

SOFTWARE

LASER PHOTO PLOTTERS

DIRECT IMAGERS

## Ledia

Most cost-effective direct imaging solution on the market



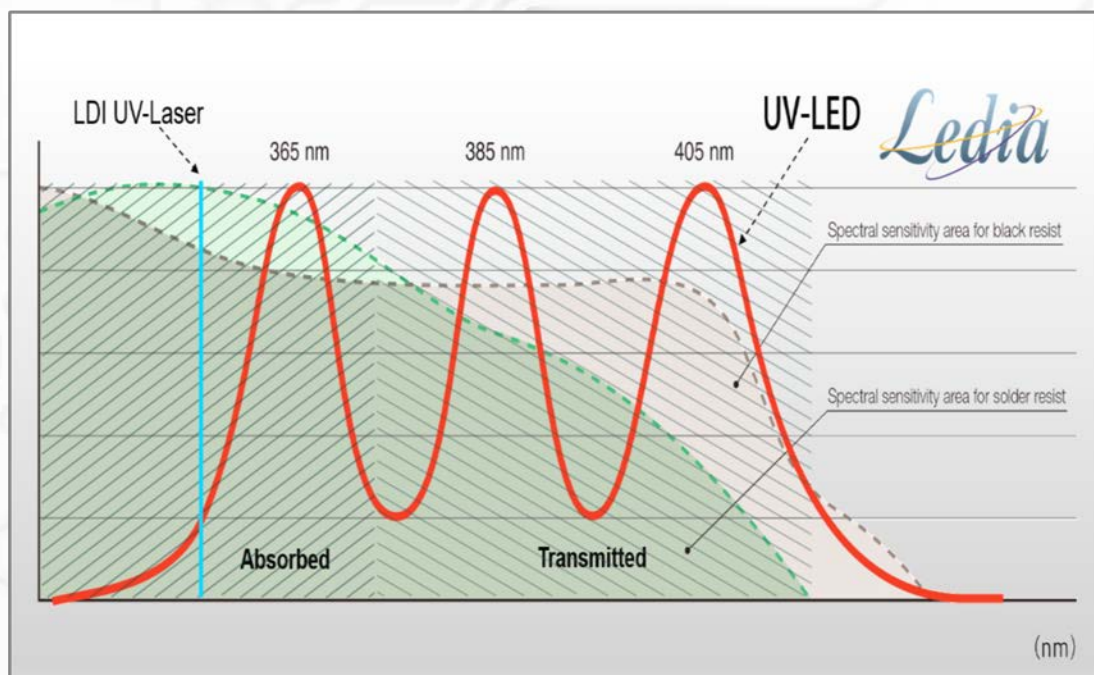
- High productivity for resist
- Highest productivity for solder mask
- New model with 3 wavelengths
- Low operational cost
- Integration into any CAM environment
- Compact external automation
- Field proven, 500+ installations in production

### Highest productivity for solder mask

UV-LED technology in combination with **multi wavelength** enables high throughput with the highest quality for your solder mask applications. The different wavelengths have peaks in both the absorbed and the transmitted wavelength areas of the spectrum of the solder mask inks. Due to this the polymerization happens at the top as well as the bottom of the solder mask layer, resulting in a fully polymerized layer with optimal adhesion to the substrate.

### New model with 3 wavelengths

We have applied proprietary technology to combine multiple UV-LED light wavelengths and used this as the light source in the Ledia direct imaging system. The adoption of a new 365, 385 and 405 nm three wavelength light source further expands the wavelength band for exposure and allows energy to diffuse through the resist film from top to bottom. In addition to providing higher sensitivity, this helps to produce more satisfactory exposure results for resists, from general purpose dry film to solder.



### MARKETS

Rigid PCB Mfr ✓  
 Flex PCB Mfr ✓  
 Flex-Rigid PCB Mfr ✓  
 HDI PCB Mfr ✓  
 PCB Masslam Mfr ✓  
 PCB Equipment Mfr ✓  
 PCB Traders ✓  
 PCB Designers ✓  
 PCB Test Centers ✓  
 IC Packaging ✓  
 Chemical Milling ✓  
 High Resolution Graphic Arts ✓  
 Flat Panel Display ✓

We Try Harder !

