

SOFTWARE

LASER PHOTO PLOTTERS

DIRECT IMAGERS

## Calibr8tor 2000 & 2500

The global benchmark for plot speed and image accuracy



- Highest throughput of precision plots
- 16 resolutions up to 25,400 ppi
- Unequaled accuracy
- Load up to 3 film magazines
- 100% automatic operation
- “Wheel-in” integration
- Unrivalled uptime record

### The global plotter benchmark

The latest Calibr8tor 2000 series sets a new global benchmark for plot speed and image accuracy on features down to 12.7  $\mu\text{m}$ . New optics, high-speed electronics and the new SmartRip double the plot speeds of our SilverWriter series. The high-speed load system converts this to the highest throughput of precision films in the market – without compromising accuracy or reliability. Up to 3 magazines can hold 450 sheets of film of 3 different sizes to give maximum plotting flexibility and cost control.

### Unequaled image quality

16 metric and imperial resolutions up to 25,400 ppi (1 $\mu\text{m}$ ) give optimum settings for every image. Two unique imaging technologies, syntectic modulation and 200,000 ppi pixel-placement, ensure ultra-precise feature definition at every resolution, eliminate the pixel-jump errors found on conventional plotters, and tolerance line widths to less than 2 $\mu\text{m}$ .

### Pin-sharp edge definition

Ucamco has worked with leading film manufacturers to achieve the highest image quality possible on film. The result: pin-sharp edge-definition on the finished photo tools.

### Precise registration

Dynamic beam positioning accurate to 0.25 $\mu\text{m}$  and the patented stress-free film loader ensure an unrivalled geometric accuracy for exact registration for HDI & SBU boards.

### Reliable 24/7/52

The Calibr8tor 2000 series is engineered for fully automatic operation 24/7/52. The granite bed, contactless linear motor, maintenance-free air-bearings and direct-drive drum deliver unrivalled long-term uptime – your guarantee of continuous high productivity and low whole life costs.

### Compatible and upgradeable

With its small footprint and ability to accept plot instructions directly in Gerber, DPF, ODB++, Image 5000 (Expert) or MDA formats, the calibr8tor 2000 series is a wheel-in replacement for conventional plotters. Install a new machine or field-upgrade a SilverWriter 8000: either way the calibr8tor 2000-HD series put you at the cutting edge of plotter technology.

### 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 ✓

### PRODUCT FAMILIES

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

- Laser Photo Plotters ✓
- Direct Imagers

# Calibr8tor 2000 & 2500

## Technical Data

Resolutions		
Imperial	4,000 up to 25,000 ppi	
Metric	6.25 µm up to 1 µm	
Min. line width	0.5 mil	12,7 µm
Productivity for an 18" x 24" exposed panel <sup>(*)</sup>		
	Model 2000	Model 2500
4,000 ppi (in films / hour)	27	27
8,000 ppi (in films / hour)	19.2	19.2
12,700 ppi (in films / hour)	14.2	14.2
16,000 ppi (in films / hour)	12.2	12.2
25,400 ppi (in films / hour)	6.5	8.6
Film Requirements		
	Imperial	Metric
Film format along the drum	18" – 32" in ½" steps	457 – 813 mm
Film format around the drum	24" – 29" in 1" steps	610 – 736 mm
Max. image format along the drum	0.2" (5 mm) less than film format	
Max. image format around the drum	0.9" (23 mm) less than film format	
Sheet tolerance	± 0.02"	± 0.5 mm
Accuracy		
	Imperial	Metric
Geometric plotter accuracy	< 0.16 mil	< 4 µm
Geometric plotter repeatability	< 0.08 mil	< 2 µm
Global positioning accuracy	0.01 mil	0.25 µm
Geometric film accuracy - 3σ, FTF radial	< 0.4 mil	< 10 µm
Geometric repeatability on film	< 0.4 mil	< 10 µm
Line-width accuracy	< 0.08 mil	< 2 µm
Scaling adjustments	In steps of 0.2 µm	
Scaling adjustment range	± 5%	
Machine Characteristics		
	Imperial	Metric
Loading capacity	Up to 3 magazines. 150 sheets of film in each	
Light source	Red HeNe laser, 632.8 nm, 5 mW	
Dimensions (W x D)	72.8" x 61"	1850 x 1550 mm
Height	54.3"	1380 mm
Weight	3300 lbs	1500 kg
Room temperature during operation	70° F ± 2°	21° C ± 1°
Relative humidity during operation	50% ± 2%, no condensation	
Relative humidity rate of change	Max 6% per hour	
Electrical Power Supply	2 x 230 VAC, 2,000 VA	
Heat dissipation	2,000 W (1,725 kcal/h)	
Compressed air supply	87 – 145 PSI	6 – 10 bar
Compressed air quality	Free of oil and water	0.01 mg/m <sup>3</sup>
Compressed air volume	88 ft <sup>3</sup> /hour	2500 l/hour

<sup>(\*)</sup> Assuming nominal plotting using factory settings

### 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

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

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



High resolution linear scale



Linear motor



Granite & Air bearings

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