

# NUVOGO™ 1000

The New Way of Imaging



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## The New Way of Imaging

Nuvogo™ 1000 is the latest addition to Orbotech's Nuvogo™ family of leading Direct Imaging (DI) solutions. Utilizing a high power laser and unique MultiWave Laser Technology™, the Nuvogo™ 1000 provides maximum flexibility on a wide range of materials and applications. Incorporating Orbotech's field-proven Large Scan Optics (LSO) Technology™ with its high depth-of-focus, it is a perfect match for Flex Solder Mask as well as for demanding Patterning and Solder Mask applications. This powerful system is designed for fast throughput while maintaining optimal quality.

### Benefits

#### Leading Mass Production Digital Imaging

- In-line solution and fully-integrated automation for seamless production
- Optimized imaging time with dual table transport mechanism
- Fast and easy setup; operator friendly
- Clean, handling-free production environment

#### MultiWave Laser Technology™ for Maximum Resist Flexibility

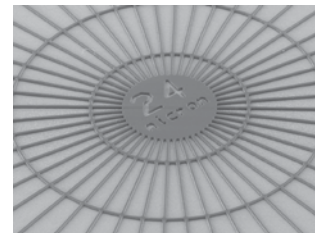
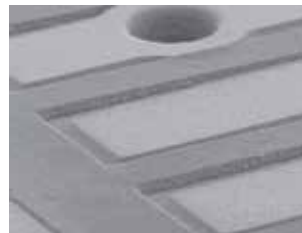
- Embedded MultiWave Laser Technology™ ensures small undercut, excellent side walls and unmatched uniformity of line-structure quality
- High power laser enables high throughput with a wide range of materials and applications

#### Highest Imaging Quality with LSO Technology™

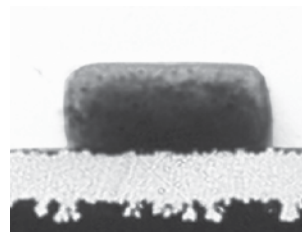
- Unique optics design for optimal line-structure and solder dam uniformity
- High depth-of-focus up to  $\pm 300\mu\text{m}$  for unmatched quality on changing surface topographies (especially for Solder Mask Flex applications)
- Advanced scaling modes for superior registration accuracy down to  $\pm 10\mu\text{m}$

#### Lower Total Cost of Ownership (TCO)

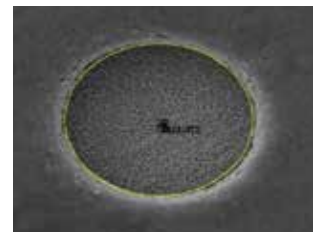
- Optimized service cost per print
- Increased overall efficiency for significant long-term savings
- Suitable for a wide variety of resists, offering the option to use lower-cost materials



Tight registration and excellent quality with MultiWave Laser Technology™



Cross section of 50µm solder dam



75µm SRO



## Nuvogo™ 1000 for State-of-the-Art Mass Production Digital Imaging

As part of the Nuvogo™ family, the Nuvogo™ 1000 utilizes Orbotech's high power MultiWave Laser Technology™. Equipped with the industry's most advanced optics and electronics, Nuvogo™ 1000 is designed to achieve fine structures at unmatched speed. The system achieves maximum productivity due to its dual table transport mechanism. Furthermore, Nuvogo's fast setup capabilities and automatic acquisition of targets facilitate smooth job changes. Nuvogo™ 1000 also operates in a clean, hands free environment, thus ensuring no handling damage.

## Orbotech High Power MultiWave Laser Technology™ for Maximum Resist Flexibility

Nuvogo™ 1000 is powered by Orbotech's high power MultiWave Laser Technology™ which delivers unparalleled structure quality on a variety of resists and solder resists. It provides maximum flexibility to match any resist and to fit all forms and processes. The adaptable multi-wavelength laser also minimizes undercut to allow extremely smooth side walls.

## Highest Imaging Quality With LSO Technology™

### Registration Accuracy

- Registration accuracy down to  $\pm 10\mu\text{m}$ , enabling tight Solder Mask clearances
- Annular rings with microvias can be stacked with greater precision

### Innovative Scaling Modes

- Auto Scaling / Fixed Scaling / Group Scaling
- Partial Scaling: sub-area registration for Solder Mask exposure

### Depth-of-Focus (D.o.F.)

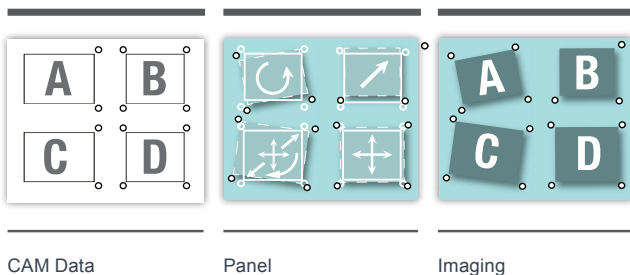
- D.o.F up to  $\pm 300\mu\text{m}$  for overcoming the most challenging surface topography changes and any distortion or abnormalities with the most advanced image quality
- Single scan allows uniform imaging of the entire panel

### Resolution and Line Uniformity

- Best line uniformity (down to  $24\mu\text{m}$  in patterning)
- Allows solder dams down to  $50\mu\text{m}$  and SRO down to  $75\mu\text{m}$

### Ease-of-Use

- Operator-friendly, intuitive graphical user interface
- Seamless connectivity to CAM ensures fast and easy set-up
- Recognizes a wide array of different target types to meet any production demands
- Supports side-by-side Flex imaging



### Traceability

Enables panel tracking by marking: serial number stamp; sub-panel and PCB; date and time stamp; scaling stamp and machine ID by alphanumeric stamping or 1-D barcode / 2-D barcode (Data Matrix Code).

## Lower Total Cost of Ownership (TCO)

Nuvogo™ 1000 ensures reduced total cost of ownership while meeting the industry's increasing demands for high-end mass production. With lower service cost per print, the system offers manufacturers a significantly lower TCO to quickly achieve maximum ROI. Setting a new industry standard, the system provides efficient power consumption while still providing a powerful light source and the most sophisticated optical and electronic systems. Nuvogo™ 1000 supports a variety of resist types enabling manufacturers to select lower cost resists to further reduce operational costs.