



LED Direct Imaging

Miva's LED Direct Imaging Technology is the first of its kind coupling precision optics, HD DMM and proprietary LED Array to deliver a digitally defined, high UV power images to photo-sensitive substrates. This approach to projected imaging has been Miva Technologies' core competence for over 20 years with 500 installed systems worldwide.

The 2600XL xDI system is a high speed, resolution flexible targeted at users that are budget sensitive and need direct imaging for more technical and production oriented reasons. Field upgradeable with additional light engines and/or resolution upgrades provides the user maximum production flexibility and growth without high entry costs.

The system's cost of operation is the lowest in the industry with a 3 year warranty on the LED light source, low power consumption and high tolerance for dust. Taking less space than a conventional exposure unit and tolerating a similar environment allows for relatively easy conversion to direct imaging.

Primary Features:

- ❖ **Multi-Light Engine Capable:** The 2600XL may be ordered with up to 4 light engines to provide dramatic increases in throughput or increased use with photo-imagable materials that require high-energy.
- ❖ **Automation Ready:** System is designed for the modular addition of auto-load and unload equipment.
- ❖ **Multi-Spectrum LED Light Engine:** Miva's multi-wavelength LED Light Source provides choices of 375, 390, 405nm energies. The LED consumes less energy, produces no heat and is warranted for 3 years.
- ❖ **Dynamic Photo-tooling:** While the system can image soldermask directly, it can also produce phototools. The phototools are produced based on scaling predetermined during the jobs' outerlayer imaging process.
- ❖ **Upgradeability:** The system is designed for maximum flexibility. Resolutions are upgradeable in the field from 5k dpi through 32k dpi. Light source wavelengths are upgradeable with an LED Array swap.
- ❖ **Lower Power Consumption:** At less than 3kW, the MIVA DI technology operates with incredible efficiency. No heat generation and no exhaust requirement means additional power savings results from reduced air conditioning and filtration for make-up air.
- ❖ **Clean Room:** Typical users of projected image technologies place the equipment in the same cleanliness level as flood exposure systems. While cleaner is better, no higher level of cleanliness is required than is found with the current imaging methodology.
- ❖ **Ease of Service:** The Miva approach to design is to keep the system robust and simple. Service contracts are not required to maintain the machine but are available.
- ❖ **Three year Warranty:** The systems' light source is warranted for 3 years. By comparison, other systems require relatively frequent light source replacement at a far higher cost.

Standard Resolutions and Performance:

Resolution [feature size]	2600XL [1 Light Engine]
5,000 [63 µm]	30s
10,000 [25 µm]	45s
20,0000 [10 µm]	105s
Measurement	2s/pt

Note 1: Image times are Dow UD930 dry film and 18 x 24" panel

Note 2: Multiple light engines available providing 50% to 200% throughput increases.

General System Performance:

A/B Registration:	± 0.50 mil [±12µm]
Accuracy:	Absolute: ± 0.40 mil [± 10 µm] Repeatability: ± 0.20 mil [± 5 µm]
Imaging Media:	Photoresists: LDI and conventional dry film, liquids Soldermask: LDI soldermask Phototools: UV film
Maximum Image Size	Standard System: 24" x 30" [610mm x 762mm] Custom Systems: systems up to 48" x 144" installed currently
Minimum Image Size	No minimum - substrate 3"x3" [75 mm x 75mm]

Environmental Conditions:

Environment:	Typically Miva Direct Imaging Systems perform well in the same conditions as existing flood exposure conditions.
Atmosphere	70°F ± 5°F @ 50% relative humidity [20°C ± 2°C]

Data Standards:

Protocol emulations	Gerber, RS 274-X, HP-GL, Fire 9000
Optional Protocols	PostScript, TIFF, PCX, others on request
User Languages	English, German, French, Spanish
Option: Network User interface	Netlink queue and plot manager (Win XP compatible) – runs from anywhere on your host network.

Physical Dimensions:

Physical dimensions (W x D x H)	58" x 48" x 65" [1485 mm x 1220 mm x 1650 mm]
Weight (Uncrated)	1760 lbs. uncrated,
Utilities Required	Electrical: 230 VAC, 50/60 Hz, 3kW, 15A [filtered] Air: 60L/min @1.8 bar

Supported and Distributed by:

KuperTek

Kuper Technologies, LLC

PO Box 893, Concordville, PA 19331

Ph: (610)-358-5120 • www.KuperTek.com