QX500-D™
Optimum Performance at Astonishing Speed

Flexible Dual Lane
Designed for Lean Manufacturing

LARGEST BOARD CAPABILITY WITH FLEXIBLE CONVEYOR CONFIGURATION

- Largest Board Handling capability with support for asynchronous inspection on separate lanes
- On-the-fly inspection using strobed inspection module at 200cm/sec
- Supports different program on each lane
- 01005 inspection capability
- Faster and simpler programming with AI² (Autonomous Image Interpretation) Technology
- AOI-SPI Correlation Analysis with CyberConnect™
FLEXIBILITY AT ITS BEST

QX500-D™ features a smart conveyor design solution providing maximum flexibility to cater to varying PCB (printed circuit board) widths. This unique design gives you the convenience of inspecting different board sizes on different lanes or even switching from dual lane to single lane mode to inspect very large boards.

You can also inspect different programs on different lanes as well as perform on synchronous or asynchronous inspection.

INSPECT ‘ANYTHING’

CyberOptics’ AI (Autonomous Image Interpretation) and Standard SAM (Statistical Appearance Modeling) technology is all about keeping it simple – no parameters to adjust or algorithms to tune. And, you don’t need to anticipate defects or pre-define variance – AIPSAM® does it all for you.

Just draw a box, show a few good examples and you are ready to inspect just about anything. Add more images to the model and watch false call rates get even lower.

The unique combination of technology gives you the power to inspect the most comprehensive list of features and identify the widest variety of defect types – including those that you least expect.

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AI² – FASTER, SIMPLER AND SMARTER

With AI² technology, programming gets even faster – with a 90% reduction in examples required – so you get superior defect detection and low false call rates even with just one example. This means significantly lower tuning time and quality results with one panel inspection. Perfect for those high-mix or low volume applications!

With its unique ability to ‘ignore’ bad examples in a model, AI² offers precise discrimination even with excessive variance and minimizes effects of outlier examples.

Plus, it is a lot simpler with full support for unsupervised and semi-automatic model training. And, examples are pre-sorted so you can select and clear the ones you don’t need – very quickly.

The pixel marking feature highlights defective spots, so you can identify genuine defects instantly.

3-EASY-STEP PROGRAMMING

Our latest software improvements take programming to a whole, new level – zero to 100% program complete in less than 13 minutes! All this is made possible, with an all-new data-rich, pre-loaded library and automated scripts that collect examples and update models – all on their own.

SMARTEST PROCESS CONTROL TOOL FOR BEST YIELD

Process Monitor™ SPC software offers a full-range of powerful real-time monitoring and historical data analysis tools.

The unique AOI-SPI correlation tool offers effective traceability of defects between AOI and SPI systems enabling reduced rework costs and improved yield.
**INSPECTION CAPABILITIES**

- **Optical Scanning Speed:** 400 circuits (13 in. max)
- **Minimum Component Size:** 0402 mm (0.1005 in.)
- **Panel Size Capacity (Max):** 360 W x M (5.9 x 12.6 in.)
- **Panel Size Capacity (Max):** Single lane: 310 x 506 mm (19 x 13.5 in.); Dual lane: 460 x 300 mm (18 x 11.8 in.)
- **Component Solder:** Ag/AgCu, SnPb
- **Board Thickness:** 0.8 mm (0.031 in.)
- **Component Solder Clearance (Min):** Top: 30 mm (1.18 in.); Bottom: 30 mm (1.18 in.)
- **Board Edge Clearance (Min):** 3.8 mm (0.15 in.)
- **Component Solder Type:** SMT (e.g., Lead, pull-out, BGA, etc.), through holes, add-in, clips, connectors, header pins, and others
- **Component Defect Categories:** Missing, polarity, line, board, flipped, wrong part, gross body and lead damage, and others
- **Solder Joint Defect Categories:** Solder bridge, open, lifted leads, warpage, excess and insufficient solder, dent, and others
- **Other Items Detected:** Gold Finger contamination, pin-in-holes, bent pins, dents, and many others
- **Component Measurement Categories:** Component X, Y position, and rotation
- **Measurement Gap (Max):** <0% (down to 0.062 mm components)

**VISION SYSTEM**

- **Image:** Dual 4K Megapixel sensors
- **Image Transfer Protocol:** PiCa
- **Lighting:** Stripe white light (with dark/bright field)
- **Resolution:** 1024 x 768
- **Image Processing:** Statistical Appearance Modeling (SAM) technology
- **Board Warp Compensation:** Up to 0.07 in.
- **Programming:** Simple on-screen or offline
- **CAB Import:** Any column-separated list (standard information requested - ref. designator, X, Y, angle, part no., Solder level with .PM software)

**SYSTEM SPECIFICATIONS**

- **Conveyor Height:** Adjustable to 102 - 189 mm (4 - 7.5 in.)
- **Machine Interface:** SMTA, R232 and Ethernet
- **Alarm:** Light, audible, and visible alarm
- **Power Requirements:** 100 - 120VAC or 220 - 240VAC, 50/60Hz, 15 amp max.
- **System Dimensions:** 140 x 159 x 159 cm
- **Weight:** 4600 kg (10,207 lbs)
- **Machine Installation:** <1 hour

**OPTIONS**

- SPC, Software, Offline Defect Report, High Performance PC, Barcode Reader (C200), Sensor Alignment Target, Programming Software: .PM (.PMX)

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