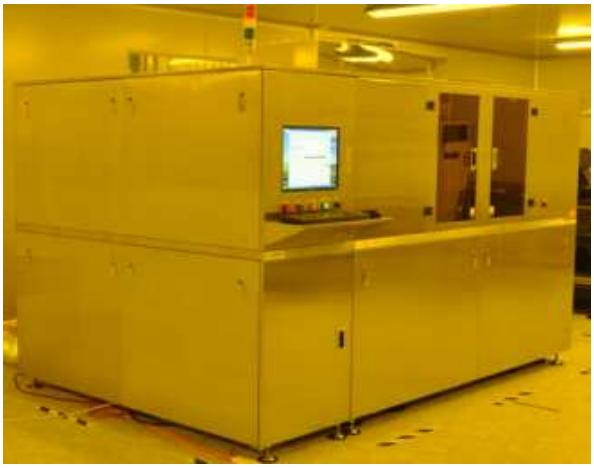
Advanced Laser Dynamic Imaging

technologies aiscent
ADVANCED LASER DYNAMIC IMAGING

Maskless Exposure System for High Density Packaging – ALDI-HDP-550

- realizing tomorrow's technology today!

ALDI-HDP Series laser directing imaging system is designed for high quality imaging purpose, it uses a unique exposure procedure, utilizing highly efficient semiconductor light source and a high resolution spatial light modulator to generate a clean high definition image with refined line width and narrow space with perfect image homogeneity and seamless image. It has great performance with registration and CD uniformity control, and it is the best solution for imaging mass production of HDI and flex applications. ALDI-HDP Series system can expose substrate size up to 457X559mm (18"X22") with fine resolution down to 5um.



High Power Fiber Coupled Laser

ALDI-PB Series utilize high power fiber coupled laser diode, with the output power up to 25W, making it possible to image in almost all conventional photoresists with unimaginable speed. The nature of the flash operation is 'instant on' so no warming up time and no power runs though the light source when no light is required. This means longer life time for the light source.

Upgradeable Multi-Engines Scanning Technology

Our modular imaging technology allows different imaging heads to be retrofitted as your requirements change.

Flexibility

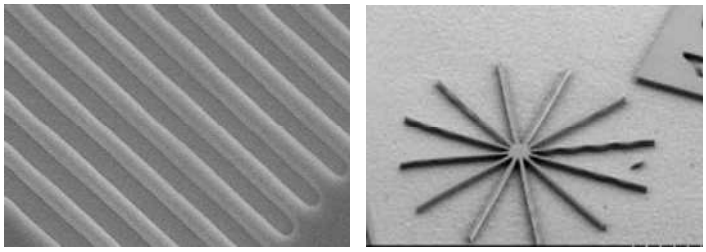
Our vision system allows single board lots to be easily run without changing the setup of the system, as well as allowing internal scaling points to be selected allowing each panel to be scaled individually.

Low Total Power Requirement

The system has a low quiescent power requirement of 500W when idle, increase to 1.5 KW during imaging. This system can run on single phase power

Real Time Scaling and Distortion Compensation Technology

The system generates images in real time mode, allowing dynamic adaptation to scale and rotate the substrate in the computer system. Registration errors caused by flatness variations on the rear of the substrate and the error of the stage moving is improved by additional software to compensate for any variation in the mechanical structures or the environmental parameters, and it also compensates the registration errors caused by distortion error of the substrate. These deviations are compensated for each side individually, providing better side to side registration performance. Serialization of boards and sub-panels are also optional.



Exposure results for ALDI-HDP Series

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ALDI-HDP550 Specifications	
Max Substrate size (mm^2)	559 x 457
Substrate thickness (mm)	0-20
Max effective exposure area (mm^2)	550 x 450
Optical resolution & CD uniformity	5 um +/- 10% (Line & Space) @ 10um dry film
Net exposure time for 550mm x 450 mm	37 sec (9 engines with sensitive PR)
Data format [1)]	Gerber 274D/X
Laser light source wavelength	405 nm
Maximum laser power [2)]	5 W per optical engine
Alignment method by vision system [3)]	Software (Quadrilateral correction)
Alignment accuracy by vision system	+/- 2.6um

1) Other data formats, such as GDSII and DXF will be available upon request.
2) High power light source is available as an option to achieve higher speed.
3) The quadrilateral correction is linear transformation to adjust X shift, Y shift, rotation, and magnification of exposure data. Even deformation of the substrate can be adjusted. No physical stage movement is applied to compensate the misalignment.

- Physical size: H: 72" / 1820 mm, W: 96" / 2440 mm, D: 76" / 1934 mm; Weight:2500 kg;
- Power requirement: 220 VAC, 50/60 Hz, Maximum 4KW (500W when idle!);
- Vacuum pump: optional;
- Environment: Depend on resist/emulsion sensitivity – yellow or red safe light conditions;
- Substrate loading: manual;
- Temperature: 23±1℃, recommended humidity: 50%;
- User interface: Windows XP, simple instructions for programming and operation by keyboard or remote control
- Data File Transfer: Local area network, Removable media.
- Panel registration: Optical registration system. Registration pins (optional).

Note: These specifications are subjected to change without notice.

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