

# Tender Specifications



## HaluPix Duo

400W IP65 dual layer LED matrix panel with 7x7 led  
2700K 4° + 21x21 led RGBW Video pixels

## 1. General

1. The luminaire shall be a seamless modular frame for flat, curve, hanging / ground, on yoke configurations.
2. The luminaire shall be CE, RCM, FCC, cTUVus compliant.
3. The luminaire shall comply with the USITT DMX-512 A and ANSI RDM E 1.20, CRMX protocol standards.
4. The luminaire shall be made of two distinct layers of light sources: 441 (21x21) RGB+WW emitters with a 120° beam spread, and 49 (7x7) WarmWhite 4° beam sources.
5. The luminaire shall be capable of delivering a variable white output from 2'800 K to 10'000 K.
6. The luminaire shall be capable of making adjustment to the green and magenta value any point on the CCT range.
7. The luminaire shall feature several colour control systems: CCT, RGBW, HSI, colour macros.
8. The luminaire shall feature an LED source a peak power output of 400W.
9. The luminaire shall not infringe any Intellectual Property unless licenced by the owner.

## 2. Physical

1. The luminaire shall be weatherproof (IP65) and constructed from durable die cast magnesium alloy, finished in black.
2. The luminaire shall be used for temporary outdoor applications, not for fixed installations.
3. The luminaire shall feature on board fast anchor mechanics points for modular assembly of multiple fixtures.
4. The luminaire shall be feature with curve configurations block and auto-lock mechanics:
  - Vertical hanging system: built in aliscaf clamp support.
  - Curvability: -10° convex and +15° concave locking mechanism graduated.

- Flexible Modular Construction: Designed with a robust frame, quick-lock system, and onboard compass mechanics for precise concave and convex curve adjustments, offering the same mounting and rigging familiarity as LED screen tiles.
  - Adaptable Installation Options: Supports hanging, ground-stacking, or standalone mounting on a yoke for a wide range of creative setups.
  - Interchangeable lenses: Additional optics available for beam LEDs layer with 12 or 24 degrees.
5. The luminaire shall be equipped with a passive and fanless cooling system.
  6. The luminaire shall feature integral power and electronics on board of the fixture.
  7. The hard light luminaire shall have the dimensions not exceeding 500 mm (19,69") in length, 500mm (19,69") in height, and 13 mm (5,24") in width.
  8. The luminaire shall weigh no more than 16,3kg (35,94lbs).

### **3. LED Emitters**

1. The luminaire shall feature an LED source consisting of:
  - a.1) 7 x 7 3000K white LED sources, each driven at 6W power, for a total power of 300W.
  - a.2) 21 x 21 RGB+Warm White LEDs with individual pixel control, for a total power of 550W.

both emitters customised for PROLIGHTS and driven at a maximum power of 500 watts.

2. The luminaire shall have individual LED control with pixel pitches of 72mm for beam sections and 24mm for pixel sections, which can be either user-controlled or enabled to perform the on-board section macros to reproduce the effects.
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 30'000-hours LED life.
5. The luminaire shall feature a minimum of three hours burn-In test during its manufacturing process.
6. The luminaire shall feature a flicker free adjustable PWM frequency selectable from 600Hz to 25'000 Hz.
7. The luminaire shall feature with an electronically adjustable strobe frequency from 1 to 30 Hz.

#### **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 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.
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 distance of 10 meters.

#### **5. Photometric performance**

1. The luminaire shall meet the following minimum photometric performance requirements which shall be supported by the photometric documentation:
  - The luminaire must have a luminous flux of 11'388 lm when set to Full On with both Pixel and Beam Layers.
  - The luminaire shall have a luminous flux of 7'391 lm when set to Full On only Beam Layers.
  - The luminaire shall have a luminous flux of 12'555 lm when set to Full On only Pixel Layers.
  - The luminaire must have a luminous flux of 23'686 lx when set to Full On at 5 mt with both Pixel and Beam Layers.
  - The luminaire shall have a luminous flux of 51'268 lx when set to Full On at 5 mt only Beam Layers.
  - The luminaire shall have a luminous flux of 173 lx when set to Full On at 5 mt only Pixel Layers.
  - The luminaire shall have a colour temperature within 150 K of the target colour temperature when set to a preset of 3'200 K or 5'600 K.

