464 South Hillview Drive Milpitas, CA, 95035 Phone: 408-232-0600 Toll free: 800-843-8259 Fax: 408-433-9904 Email: sales@oainet.com

www.oainet.com





MEMS

Microfluidics / MicroTAS

Semiconductors

Large Area Exposure Systems

Nano Imprint

Advanced Technology for R&D and Production

OAI is a Silicon Valley-based manufacturer of advanced precision equipment for the MEMS, Semiconductor, Nanotechnology, Microfluidics, MicroTAS, Flat Panel and PV/Solar industries. The company offers a broad portfolio of field-proven products that include: mask aligners, UV exposure systems, UV light sources, nano imprint modules, wafer bonders, UV ozone surface treatment systems, edge bead exposure systems, wafer sorters, solar simulators & IV test systems and numerous, custom-engineered solutions. These products deliver exceptional performance, high versatility with excellent reliability. Based on a proven platform of modularized subsystems, many of these advanced tools can be custom configured to meet your specific requirements. With over 40 years of experience, and thousands of systems and instruments in use around the world, OAI has earned a reputation for exceptional products and superior customer support.





Custom Solutions

By using a modular approach to product development, OAI can customize systems to meet the specific requirements of each individual customer.

MEMS



Microfluidics/MicroTAS

Semiconductors & Advanced Packaging



Large Area Exposure Systems



Nano Imprint





Custom Dual Exposure system

MEMS Precision Equipment for R&D or Production



Model 200 Mask Aligner System

Front and Backside Mask Aligner System.

- Entry level price point
- Flexible design for easy change of wafer and mask holder
- Accommodates substrate up to 8" square
- PLC controlled
- Filter holder and a wide range of filters available



Enhanced Front and Backside Mask Aligner for R&D and Low-Volume Production

- PC-based with unlimited recipe storage
- Accomodates substrates up to 8" square
- Advanced digital image capture for best image overlay
- Auto wedge effect compensation & gap setting
- Auto align Pattern Recognication Technology & CD Measurement
- Available with 9mm field objective separation for small pieces and substrates





Model 6000 Front or Backside Mask aligner for Production Fully Automated

- Highly optimized yields (180 WPH in 1st Mask Mode)
- 0.5µ frontside alignment accuracy
- Wide variety of wafer handling
- Wedge Effect Leveling
- Superb process repeatability
- Sub-micron resolution
- Cluster tool integration
- Cognex VisionPro[™] with customized software
- 1µ top to bottom alignment accuracy

Any OAI mask aligner system may be configured with an optional OAI Nano Imprint Module



Wafer Bonder

Activate, align and bond in one system

- Eliminates the need for separate aligner system
- Lower temperature bonding, high bond strength, & higher yields
- Anodic, silicon direct & thermal compression bond tooling available
- In-situ low-temperature bonding



Model 30 Collimated UV Lightsource

Modular unit can be used as a stand alone or integrated into almost any mask aligner or exposure system.

- Available with Near, Mid and Deep UV
- Power up to 10KW
- Pictured with optional stand



Model 132 UV LED Lightsource

- Collimated & uniform for demanding lithography applications
- Free standing or may be integrated into any OAI lithography system
- Beam size 4"-12"
- Wavelength 365nm, 405nm or any combo
- Beam intensity 50kW/cm²
- Variety of tooling modules available
- Long life, low cost, energy efficient





Microfluidics and MicroTAS



Model 200 Mask Aligner System

Manual, table top Contact Mask Aligner.

- Flexible fast, easy change of substrate & mask holder
- Substrates up to 8"
- Entry level price point
- Available with near, mid and deep UV
- Optics and holders available for small substrates
- Can be configured with an OAI CLiPP microfluidic module
- Filter holder and a wide range of filters available

CLiPP Fabrication: Methodology for Microfluidic Prototype and Production Devices



collimated flood exposure source

Remove uncured monomer



Model 132 UV LED Lightsource

- Collimated & uniform for demanding lithography applications
- Free standing or integrate into any OAI lithography system
- Beam size 4"-12"
- Wavelength 365nm, 405nm or any combo
- Beam intensity 50kW/cm²
- Variety of tooling modules available
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Modular unit can be used as a stand alone or integrated into almost any mask aligner or exposure system.

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- Power up to 10KW
- Pictured with optional stand



UV Ozone Treatment System Improves surface adhesion.

