

# TR7710 DT SERIES



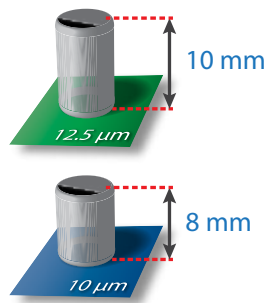
- Flexible Stop-and-Go Desktop AOI
- Easy Programming for NPI Deployment
- High Resolution and Large DOF

DESKTOP AUTOMATED  
OPTICAL INSPECTION

# TR7710 DT FEATURES

## High Precision Economical Desktop AOI Solution

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

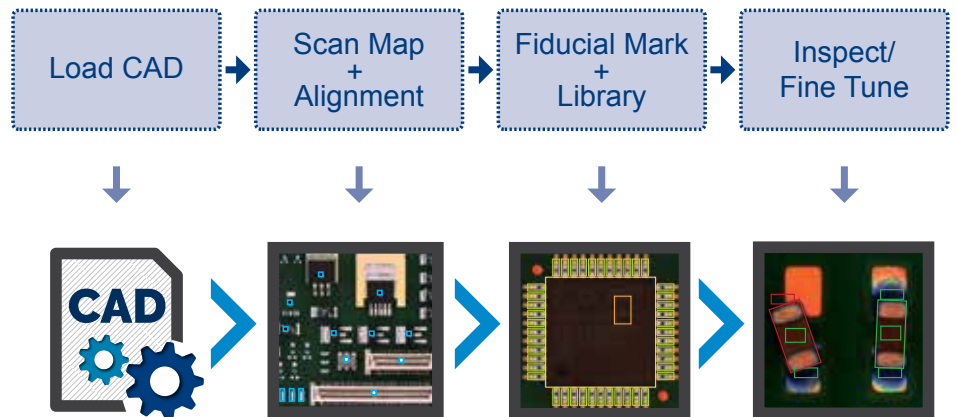


Wide DOF Range Ensures Clear Marking Inspection on Tall Components

## Intelligent Easy Programming Interface

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

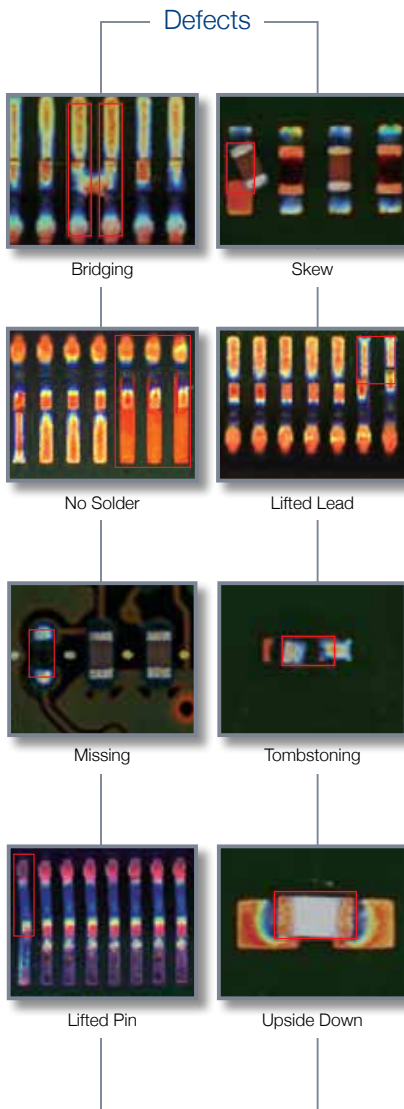
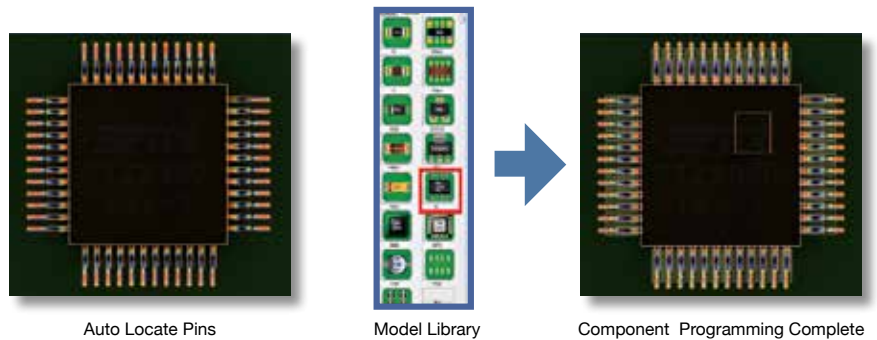
### Programming Flowchart



