



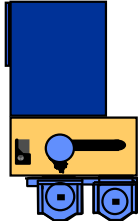
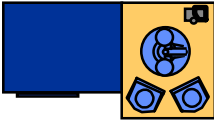
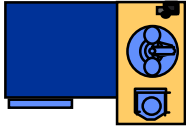
AIT II System Specifications

System Metric	Specification																
Sensitivity	Designed to meet 0.18um DR. Extendible to << 0.18um. Typical sensitivities: <table><tr><td>Spot Size:</td><td>10um</td><td>7um</td><td>5um</td></tr><tr><td>Bare Silicon:</td><td>0.10um</td><td>0.08um</td><td>< 0.08um</td></tr></table>	Spot Size:	10um	7um	5um	Bare Silicon:	0.10um	0.08um	< 0.08um								
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Throughput	Capability: 150mm - 300mm wafers <table><tr><td>Spot Size:</td><td>10um</td><td>7um</td><td>5um</td></tr></table> Wafer Size <table><tr><td>150mm:</td><td>50-56wph</td><td>34-37wph</td><td>21-23wph</td></tr><tr><td>200mm:</td><td>35-40wph</td><td>21-24wph</td><td>12-14wph</td></tr><tr><td>300mm:</td><td>19-20wph</td><td>9-10wph</td><td>4.5-5wph</td></tr></table> The throughput is defined as the time from first wafer pick-up to last wafer return on patterned wafers - including alignment and registration. Based on a full 25 wafer cassette with a 5mm edge exclusion and no partial die inspection. This also assumes that there are less than 1000 defects per wafer and a dual paddle wafer handler configuration. The throughput will vary accordingly with fewer wafers and/or single paddle wafer handler configurations. (Based on KLA-Tencor Standard wafers.)	Spot Size:	10um	7um	5um	150mm:	50-56wph	34-37wph	21-23wph	200mm:	35-40wph	21-24wph	12-14wph	300mm:	19-20wph	9-10wph	4.5-5wph
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Matching - System Correlation	> .90 system matching within the tool. > .85 matching tool-to-tool. Based on AIT II tools matching AIT II tools with the same optic configuration (i.e. spot size). (AIT II will not match to AIT I.) The parameters are calculated utilizing the KLA-Tencor Event-Vector (EV) method.																
Recipe Set-up Time	30-45 minutes for automated recipe set-up. Additional time may be required for process specific optimization.																
Repeatability	Bare Wafer ≤ 3% COV Patterned Wafer: ≤ 3% COV Defined as short-term measurement repeatability of the same system. (The measurements are assumed to be static and sequential - scanning without wafer removal.) Patterned wafer parameter is for total count repeatability with clustering feature enabled.																
Reproducibility	Bare Wafer ≤ 3% COV Patterned Wafer: ≤ 5% COV Defined as long-term measurement repeatability of the same system. (The measurements are assumed to be dynamic and sequential taken on any given day and repeated over the course of three days - scanning with wafer removal.) Patterned wafer parameter is for total count reproducibility with clustering feature enabled.																

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X-Y Coordinate Accuracy	<u>Spot Size:</u> <u>10um</u> <u>7um</u> <u>5um</u> Accuracy: $\pm 10\text{um}$ $\pm 8\text{um}$ $\pm 6\text{um}$ For same tool wafer load/unload and repeat scans - non-saturating defects.
Edge Exclusion	3mm limit
False Defect Rate	< 1.5% for production worthy recipes.
Reliability (SEMI E10-96)	MTBF_p > 500 hours. MTTR < 10 hours.
Availability	≥ 94% for the system
Wafer Handling - Contamination - Particles per Wafer Pass (PWP)	<u>Front side contamination:</u> < 0.003 particles/cm² pwp for particle sizes > 0.16um
Wafer Handling - Alignment	> 98% success rate for automatic wafer alignment for wafers on which alignment has been previously demonstrated. To provide a higher success rate, customer specific product wafers need to be tested. (Wafer alignment reliability is a function of user-defined alignment sites selected during recipe setup.)
Wafer Handling - Errors	< 0.01% (1 in 10,000) of wafers inspected.
Wafer Handling - Damage	< 0.001% (1 in 100,000) of wafers handled.
Data/Set-up Information Transfer	May be performed via: 1. Floppy disk (standard equipment) 2. Ethernet (standard equipment) 3. Jaz™ Drive (standard equipment) 4. GEM/SECS (optional item)
Tool Footprint	<u>300mm</u> : 3.4m ² , 36ft ² (front-to-back, dual FIMS), <u>200mm</u> : 2.3m ² , 25ft ² (dual cassette), 2.0m ² , 22ft ² (single cassette)
Regulatory Standards (Electrical Directive Compliance)	Emission: EN 50081-2 EN 55011, Class C Immunity: EN 50082-2 IEC 801-2, Level 4 IEC 801-3, Level 3 IEC 801-4, Level 4
Safety / Automation Standards (SEMI and I300I Compliance)	Safety: S2-93 Ergonomics: S8-95 Load/Unload Port SEMI E15.1 Embedded Controller: SECS-II SEMI E5-91 GEM SEMI E30-93 Network Connectivity: RS232 and Ethernet TCP/IP Reliability: SEMI E10-96 Other: CE Mark

AIT II System Specifications

Standard Features	Modular Inspection Station 75mW, 488nm Argon Ion Laser High Resolution Flat Panel Display Fully Integrated Review Microscope with AutoFocus Capability (10x, 50x, 100x, 150x objectives) Two fully independent inspection channels 10um Single Incident Spot Optics Low Contact Chuck Integrated ULPA Filter - Class 0.1 (ISO Class 2 or better) Network Communication Windows NT 4.0 based Operating System Handler Protective Cover KLArf Output
Standard Options	MultiSpot™ Incident Optics (5um and 7um Spot Sizes) Modular 150mm, 200mm, 300mm Handlers – Dual Open Cassette, SMIF and FIMS Configurations Network File Sharing (NFS) Capability to KLA-Tencor Quest/KLArity and other UNIX servers GEM/SECS Automation Interface Ergonomic Cassette Loaders
Standard Handler Configurations	 Front-to-Back 200mm Dual SMIF/ 300mm Dual FIMS (Bulkhead 300mm version also available)  150/200mm Dual Open (Articulating)  150/200mm Single Open