CINEO
LIGHTING ™

Quantum 120 ™

User Guide

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Information and specifications in this document are
subject to change without notice.

www.cineolighting.com

Welcome to Quantum120 from Cineo

Quantum¹²⁰™

Cineo Lighting continues to pioneer digital lighting technology for image capture with Quantum120 (Q120), the largest, brightest, most color-accurate LED soft source currently in use on motion picture sets and in broadcast studios worldwide.

The size of a 4'x4' frame, the Q120 outputs up to 75,000 lumens of high quality, color-correct light over a large, diffused surface area. Even with its substantial size, the Quantum120 weighs under 60 lbs. and is completely self-contained. Drawing only 1200 watts, the fixture dims from 0-100% locally or remotely and is completely flicker-free without color shift at all light levels. Accurate color temperature is completely variable from 2700K-6000K with presets at 2700K, 3200K, 4300K, 5600K, and 6000K. With its optimized combination of size, weight and flexibility, there is no better choice for large, soft lighting source than Quantum120.

The Q120 represents Cineo Lighting's commitment to constant innovation of illumination technology. This tool builds upon Cineo's years of experience in Remote Phosphor Technology while continuing to provide the unexcelled brightness, extremely accurate color quality, power efficiency, and flexibility that hundreds of cinematographers, gaffers, and lighting designers rely on daily.

General Notes

1. Please read through this manual carefully before operating Cineo Q120, and keep this manual for future reference.

2. There are numerous safety instructions and warnings that must be adhered to for your own safety.

3. Q120 is not intended for residential use. It is intended for use in a professional studio.

4. Q120 must be serviced by a qualified technician.

5. The Cineo Q120 is rated as IP22 – for damp environments.

6. Cineo products are not certified for use in hazardous locations.

7. The Cineo Q120 has a typical operating temperature of 50°C (122°F).

Fixture Set Up

Read these safety instructions carefully to ensure fixture and accessories are used safely.

Ensure the Junior mounting pin is correctly mounted onto the yoke before rigging.

Always use secondary safety cables of suitable length when hanging Cineo Q120 units.

The Q120 weighs 60 lbs. (27 kg) excluding accessories. The combined weight should be considered when choosing a suitable safety cable.

Safety cables must securely be attached to the yoke on Q120 or the safety holes located in each corner and be as short as possible to reduce travel distance if primary hanging accessory fails.

Ensure that the yoke lock is correctly tightened when manipulating Q120 in the required orientation for safety purposes.

Ensure the Cineo Q120 is operated within an ambient temperature range of -20 to +50°C (-4 to 122°F).

System Components, Connections and Controls
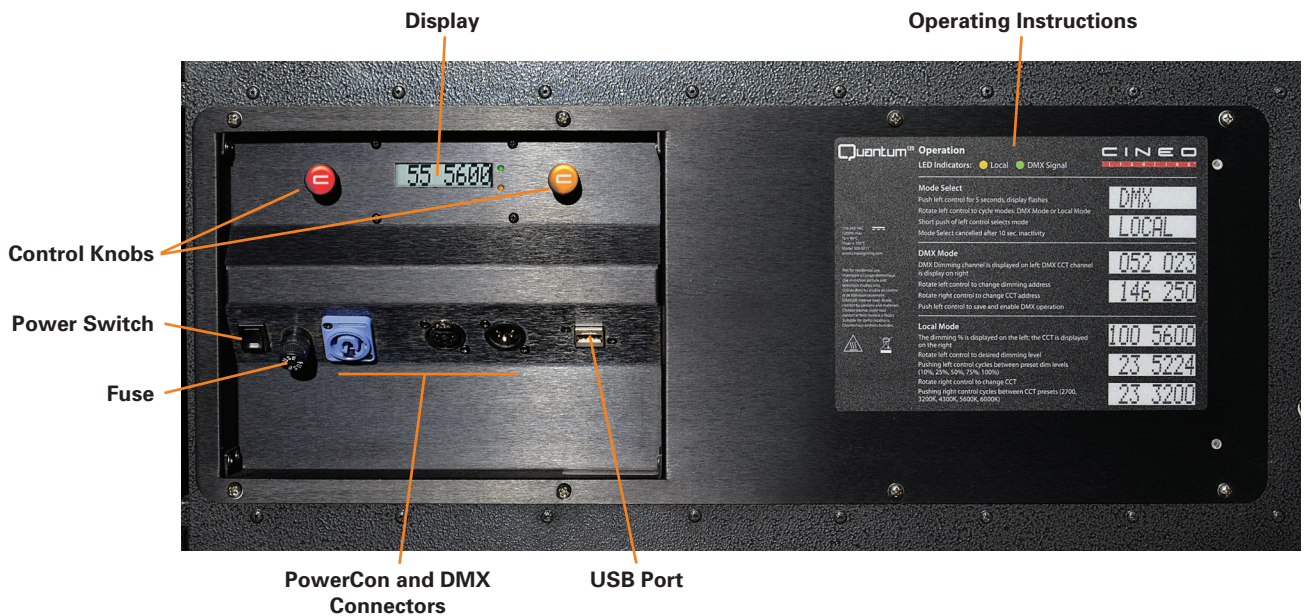
Cineo Quantum120

