Ucamco

Product Flyer

SOFTWARE | LASER PHOTO PLOTTERS | DIRECT IMAGERS

Calibr8tor 3000HD & 3500HD

A family of Photo plotters targeted at your precise requirements

- Highest throughput of precision plots
- Resolutions from 8,000 to 25,400 ppi
- Line widths down to 8 microns
- Unequalled 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 Calibr8tor 3x00-HD delivers an unrivalled combination of plot throughput, image accuracy and operational flexibility. Designed for high-technology PCB fabricators, Calibr8tor 3x00-HD offers plot resolutions from 8000 to 25400 ppi to tackle all plotting tasks from standard production to specialist applications with features down to 8 µm. Calibr8tor 3500-HD 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 phototools can be automatically compensated for linear and non-linear distortions introduced during board manufacture.

Lower whole-life costs

The Calibr8tor 3x00-HD 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 3x00-HD's robust wear-free construction based on over 25 years design experience is field-proven to deliver unrivalled uptime and extended operational life. Calibr8tor 3500-HD is backed by Ucamco's global support network and continuous development policy.

Maximum plots per hour

The Calibr8tor 3x00-HD features Ucamco's new FlashRip, developed to process the large amounts of data needed for high-resolution plots. Combined with Calibr8tor 3x00-HD's 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 3x00-HD's Geometric Correction System and your phototool 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 8 µm. Patented stress-free film handling eliminates film distortion during plotting for optimum image accuracy on the finished phototools
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 3000HD & 3500HD

Technical Data

Resolutions	Imperial		Metrical
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 (*)	**3000HD**	**3500HD**	
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 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		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	< 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		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)	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

High resolution linear scale

Linear motor

Granite and air bearings

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

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