TRI AOI Programming Flow in a Few Simple Steps

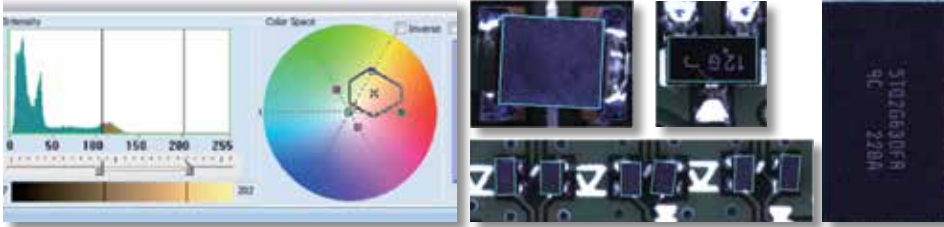
## Smart Library + Model Library

Smart Library speeds up programming by automatically allocating inspection windows for IC leads.



### Adaptive Color Space Algorithms

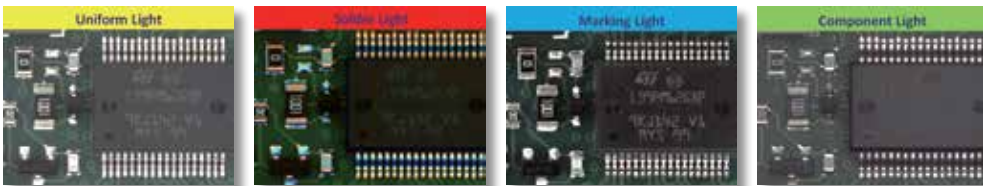
TRI's new adaptive algorithms use color space processing to increase inspection accuracy, reduce false calls and improve inspection results while reducing time necessary for inspection fine tuning and the number of alternative images required.



Color Differentiation Analysis for Black Resin Parts

### 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.



### Auto-clamping Conveyor System

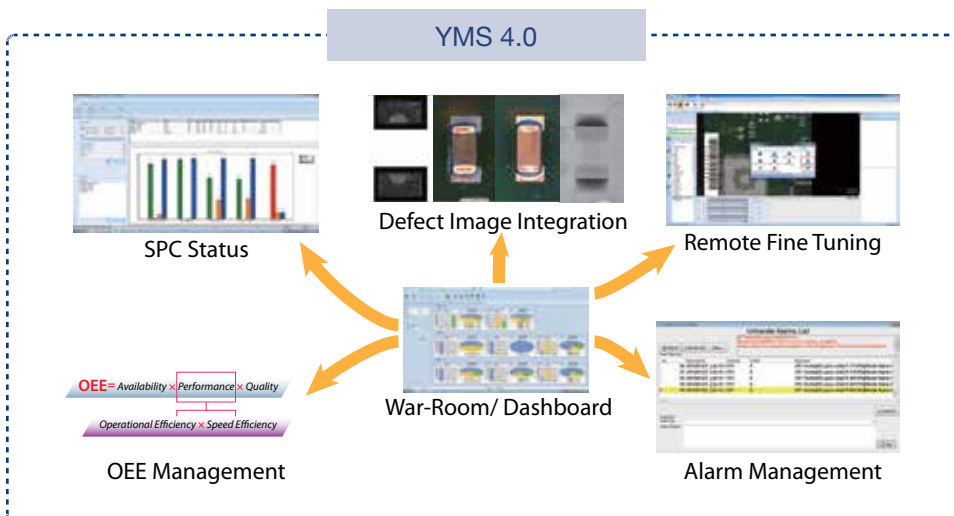
Single button PCB loading and unloading reduces operator workload and improves board loading time.

### High Speed Ballscrew X-Y Motion Drive

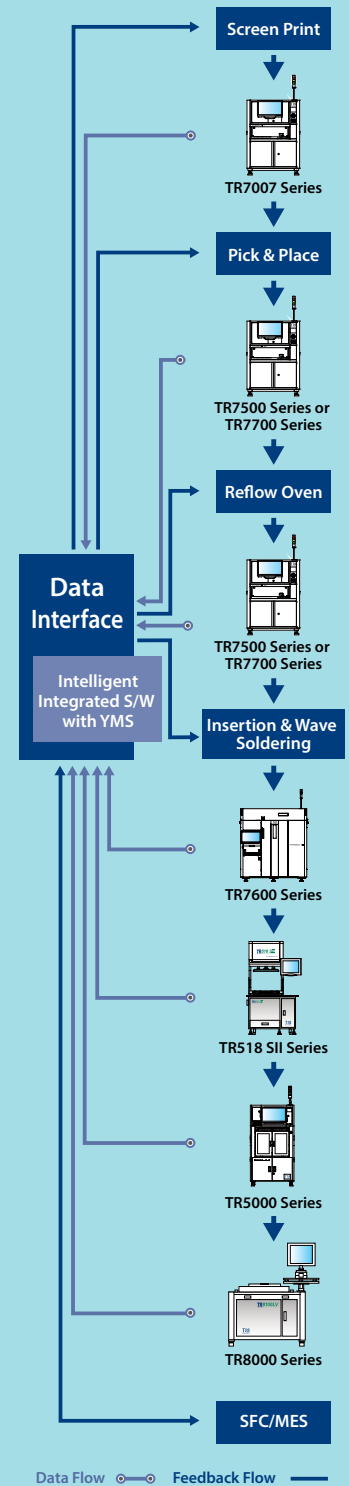
Servo motor with high precision control helps deliver stable and reliable inspection results.

