# Ucamco
**Former Barco ETS**

| SOFTWARE | LASER PHOTO PLOTTERS | DIRECT IMAGERS |
|---|---|---|

# *SilverWriter Phoenix xP*

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

### 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

## "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-P 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 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 new generation high-resolution films.

## 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-P 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-P reads plot instructions in Gerber, 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-P is available as an **upgrade** to any SilverWriter 8000 plotter.

### *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.

# SilverWriter Phoenix xP

| 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 | SP | MP | HP |
|---|---|---|---|
| 4,000 ppi (in films / hour) | 7.4 | 13.1 | 21.5 |
| 8,000 ppi (in films / hour) | 3.9 | 7.4 | 13.1 |
| 16,000 ppi (in films / hour) | 2.0 | 3.9 | 7.4 |
| 32,000 ppi (in films / hour) | 0.6 | 1.2 | 2.3 |
| 40,000 ppi (in films / hour) | 0.4 | 0.7 | 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 | |
| Scaling adjustment range | ± 5% | |

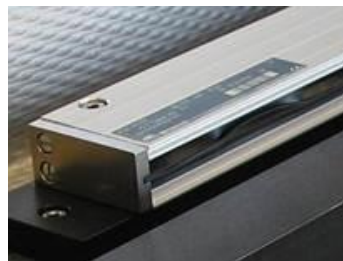| Machine Characteristics | Imperial | Metrical |
|---|---|---|
| Loading capacity | Up to 3 magazines.  150 sheets of film in each | |
| Light source | Red HeNe laser, 632.8 nm, 5 mW | |
| Dimensions (W x D) | 72.8" x 61" | 1850 x 1550 mm |
| Height | 54.3" | 1380 mm |
| Weight | 4200 lbs | 1500 kg |
| 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 |

\*  size larger than 24" around the drum, plot time increases with 33%



Linear scale



Linear motor



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

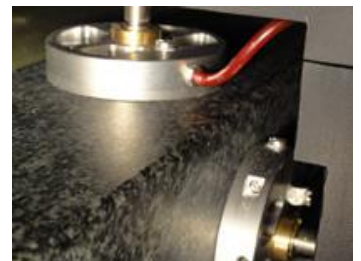For more information on any of our products or services please contact us:
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