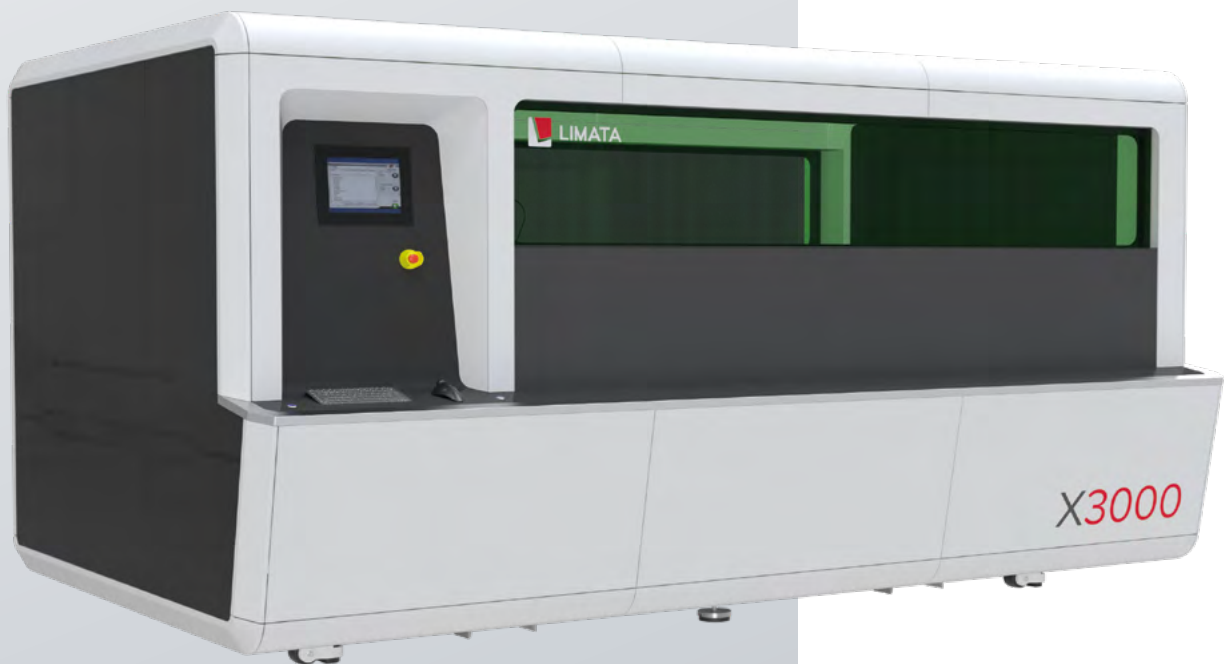




LIMATA



Winner of the
productronica
innovation award 2019

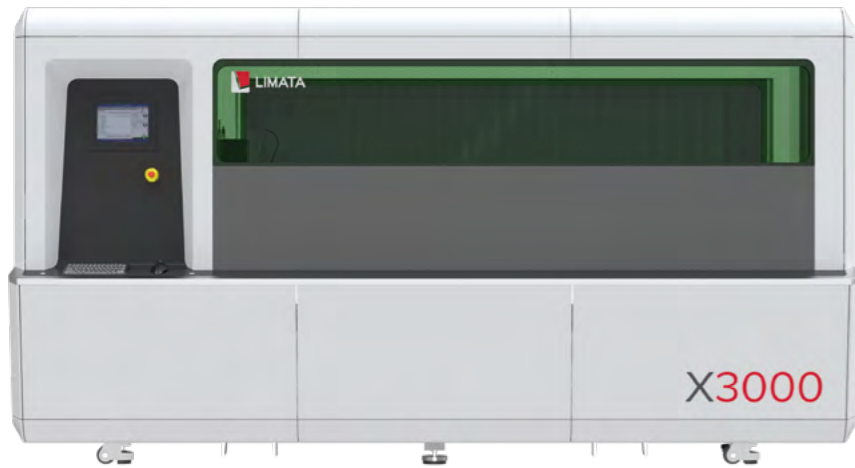


X3000 series

LASER DIRECT IMAGING SOLUTION FOR THE EFFICIENT
PRODUCTION OF OVERSIZED PRINTED CIRCUIT BOARDS



WWW.LIMATA.COM



X3000 series

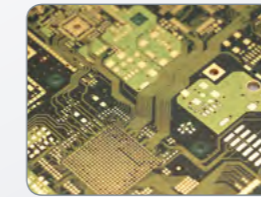
LASER DIRECT IMAGING SOLUTION FOR THE EFFICIENT PRODUCTION OF OVERSIZED PRINTED CIRCUIT BOARDS

