

Desktop Inspection



4Sight's latest product brings the reliability and power of an industry leading and fully automated in-line inspection system to the desktop robot platform. Proven and novel image interpretation software running on a high performance Microsoft® Windows XP Professional® platform results in an easy to use system with unprecedented inspection capability and performance, ideal for process troubleshooting and lab environments.

Product for inspection is placed on a fixture located on the robot X axis table, the image can then be acquired by stepping the product in x, and camera & illumination in Y.

A flexible platform easily reconfigured for the inspection of a wide range of applications:

- Process verification and debug
- 1st article verification
- Inspection during small batch production, new product introduction and prototype runs
- Sample inspection of high volume production

Software

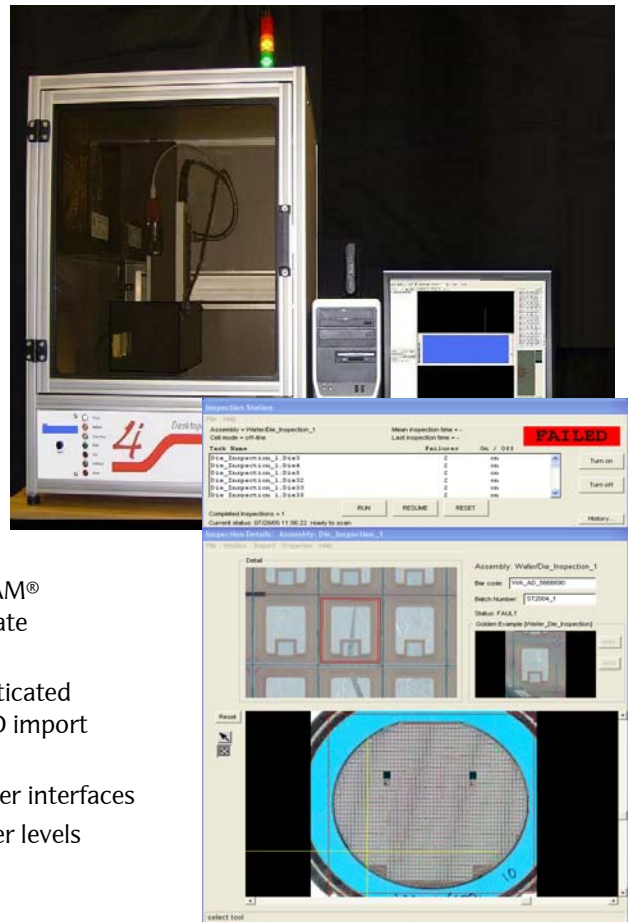
The software platform is licensed from the CyberOptics Corporation and forms an integral part of their Flex® AOI system, an established leader in the PCB inspection market. Its key features include:

- A novel feature recognition and location methodology, SAM® (Statistical Appearance Modelling) that learns the legitimate variation in appearance of features of interest.
- An easy to use programming user interface, allows sophisticated inspection tasks to be constructed easily and quickly. CAD import facilities and interactive set-up tools available
- Intuitive operator level and defect review/classification user interfaces
- Password access for programmer, operator & reviewer user levels

Features

Standard System (*Options*)

- Control Panel with "Start" and "Emergency Stop" buttons, status indicators and lamp tower.
- Adjustable general purpose fixture (*Custom fixture + barcode reader mount design possible for specific applications*)
- Dark field/bright field solid state (white LED) lighting system.
- IEEE1394 5.1 Mp CMOS camera fitted with 55mm lens suitable for imaging a 40 x 30 mm field of view (*Optional lens for 55 x 41 mm FOV*)
- 3 Axis, split axis robot (X=300mm, Y=320mm, Z=100mm). Robot motion inhibited by door interlock and emergency stop.
- 24Volt DC and 5Volt DC control system



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System Specifications

Max inspection area	350x300mm
Camera	5.1Mp CMOS
Pixel Size	15u
Typical inspection speed:	2000 features per second 1200mm ² /sec
Top side clearance	20mm
Bottom side clearance	30mm
Computer	Microsoft XP Professional® Dual Processor AMD® Dual Core 1.8 GHz/2Gb Ram/80Gb HDD
Monitor	17 inch LCD Flat Screen (1280 x 1024)
Power requirements	Single Phase 220 – 240 VAC 3 Amps (max)
Dimensions - imaging unit (mm)	600mm(L) 600mm(W) 1200mm(H)
Weight (imaging unit)	Approx 50 Kg

*Alternative specifications available

Measurement Capability

Measurement performance within ± 2 mm of the plane of focus	X (μ)	Y (μ)	Θ°
Repeatability (max) <i>(Root mean square of SD's of repeated measurements of a population of features)</i>	3.0	3.0	0.01
Accuracy (max) <i>(SD of average of offsets from known co-ordinates of a population of features on a chrome on glass test piece)</i>	10.0	10.0	0.01
Offset (max) <i>(Average offset from known co-ordinates of a population of features on a chrome and glass test piece)</i>	± 0.2	± 0.2	± 0.01

Options

- Results analysis and SPC reporting data-base
- Bar-code reader – results automatically tagged and recorded against bar-code
- Applications advice and guidance

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All specifications are subject to change without notice

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