**GENERAL**

A.) Overview

1. The luminaire shall be a motorized color mixing PAR luminaire employing seven (7) RGBW LED arrays.
2. The luminaire shall hold ETL, CE, FCC CSA, RoHS and ISO 9001 approval markings.
3. The luminaire shall conform to USITT DMX-512A (RDM) protocol standards.
4. The luminaire shall utilize seven (7) LED light source arrays that shall not emit light in the ultra-violet (wavelengths less than 380nm for UV-A, B, or C) or the Infrared spectrum (wavelengths of more than 800 nm). Units that emit light within this spectrum shall not be accepted.
5. The luminaire shall have an integrated control system that provides local controls offering access to set up parameters, reset functions, calibration functions and status reporting.
6. The luminaire shall have a smooth variable motorized six (6) to greater or equal to forty (40) degree homogenized zoom output.
7. The luminaire shall have an output of up to 3500 lumens.
8. The luminaire shall achieve an output CRI of equivalent to or greater than 90.
9. The luminaire shall be provided with a double-yoke trunnion assembly, either for use as a floor stand or suspension bracket.
10. The luminaire shall have control inputs for:
    1. DMX512 (RDM) input/output connectivity via a 5-Pin XLR connector
11. All control and power input and output sockets shall be located on the rear panel of the fixture. There shall be a 5A fuse protection socket presented on the rear panel. There shall be no on/off switch.

B.) Physical

1. The construction of the luminaire shall be molded engineering grade plastic in a matt black finish.
2. The luminaire shall have four (4) double track accessory holder rails that shall be securely fastened to the front edge of the luminaire at quadrant positions of 90 degrees. The top center holder assembly shall be fitted with a sprung pull-out security pin and latch to release the gate of the holder, permitting accessories to be inserted and secured.
3. The luminaire shall be provided with a double yoke that shall either provide free-standing support for the luminaire as a floor stand, or when folded together shall provide a point of suspension for the fixture.
4. The yoke shall be of high-grade steel of minimum 10 gauge / 3.2mm thickness and shall be smoothly finished and powder-coated black. The inner yoke arm shall include a notched recess to fit around a truss clamp bolt of no less than M12, ensuring that the inner yoke may swing completely within the outer yoke when the fixture is suspended using a truss clamp.

In addition the outer yoke arm shall be fitted with two (2) ½ turn lock point brass bushes at 108mm centers as attachment points for an omega clamp.

1. The luminaire shall not exceed 12.00 inches [302 mm] in height, 9.00 inches [228 mm] in length and 7.00 inches [181 mm] in width.
2. The luminaire shall weigh no more than 13.2 lbs. [6.0 kg].
3. The luminaire shall be rated IP20.
4. The luminaire shall have a forged hardened and tempered collared eye bolt of minimum ½ inch [M14] secured into the rear panel of the luminaire

C.) Mechanical Data.

1. A variable speed fan shall be used to provide forced-air cooling for internal components. There shall be a Standard maximum output mode, as well as optional Studio and Whisper reduced output modes to achieve quieter fan settings.
2. An LCD menu system shall provide essential system information and operational controls. The LCD display shall orient the display according to the orientation of the unit, thus ensuring the menu is readable in various configurations.
3. The fixture finish shall be black.
4. The luminaire shall have a motorized zoom system. The beam angle range shall be from six (6) to forty (40) degrees. The zoom mechanism shall be very quiet and fast and shall ensure the LED array and optical lens front panel always remain in true alignment within the luminaire housing throughout the zoom action in both directions.
5. The luminaire shall have an RGBW color mixing system and shall provide selectable options of 44 preset colors.
6. The luminaire shall have a separate variable CTO setting from 10000K to 2700K. It shall be possible to operate this independently of the color mixing system.
7. The luminaire shall have an electronic strobe system that operates independently from the full field dimming system.
8. The luminaire shall have a dedicated control channel that allows for continuous strobe, random strobe and random sync strobe functionality.
9. The luminaire shall have a separate control channel parameter. Using the control parameter, it shall be possible to fully recalibrate the luminaire, shutdown the luminaire, turn the luminaire display off and on, reboot the luminaire, and enable the luminaire display to show operational status information. It shall also be possible to adjust the frequency of the luminaire to exceed camera frame rates.

D.) Electrical.

1. Supply Voltage shall be 120 to 240V, 50/60Hz. (+/- 10% auto-ranging).
2. The luminaire current draw shall not exceed 260 watts.
3. The power input connector shall be a twist lock connector Black/Yellow connector to ensure safe power disconnection while under load. A power input connector shall be supplied with the luminaire.
4. The light source shall consist of seven (7) thirty (30) watt RGBW LED arrays with a Color Temperature of 7300K.
   1. It shall be possible to adjust the Refresh frequency of the LED Engine.
   2. The LED Engine shall have an elapsed LM70 time of at least 20,000 hrs. duration with a drive current of 2.2A.

E.) Environmental.

1. Maximum operating ambient temperature shall not exceed 113 degrees Fahrenheit (45 degrees Celsius)
2. A variable speed cooling system shall be employed to maintain the optimal operating temperature of the luminaire.
3. The luminaire shall be low maintenance and environmentally friendly. All units shall be mercury free.

F.) Operation.

1. The luminaire shall have control inputs for:
2. DMX512 with input/output via a DMX 5-Pin Male and Female connector
3. The luminaire shall include an onboard LCD display giving control of the following:
4. Configuration settings:
5. Address (DMX addressing and Mode settings)
6. Fixture (Status, Reboot, Software version, Fixture hours, Software cross load, Service settings, Diagnostics)
7. Manual (Manual control of intensity)
8. Test (Test settings)
9. The luminaire shall include seven (7) RGBW LED arrays delivering full field dimming - allowing for both smooth timed fades and fast blackouts.
10. The LED engine used in the luminaire shall be of high brightness and a proven quality from established and reputable LED manufacturers.
11. There shall be a Standard maximum output mode as well as optional Studio and Whisper reduced output modes resulting in quieter fan settings.

G). Dimming.

1. The luminaire shall use 16-bit nonlinear scaling techniques for high-resolution dimming:  
   1. Three (3) dimming law curves (Square, S and Linear) shall be selectable via the Programming Control parameter.
   2. The luminaire shall be digitally driven using high-speed pulse width modulations (PWM) in concert with power factor control (PFC) to ensure a smooth flicker free dimming curve from 100 to 0 % and shall be imperceptible to video cameras and video related devices.

H). Warranty.

The Luminaire manufacturer shall offer a two-year limited warranty on the luminaire and LED. Manufacturers not offering a minimum of a two-year warranty shall not be accepted.

I.) Accessories.

The luminaire shall include the following with each unit:

1. 1 x Twist-Lock black/yellow power connector
2. User Manual.
3. 1 x ½ turn omega clamp

The following additional dedicated accessories shall also be available for the luminaire:

1. 185mm 4-leaf metal Barn Door assembly, black

**END OF SPECIFICATION.**