

# Tender Specifications



## ASTRAWASH37PIX

37X40W RGBW moving wash light with  
4°- 54° zoom, pixel control and pixel ring

## 1. General

1. The luminaire shall be an automated LED moving wash light based on additive color generation, with DMX control of intensity, colours, pan, tilt, pixels and beam angle.
2. The luminaire shall be CE, UKCA, RCM, cTUVus, FCC compliant.
3. The luminaire shall comply with the USITT DMX-512 A and ANSI RDM E 1.20 protocol standards.
4. The luminaire shall feature an LED source made of 37 pcs 40 Watt RGBW Full Color LEDs plus a secondary source of 144 SMD on a pixel ring.
5. The luminaire shall not infringe any Intellectual Property unless licenced by the owner.

## 2. Physical

1. The luminaire structural framing shall be constructed of rugged aluminium, free of burrs and pits.
2. Outer covers shall be constructed of ABS plastic painted black.
3. The luminaire dimensions shall be:
  - a) 520 mm (20.4") from base of the enclosure to the tip of the lens baffling.
  - b) 644 mm (25.3") across the exterior dimensions of the yoke.
  - c) The electronics enclosure shall be 450 mm (17.7") wide.
  - d) Head length 310 mm (12.2").
  - e) The luminaire shall weigh 26.4 kg (58.2 lbs).
  - f) The front lens diameter shall be 340 mm (13.3").
4. The luminaire shall be able to be either truss-mounted or stand on a surface.
5. Fixture shall be suitable designed for operation in any position.
6. The following shall be provided:
  - a) RGBW (Red, Green, Blue, White) additive color mixing, electronically controlled CTC, control of white presets from 2'800K – 10'000K, built in color macros.
  - b) Individual control of the 37 LED board over each single LED with Red, Green, Blue and white parameters.

- c) On board 37 LED Effects engine with at least 40 built in dynamic macros that can be customized by user in: Intensity, Foreground colour, Background colour, Speed, Dimmer Speed, Strobe rate, index.
- d) Individual control of the 148 LEDs outer pixel with Red, Green, Blue and White parameters.
- e) En on board LED pixel ring effects engine with al least 40 built in dynamic macros that can be customized by user in: Intensity, Foreground colour, Background color, Speed, Dimmer Speed, Strobe rate, Index.
- f) The luminaire shall have 540 degrees of pan and 233 degrees of tilt. Pan and Tilt must be controlled with 16 bit control and utilize absolute position encoder sensor mounted onboard of the XY motors to guarantee correct step position.
  - The luminaire shall have a pan speed of 2.7 sec. for 180 degree movement.
  - The fixture shall have a tilt speed of 1.5 sec. for 180 degree of movement.
  - Pan and tilt locks that stop at 0, 45, and 90 degrees for service and handling.
  - Pan and tilt locks are not intended to be engaged during transport in pre-rigged truss.
- g) Automated linear zoom system from 4.2° to 54°.
- h) The base must be equipped with ergonomic handles for luminaire handing and manipulation.
- i) Power Supply, cooling, and driver electronics shall be integral to each luminaire.
- j) Control/UI module shall have the option for battery power to allow fixture setting when the luminaire is not connected to the main.

### **3. LED Emitters**

1. The luminaire shall feature an LED panel source comprising of 37 RGBW LED emitters, with a total Rated power of 1480 Watt, and total Driven power of 1050 Watt.
2. Osram is the sole manufacturer of approval emitter engine.
3. The luminaire shall feature an LED source consisting only of LED emitters from a known production batch and bin.
4. The luminaires shall feature only LED emitters rated for nominal 20'000-hours LED life to L70 with estimated white presets shift over lifetime less than 200 K.
5. The luminaire shall feature a minimum of 3 hours burn-In test during its manufacturing process.
6. Fixture shall have adjustable PWM frequency from 600 Hz to 50.000 Hz, with default at 1200 Hz to avoid flicker on camera.

