

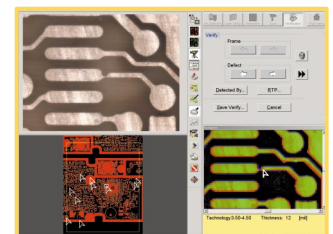
High-resolution inspection of high-density (HDI) panels generates tremendous amounts of data.

The Orion 808 AOI system delivers a substantial gain in throughput for panels in the 2-3.5-mil (50-90 μm) line width range.

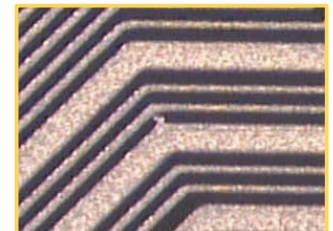
The combination of high processing power and intelligent algorithms with advanced electro-optics and rigid cast structure delivers enhanced detection with fewer false alarms at greater inspection speeds. Firmware-based architecture enables easy implementation of new algorithms and provides flexibility and upgradability.

Performance Features

- TDE™ (Turbo Detection Engine) Camtek's dedicated detection hardware handles vast quantities of image data at high speeds
- Superb detection ability through implementation of three methodologies – Design Rule Check, Template Matching and Morphologic
- CMTS™ (Camtek's Morphological Tracking System – patent pending) enhances detection robustness and facilitates setup through analysis of conductor and laminate shapes



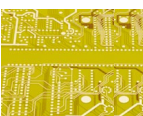
Deep Nick



Fine Short



- OLR™ (On-Line Registration) improves detection and eliminates false alarms related to panel dimensional variations
- Built-in wide resolution range provides optimal magnification for each line width, resulting in unparalleled flexibility
- Dual-Athlon™ processors provide ample power for fast processing of sophisticated algorithms



ORION 808 ■ Specifications

Minimal Line Width	2 mil (50 µm)			
Throughput (sides/Hr)*	5 mil (125 µm) 145	4 mil (100 µm) 138	3 mil (75 µm) 115	2 mil (50 µm) 85
Panel Size (maximum)	24" x 30" (610 x 762 mm)			
Inspection Area	23" x 29" (584 x 737 mm)			
• Inspectify™ mode	24" x 30" (610 x 762 mm)			
• Sirius (CVR) mode	24" x 30" (610 x 762 mm)			
Panel Thickness (maximum)	0.2" (5.1 mm)			
Application & Panel types	Rigid; flex; rigid/flex inner and outer layers, laser drilled layers, build-up and sequential lamination layers, artwork (using white background), Developed Photoresist.			
Designs	Signal, analog, P&G, mixed, cross-shield and others			
Materials Inspected	Copper foils; copper plating; gold plating; Photoresist; Various substrate materials including Teflon and ceramics; Silver Halide and Diazo, Alternative Oxide – Durabond			
Detectable Layer Defects	Open, short-circuit, nick, mouse bite, protrusion, pinhole, island, dish-down, line / space width violation, annular ring violation, extra and missing features			
Detectable Laser Drill Defects	Hole, clearance and pad violations, dirt / debris inside laser drill			
Reference Source Data	Golden board, artwork, CAD			
Tooling	Universal T-slots for various tooling pin options Pin-less			
Illumination	Visible, specular and diffused light			
Operating System	Windows 2000™			
Verification & Repair Methods	Offline verification Immediate online verification Maximal effective time-sharing between AOI & Sirius (CVR)			
• Sirius (CVR)	Offline verification			
• Inspectify™	Immediate online verification			
• Combined Verification	Maximal effective time-sharing between AOI & Sirius (CVR)			
Dimensions	66" (167.6 cm) 73" (185.4 cm) 65" (165.1 cm)			
• Height	66" (167.6 cm)			
• Width	73" (185.4 cm)			
• Depth	65" (165.1 cm)			
Weight	830 Kg.			
Power	100/240 VAC; 50/60 Hz; 2Kw			
Compressed Air	8 ATM, 1000 l/min			
Temperature and Humidity	22 ± 3°C ; 50 ± 10 %RH			
Optional Features	<ul style="list-style-type: none"> • Low Contrast Materials DSTF, Double Treated and other low contrast materials PRI – Allows inspection of Photoresist after developing, before etching. • Laser Drill Inspection Allows inspection of conformal mask and laser drill applications • DMS Dimensions measurement of line & space width, pad size, point to point • CPC Camtek Process Control package provides statistical process data analysis 			

* Throughput based on 18 x 24" panel with 1" margin and 10 seconds load/unload

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