- UV Ozone Treatment Systems available for R&D through production
- Super low pressure lamps for improved surface treatment
- Improves bonding for polymer and glass
- Improves yield



Adjust cavity for subsequent layer



Contact Liquid Polymer Process (CLiPP)

Designed for microfluidic device production

- Designed for single or multidimensional devices
- For use with readily available liquid UV photopolymers
- Controlled hydrophobic or hydrophilic surfaces and channels
- CLiPP modules can be fitted to any OAI mask aligner

Any OAI mask aligner system may be configured with an optional **OAI Nano Imprint Module**

Semiconductors / Advanced Packaging / PSS-LED



Model 200 Mask Aligner System

Manual, table top Contact Mask Aligner for Universities and R&D.

- Flexible fast, easy change of substrate and mask holders
- Substrate sizes up to 8"
- Entry level price point
- Available with Near, Mid and Deep UV
- Special optics and holders for small pieces and substrates
- Available with optional back side IR alignment
- Optional Nano Imprint Module available

Model 30 Collimated UV Lightsource

Modular unit can be used as stand alone or integrated into almost any mask aligner or exposure system.

- Available with Near, Mid and Deep UV
- Power up to 10KW
- Constant intensity and constant power mode
- Excellent uniformity and collimation angle with increased intensities
- High speed electronic shutters for very short, very accurate exposures are available
- Pictured with optional stand



Model 800E Enhanced Mask Aligner

Semi-automatic Contact Mask Aligner for R&D as well as low volume production.

- PC based with recipe storage
- Integrated frame and vibration isolation
- Available with Near, Mid and Deep UV
- Accommodates substrate up to 8" square
- Available with 9mm field objective separation for small pieces and substrates
- Available with autoalignment



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COM

Model 132 UV LED Lightsource

- Collimated & uniform for demanding lithography applications
- Free standing or integrate into any OAI lithography system
- Beam size 4"-12"
- Wavelength 365nm, 405nm or any combo
- Beam intensity 50kW/cm²
- Variety of tooling modules available
- Long life, low cost, energy efficient



Precision Lithography Systems for R&D to Production



Model 6000 Topside or Bottomside Mask Aligner for Production

Fully Automated Mask Aligner System with precision automatic alignment and advanced pattern recognition.

- True proximity, hard, soft and vacuum contact modes
- Stores process recipes
- For substrates measuring up to 300mm
- Computer controlled LED microscope lighting for difficult substrate viewing conditions
- Optional SECS/GEM

Model 2000 Automated Flood and Edge Exposure System

- Wafer sizes up to 8"
- Computer controlled Windows[®] based graphic user interface software
- SEMI S-2 compliant
- Cassette-to-cassette robotic handling
- Optional SECS/GEM

UV Tooling Module





Model 2012 300MM Edge Exposure System 300mm Exposure System

- 8" to 300mm wafers
- Automated FOUP loading or cassette to cassette
- SEMI S-2 compliant
- Optional SECS/GEM

Large Area Exposure Systems

Model 600 Large Area Aligner System

Contact / Proximity Aligner.

- Accommodates substrate sizes up to 20"x20"
- Flexible design allows small to large substrates to use the same tooling

Lightsource Grande

Large Area, Collimated UV Lightsource

- Power up to 10KW
- Accommodates a full range of large sizes utilizing collimating mirrors





Model 212 Large Area Mask Aligner

Economical Mask Aligner

- For substrates up to 12' x 12' or 300m x 300mm
- Lower cost R&D tool for large area substrates
- Versatile tool that can handle smaller substrates and be upgraded for larger substrates
- Used for packaging, displays, 300mm R&D and making 300mm wafers
- Same specs as Model 200 Tabletop Mask Aligner



Model 6020SM Glass Panel Mask Aligner

Fully automated mask aligner system with precision automatic large area alignment and advanced pattern recognition.

- True proximity, hard, soft & vacuum contact modes
- Stores process recipes
- For substrates measuring from 300mm to 20"x20"
- Computer controlled LED microscope lighting for difficult substrate viewing conditions
- Roll to roll operation

Nano Imprint Nano Imprint Technology (NIL)



Model 800E Mask Aligner System with Nano Imprint Module

Semi Automated Optical Mask Aligner with Front and Backside Alignment. Configured for use in nano imprint applications.

- Featuring OAI Nano Imprint Module for NIL
- Includes anti-vibration table
- Automated substrate planarization
- Optical 4-camera front and backside alignment
- Flexible design for fast wafer & mask changes
- Touch screen control
- Priced to meet most budgets
- Motorized backside focus
- Motorized auto-leveling and auto gap-setting
- Optional chuck and Z-gap digital display

Any OAI mask aligner system may be configured with an optional OAI Nano Imprint Module.



Nano Imprint Module System

High-yield mold release technology.

- High yield mold release technology
- Modular add-on for mask aligners

Package includes:

- OAI Aligner Module
- Process controller
- Imprint material
- Mold