

SOFTWARE

LASER PHOTO PLOTTERS

DIRECT IMAGERS

Calibr8tor 5000 & 5200

A photo plotters family targeted at your precise requirements



- Makes glass master obsolete
- Resolutions up to 50,800 ppi
- Line widths down to 7 microns
- Unsurpassed accuracy
- Load up to 3 film magazines
- 100% automatic operation
- Highest plot speed in class
- 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

Covers all plotting needs from HDI PCBs to CSP substrates

The Calibr8tor 5000 delivers the highest plot speeds in class at resolutions from 8000 ppi to 50800 ppi to cover all your plotting needs from HDI PCBs to CSP substrates. New imaging technology gives unrivalled accuracy on features down to 7 microns. Calibr8tor 5000 includes Ucamco's new Geometric Correction System to increase production yields.

Highest plot speed in class

One of the key elements of the Calibr8tor 5000 is Ucamco's new scalable FlashRip making use of multi-core processing and RAID technology. FlashRip has been specially developed and optimized to process the massive data streams required for high-speed plotting of high-resolution images. The result is up to 60% more plots per hour.

Increased production yields

The Calibr8tor 5000 includes as standard Ucamco's new Geometric Correction System (GCS). Compensate directly on the plotter for non-linear as well as linear process distortions detected during PCB production. Enter the distortion measurements into the plotter software and the film will be precisely compensated to an accuracy of 0.127 μ m.

"Glass-master" image accuracy

The Dynamic beam control accurate to 0.1 micron and advanced pixel placement algorithms operating at 200,000 ppi deliver feature sizes accurate down to 1 μ m. Syntectic modulation eliminates the pixel-jump errors found on conventional plotters and allows the Calibr8tor 5000 to plot ultra-precise lines and spaces at all angles down to 7 μ m. These advanced imaging technologies are complemented by Calibr8tor 5000's patented internal film-handling system which eliminates all distortion of the film during plotting.

Lower whole-life costs

Calibr8tor 5000 has been designed to minimise imaging costs even at the highest resolution. Its compact footprint and data input in all standard plot formats make Calibr8tor 5000 a "wheel-in" replacement for any existing plotter. Automated direct drive from all industry-standard CAM systems and 3 film magazines each holding 150 sheets allow unattended operation, reducing labour and environmental costs. Calibr8tor 5000's robust wear-free construction based on more than 25 years design experience is field-proven to deliver unrivalled uptime and operational life. Calibr8tor 5000 is backed by Ucamco's global support network and continuous development policy.

Calibr8tor 5000 & 5200

Technical Data

Resolutions		
Imperial	8,000 up to 50,000 ppi	
Metric	3.125 up to 0.5 μm	
Minimum line width	0.27 mil	7 μm
Productivity for an 18" x 24" imaged film ^(*)		
	Model 5000	Model 5200
8,000 ppi (in films / hour)	16.2	19.2
10,160 ppi (in films / hour)	13.8	16.7
12,700 ppi (in films / hour)	11.7	14.4
16,000 ppi (in films / hour)	9.0	11.3
25,400 ppi (in films / hour)	5.0	6.5
40,000 ppi (in films / hour)	2.1	2.7
50,800 ppi (in films / hour)	1.4	1.8
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 - 3 σ , FTF radial	< 0.4 mil	< 10 μm
Geometric film repeatability	< 0.4 mil	< 10 μm
Line width variation	< 0.04 mil	< 1 μm
Scaling adjustments in steps of	0.005 mil	0.127 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 x H)	72.8" x 61" x 54.3"	1850 x 1550 x 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, 2000 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 ³
Compressed air volume	88 ft ³ /hour	2500 l/hour

(*) 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 at info@ucamco.com

www.ucamco.com



High resolution linear scale



Linear motor



Granite & Air bearings

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