## 10. 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 500W.
3. The luminaire shall feature a Seetronik® IP65 PowerCON TRUE1 IN/OUT connectors.
4. The luminaire shall feature an IP65 Seetronik® XLR 5p IN/OUT connectors.
5. The luminaire shall feature an IP65 RJ45 IN/OUT data connection with Ethernet pass through in the event of PSU or Master PCB failure.
6. The luminaire shall feature an on board 3,5" OLED graphic display.
7. The luminaire shall be compatible with the USITT DMX-512A RDM protocol.
8. The luminaire shall support firmware upgrades using a dedicated UP-LOADER device using a 5 pin XLR connector.
9. The luminaire shall meet all requirements of the LVD (Low Voltage Directive) 2014/35EC and with the EMC (Electromagnetic Compatibility Directive) 2014/30/EU, RoHS (Restriction of the use of certain hazardous substances) 2014/53/EU and with the RED (Radio Equipment Directive) 2014/53/EU.

## 11. Environmental

1. The luminaire shall feature IP 65 rating for temporary outdoor application, not for fixed installations.
2. The luminaire shall be capable of operating in ambient temperature range of -20°C (4°F) to +45°C (113°F).
3. The luminaire shall be equipped with a passive and fanless cooling system.
4. Thermal management shall include LED board temperature sensor.
5. Users shall permit monitoring of temperature sensor via legible black OLED multi-line display.
6. Fixtures that do not provide the active thermal monitoring of LED board, shall not be acceptable.

## **12. Control And User Interface**

1. The luminaire shall feature a temperature sensor which shall be accessible in real time via RDM.
2. The luminaire reports its internal temperature on its graphical display.
3. The luminaire shall feature local control using four buttons.
4. The luminaire shall feature a range of control modes including:
  - Control of colour: CCT, RGBW, HSI, colour macros.
  - Colour mixing with powerful Warm White source (2700K) on beam layer and 4 colour custom LEDs source (red, green, blue, warm white) on pixel layer.
  - Pre-programmed dynamic and static patterns with speed and rotation control
  - Several pre-built effects with adjustable foreground/background colour, index, speed, direction.
5. The luminaire shall feature 441 individually controllable LEDs in the pixel layer and 49 individually controllable LEDs in the beam layer with built-in lighting effects.
6. The luminaire shall feature output management, linear crossfade from any white to any colour and virtual CTO on colours for pixel layer.
7. The luminaire shall feature with DMX512, RDM, ArtNet, RDM over Artnet, sACN, CRMX protocols.
8. OPTIONAL The luminaire shall feature with LumenRadio TimoFX DMX/RDM compatible with both CRMX, CRMX2 (Lumen Radio) and W-DMX (Wireless DMX).
9. The luminaire shall feature with a 3,5" display graphic user interface.
10. The luminaire shall feature to upgrade the firmware via DMX interface (UPBOXPRO/UPBOX1).

## **13. Dimming**

1. The luminaire shall feature continuous smooth and linear dimming of intensity from 0% to 100%.
2. The luminaire shall feature control of intensity in 16 bit mode.
3. The luminaire shall be equipped up to 6 independent selectable dimmer curves per source, selectable from the on board menu.
4. LED control shall be compatible with broadcast equipment in the following ways:

- PWM control of LED levels guarantee flicker free to video cameras and related equipment.
  - Selectable PWM range from 600 up to 25.000 Hz.
5. The LED system shall be digitally driven using high-speed pulse width PWM modulation.

## **14. Accessories**

The following accessories shall be included in the fixture supplied:

1. 1x1,5 meters 3G1,5mmq power cable (BARE END - SEETRONIC POWERCON TRUE1 IP65 power connector)

The following accessories shall be available as an optional:

1. Flight case for 4 units.
2. Wireless Kit.
3. Optional Lens 12°.
4. Optional Lens 24°.
5. Spigot.
6. Quick-lock omega bracket, M12 hole.
7. Quick-lock omega bracket, 6 cm height, M12 hole.
8. Fly bar / ground bar, 1 column.
9. Fly bar / ground bar, 2 columns.
10. Ground system back horizontal support.
11. Ground structure spacer.
12. 2in1 back support for ground system fixing.
13. 3in1 back support for ground system fixing.
14. Back plate for ground system fixing.
15. Ground system back horizontal reinforcement.
16. Metal joint used in flat configuration, M10 hole.
17. Metal joint used in curve configuration, M10 hole.
18. Steel security cable for hanging bodies, inox steel shackle, L=120 cm, black.
19. Self-lock slim clamp, 250Kg load, 48-51mm tubes, M10 bolt included.
20. Slim aluminium clamp, 200kg loading, 48-51mm tubes, M10 bolt.

21. Portable vacuum and pressure tester for Prolights IP fixtures.
22. Up-loader tool (UPBOXPRO) and its PC software.

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