

SOFTWARE

LASER PHOTO PLOTTERS

DIRECT IMAGERS

Calibr8tor 3000 & 3500

A family of Photo plotters targeted at your precise requirements



- Highest throughput of precision plots
- Resolutions from 4000 to 25,400 ppi
- Line widths down to 12.7 microns
- Unequaled accuracy
- Load up to 3 film magazines
- 100% automatic operation
- “Wheel-in” integration
- Unrivalled uptime record

A new family of laser photo plotters targeted at your precise requirements

The new Calibr8tor 3000 series delivers an unrivalled combination of plot throughput, image accuracy and operational flexibility. Designed for high-technology PCB fabricators, Calibr8tor 3000 series offers plot resolutions from 4000 to 25400 ppi to tackle all plotting tasks from standard production to specialist applications with features down to 12.7 μm . Calibr8tor 3000 series combines innovative plotting technology with ease of installation and operation, high uptime and low cost of ownership. Ucamco’s new Geometric Correction System means that photo tools can be automatically compensated for linear and non-linear distortions introduced during board manufacture.

Lower whole-life costs

The Calibr8tor 3000 series has been engineered to deliver the lowest whole-life costs. Data input in all standard plot formats make it a “wheel-in” replacement for any plotter. Automated plot queuing in all CAM environments and 3 magazines each holding 150 sheets of film cut labour and environmental costs. Calibr8tor 3000 series robust wear-free construction based on over 25 years design experience is field-proven to deliver unrivalled uptime and extended operational life. Calibr8tor 3000 series is backed by Ucamco’s global support network and continuous development policy.

Maximum plots per hour

The Calibr8tor 3000 series features Ucamco’s new FlashRip, developed to process the large amounts of data needed for high-resolution plots. Combined with Calibr8tor 3000 series high-speed film load and unload system, FlashRip delivers up to 40% more plots per hour.

Increased production yields

Measure the linear and non-linear process distortions found on panels during production. Enter the correction measurements into Calibr8tor 3000 series Geometric Correction System and your photo tool will be precisely compensated accurate to 0.127 μm .

High-precision image accuracy

Dynamic beam control accurate to 0.1 μm and advanced pixel placement algorithms operating at 200,000 ppi deliver pin-sharp high-accuracy images at all resolutions. Ucamco’s unique syntectic modulation eliminates the pixel-jump errors found on conventional plotters for ultra-precise lines and spaces down to 12.7 μm . Patented stress-free film handling eliminates film distortion during plotting for optimum image accuracy on the finished photo tools. Ucamco’s Geometric Correction System (GCS) automatically corrects the photo tools to compensate for any distortions introduced by sources external to the photo plotter.

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 3000 & 3500

Technical Data

Resolutions	Imperial	Metrical
Imperial	4,000 up to 25,000 ppi	
Metric	6.25 up to 1 μ m	
Minimum line width	0.5 mil	12.7 μ m
Productivity for an 18" x 24" exposed panel ^(*)	Model 3000	Model 3500
4,000 ppi (in films / hour)	29.3	31.1
5,080 ppi (in films / hour)	26.8	28.7
8,000 ppi (in films / hour)	21.7	23.8
10,160 ppi (in films / hour)	19.1	21.1
12,700 ppi (in films / hour)	16.7	18.6
16,000 ppi (in films / hour)	14.3	16.2
20,000 ppi (in films / hour)	11.3	13.9
25,400 ppi (in films / hour)	7.8	11.7
Film Requirements	Imperial	Metrical
Film format along the drum	18" – 32" in 1/2" 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	\pm 0.02"	
Accuracy	Imperial	Metrical
Geometric plotter accuracy	< 0.16 mil	< 4 μ m
Geometric plotter repeatability	< 0.08 mil	< 2 μ m
Global positioning accuracy	0.01 mil	0.25 μ m
Geometric film accuracy - 3 σ , FTF radial	< 0.4 mil	< 10 μ m
Geometric film repeatability	< 0.4 mil	< 10 μ m
Line width variation	< 0.08 mil	< 2 μ m
Scaling adjustments in steps of	0.005 mil	0.127 μ m
Scaling adjustment range	\pm 5%	
Machine Characteristics	Imperial	Metrical
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 \pm 2°	21° C \pm 1°
Relative humidity during operation	50% \pm 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:

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High resolution linear scale



Linear motor



Granite and air bearings

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