#### **4. Photometric documentation**

1. The luminaire shall be supplied with a full and detailed photometric report measured by a calibrated two axis photogoniometer in a constant temperature environment of 25°C and with the luminaire in a stabilised condition with not more than 0.5% variation in output over a 15 minute period.
2. The photometric report supplied with the luminaire shall detail CRI, CQS, TM-30 and spectral distribution at full output.
3. The photometric report supplied with the luminaire shall detail the spectral distribution of each constituent LED colour of LED source.
4. The photometric report supplied with the luminaire shall detail light level measured in lux and foot candles and beam diameter measured in meters and feet at 1 m, 2 m, 3 m 4 m, 5 m, 6 m, 7.5 m, 10 m, 15 m, 20 m, 25 m 30 m, 40 m distance with the luminaire at the following beam angle: minimum beam angle, medium beam angle, maximum beam angle.
5. The photometric report supplied with the fixture shall include ISO LUX and candela diagrams, showing light distribution in both X and Y planes measured with the luminaire mounted at height of 10 meters.

#### **5. Photometric performance and Opticals**

1. The luminaire shall meet the following minimum photometric performance requirements which should be supported by the photometric documentation:
  - a) The luminaire shall have a colour temperature of 8'000 K (+/- 125 K) with LEDs at full on.
  - b) The luminaire shall have a colour temperature of 6000 K (+/- 125 K) with LEDs at full by default in Studio Mode.
  - c) The luminaire shall have a colour temperature within 100 K of the target colour temperature when set to a preset of 3'200 K or 6'000 K using the virtual CTC channel.
  - d) The luminaire shall have an output in excess of 7'980 lm when set to preset of 6'000 K at minimum beam angle.
  - e) The luminaire shall have an output in excess of 17'300 lm when set to preset of 6'000 K at maximum beam angle.
  - f) The luminaire shall have an output in excess of 4'400 lm when set to preset of 3'200 K at minimum beam angle.

- g) The luminaire shall have an output in excess of 9'780 lm when set to preset of 3'200 K at maximum beam angle.
- 2. The luminaire shall provide, but not be limited to:
  - a) Primary optical system made by 37 pcs of light rods made in glass and mounted inside high resistant thermo plastic material.
  - b) Secondary optical system made by white acrylic for the outer pixel ring.
  - c) Soft edge projection with a 2:1 fall off ration.
  - d) Semi hard-edge in narrow beam projection.
- c.1) The luminaire shall provide, but not be limited to 4,2° through 54° degree field angles.
- c.2) Primary optical system shall be treated with a surface coating to avoid scratches and dust deposition.
- c.3) The head cover shall be designed with attachment points to mount optical accessories.

## 6. Electrical

- 1. The luminaire shall feature an internal auto sensing power supply with an input range from 100 V to 240 V AC 50/60 Hz protect by on board fuse.
- 2. The luminaire shall feature a nominal power consumption of 1227 W.
- 3. The luminaire shall feature a Neutrik® PowerCON True1 main input connector.
- 4. The luminaire shall feature an Amphenol 5 pin XLR connector for DMX input and DMX through.
- 5. The luminaire shall feature a Seetronic RJ45 chassis mount for Art-Net input and Art-Net through.
- 6. The luminaire shall feature a built in Wireless DMX receiver CRMX+WDMX TRX from Sweden.
- 7. The luminaire shall feature an on board OLED graphic display.
- 8. The luminaire shall be compatible with the USITT DMX-512A RDM protocol.
- 9. The luminaire shall support firmware upgrades using a dedicated UP-LOADER device using a 5 pin XLR connector.
- 10. The luminaire shall meet all requirements of the LVD (Low Voltage Directive) 2014/35EC and with the EMC (Electromagnetic Compatibility Directive) 2014/30/EU.

## **7. Environmental**

1. The luminaire shall feature IP 20 rating.
2. The luminaire shall be capable of operating in ambient temperature range of -10°C (14°F) to + 45°C (113°F).
3. The luminaire shall be equipped with a cooling fan with addition of heat sink into the head for the cooling of LED source.
- a) Fan speed control via DMX channel shall be possible, with at least three fan settings which shall be an AUTO balanced mode, SILENT mode and HIGH fan mode to maximize output.
4. Fan speed software shall permit the fixture to override DMX fan speed setting to prevent heat damage.
5. Thermal management shall include LED array circuit board temperature sensor.
6. Users shall permit monitoring of temperature sensor via legible graphic display.
7. Fixtures that do not provide the active thermal monitoring of LED board, shall not be acceptable.

