

SOFTWARE

LASER PHOTO PLOTTERS

DIRECT IMAGERS

SilverWriter Phoenix HP



- Glass Master accuracy
- Resolutions up to 40,640 ppi
- Improved registration
- Unrivalled 24/7/52 reliability
- Compatibility & Upgradeability

Improved registration

Dynamic beam positioning and the patented stress-free film loading system ensure unrivalled **geometric accuracy** for precise side-to-side registration.

Unrivalled 24/7/52 reliability

Today's production climate demands films fast **24/7/52**. The SilverWriter Phoenix-HP uses Ucamco's latest film-handling and operational sequencing to deliver market-beating **film throughput** at all plot resolutions, even for the most complex PCBs. **3 magazines** can hold a total of **450 sheets** of film of 3 different sizes to give maximum plotting flexibility and cost control. The redesigned drive system delivers unparalleled levels of uptime and **long-term reliability** as well as allowing a 30% more **compact footprint**

Compatibility & Upgradeability

The Phoenix-HP reads plot instructions in DPF, ODB++, OI5000 (Expert) or MDA formats fully automatically so that you can wheel it into your CAM environment without the need for time-wasting integration. The Phoenix-HP is available as an **upgrade** to any SilverWriter 8000 plotter.

"Glass-master" accuracy

The global PCB industry remains committed to phototooling as its key imaging technology but the most advanced products require films with **"glass-master"** sharpness and accuracy. The SilverWriter Phoenix-HP has been developed to meet this challenge using sub-micron imaging technology. Based on the market-leader SilverWriter series the Phoenix offers a choice of plot resolutions up to **40,640 ppi (0.6µm)**.

Unique Optical System

The SilverWriter Phoenix-HP uses an optical system specially designed for imaging fine lines and spaces with ultra-sharp edges and very precise width control. Ucamco's unique **sub-micron** pixel-placement algorithm eliminates the pixel-jump errors found on conventional plots: fine lines and tight spaces are positioned consistently to exact tolerances. **Syntectic modulation** ensures an ultra-sharp line-edge and precise line-widths down to **7µm** on high-resolution films.

Get more out of your photo plotter investment with GCS software

Ucamco's **Geometric Correction System (GCS)** automatically modifies phototools to compensate for the non-linear and linear distortions introduced into a panel during the manufacturing process. By improving layer registration, GCS delivers increased factory yields and extends the plant capabilities with confidence into higher levels of PCB technology.

For more info please contact your local Ucamco distributor or mail us at info@ucamco.com.

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

SilverWriter Phoenix HP

Technical Data

Resolutions	Imperial	Metrical
Imperial	8,000 up to 40,000 ppi + 4000 ppi draft quality	
Metric	3.2 down to 0.6 μm + 6.4 μm draft quality	
Min. line width	0.28 mil	7 μm
Productivity for an 18" x 24" plot (*)	HP	
4,000 ppi (in films / hour)	19.2	
8,000 ppi (in films / hour)	12.2	
16,000 ppi (in films / hour)	7.1	
32,000 ppi (in films / hour)	2.3	
40,000 ppi (in films / hour)	1.4(**)	
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 – up to ± 5%	
Machine Characteristics	Imperial	Metrical
Online conveyor	Standard included – integrated in the laser plotter	
Film magazines(s)	1 standard – 2 nd and 3 rd optional – all full film size	
Film loading capacity	Up to 3 magazines. 150 sheets of film in each	
Light source	Red HeNe laser, 632.8 nm, 5 mW – 4 μm spot size	
Dimensions (WxD) incl. online conveyor	72.8" x 64.2"	1850 x 1630 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/m ³
Compressed air volume	88 ft ³ /hour	2500 l/hour

(*) Assuming nominal plotting using factory settings

(**) Size larger than 24" around the drum, plot time increases with 33%

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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Linear scale



Linear motor



Granite & Air bearings

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