Tender Specifications

Astra Hybrid260IP

IP65 hybrid moving head, with 260W white phospor Laser source and zoom 0.6° - 52°

1. General

1. The luminaire shall be a compact IP65 hybrid moving head light equipped with a 260W white phosphor Laser source, with subtractive colour generation, DMX control of intensity, colours, pan, tilt, shutters, pattern projection, focus and zoom.
2. The luminaire shall be CE and RCM.
3. The luminaire shall comply with the USITT DMX-512 A and ANSI RDM E 1.20 protocol standards.
4. The luminaire shall comply with ArtNet, sACN, and CRMX protocols.
5. The luminaire shall be capable of delivering an extensive range of aerial and projection effects.
6. The luminaire shall be equipped with motorized zoom lens that offers a long range, from 0,6° to 52,7° zoom.
7. The luminaire shall be equipped with a 260W white phosphor Laser source.
8. The luminaire shall feature a white phosphor Laser source with CTC 7'000K.
9. The luminaire shall be IP65-rated for outdoor use.
10. The luminaire shall not infringe any Intellectual Property unless licensed 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 suitable for permanent outdoor use, provided installation and maintenance cycles are carried out by qualified technicians.
3. The luminaire dimensions shall be:
    a) 742 mm (29.2”) from base of the enclosure to the tip of the lens baffling.
    b) 435 mm (17.1”) across the exterior dimensions of the yoke.
    a) The electronics enclosure shall be 385 mm (15.2”) wide.
    b) The electronics enclosure shall be 266 mm (10.5") deep.
    c) Head length 505 mm (19.9”).
    d) The luminaire shall weigh 34,5 kg (76,06 lbs).
    e) The front lens diameter shall be 165 mm (6.5’’) with HD anti-reflection achromatic coating.
4. The luminaire shall be able to be either truss-mounted or stand on a surface.

5. Fixture shall be suitable designed for operation over or under mounted on a truss perpendicular to the ground.
6. The following shall be provided:
    a The luminaire must include a rotating gobo wheel:
        a.1) The luminaire must include twelve (12) interchangeable rotating gobos on a wheel. Luminaires that have non-interchangeable gobo patterns shall not be deemed acceptable.
        a.2) Interchangeable rotating gobos shall have an outside diameter of 8,4 mm, image diameter of 5 mm, with a thickness up to 0,5 mm.
        a.3) Rotating gobo systems must be able to index to any point on the 360 positioning of the gobo.
    b The luminaire shall have 540 degrees of pan range and 270 degrees of tilt range with continuously adjustable, bidirectional rotation:
        b.1) Pan and tilt must be controlled with 8 and 16 bit control and utilize position encoder sensors to guarantee correct step position.
        b.2) Pan and tilt should be automatically repositioned after an accidental movement.
        b.3) The luminaire shall have a pan speed of 1.26 s for 180 degree movement.
        b.4) The fixture shall have a tilt speed of 1.31 s for 180 degree of movement.
        b.5) 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.
    c The luminaire must include dual frost filter soft-edge and heavy (one interchangeable), with 0-100% linear insertion.
    d The luminaire shall have a wheel with 29 fixed gobos.
    e The luminaire shall have Linear focus lens system.
    f The luminaire shall have Linear zoom system from 0,6° to 52,7.
    g Two independent colour wheels with a total of twenty-seven (27) dichroic filters.
    h A subtractive linear CMY (cyan, magenta, yellow) on 3 gradually fading colour frames.
    i The luminaire shall feature two (2) independent rotating prism wheels:
        i.1) Four (4) circular prism: 8 face and 6 face prism on first wheel and 16 face and 6 face prism on second wheel;
        i.2) Four (4) linear prism: 6 face and 4 face prism on first wheel and 6 face and 4 face prism on second wheel;

i.3) Each prism system shall feature bidirectional rotation, able to index to any point on the 360° positioning of the prism, and interchangeable.

i.4) The prisms, on different wheels, shall be capable of being overlapped creating a multi-ray effect.

j The luminaire must have handles in the base for luminaire handling and manipulation. Luminaires with no handles on the base shall not be acceptable.

k Power Supply, cooling, and driver electronics shall be integral to each luminaire.

l Control/UI module shall have the option for battery power backup to allow fixture settings to be retained in memory when the luminaire is not connected to the main.

