- Economical Customizable Inline AOI
- High Speed Stop-and-Go Inspection
- NPI-Optimized Easy Programming Wizard
- Clear Imaging with Large DOF

AUTOMATED OPTICAL INSPECTION
Economical Customizable AOI Solution

TR7710 combines a precise high resolution camera system and TRI’s exclusive multi-phase lighting to capture detailed PCB panel images. New optical solution offers increased DOF range for tall components with optional high clearance. TRI Series III AOI-compatible inspection software combines excellent defect detection and easy smart CAD-based programming into a cost effective, customizable AOI solution designed to fit any budget.

Intelligent Easy Programming Interface

New intelligent programming process significantly reduces programming time using intelligent component library and integrated board warp compensation.

Programming Flowchart

SMART LIBRARY + MODEL LIBRARY

Smart Library speeds up programming by automatically allocating inspection windows for IC leads.
Adaptive Color Space Algorithms
TRI’s new adaptive algorithms use color space processing to increase inspection accuracy, reduce false calls and improve inspection results while reducing time necessary for inspection fine tuning and the number of alternative images required.

Accurate Inspection with Multi-phase Lighting
Four individual lighting phases improve inspection of individual defect types using specialized lighting conditions. High speed camera allows inspection at constant speed even with multiple lighting phases.

Intelligent Auto Conveyor System (IACS)
IACS automatically optimizes board stopping position in the conveyor, minimizing product changeover time and eliminating manual conveyor adjustments.

Yield Management System 4.0
YMS 4.0 provides a M2M centralized inspection monitoring and remote access fine tuning throughout the SMT line. Built-in support for SPI, AOI, AXI and ICT systems helps track Alarms and SPC data to simplify production quality monitoring. YMS 4.0 is TRI’s Industry 4.0 closed loop software to assure your production line inspection quality and efficiency.

The Yield Management System allows operators to aggregate information from individual TRI inspection systems for statistical analysis of production line defect rates, reviewing and fine-tuning inspection results, and identifying component defect trends and emerging production issues.
### Optical & Imaging System

**Top View Camera**
6.5 MP high speed color camera

**Lighting**
Multi-phase RGB+W LED

**Optical Resolution**
10 or 12.5 μm (factory setting)

**Imaging Method**
Stop-and-Go

### Imaging/Inspection Speed

- **12.5 μm**
  - 43 cm²/sec
  - 27 cm²/sec

- **10 μm**
  - 27 cm²/sec

### Pre-/Post-Reflow Inspection Functions

**Component**
- Missing, Tombstoning, Billboarding, Polarity, Rotation, Shift, Wrong Marking (OCV), Defective, Upside Down, Extra Component, Foreign Material

**Solder Joint**
- Excess Solder, Insufficient Solder, Bridging, Through-hole Pins, Lifted Lead, Golden Finger Scratch/Contamination

### X-Y Table & Control

- **Ballscrew + AC servo with motion controller**
- **X-Y Axis Resolution**
  - 1 μm

### PCB & Conveyor System

#### TR7710 vs. TR7710 DL

<table>
<thead>
<tr>
<th>Feature</th>
<th>TR7710</th>
<th>TR7710 DL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Optical Resolution</strong></td>
<td>12.5 μm</td>
<td>12.5 μm</td>
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<tr>
<td></td>
<td>10 μm</td>
<td>10 μm</td>
</tr>
<tr>
<td><strong>Min. PCB Size</strong></td>
<td>50 x 50 mm (1.97 x 1.97 in.)</td>
<td></td>
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<tr>
<td><strong>Max. PCB Size</strong></td>
<td>400 x 400 mm (15.7 x 15.7 in.)</td>
<td>510 x 310 mm (20.1 x 12.2 in.)</td>
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<tr>
<td><strong>PCB Transport Height</strong></td>
<td>880 - 920 mm (34.6 - 36.2 in.)</td>
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<tr>
<td><strong>Max. PCB Weight</strong></td>
<td>3 kg (6.61 lbs)</td>
<td></td>
</tr>
<tr>
<td><strong>PCB Carrier/Fixing</strong></td>
<td>Step motor driven conveyor &amp; pneumatic clamping</td>
<td></td>
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<tr>
<td><strong>Clearance</strong></td>
<td>Top 25 mm (0.98 in.) Bottom 40 mm (1.58 in.) [100 mm (3.94 in.) optional] Edge 3 mm (0.12 in.) [5 mm (0.04 in.) optional]</td>
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</table>

#### Dimensions

<table>
<thead>
<tr>
<th>Feature</th>
<th>TR7710</th>
<th>TR7710 DL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
<td>600 kg (1323 lbs)</td>
<td>650 kg (1433 lbs)</td>
</tr>
<tr>
<td><strong>Power Requirement</strong></td>
<td>200 - 240 VAC, 15 A, single phase, 50/60 Hz, 3 kVA</td>
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<tr>
<td><strong>Air Requirement</strong></td>
<td>72 psi - 87 psi (5 - 6 bar)</td>
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</tbody>
</table>

### Options

- Barcode Scanner, Repair Station, Offline Editor, OCR, Yield Management System 4.0 (YMS 4.0), YMS Lite, Support Pin, Dual Lane

### Specifications

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