All connectors and system controls for the Cineo Q120 system are located on the back of the unit.

The system can be operated with local control or remotely via wired or wireless DMX. Additionally, the fixture can be remotely programmed using RDM protocol.

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Display

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Power Connections

The unit is controlled by an internal power supply. 110 – 220VAC is provided to the unit via a PowerCon connector, located on the back control panel.

NOTES:

1. Ensure the power cable is disconnected before servicing.

2. Do not connect to a variable supply, such as a dimmer rack.

3. The power cable should be plugged into the power supply before switching the power ON. The power supply should be switched OFF before removing the power cable.

Indicator Lights

The control panel includes two LED indicators to the right of the digital display. By observing that state of these indicators, the operating state of the power supply can be determined:

● GREEN

The Green indicator will illuminate when the unit is in DMX mode, AND valid DMX signal is present on either the DMX Input jack or the built-in wireless DMX transceiver.

● YELLOW

The Yellow indicator lights up when the unit is configured to operate in Local Mode. All dimming control is routed to the left (red) knob on the control panel.

Controls

Control of the system is facilitated by use of (2) rotary encoders, each with a "push" function, and displayed on an 8-digit illuminated control panel.

The Q120 includes two modes of operation, which can be set locally on the control panel or remotely using RDM protocol.

Changing Modes

Changing operation mode and selecting DMX addresses can be accomplished using the control panel, or remotely using RDM. Please refer to the Operating Instructions on the back of the fixture.

Mode change via the control panel is as follows:

1. Push and hold the left (red) knob for approximately 5 seconds. The display will show the current operating mode.

2. Turn the left knob until the desired mode is displayed: LOCAL and DMX.

3. Push the knob again to select mode.

Mode selection instructions are attached to the back of the fixture for quick reference.

Local Mode

In this mode, all functions of the fixture are managed through the control panel. 0-100% dimming is controlled by turning the left (red) rotary knob. Pushing the knob cycles the output at these levels: 20%, 40%, 60%, 80% and 100%.

The color temperature (CCT) of the fixture is controlled by turning the right (yellow) knob in a continuously variable range of 2700K to 6000K. Pushing the right control knob cycles the CCT of the fixture between popular settings: 2700, 3200, 4300, 5600 and 6000K.

When in Local Mode, the yellow LED is illuminated, and the display shows the percentage dim level on the left side of the display and the CCT on the right.

DMX Mode

In this mode, the output and CCT of the fixture are controlled remotely on two DMX addresses in the address range of 001 to 512. The left knob is used to set the DMX address for dimming; the right knob is used to set the address for CCT control. When both addresses are selected, push the left controller to save and enter DMX mode. The selected addresses are shown on the display.

0-100% dimming is controlled through DMX values of 0-255. Note that changing the dim value between 1 and 254 will include a dimming hysteresis, or smoothing. When switching between DMX values of 0 and 255, the value change is instantaneous, allowing the fixture to be externally switched on and off in a strobe effect.

CCT is continuously variable from 2700K to 6000K using DMX values 0-255. Standard CCT values and their DMX addresses are shown in the table, at right:

DMX Values to Set CCT	
0	2700
39	3200
124	4300
224	5600
255	6000

DMX Value = (target CCT ‑ 2700)/12.94
(eg, to set 5200° CCT; 5200 minus 2700 = 2500, divide by 12.94 = DMX193

Wired DMX Connections

Q120 uses industry-standard 5-Pin XLR male and female connectors to receive and forward DMX signals and output RDM signals. The DMX port is self-terminating and does not require external DMX termination when used in a chain. If the unit is the last device on a DMX chain, make sure that there is no cable inserted into the DMX Thru connector.