## PHOTO PLOTTERS

Calibr8tor  
SilverWriter  
Large Format

## DIRECT IMAGERS

Ledia ✓

## SOFTWARE

AutoCAM  
FaultStation 4  
FixGenius  
FlashRip  
Format Converters  
Geometric Correction System  
Integr8tor  
Mult Job Panelizer  
OEM Software  
SmartAOI  
SmartPlate  
SmartTest  
Ucam CAD Review  
Ucam CAM++  
Ucam Chemical Milling  
Ucam ET+  
Ucam SmartView  
Ucam uFlex  
UcamX

## PRODUCT FAMILIES

CAM  
PreCAM and Engineering  
Electrical Test  
Equipment Front Ends  
Format Converters & RIP's  
OEM Software

For more information on any of our products or services please contact us:

By e-mail: [info@ucamco.com](mailto:info@ucamco.com)

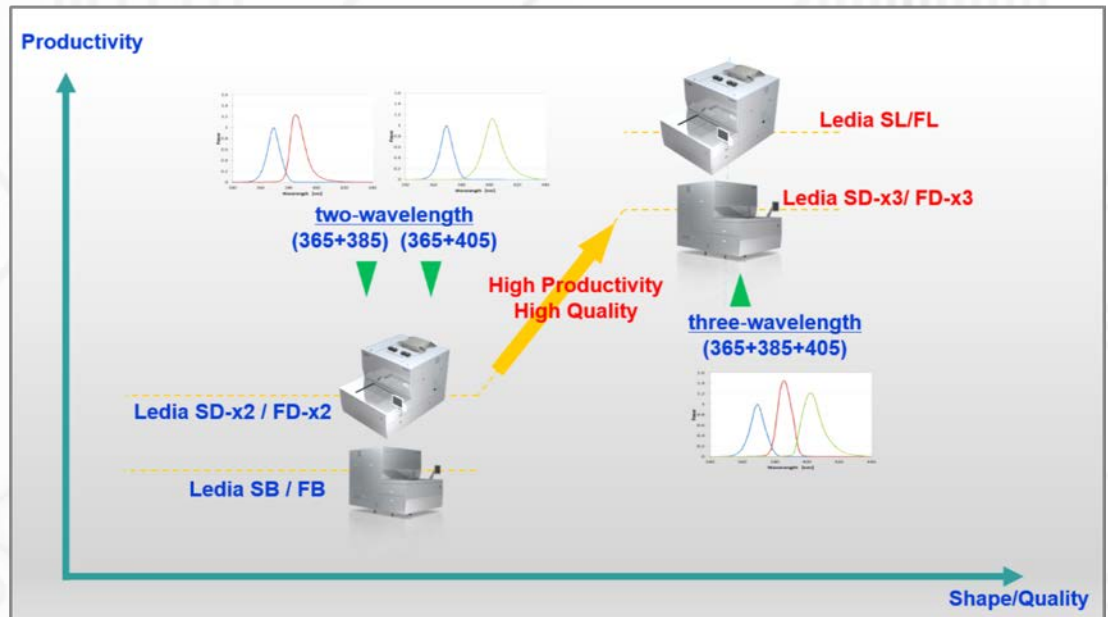
On the Web: [www.ucamco.com](http://www.ucamco.com)

## Field proven, 500+ installations

Ledia is the fifth generation of direct imaging systems manufactured by SCREEN Graphic and Precision Solutions Co. Ltd from Japan, who is known for its outstanding and reliable high quality products. There are already more than 500 installations in daily operation, and is as such field

## Low operational cost

The adoption of UV-LED technology as a light source results in a considerable lower consumable cost compared to conventional laser direct imaging systems. Also the LED's are only active when physically imaging panels, resulting in an even longer life time.

