MANIA TECHNOLOGIE™

ARGOS 8008/850
HIGH-SPEED, HIGH-RESOLUTION
INSPECTION SYSTEMS
Plus
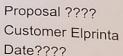# ATHENA VERIFICATION STATION

for

Elprinta
Mr. Pascal Kemel

Proposal No: 3008   Date 30-08-2004

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Defect location and verification	Online High-resolution Live Video, CAM Reference with Digital Error Overlay, Laser Pointer, Ink Marker
Panel Dimensions	**Panel Thickness** 0.002" to 0.250" (0.05 mm to 6.35 mm)
	Maximum panel size 24" x 32" (610 mm x 812 mm)
	Inspection area 24" x 30" (610 mm x 762 mm)
Panel Registration	Pin Registration
First Seat UCAM AOI	Included
Outer Layer Inspection	Included
CAM reference Inspection	Included
Online Verification	Included
Offline Verification	ATHENA – Optional
Ink Marker	Included
Photo Resist Inspection	Included
Dimensions	**Size (W x D x H)** 52" x 80" x 71" (1.3 m x 2.0 m x 1.8 m)
Weight	4000 lbs/1814 kg
Power Requirements	110-230v AC Single Phase 50/60Htz
Compressed Air	100PSI/7Bar 100Liter/Hour

Inspect times and resolutions.

Times quoted are for a series inspection of 18" x 24" panels with a 1" border and allowing 10 seconds to load and unload.

Argos 8008 twin-camera system

Resolution	Scan (sec)*	Sq.ft./hour	Sides/hour	Typical L+S
0.5 Mil	9	1200	190	5mil +
0.4 Mil	12.5	864	160	5mil
0.33 Mil	16	675	138	4mil
0.25 Mil	21	514	116	3mil
0.2 Mil	30	360	90	2mil

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✓ ManiaBarco optics, using the latest high-precision CCD cameras and ManiaBarco's unique lighting system inspect the widest range of materials, surface-finishes and films without specialist vendor set-up. Includes film-work and dry-film resist over copper.

✓ ARGOS 8008 features variable resolutions from 2000 dpi (12µm) to 5000 dpi (5µm). This maximises throughput by adjusting resolution for minimum line size to be inspected. Result: fast inspection down to 50µm features.

✓ Fast set-up: ABSOLUTE Inspection Technology means that no time is lost setting up design-rules or zoning out "problem" copper.

✓ Fast set-up: ARGOS 8008 is fully integrated with UCAM for fast data transfer for large numbers of small batches. New automation possibilities in UCAM Version 7. Inspection areas (including non-rectangular shapes), "don't care zones", etc can be generated automatically from UCAM.

✓ Accurate set-up: inspection parameters are set up and stored for re-use. This means consistent, accurate and fast inspection.

✓ Automated machine set-up (thresholding, camera focus, filter change). This means shorter set-up times and greater reliability of inspection as the operator can be barred from access to inspection parameters.

✓ Fast inspection: ARGOS 8008 uses twin high-precision camera systems to double inspection speed. Typical inspection time for an 18" x 24" panel at 2000 dpi (12µm) resolution is 9 seconds (190 sides per hour including 10 seconds for load and unload).

✓ Flip panel inspection: minimum handling; fastest throughput for small batches..

✓ Live video measuring tool.

✓ Easy to use for less-skilled operators: single flat-screen display, separate menus for supervisor set-up and operator.

✓ On-line verification: faster throughput; faster feed-back on process defects. The clear error-flagging means less operator fatigue. Off-line verification is available using the new Athena Verification Station specified below.

✓ Clear ink-marking using fully water-soluble inks for off-line error correction.

✓ New machine architecture: linear motors offer more accuracy, faster movement and longer life than AC motors and lead-screws, combined with greater reliability and less maintenance.

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ARGOS 8008 AOI System

Argos 8008: Automatic Optical Inspection for Production Environments.

The ARGOS 8008 is the new top-of-the-range inspection system from Mania/ManiaBarco. It offers a uniquely powerful combination of price and performance for today's high-technology, small-batch producers plus 100% automated integration with UCAM.

✓ Unique **ABSOLUTE** inspection technology. ManiaBarco's unique pixel-to-pixel comparison ensures maximum error detection without false calls due to problem copper lay-out geometry (cross-hatching, layers with fine-line tracking and large ground planes, RF and non-regular SMD pads etc) – result: higher error detection, faster throughput.

✓ Unique **ERROR MEASUREMENT VERIFICATION** (EMV) technology. ManiaBarco's unique EMV technology check the measurement of every pixel discrepancy detected and verifies it against the user's quality-control parameters.

✓ Unique **HD** technology. ManiaBarco's new HD technology uses new inspection algorithms and new data handling techniques. The result – up to 60% faster inspection of the highest density panels.

✓ New machine architecture: the ARGOS 8008's cast-granite base gives greater stability, more vibration absorption and longer life. The result: more accurate inspection throughout the lifetime of the machine.

✓ Excellent price/performance ratio.

System Specification.

System Type	Argos 8000 Series
Technology Range	Down to 2mil (50 Micron) Line and Space Technologies
Products inspected	**Inner layer:** Signal, Power/Ground, Mixed Technology, Crosshatch Shielding , Buried and Blind Vias
	Outer layer: Signal, Power/Ground, Mixed Technology, Crosshatch Shielding , Blind Via, Plated Holes, Pads(SMD, BGA)
	Phototools: Silver Halide, Diazo (using White Background)
Materials Inspected	**Bare Copper:** Etched Copper, Plated Copper, DSTF, RSTF, Double Treated Foil, Brushed or Pumiced.
	Standard and "exotic" base-materials: Including Aramid, Polyimide, Polyester and Ceramics
	Embedded Materials: Buried resistors treated as copper or base material
	Photoresist: After exposure, after developing and after etch
Detectable Flaws	Missing copper, Excess copper, Shorts, Opens, Line/Space Violations, Nicks, Protrusions, Dishdowns, Copper Splashes, Pinholes, Wrong feature size and position, Annular Ring Violation, Missing Holes.
Inspection Methods	**ABSOLUTE** Pixel-to-Pixel and EMV
Data Reference	CAM or Golden board
Throughput	**190 Panels Per Hour** Assuming an optimised 18"x24" (457mmx610mm) panel with 5mil (125µ) Line and Space technology and 10 second Load and unload time
Illumination	Independent Specular and Diffused Illumination with Interchangeable Wavelength