

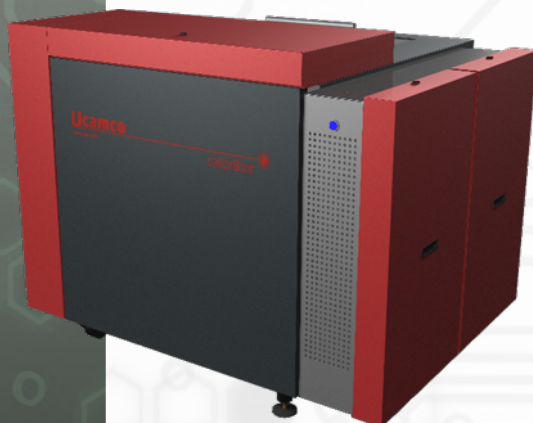
SOFTWARE

LASER PHOTO PLOTTERS

DIRECT IMAGERS

Calibr8tor 2000 & 2500^{HD}

The global benchmark for plot speed and image accuracy



- Highest throughput of precision plots
- Resolutions up to 25,400 ppi
- Unequalled accuracy
- Load up to 3 film magazines
- 100% automatic operation
- "Wheel-in" integration
- Unrivalled uptime record

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

The global plotter benchmark

The latest Calibr8tor 2000-HD series sets a new global benchmark for plot speed and image accuracy on features down to 8 μ 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.

Unequalled image quality

10 metric and imperial resolutions up to 25,400 ppi (1 μ 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 1.5 μ 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 μ 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-HD 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-HD 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.

Technical Data

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:
By e-mail: info@ucamco.com
On the Web: www.ucamco.com

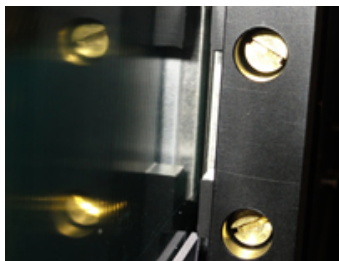
Calibr8tor 2000 & 2500^{HD}

Resolutions		
Imperial	8,000 up to 25,000 ppi	
Metric	3.2 μm up to 1 μm	
Min. line width	0.3 mil	8 μm
Productivity for an 18" x 24" plot ^(*)	Model 2000-HD	Model 2500-HD
8,000 ppi (in films / hour)	20.3	20.3
16,000 ppi (in films / hour)	12.7	12.7
20,000 ppi (in films / hour)	9.7	10.7
25,000 ppi (in films / hour)	6.7	8.9
Film Requirements	Imperial	Metrical
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"
Accuracy	Imperial	Metrical
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 accuracy on film - 3σ, FTF radial	< 0.5 mil	< 12.5 μm
Geometric repeatability on film	< 0.5 mil	< 12.5 μm
Line-width accuracy	< 0.06 mil	< 1.5 μm
Scaling adjustments	In steps of 0.127 μm	
Scaling adjustment range	± 5%	
Machine Characteristics	Imperial	Metrical
Loading capacity	Up to 3 magazines. 150 sheets of film 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/m³
Compressed air volume	88 ft³/hour	2500 l/hour

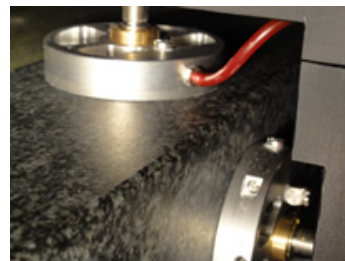
(*) Assuming nominal plotting using factory settings



Linear scale



Linear motor



Air bearings

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