Powered by PHOTONICS SYSTEMS GROUP

# Thick and Thin Film Chip Component Trim System

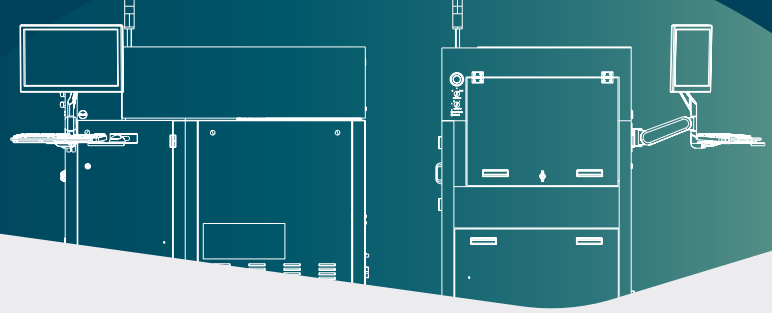

## LT3210 & LT4210

# ChipR Trim™

High performance Chip Trim System designed specifically
for Thick and Thin Film Components down to the latest 01005 products.

L-TRIS INSTRUMENTS

Powered by PHOTONICS SYSTEMS GROUP



**ChipR Trim™ LT3210 & LT4210**

# Specifications

## Optical System

- **Beam positioner type** | High Speed closed loop galvanometer
- **Spot Size**[1] | 15 µm
  | 10 µm (optional)
- **Field size** | 75 x 10 mm
  | 50 x 10 mm (10 µm spot)
- **Depth of Focus** | 150 µm
  | 50 µm (10 µm spot)
- **Positioning Accuracy** | ± 25 µm
  | ± 12 µm (10 µm spot)
- **Repeatability** | ± 6.25 µm
  | ± 5.00 µm (10 µm spot)
- **Resolution** | 1.54 µm
  | 0.76 µm (10 µm spot)

[1] Minimum spot size. Maximum = 1.5X minimum.

## Laser System

- **Type** | Diode pumped Q-switched YAG
- **Wavelength** | 532 nm
- **Output Power / Pulse Width** | 3 W / 30 ns
  | 3 W / 70 ns (optional)

## X/Y/Z Part Positioning

- **Closed loop servo controlled stepper**
  - X / Y Travel | 100 mm x 200 mm
  - X / Y Resolution | 1 µm
- **Probing**
  - Z force | 10 lbs (4.5 kg)
- **Part Stage**
  - Choice of edge or center snugging
  - Venturi generated vacuum hold down
  - ± 3.0° stage rotation with 0.001° resolution

## Part Viewing

- **Dual CCD camera system for High and Low Mag viewing**
- **15 µm (nominal factory settings)**
  - High Mag Viewing Field | 1.7 x 1.2 mm
  - Low Mag Viewing Field | 11.0 x 8.0 mm
- **10 µm (nominal factory settings)**
  - High Mag Viewing Field | 1.1 x 0.83 mm
  - Low Mag Viewing Field | 6.0 x 4.5 mm
- **Vision Processing Choices**
  Pattern recognition with Edge Detection or Edge Detection.

## Measurement System

- **Type** | High Speed, Force V, current nulling bridge
- **Range** | 0.1 Ω – 1000 MΩ
- **Resistance measurement accuracy (full Kelvin)**
  - Low Range (< 50 Ω) | ± 0.02 % ± (1.0 % / R)
  - Mid Range | ± 0.02 % of value
  - High Range (> 160 K) | ± 0.02 % ± 0.02 % per MΩ
- **Active Guard Measurement**
  200 mA guard driver
- **DC Voltage Measurement Accuracy**

| Range | Accuracy (% FSR) |
|---|---|
| 100 mV – 400 mV | ± 0.10 %, ± 1 mV |
| 1 V – 16 V | ± 0.05 %, ± 1 mV |
| 10 V – 160 V | ± 0.05 %, ± 5 mV |

- **Voltage Source**

| Range | Resolution | Accuracy (%FSR) |
|---|---|---|
| ± 4 V | 31 µV | ± 0.008 % |
| ± 16 V | 125 µV | ± 0.005 % |
| ± 32 V | 250 µV | ± 0.005 % |

## Handler Subsystem

- **Substrates** | 50 mm x 60 mm
  | 60 mm x 70 mm (optional)
- **Stacks** | 2 input, 1 output (Capacity dependent on substrate thickness)
- **Stack Height** | 75, 145, 275 mm (selectable)
- **Pick & Place** | Adjustable mini-suction cups
- **Snugger** | Edge Snugger
  | Center snugger (optional)

## Software

- **ChipTrim** | standard software
  | Multi-lot, multi-job processing
- **VersiTrim** | Laser trim language library
  | Microsoft® C / C++ Compiler
- **Windows™ 10 Operating System**

## Utility Requirements

- **Power** | 100 / 120 / 230 / 240 VAC ± 10 % 50 / 60 Hz, single phase 20 A max
- **Air** | 80 psi @ 4 SCFM (113 l / m) filtered to 5 µm and free of contaminants

## Optional Equipment

- **Low-ohm option (5 mΩ – 1 Ω)**
  - Uses standard 4 T probe cards

| Range | Accuracy |
|---|---|
| 0.005 Ω – 0.1 Ω | ± 0.50 % |
| 0.1 Ω – 1 Ω | ± 0.25 % |

- **Additional matrix**
- **GPIB interface**
- **GPIB instrumentation package**

# Benefits

- Spot size down to 10 microns
- Patented 532 nm diode-pumped laser technology for minimum maintenance, long term stability and high reliability
- Patented beam calibration and vision system for automatic alignment and precise laser positioning
- High Speed handler manages thin substrates used with the latest generation small geometry chip resistors
- Wide range measurement system
  - 5 milli-Ohms to 1 Gig Ohm
  - Traceable measurement certification
- ChipTrim™ Software
  - Graphical user environment dedicated to chip trimming
  - Globalized language support



**L-TRIS GmbH**
Pionierstraße 7
82152 Krailling, Germany

**P +49 (89) 502 002-0**
**www.l-tris.com**
**info@l-tris.com**

L-TRIS INSTRUMENTS