2800X
Direct Imaging System

The Technology

All MIVA raster photoplotters use a unique plotting procedure, utilizing an LED emitter array as a light source and a high resolution spatial light modulator to generate the image. This system projects a clean high definition image onto the film. There are various resolutions available between 3000 dpi and 128000 dpi. The photo head exposes the film during its continuous movement across the film surface. Positioning is controlled in real time by high resolution linear encoders. This makes MIVA photoplotters fast and accurate. The ultra reliable light source allows years of operation with red, green or blue sensitive films or glass plates.

Accuracy	**Absolute:** ± 0.4 mil / 9 µm **Repeatability:** ± 0.20 mil / 4 µm
Technology	LED Emission-LCD Raster Image Projection Technology
Media	Resist coated panels, silver halide film or glass up to 0.25" thick. All UV light sensitive. Production times are determined using dry film resists.
Maximum Image Size	26" x 36" (660mm x 914mm)
Minimum Image Size	No minimum
Environment	Dependent on film sensitivity – yellow, red or green safe light darkroom for loading.
Recommended atmosphere	20°C @ 50% relative humidity
Communications	Local area network, CD-ROM, Floppy Disk
Protocol emulations	Gerber, RS 274-X, HP-GL, Fire 9000
Optional Protocols	PostScript, TIFF, PCX, others on request
User Languages	English, German, French, Spanish
User Interface	Simple instructions for programming and operation by keyboard or optional remote control via network.
Option: Network User interface	Netlink queue and plot manager (Win 9x, 2000 and XP compatible) – runs from anywhere on your host network.
Option: Throughput upgrade	Miva is releasing a major speed upgrade in Q3-2008, expected throughput upgrade of 30% or more.
Physical dimensions (W x D x H)	Std: 58" x 62" x 58" (1485 mm x 1585 mm x 1485 mm)
Weight (Uncrated)	Std: 2,860 lbs (1,300 kg)
Utilities Required	230 VAC,50/60 Hz,1.5kW or 115 VAC, 50/60 Hz, 1.5kW Air: 60L/min @1.8 bar

Standard Resolutions:

Standard Models	Resolutions (dpi)	Image Times (Light Multiplex Technology)	Minimum Line Width (mils)
2808X	2,000 4,000 8,000	45s 55s 65s	5.0 mil (125.0 µm) 2.5 mil (62.5 µm) 1.25 mil (31.3 µm)
2832X (available Q3-2008)	8,000 16,000 32,000	4 to 6 mins	1.25 mil (31.3 µm) 0.63 mil (15.9 µm) 0.31 mil (7.9 µm)

**Image Times with standard or LDI dry film and 18 x 24" panel.

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PRIMARY FEATURES AND BENEFITS:

Light Source: The 2800X utilizes a LED Emission-LCD Raster Image Projection Technology. The light source is an array of solid state LED emitters. As a result the source is highly efficient, redundant and long lasting. Miva Technologies warrants the light source for 3 years from date of purchase and replacement cost is a fraction of the cost of replacement lasers required by competing systems.

Scaling on the Fly: The 2800X provides the user the ability to snap-scale to an unlimited number of reference points within a given part including reference points within the image itself

Options and Upgrades: The 2800X provides a full range of options and an upgrade path to various technical improvements that will become available as Miva adds additional features. Features such as resolution enhancements, higher power light sources, are field upgradeable and reasonably priced.

System Design: System is designed to primarily be serviced by the customer. Miva will also provide a service plan including extended machine warranties.

TECHNOLOGY ROADMAP:

The following are the major product enhancements expected for release over the next twelve months:

Milestone	Description	Expected Delivery Date	Field Upgrade or System Swap
32000 dpi	Enhanced resolution for sub-1 mil imaging.	Available now	Field Upgrade.
Solder mask capable	Expanded LED array delivers greater energy per pulse permitting solder mask processing at higher speeds.	Q1-2009	Field Upgrade
Autoload/Unload	Provides for automatic loading and unloading of the system on a lot basis.	Q2-2009	Field Upgrade
Multiple head system	Because the majority of the process time is motion, additional light engines will result in imaging times of less 30s.	Q2-2009	Field Upgrade or System Swap

APPLICATIONS:

The Miva 2800X direct imager has many additional applications under development. Including but not limited to semiconductor fabrication, solder mask imaging, and chemical milling.

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