220 V AC, single phase, 10A (50/60Hz)
- **Air:** 80-100 psi / flow rate 10 cfm
- **Vacuum:** 100 CFM factory vacuum for debris removal and substrates retention

Special Features

- Auto handler with two custom magazines
- Conveyor & Transfer zone for Load / Unload the substrates to trimming area
- Dual Carriage to reduce the machine idle time
- Telescopic (Retractable) Pick-n-Place arm for efficient pick up and placing of substrates
- Improved universal carriage design to suit different sizes of hybrid substrates
- Supports both GT7 Probe card and wireless Probe card design
- New Optical Path with the Full view camera for easy Probe pin Alignment on a cavity
- Completely re-designed Windows GUI to support easy production setup and improve machine productivity

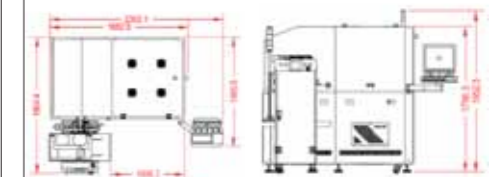
Switching Matrix

- **Pins per Card:** 16
- **Lines per Pin:** 3 (Force, Sense or Guard)
- **Cards per system (standard):** 8pcs std, 12 pcs maximum
- **Switch Type:** Dry Reed Relay
- **Contact Life:** 1 Billion Cycles
- **Insulation:** > 10 GΩ
- **Switching Time:** 200 μsec



Physical Characteristics

- **Dimensions:** 1865 mm x 2355 mm x 1952 mm
- **Weight:** 1470kg



X/Y Part Positioning

- **DUT Load/Unload:** Dual set of magazines on Handler
- **DUT transfer:** Conveyor and Pneumatic controlled pick & place
- **Pick and Place:** Telescopic arm, Retractable for full ccess to load probe card and maintenance
- **Carriage:** Dual carriage mounted on independent X-Y stages
- **Carriage design:** 50 x 60mm or 60 x 70mm (standard) Customized carriage design to suit specific Panel sizes (e.g. 140 x 89mm, 102 x 102mm)
- **Theta Correction:** Stepper controlled mechanism for automatic compensation
- **DUT Clamper:** Intelligent clamper detects DUT's fully in-position at pre-trim stage



LASER TEK (SINGAPORE) PTE LTD
雷科(新)私人有限公司

Laser Tek Singapore Pte. Ltd.
33 Ubi Avenue 3, #02-42/43, Vertex,
Singapore 408868
Tel: (65) 6742 8260 Fax (65) 6742 3719
<http://www.lasertek.com.sg>

LASER TEK TAIWAN Co. LTD
雷科控股有限公司

Laser Tek Taiwan Co., Ltd
No. 248-12, Shin Sheng Rd., Chien-Zhen District,
Kaoshiung, Taiwan 806, R.O.C.
Tel: 886-07-8159877 Fax: 886-07-8156711
<http://www.lasertek.com.tw>