



SOFTWARE

LASER PHOTO PLOTTERS

DIRECT IMAGERS

Hawk Nano AF-50

Top Notch Very High-resolution Large Format Laser Photo Plotter



- New AutoFocus optics
- Resolutions up to 50,800 ppi
- Compatibility and choices
- Improved registration
- Utmost handling capabilities
- Unrivalled 24/7/52 reliability

Improved registration

The Hawk series use the patented technology of frequency variation for the "photographic" scaling of inner layers. Together with their new high resolution rotary encoder and new contactless temperature insensitive high resolution linear scale this eliminates micro banding resulting from adding/dropping a pixel and ensures highest geometric accuracy.

Utmost handling capabilities

The film loading/unloading system is fully automated and on-line connected to the film processor. The film handling mechanism is simple, reliable and very accurate providing stress-free film loading

Unrivalled 24/7/52 reliability

The Hawk series is engineered for round the clock, long-term reliability. The ultra-stable granite bed, maintenance-free linear motor, air-bearings and the direct-drive drum deliver unparalleled long-term uptime - your guarantee of on-time deliveries, low whole life costs and an optimum return on your investment.

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

Very high resolution

With a maximum resolution of 50,800 ppi, the Hawk Nano AF-50 deliver unprecedented line quality and stability. The new AutoFocus optics holds line-width accuracy below 1 μ m over the whole film surface. Two unique imaging functions, syntectic modulation and sub-micron pixel-placement, eliminate the rounding errors found on conventional plots.

Compatibility and choices

The Hawk series accepts plot instructions directly in Ucam(X)'s DPF, ODB++, Gerber or MDA formats and even images Tiff G4 format, making it an extremely versatile laser photo plotter. With variable plotting resolutions it delivers the optimum setting for every image down to 6-7 μm features.

Get more out of your photo plotter investment with FlashRip software

- FlashRip provides optimized ripping and plotting of line images in resolutions up to 50800 ppi.
- FlashRip features automatic counter-scaling of all designated features on the plotter without the need to go back to the CAM department.
- FlashRip automatically inserts plot stamps (e.g. plot date) into the plotted image.
- FlashRip supports Geometric Correction System (GCS).
 GCS allows the user to compensate on the photo tool for the linear and non-linear distortions generated on the PCB during various production steps.
 The result is a much improved layer registration, lower scrap and higher yields.
- FlashRip is scalable for multiple processors to convert several jobs simultaneously (optional).

Depending on plotter model and job complexity FlashRip increases throughput with up to 100% and more. For more info please contact your local Ucamco distributor or mail us at info@ucamco.com.

Hawk Nano AF-50

Resolutions		
Imperial	8,000 up to 50,800 ppi	
Metric	3.18 μm up to 0.5 μm	
Min. line width	down to 0.24-0.28 mil / 6-7 μm	
Productivity for an 46" x 62" plot (*)		
8,000 ppi (in films / hour)	6.1	
10,160 ppi (in films / hour)	5.1	
16,000 ppi (in films / hour)	3.6	
25,400 ppi (in films / hour)	2.4	
50,800 ppi (in films / hour)	1.3	
Film Requirements	Imperial	Metrical
Film format along the drum (**)	30" – 47.2" in ½" steps	762 – 1200 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 (***)	< 1 mil	< 25.4 μm	
Line-width accuracy down to (****)	< 0.04 mil	< 1 µm	
Scaling adjustments in steps of	0.005 mil	0.127 μm	

63.5"

Scaling adjustment range	± 5%	
Machine Characteristics	Imperial	Metrical
Loading capacity	25 sheets of film	
Light source	Red HeNe laser, 632.8 nm, 5 mW	
Dimensions (W x D)	100.4" x 64.2"	2550 x 1630 mm
Height	72.0"	1830 mm
Weight	4200 lbs	1900 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, 3,000 VA	
Heat dissipation	1,800 W (1,550 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 (*) Assuming nominal plotting using factory	106 ft³/hour settings	3000 l/hour

(**) We support max film format and one smaller

Film format around the drum

 $\ensuremath{^{(***)}}$ Assuming stable environmental conditions and using GCS if required

(****) Assuming stable film processor conditions at 50,800 ppi

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:

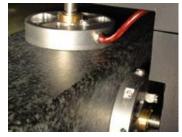
By e-mail: info@ucamco.com On the Web: www.ucamco.com



High resolution linear scale



Linear motor



1612 mm

Granite & Air bearings

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