### Industry 4.0 Production Line Integration

YMS 4.0 lets TR7710 DT interface and share inspection data with shop floor system and other inspection machines. Analyze and track defects on the fly from a central console.



### Yield Management System



- Inspection results and data integration
- Real time SPC and production yield management
- Quality reports and closed loop tracking
- Support defect component analysis and improvements
- Knowledge Management (KM)
- Productivity and Quality Management

## Optical & Imaging System

Top View Camera	6.5 Mpix high speed color camera
Lighting	Multi-phase RGB+W LED
Optical Resolution	10 or 12.5 $\mu\text{m}$ (factory setting)
Imaging Method	Stop-and-Go

## Imaging/Inspection Speed

12.5 $\mu\text{m}$ ( $\text{cm}^2/\text{sec}$ )	35
10 $\mu\text{m}$ ( $\text{cm}^2/\text{sec}$ )	22

## Pre-/Post-Reflow Inspection Functions

Component	Missing, Tombstoning, Billboarding, Polarity, Rotation, Shift, Wrong Marking (OCV), Defective, Upside Down, Extra Component
Solder Joint	Excess Solder, Insufficient Solder, Bridging, Through-hole Pins, Lifted Lead, Golden Finger Scratch/Contamination

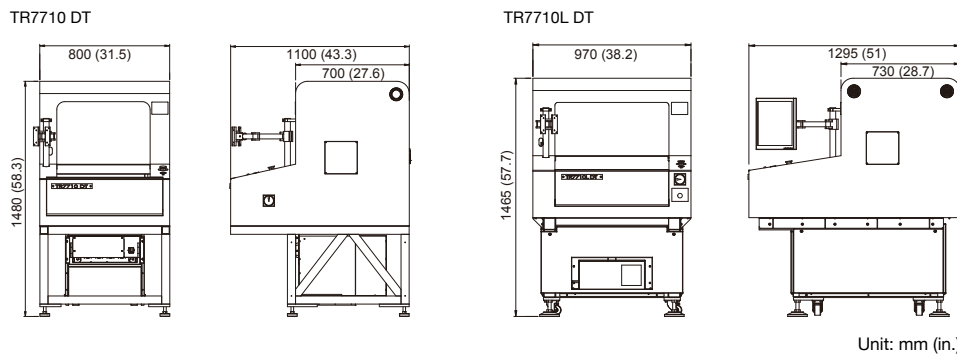
## X-Y Table & Control

Ballscrew + AC servo with motion controller	
X-Y Axis Resolution	1 $\mu\text{m}$

## PCB & Conveyor System

	TR7710 DT	TR7710L DT
Min. PCB Size	50 x 50 mm (1.97 x 1.97 in.)	
Max. PCB Size	330 x 250 mm (13.0 x 9.84 in.)	510 x 460 mm (20.1 x 18.1 in.)
Max. PCB Thickness	3 mm (0.12 in.)	
Max. PCB Weight	3 kg (6.61 lbs)	
PCB Carrier/Fixing	Motor driven clamping	
Clearance		
Top	25 mm (0.98 in.) [48 mm (1.89 in.) optional]	25 mm (0.98 in.) [48 mm (1.89 in.) optional]
Bottom	100 mm (3.94 in.)	100 mm (3.94 in.)
Edge	3 mm (0.12 in.)	3 mm (0.12 in.)

## Dimension



	TR7710 DT	TR7710L DT
Weight	340 kg (750 lbs)	385 kg (849 lbs)
Power Requirement	200 - 240 VAC, single phase, 50/60 Hz 2 kVA	

## Options

Barcode Scanner, Repair Station, Offline Editor, OCR, Yield Management System 4.0 (YMS 4.0), YMS Lite, Support Pin, Bottom Metal Case

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