The DMX pin wiring is as follows:

• Pin 1: Signal Common • Pin 2: Data -

• Pin 3: Data +

• Pin 4: Spare

• Pin 5: Spare

Wireless DMX Control

If the unit is configured to be controlled via DMX and no cable is inserted in the DMX IN port, the Lumen Radio Wireless DMX transceiver is activated, and the unit can be linked to a wireless DMX network. Please note that each fixture can only be linked to a single network at a time, and maintains the network ID of its previous linking. Therefore, the fixture's linking data must be cleared prior to linking to a new network.

To unlink Q120 fixture, follow these steps:

1. Push and hold the right (yellow-colored) control knob on the control panel for 5 seconds. Release.

2. The display will show "UNLINK?". Press yellow knob to confirm.

3. In a few seconds, the display indicates "UNLINKED", clearing the network memory in the fixture.

Refer to your wireless DMX transmitter instructions for linking fixtures to a wireless network.

Third party wireless products can be used by plugging the third party wireless antenna into the DMX XLR port. If power is needed for the antenna the powered USB port can provide such up to 500ma. If a third party wireless device, powered or non powered, is attached via the 5pin XLR port this connection will take priority over the imbedded wireless receiver.

RDM Support

The HSX can remotely report unit information to an RDM controller attached via wired or wireless DMX. The information provided includes the Unit ID and the firmware revision programmed into the unit. The unit also supports the RDM Identify command, and will ask the fixture when an Identify command is issued.

Remote programming of DMX address, Mode, and Calibrate functions are supported. The power supply defaults to a 3-address footprint for RDM auto-assign functions.

Calibration

The Q120 system can be calibrated for optimal dimming characteristics. To perform a calibration sequence and please perform the following:
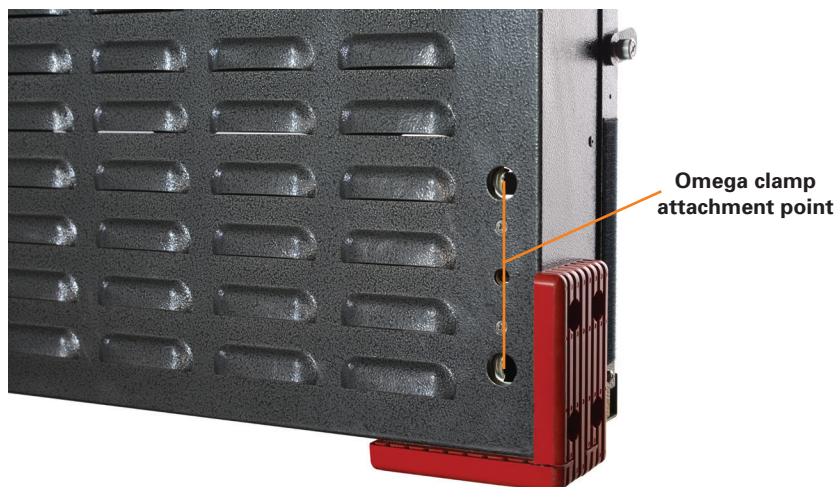
1. With the power OFF, push and hold the left (red) knob on the control panel while turning the power supply ON.

2. Initially, the display will show the firmware revision level for the power supply. Continue to push the knob down until the display shows "CAL" with an animated character sequence. Release knob.

3. When the calibration sequence completes, the system returns to its previous mode and dim level.

USB Port

An A-type USB port is included on the control panel for installation of software updates. It can also supply 5 VDC, 500ma power to attached devices. Refer to installation instructions supplied with software upgrade.

Mounting Options

In addition to the attached mounting yoke, (6) attachment points are included of the back of the fixture. All of these points can accept an Omega clamp, or a 3/8"x 16 threaded eyebolt. All of these attach points are safety rated.

Omega clamp attachment point

Quantum120 Specifications

Input Power: 110-240VAC, 1200 watts max. via PowerCon connector

Integrated power supply

Fixture Size: 48″ x 48″ x 5.5″ (1.2m x 1.2m x 14cm)

Diffuser Size: 48″ x 48″ x 6″

Weight: 60 lbs. (27.2 kg.)