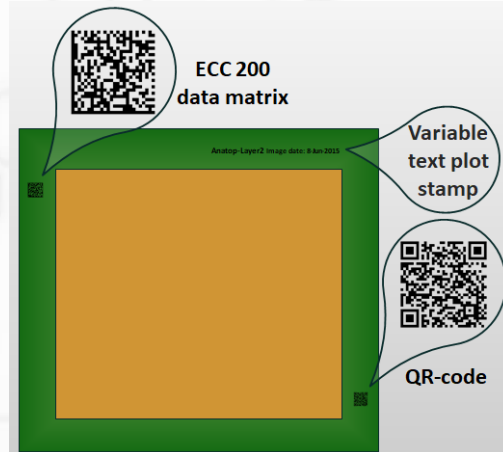


## Sales and support by Ucamco

Sales is done by our European network of agents. Support is done by our own highly skilled local European service engineers who are known for their dedicated customer support either on-site or by means of remote-diagnostics. With our call-center and local spare part stock located in Belgium we provide support in your local language and can deliver parts within 24-hours.

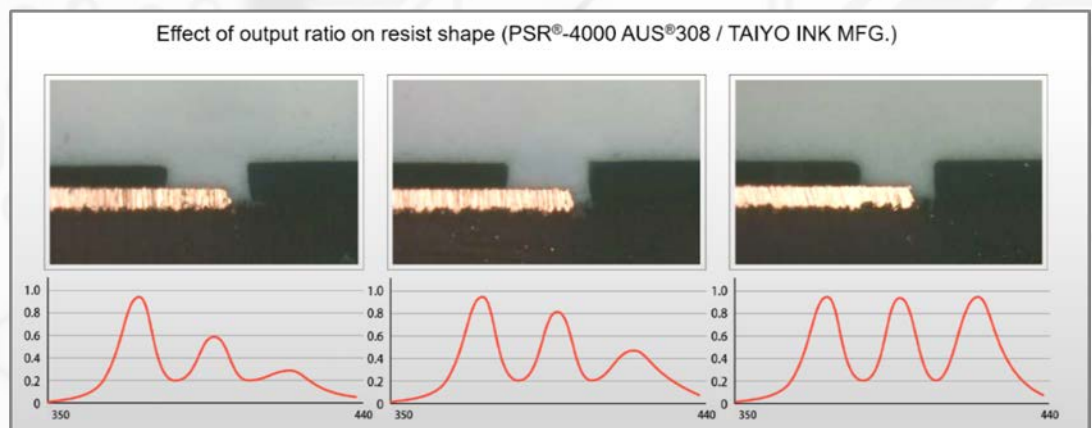
## Integration into any environment

Ucamco has a long-standing cooperation with SCREEN Graphic and Precision Solutions Co. Ltd as developer and supplier of its direct imaging front-end system based on UCAM and marketed as CU-9000. As such we can guarantee a perfect integration into any CAM environment with optimum support for the various input formats. We can also provide a fully automated integration with support for all plot stamps and serialization.



## Multi wavelength for superb quality

The combination of different wavelengths allows all types of resists to be imaged using an optimal output ratio by means of wavelength modulation. Compared to a standard direct imaging system, the Ledia enables manufacturers to pursue even higher imaging quality. The achievement of world-leading product quality is also supported by many cutting-edge technologies, including a high-precision auto-focus function and alignment algorithm that compensate for various types of substrate distortion.



**We Try Harder !**



## Models overview

### Ledia SB



### Ledia SD-\_2



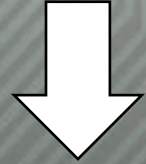
### Ledia SD-\_3



### Ledia SL



QR Codes  
for direct  
access to  
Ucamco.com



## Software



## Photoplotters



## Direct Imagers



## File Formats



## Models with 2 wave lengths

	Ledia SB-32/52	Ledia SD-52/62	Ledia FB-32/52	Ledia FD-52/62
Light source	UV-LED			
Wave length	350~420nm (Peaks: 365nm, 385nm) or 350~440nm (Peaks: 365nm, 405nm)			
Max panel size	540x661mm	610x661mm	540x661mm	610x661mm
Max exposure size	540x661mm	5-head: 540x661mm 6-head: 610x661mm	512x661mm	5-head: 512x661mm 6-head: 610x661mm
Address pitch (resolution)	2.5 μm (10.160 ppi)	2.5 μm (10.160 ppi)	1 μm (25.400 ppi)	1 μm (25.400 ppi)
Min L/S	30 μm	30 μm	15 μm	15 μm
Positioning accuracy (registration accy)	±10 μm (3σ)	±10 μm (3σ)	±8 μm (3σ)	±8 μm (3σ)
Repeatability	±5 μm			
L/S accuracy	±2.5 μm			
Estimated exposure time	B-32-series		D-52-series	
7 mJ/cm <sup>2</sup>	17.0 sec		11.0 sec	
40 mJ/cm <sup>2</sup>	24.0 sec		16.0 sec	
240 mJ/cm <sup>2</sup>	90.0 sec		57.0 sec	
(Exp Size : 20x16inch / 510x406mm)				

