



The OAI Model 800 MBA Mask Aligner is a four-camera, manual, optical backside mask aligner system that is designed to greatly surpass the performance of IR backside aligners at an extremely competitive price.

### APPLICATIONS

Excellent for MEMS, Microfluidics, Nano Imprint and Nanotechnology

Used for sub-micron printing and precise, level-to-level mask alignment

### FEATURES

Four-camera optical system

Interchangeable mask holders & chucks

User-defined and controlled, substrate-to-mask pressure

Non-contact, soft-contact and soft-through-hard vacuum contact capability

Precision chuck positioning

The Model 800 MBA provides full optical backside alignment and is ideal for use in R&D labs, universities, and low volume production. With the addition of available automation options, the MBA is suitable for higher rate production.

The Model 800 MBA may be purchased as a topside aligner and upgraded to full optical backside alignment capability when needed. This aligner can be configured with a wide variety of OAI lightsources that range in power up to 2KW and can accommodate substrates up to 8-inch square. The wafer chuck is positioned for very easy loading and unloading of the substrate. For added versatility, this aligner is available with an optional OAI Nano Imprint Module designed for NIL. OAI also offers a module designed for using liquid photopolymers for rapid prototyping or production of microfluidic devices.



Built on an anti-vibration table, the fixed mask holder assembly virtually guarantees alignment accuracy and repeatability. Using the Model 800 MBA is a simple process, as all functions are controlled via the easy to read LCD screens. An operator can be trained on the Model 800 MBA in a very short time and effectively learn to operate the tool in under one hour.

**MORE FEATURES**

- Up to 8" square substrate
- Special small piece substrate holder
- Sub-micron level-to-level alignment
- High efficiency, uniform exposure system
- Intensity controlled power supply
- User definable operational parameters
- Modular design
- Motorized backside focus
- Anti-vibration table
- Dual video cameras with LCD screens

**BENEFITS**

- Very versatile, front/backside optical alignment system
- Cost effective tool that can be upgraded easily and affordably
- Greatly exceeds IR system performance at a very competitive price
- Fast changeover for masks and substrates

**AUTOMATION FEATURES**

- Auto Z Positioning Chuck
- Motorized auto leveling
- Auto gap setting

**OPTIONS**

- Electronic gap display
- Electronic joy stick control
- Nano Imprint Module available
- Microfluidic Module available

**GENERAL SPECIFICATIONS**

**Front/Backside Mask Aligner System**

<b>Mask rotation</b>	<b>Not required (camera compensation front/back)</b>
<b>Mask size</b>	<b>Up to 9"x9"</b>
<b>Mask loading</b>	<b>Vacuum and mechanical clamp</b>
<b>Mask/substrate separation</b>	<b>Manual, user definable, infinitely variable</b>
<b>Mask/substrate pressure</b>	<b>User definable</b>
<b>Chuck motion control</b>	<b>X,Y,Z &amp; Theta (differential micron)</b>
<b>Exposure gap</b>	<b>0-3000µm</b>
<b>Gap adjustment</b>	<b>1µm</b>
<b>Mechanical resolution</b>	<b>1.5µm</b>
<b>X, Y travel</b>	<b>±10mm</b>
<b>Theta travel</b>	<b>±4°</b>
<b>Leveling</b>	<b>Wedge-compensation system</b>
<b>Overlay accuracy</b>	<b>Front to back &lt;2µm (3s) - Top side to 0.5µm</b>
<b>Substrate size</b>	<b>To 200mm square</b>
<b>Printing modes</b>	<b>Proximity, Soft, Hard &amp; Vacuum Contact</b>
<b>Printing resolution</b>	<b>Soft contact - 2µm</b>
<b>Hard Contact</b>	<b>Submicron</b>
<b>Exposure time</b>	<b>1-3,200 in 0.1 second increments</b>



**685 River Oaks Parkway  
San Jose, CA 95134  
Phone (408) 232-0600  
Toll free (800) 843-8259  
Fax (408) 433-9904  
sales@oainet.com**

**www.oainet.com**

**Affiliations:**  
Charter Member, MEMS Industry Group  
Semiconductor Equipment and Materials International



© Copyright 2009 OAI. Printed in the U.S.A.  
03-11-09 All trademarks are acknowledged and the property of their respective owners.