

Chroma-Q Color One 100X (IP20) Specification

COLOUR MIXING LED PAR FIXTURE

A. General

1. The fixture shall be a full spectrum colour mixing fixture employing a red, green, blue and amber LED engine. The fixture shall be a Color One 100X (IP20 rated) unit by Chroma-Q or approved equal.
2. The fixture shall provide a fully homogenised colour-mixed output.
3. The fixture shall be UL 1573 listed for stage and studio use.
4. The fixture shall comply with the ANSI E1.11 USITT DMX 512-A and ANSI E1.20 RDM control standards.
5. The fixture shall be capable of control via wireless IR remote unit.
6. The colour rendering index of the fixture shall be 93 CRI.
7. The hot lumen output (combined) of the fixture shall be 1,950 lumens.
8. Fixture colour temperature (CCT) shall be adjustable between 1,000° and 10,000° Kelvin.
9. The fixture's LED lamp life shall have a L70 rating at a minimum of 50,000 hours.
10. Fixtures shall be factory calibrated to ensure all units output the same exact colour.
11. Fixtures which do not comply with this specification shall not be accepted.

B. Physical

1. The fixture housing shall be constructed of robust cast machined aluminium and shall be free of pits and burrs.
2. The fixture housing shall be available in black colour with custom colour available upon request.
3. Power supply, cooling and electronics shall be integral to each unit.
4. Fixture net weight (without fixings) shall be 3.8kg (8.5lb).
5. Fixture net dimensions (without fixings, full open yoke) shall be (W x H x D) 214mm x 267mm x 232mm (8.5" x 10.5" x 9").

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6. The fixture shall include a built-in 6.25" accessory holder.
7. The fixture shall include a built-in split yoke for mounting purposes.

C. Agency Compliance and Environmental

1. The fixture shall be UL Listed and shall be so labeled.
2. The fixture Approvals shall include the following: CISPR 15/EN55015 & EN61547, FCC Part 15 Subpart B:2012 003:2012, CSA C22.2, UL 1573, IEC 60598
3. The IP rating of the fixture shall be IP20 for dry location use.

D. Thermal

1. The fixture shall be cooled via natural convention without the aid of fans.
2. The fixture shall operate in an ambient temperature range of 0°C (32°F) minimum, to 40° C (104°F) maximum ambient temperature.
3. The fixture shall provide automatic protection to reduce the output when the internal temperature reaches the maximum limit due to extreme ambient temperature conditions.

E. Electrical

1. The fixture shall be equipped with an internal power supply.
2. The power input rating of the fixture shall be 100V to 240V 50/60 Hz 125VA.
3. The fixture's power supply shall have a power factor of 0.5.
4. The fixture's maximum power consumption shall not exceed 63W.
5. The fixture's stand-by power consumption shall be 5.5W.
6. Fixture In/Out power shall be via Neutrik powerCON TRUE1 connectors.
7. The fixture requires power from a constant non-dim power source.

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F. Optical

1. The fixture shall incorporate fully homogenized colour mixing optics to eliminate the projection of multiple unsightly colour separation shadows from the different colour sources in the fixture.
2. The fixture beam angle shall be 19°.

G. Light Emitting Diodes

1. The fixture shall be equipped with one LED Engine.
2. The fixture LED Engine shall utilize a combination of red, green, blue and amber LEDs.
3. All LEDs used in the fixture shall be of high brightness and proven quality from reputable LED manufacturers.
4. LED systems manufacturers shall utilize an advanced production LED binning process to maintain LED color consistency.
5. LEDs shall be rated for a 50,000-hour LED life to 70% intensity (L70).

H. Dimming

1. The LED system shall be digitally driven using high-speed pulse width modulation (PWM).
2. The fixture shall offer 4 LED scan rate (PWM) frequency modes for compatibility with video broadcast equipment in order to avoid a flickering effect
3. The dimming curve shall be of theatrical grade for smooth dimming over longer timed fades and at low intensities.

I. Control and User Interface

1. The fixture shall be equipped with two 5-Pin XLR connectors (In and Out) for data control via DMX512-A protocol.
2. The fixture shall be ANSI E1.20-2010 RDM (Remote Device Management) control standard capable.
3. The fixture shall be capable of standalone operation:

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- a. The fixture shall be assignable as either a master or slave standalone unit.
 - b. Slave designated fixtures can be linked together via DMX cables and controlled from designated master fixture.
4. The fixture shall be capable of control in standalone operation via a wireless IR remote control unit. IR remote control options shall include:
- a. Fixture power on and power off.
 - b. Fade in and out.
 - c. 15 colour selection plus white.
 - d. Four effects selection: full color scroll (flash), warm color scroll (strobe), fade in/fade out, and cold color scroll (smooth).
5. The fixture shall be equipped with a two-line backlit LCD display for viewing menu control and configuration functions.
6. The fixture shall be equipped with four push buttons located beneath the LCD display for accessing menu control and configuration functions.
7. The fixture shall offer the following DMX control modes and standalone modes to include:
- a. RGBA – 4 channel DMX mode providing 4 channels for red, green, blue, amber control.
 - b. RGBAI– 5 channel DMX mode providing 1 channel for intensity and 4 channels for red, green, blue, amber control.
 - c. HSI – 3 channel DMX mode providing 3 channels for hue, saturation, intensity control.
 - d. RGB – 3 channel DMX mode providing 3 channels for red, green, blue, control. Amber automatically added when mixing colours that require it.
 - e. MLED RGB – 3 channel DMX mode providing 3 channels for red, green, blue, control.
 - f. Master – mode to assign unit as master in standalone operation.
 - g. Slave – mode to assign unit as slave in standalone operation.
8. The fixture shall offer configuration and control options including but not limited to:
- a. Look Store mode:
 - 1) Selection of five factory-programmed default looks in standalone operation (Look 1 - 5):
 - a) Look 1 – Blue
 - b) Look 2 – Cyan
 - c) Look 3 – Magenta

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- d) Look 4 – Yellow
- e) Look 5 – White
- b. Recording of 5 user-programmed looks (Look 1 – 5) via external DMX control console.
- c. Recall and modification of a look in standalone operation.
- d. Loss of DMX data behavior (No DMX present) options:
 - 1) Off – no light output from fixture
 - 2) Hold Last – last valid DMX state output from fixture
 - 3) IR Remote – fixture control via remote infrared control unit
 - 4) Look 1 – fixture colour snap to blue (or user-programmed look).
 - 5) Look 2 – fixture colour snap to cyan (or user-programmed look).
 - 6) Look 3 – fixture colour snap to magenta (or user-programmed look).
 - 7) Look 4 – fixture colour snap to yellow (or user-programmed look).
 - 8) Look 5 – fixture colour snap to white (or user-programmed look).
- e. Selection of four LED scan rate (PWM) frequency modes for compatibility with video broadcast equipment: 750 Hz, 1500 Hz, 3000Hz, 6000 Hz.
- f. DMX data display of DMX channel values.
- g. Temperature of LED engine display.
- h. Calibration data display.
- i. ETC compatible mode selection for fixture output colour matching with Ion and Eos console colour picker.

END SPECIFICATION