## Models with 3 wave lengths

	Ledia SD-53/63	Ledia SL-63	Ledia FD-53/63	Ledia FL-63
Light source	UV-LED			
Wave length	350~440nm (Peaks: 365nm, 385nm, 405nm)			
Max panel size	610x661mm	648x813mm	610x661mm	612x813mm
Max exposure size	5-head: 540x661mm 6-head: 610x661mm	6-head: 648x813mm	5-head: 512x661mm 6-head: 610x661mm	6-head: 612x813mm
Address pitch (resolution)	2.5 $\mu$ m (10.160 ppi)	2.5 $\mu$ m (10.160 ppi)	1 $\mu$ m (25.400 ppi)	1 $\mu$ m (25.400 ppi)
Min L/S	30 $\mu$ m	30 $\mu$ m	15 $\mu$ m	15 $\mu$ m
Positioning accuracy (registration accy)	$\pm 10$ $\mu$ m (3 $\sigma$ )	$\pm 10$ $\mu$ m (3 $\sigma$ )	$\pm 8$ $\mu$ m (3 $\sigma$ )	$\pm 8$ $\mu$ m (3 $\sigma$ )
Repeatability	$\pm 5$ $\mu$ m			
L/S accuracy	$\pm 2.5$ $\mu$ m			
Productivity (panels/hour)	Up to twice as fast compared to Ledia 2WL models			

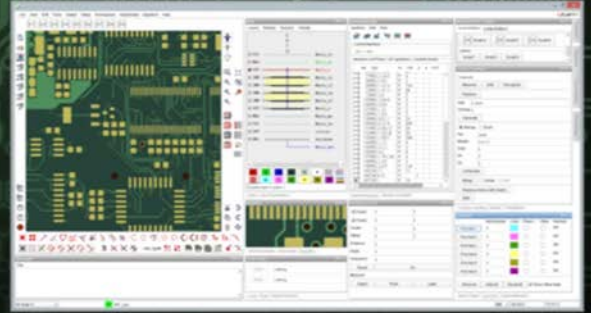
Software

## UcamX

New ground-breaking CAM Software

- For Rigid, Flex and HDI PCBs
- Wait times on complex algorithms slashed by up to 80% (8-core)
- State-of-the-art intuitive user interface
- Top-notch performance by using parallel processing on today's multicore processors

Read more



64 Bit

Multi Core

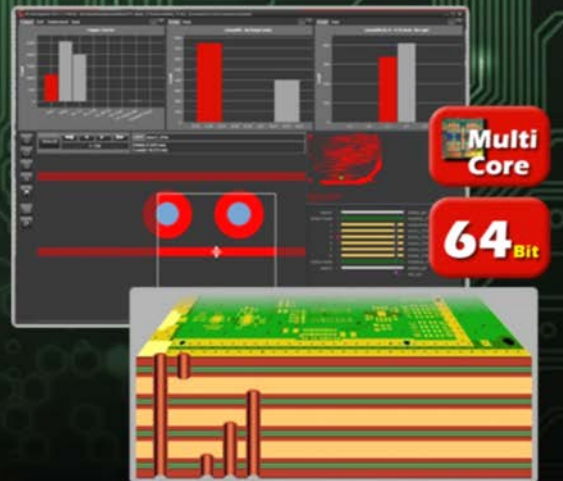
Software

## Integr8tor

Automated data entry and design analysis

- Ucamco's 8th Generation Sales & Engineering Tool
- Field proven with more than 250 installations in daily production
- Seamless integration into any environment

Read more



Photoplotters

## Calibr8tor & SilverWriter

- Ucamco's Photo Plotters, the world-wide benchmark for accuracy, throughput and reliability
- Field proven with more than 450 installations in daily production
- Seamless integration into any CAM System

Read more



Field upgradable  
with new high resolution  
Nano AF100 Opto Electronics

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