3. Emitter

1. The luminaire shall be equipped with a powerful 260W Phosphor Laser source and customized for Prolights.
2. The luminaire shall feature a color temperature of 7'000K.
3. The luminaires shall be equipped with Laser emitters rated for nominal lifetime of more than 12,000 hours.
4. The luminaire shall feature a minimum of 3 hours burn-In test during its manufacturing process.
5. The luminaire shall feature adjustable PWM frequency from 600 to 50'000 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 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 Laser 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 10 m, 20 m,

30 m 40 m, 50 m, 60 m, 70 m, 80 m, 90 m, 100 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 distance of 10 meters.

5. Photometric performance and Optical

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 7'000 K (+/- 150 K) at full on.
   b) The luminaire shall have an output in excess of 10’649 lm @ maximum zoom angle in beam mode.
   c) The luminaire shall have an output in excess of 12’635 lx @ 20m maximum zoom angle in beam mode.
   d) The luminaire shall have an output in excess of 417’219 lx @ 20m minimum zoom angle in beam mode.
   e) The luminaire shall have an output in excess of 5’067 lm @ maximum zoom angle in far mode.
   f) The luminaire shall have an output in excess of 2’448 lx @ 20m maximum zoom angle in far mode.
   g) The luminaire shall have an output in excess of 406’428 lx @ 20m minimum zoom angle in far mode.
2. The luminaire shall provide, but not limited to:
   a) High-quality pattern imaging.
   b) 0,6° through 52,7° degree zoom angle.

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 max power consumption of 430W.

3. The luminaire shall feature a nominal Standby power consumption of 90W.
4. The luminaire shall feature a Seetronic PowerCON True1 main in/out connector.
5. The luminaire shall feature IP65 Seetronic XLR 5p IN/OUT connectors for DMX input and DMX through.
6. The luminaire shall feature IP65 Seetronic Ethernet IP in/out connectors.
7. The luminaire shall feature EtherFlow: Ethernet automatic pass-through switch that preserves network connectivity even when the fixture is unpowered.
8. The luminaire shall feature an on board graphic display with autoflip.
9. The luminaire shall be compatible with the USITT DMX-512A RDM protocol.
10. The luminaire shall support firmware upgrades using a dedicated UP-LOADER device using a 5 pin XLR connector or via USB pen drive.
11. 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 be IP65-rated for outdoor use.
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 combination of heat cooling system and fan cooling system.
   a) Fan speed control via DMX channel shall be possible.
4. Fan speed software shall permit the fixture to override DMX fan speed setting to prevent heat damage.
5. Thermal management shall include emitter circuit board temperature sensors.
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: DMX512, RDM, WDMX + CRMX (Wireless Control is optional).
4. Fixtures not offering RDM compatibility features access or temperature monitoring via RDM shall not be acceptable.
5. The luminaire shall be equipped with multi-line graphic display for easy to read status reports and configurations changes.
6. The luminaire shall be equipped with five buttons user interface.
7. The luminaire shall be equipped with the USB input for firmware upgrade.
8. The internal software shall include the following features:
   a) Home screen shall visualize at least the following information:
      - luminaire address
      - Wdmx signal
      - user mode
      - temperature info
      - diagnostic
      - selected protocol
      - lock screen
   b) Diagnostics section with indication of possible parts damaged.
   c) User selectable fixture XY home position settings.
   d) LED status indicator setting on front panel.
   e) DMX lost setting functions.
   f) Transfer settings to fixture on the same signal line.
   g) Calibration setting with individual focus and index calibration on each gobo.
   h) Fixture info:
      - fixture and source hours
      - power cycles
      - maintenance cycles
      - power consumption
      - firmware info
      - device info
      - UID
   i) Wireless signal monitoring section.

9. The luminaire shall offer two (2) DMX mode with 33 (Standard Mode) and 37 (Extended Mode) channels of control.
10. The luminaire shall offer additional user definable options to including:
    a) Dedicated channel for control option (Fan, Source frequency, Dimmer Speed, Reset).
    b) Display time out option.

9. 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. Emitter control shall be compatible with broadcast equipment in the following ways:
    a) PWM control of the laser emitter guarantees flicker-free video cameras 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 Laser Emitter system shall be digitally driven using high-speed pulse width PWM modulation.

10. Accessories

The following accessories shall be included in the fixture supplied:

- 1 x 1,5 meters 3G1,5mmq power cable (BARE END - NEUTRIK POWERCON TRUE1 IP65 power connector).
- 2 x Quick-Lock omega brackets.
- 1 x Antenna

The following accessories shall be available as an optional:

1. Flight Case for 2 pcs.
2. Aluminium clamp.
3. Security Cable.

4. Vacuum and Pressure tester.
5. Firmware uploader UPBOX2P5 and UPBOXPRO

Approved device shall be the PROLIGHTS ASTRAHYB260IP, no alternates or equals.