Features and Benefits

- Working / Imaging area of **110" x 48"** enables extreme large panel imaging or an exposing of up to **12 (24" x 18")** panels in one imaging run
- **Front and back loading** capabilities for standard panels and two right / left loading slots for oversized panels (larger than 110" length)
- **Customized vacuum table set-up** (4 vacuum zones)
- **LUVIR Technology** available for solder mask imaging
- **+25.000 hours' laser lifetime** ensures lowest maintenance costs
- **Highest optical depth of focus** +/- 500µm thanks to laser technology guarantees constant resolution without limitation
- **RGB & Infrared Camera** possible to improve fiducial detection even with covered solder mask
- **Ease-of-use operator** friendly handling and data interface

Applications

- **Industrial, Military, Aerospace**
Special large panels
- **Clean Energy**
Flex panels for wiring
- **Consumer Electronics, Networks, Communication**
Div. special applications



System Features

Market:	Medium to high-volume PCB production
Operating table:	Single table
Vacuum table:	Included
Mechanical system:	XY Linear drive gantry system
Base:	Full granite
Weight:	ca. 6.500 kg
Dimensions:	4,3m x 2,7m x 2,3m / 170" x 106" x 91"
Footprint:	11,5 m ²
Communication interface:	Ethernet
Power supply:	400 VAC 50Hz / 3+1 Phase
Upgradeable:	Up to 4 heads possible
Max. image size:	2794 x 1220 mm ² / 110" x 48"
Max. panel thickness:	25µm - 15 mm / 1mil - 0.6"

Imaging Features

UV Light engine:	Diode lasers
UV Laser wavelength:	400 - 410nm
UV & IR Lifetime laser [typ.]:	> 25.000 h
UV Lasers per head:	4 - 6
Number of heads (exposure units):	1 - 4 heads
Depth of focus:	+/- 500µm / 20mil

Resolution Accuracy**

Min. Lines:	50 µm / 2 mil
Min. Space:	50 µm / 2 mil
Max. edge roughness:	+/- 10% min. res.
Max line width tolerance:	+/- 10% min. res.

Registration Features

Reg. System:	HD Camera(s)
Camera Lighting:	RGB + IR
Top to bottom layout [typ.]:	up to +/- 15 µm / 0.6 mil

For more information
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The **LIMATA X3000 LDI Series** is a laser direct imaging system designed for the efficient imaging (patterning) of oversized PCB panels. The **X3000** is standardly equipped with an automatic door mechanism and can be complemented by load and unload automation options.

This unique system is capable to image oversized large panels with board sizes of up to **110" x 48"** (L x W) or multiple **24" x 18"** boards (up to 12 panels).

Best in class registration of the panel is guaranteed by using a multi point sub-registration (each pattern is warped within the software to suit individual geometry).

The use of a Multi-wavelength laser technology provides for the rapid structuring of both, standard dry films and solder resists. Cost-efficient high energy UV diode-lasers with lifetimes (MTBF) of over 25,000 h are supporting lower total costs of ownership.

LIMATA's **LUVIR technology** (patent applied) offers highest throughput and best in class quality for solder mask imaging. **Several versions of LDI and conventional solder masks** from different suppliers were qualified successfully.

* depending on fiducial and layout quality
** depending on solder mask material and thickness

X3000 series

LASER DIRECT IMAGING SOLUTION FOR THE EFFICIENT PRODUCTION OF OVERSIZED PRINTED CIRCUIT BOARDS

Solder Mask Module LUVIR Technology

- Unique UV/IR Laser setup for optimized and faster solder mask imaging (on all conventional ink types)
- All common colors can be processed with optimized speed & accuracy

System Options

Multi point registration

- Detection of multiple fiducials for max. registration quality
- No cycle time loss from registration due to parallel working HD camera systems and double drawer handling approach

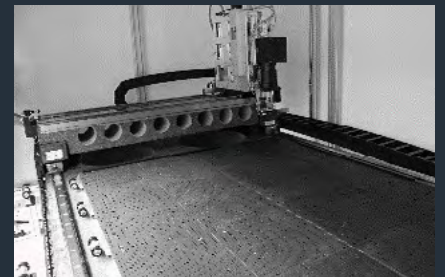
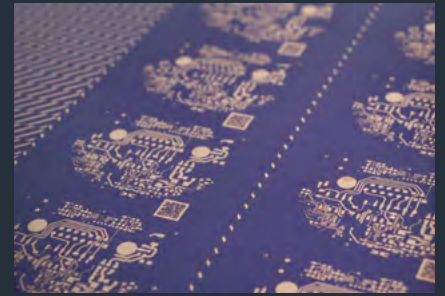


HD-Option

- Adjustable laser spot size for advanced HDI production
- Improvement of power density-processing of dams and spaces down to 2 mil / 50 µm



LUVIR Technology



X3000 System configurations



LDI System family	X3200	X3300	X3400
UV laser heads	2	3	4
UV diode lasers per head	4/6	4/6	4/6
Total UV laser capacity	8/12	12/18	16/24

Modularity