## **8. Control And User Interface**

1. The luminaire shall feature a temperature sensor which shall be accessible in real time via RDM.
2. The luminaire shall be compatible with the ANSI RDM E 1,20 standard.
3. The luminaire shall offer the following control protocols: DMX & RDM (both wired and wireless), Art-Net, sACN, Kling-Net.
4. Fixtures not offering RDM compatibility features access or temperature monitoring via RDM shall not be acceptable.
5. The luminaire shall be equipped with graphic OLED display for easy to read status reports and configurations changes.
6. The luminaire shall be equipped with five buttons user interface.
7. The internal software shall include the following features:
  - a) Home screen shall visualize at least the following informations: luminaire address, WDMX signal, LED Engine hours, user mode, temperature infos, diagnostic, selected protocol, lock screen.
  - b) Diagnostics section with indication of possible parts damaged.

- c) User selectable fixture XY home position settings.
  - d) DMX lost setting functions.
  - e) Lost of data behaviour options.
  - f) Display time out option.
  - g) Transfer settings to fixture on the same signal line.
  - h) Calibration settings.
  - i) Fixture infos: fixture and source hours, power cycles, maintenance cycles, power consumptions, software infos, device infos, UID.
  - j) Wireless signal monitoring section.
8. The luminaire shall offer individual patching functions for the fixture and for the LED source or Pixel section.
9. The LED section shall be controlled simultaneously from two ethernet protocols being Art-Net+KlingNet or sACN+Klingnet.
10. Four DMX control profiles for the fixture engine.
- a) Basic DMX control profile shall have 23 channel control.
  - b) Fx DMX control profile shall have 44 channel control.
  - c) Standard DMX control profile shall have 30 channel control.
  - d) Extended DMX control profile shall have 52 channel control.
  - e) Three DMX control profile for the Pixel engine.
    - OFF DMX control profile shall have 0 channel control.
    - RING DMX control profile shall have 16 channels control.
    - PIXEL DMX control profile shall have 148 channel control.

## **9. Dimming and Colour functions**

- 1. The luminaire shall feature continuous smooth and linear dimming of intensity from 0% to 100%.
- 2. The luminaire shall feature control of intensity and R,G,B,W in 8 bit or 16 bit mode.
- 3. LED control shall be compatible with broadcast equipment in the following ways:
  - a) PWM control of LED levels guarantee flicker free to video cameras and related equipment.
  - b) PWM rates shall be adjustable by the user at the fixture if necessary to avoid any visible interference on video camera and related equipment.

4. The luminaire shall feature a minimum of 4 options for dimming curves, selectable from the on board menu.
5. Dimming curves shall be optimized for smooth dimming over longer time fades.
6. The LED system shall be digitally driven using high-speed pulse width PWM modulation.
7. The luminaire shall feature a Tint channel to apply a +/- green (0,25%) correction on white CTC channel.
8. The luminaire shall feature a Tungsten emulation mode that add a red-shift on dimming to emulate incandescent source.
9. The luminaire shall feature a Virtual colour wheel channel with 61 industry gel preset and 21 white macros.
10. The luminaire shall feature a cross fade channel to fade from RGBW or Colours wheel channel into White CTC channel.
11. The luminaire shall feature a cross fade channel to fade the Fixture patch into the signal inputs.
12. The luminaire shall feature a cross fade channel to fade the two ethernet protocols controlling the Pixel patch.

## **10. Inizialization**

1. The luminaire shall be fitted with high resolution absolute position encoders on the pan and tilt axes such that initialization on power up or reset can be accomplished with zero or minimal movement of these axis.
2. Luminaires not offering absolute position sensors and that are required to move the pan and tilt axis home to fixed sensor positions or end stops in order to initialize shall not be acceptable.
3. The time to fully initialize the luminaire from power on or reset shall be no more than 40 seconds.

## **11. Accessories**

The following accessories shall be included in fixture supplied:

1. 16 A 3G 2.5 mm Power cable with Neutrik PowerCON TRUE – Schuko.
2. Quick-Lock omega bracket.



The following accessories shall be available as an optional:

1. Flight Case for 3 pcs.
2. Egg Crate to be mounted on the front lens.
4. Up Box2 for firmware uploader.

Approved device shall be the PROLIGHTS ASTRAWASH37PIX, no alternates or equals.