Mounting yoke includes Junior pin

Variable CCT 2700K-6000K. Presets at 2700K, 3200K, 4300K, 5600K, 6000K

Output: 75,000 lumens (with included diffuser)

Local and Remote dimming, 0-100%

5-pin DMX / RDM In and Thru

Completely flicker-free operation

Environmental temperature range: -20° - +50° C Max. temperature rise: +45° C

ETL, cETL, CE compliant

Made in USA

Warnings, Disclaimers and Warranty

Risk of Electric shock / Risk of Fire
Do not open. To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.

Burning Injuries
Be aware of high temperatures in excess of 50°C inside the fixture during and after use. Do not touch the LEDs to avoid burning injuries.

Flammable Materials
Keep flammable materials away from the installation. Insure that the amount of air flow required for safe operation of the equipment is not compromised. Proper ventilation must be provided.

ESD and LED's
LED components used in Quantum120 are ESD (Electro-Static Discharge) sensitive. To prevent the possibility of destroying LED components do not touch either while in operation or when switched off.

This Equipment MUST be Grounded
In order to protect against risk of electric shock, the installation should be properly grounded. Defeating the purpose of the grounding type plug will expose you to the risk of electric shock.

AC Power Cords
Use only a rated IEC Connector. The user is responsible for ensuring power cables are of adequate condition for each application. If the power cords are damaged, replace them only with new ones.

Environmental: Disposal of Old Electrical & Electronic Equipment
This product shall not be treated as household waste.

CINEO LIGHTING LIMITED WARRANTY

Products from Cineo Lighting are warranted against defects in materials and workmanship for two years from the date the Product is shipped to Customer. Products are guaranteed to perform substantially in accordance with the accompanying written materials within the warranty period under normal use.

If the Product fails to work as warranted, Cineo Lighting will, in its sole discretion, repair or replace the Product with a new or remanufactured Product that is at least equivalent to the original Product. Customer must obtain a Return Material Authorization number from Cineo Lighting before returning any Products under warranty to Cineo Lighting.

Customer shall pay expenses for shipment of repaired or replacement Products to Cineo Lighting's repair facility. Any repaired or replaced Products will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer. Cineo Lighting will pay shipping of repaired goods back to the customer. After examining and testing a returned product, if Cineo Lighting concludes that a returned product is not defective, Customer will be notified, the product returned at Customer's expense.

This Limited Warranty is void if failure of the Products has resulted from accident, abuse, misapplication, or use outside of normal operating conditions. Warranty is void if serial number has been defaced or removed.

NO OTHER WARRANTIES. EXCEPT AS EXPRESSLY SET FORTH ABOVE, THE PRODUCTS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, AND NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED ARE MADE WITH RESPECT TO THE PRODUCTS, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT OR ANY OTHER WARRANTIES THAT MAY ARISE FROM USAGE OF TRADE OR COURSE OF DEALING. ELEMENT DOES NOT WARRANT, GUARANTEE, OR MAKE ANY REPRESENTATIONS REGARDING THE USE OF OR THE RESULTS OF THE USE OF THE PRODUCTS IN TERMS OF CORRECTNESS, ACCURACY, RELIABILITY, OR OTHERWISE AND DOES NOT WARRANT THAT THE OPERATION OF THE PRODUCTS WILL BE UNINTERRUPTED OR ERROR FREE. CINEO LIGHTING EXPRESSLY DISCLAIMS ANY WARRANTIES NOT STATED HEREIN. NO LIABILITY FOR CONSEQUENTIAL DAMAGES. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL ELEMENT AND ITS LICENSORS, DISTRIBUTORS, AND SUPPLIERS (INCLUDING ITS AND THEIR DIRECTORS, OFFICERS, EMPLOYEES, AND AGENTS) BE LIABLE FOR ANY DAMAGES, INCLUDING, BUT NOT LIMITED TO, ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES, EXPENSES, LOST PROFITS, INSTALLATION COSTS, LOST SAVINGS, BUSINESS INTERRUPTION, LOST BUSINESS INFORMATION, OR ANY OTHER DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCTS, EVEN IF ELEMENT OR ITS LICENSORS, DISTRIBUTORS, AND SUPPLIERS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. CINEO LIGHTING'S TOTAL LIABILITY ON ALL CLAIMS, WHETHER IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE OR BREACH OF STATUTORY DUTY), STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE AMOUNTS PAID BY CUSTOMER FOR THE PRODUCTS.

Customer acknowledges that the applicable purchase price or license fee for the Products reflects this allocation of risk. Because some states/jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply.   The above limitations shall apply notwithstanding the failure of any limited remedy to fulfill its essential purpose.

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