



CINEO | mavX™

User Guide

Revision 1.0 — February, 2017

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

Welcome to Cineo mavX



Cineo Lighting introduces MavX: a mid-power color-tunable soft source with the same powerful, accurate light output as the Cineo Maverick Remote Phosphor fixture. Leveraging our years of experience in solid-state lighting and material sciences, Cineo has created a compact, 1K equivalent soft light source with the same beautiful color rendering and extended deep-red spectrum as their Remote Phosphor fixtures. Unlike other color-tunable sources, MavX remains consistent throughout the life of the fixture with no color shift or need for calibration. Accurate color tuning is supported in a range from 2700K to 6500K.

Compact, exceptionally durable and powerful, MavX delivers a volume of light equal to a traditional 1K soft source, while meeting the demands of both small studio and portable applications. Like all other Cineo Lighting fixtures, MavX uses passive thermal management for completely silent operation. MavX supports Cineo's Photo-Accurate Dimming (PAD) with both Local and DMX control (0-100%) with no color shifting or flicker at any output level.

MavX requires 12-24VDC power, and is shipped with a 150W AC power supply that can be attached to the fixture or positioned separately. MavX is ideal as

a portable, battery-powered soft source. Cineo's SmartPower™ technology provides consistent light output during battery operation regardless of the charge state of the battery. It also protects to your battery fleet by providing adjustment to the fixture's current draw to match the output capability of your batteries.

The MavX features Cineo's new advanced control panel and comes equipped with a Lumen Radio™ CRMX wireless DMX transceiver. It works in conjunction with the unit's wired DMX interface to provide dimming and RDM programming of the fixture. MavX is both lightweight and rugged, and includes industry-standard 80/20 mounting slots on both the sides and back of the fixture for attaching yokes and other mounting options. MavX is designed to use all Maverick-series light control accessories and mounting options.

General Notes

1. Please read through this manual carefully before operating Cineo MavX, 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. Cineo MavX is not intended for residential use. It is intended for use in a professional studio.
4. Cineo MavX must be serviced by a qualified technician.
5. Do not connect to a variable supply, such as a dimmer rack.
6. The Cineo MavX is rated as IP22 – for damp environments.
7. Cineo products are not certified for use in hazardous locations.
8. The Cineo MavX has a typical operating temperature of 55°C (130°F).

Fixture Set Up

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

Ensure the 28mm Spigot is correctly mounted onto the yoke before rigging.

Always use secondary safety cables of suitable length when hanging Cineo MavX systems.

The MavX fixture weighs 5 lbs. (2.3 kg) excluding accessories. The weight should be considered when choosing a suitable safety cable.

Safety cables must securely be attached to the yoke on MavX or the top metal handle of the power supply 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 MavX in the required orientation for safety purposes.

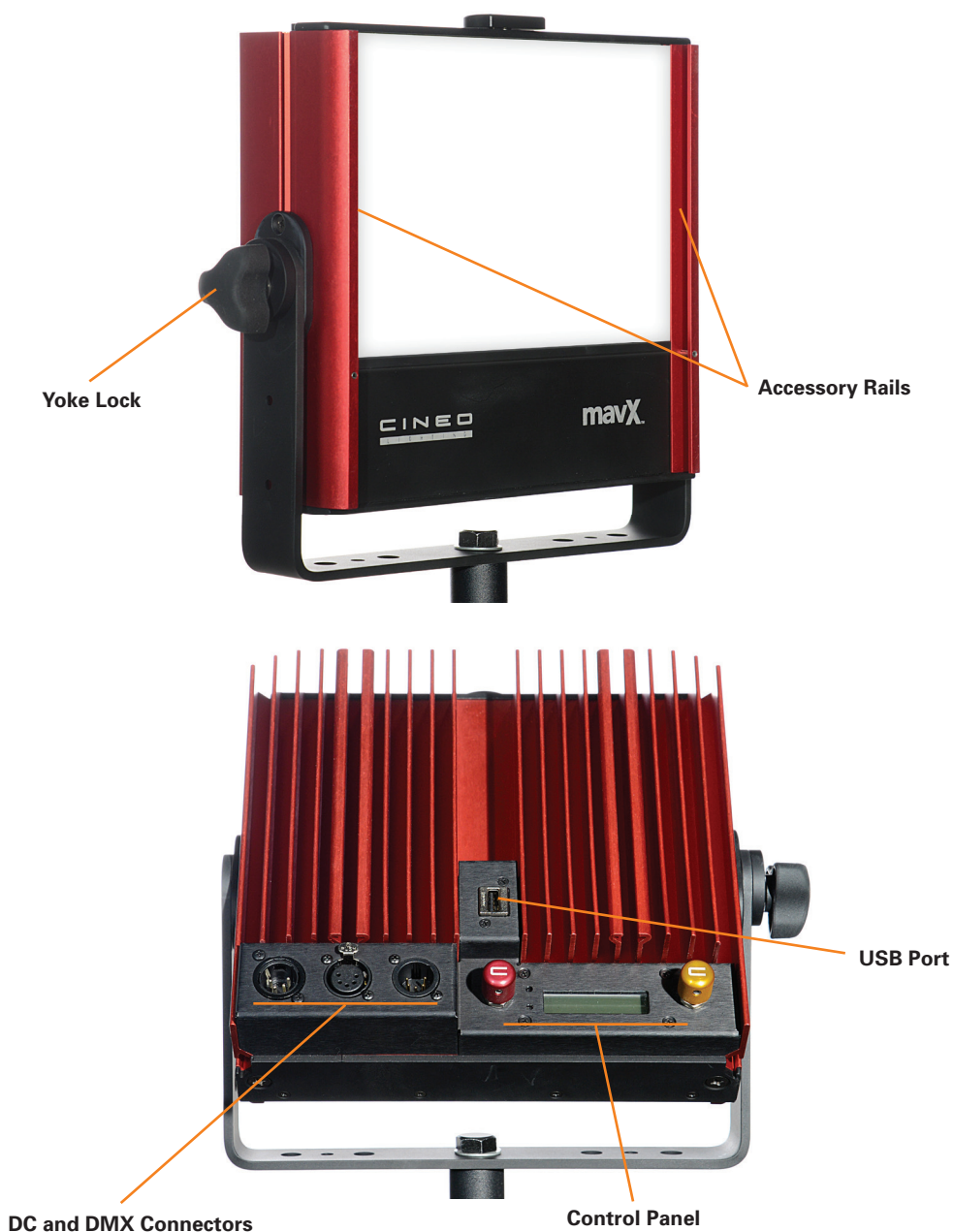
Ensure the Cineo is operated within an ambient temperature range of -20 to +40°C (-4 to 117°F).

System Components, Connections and Controls

MavX Fixture

The MavX represents the next generation of small, color-tunable professional lighting, incorporating simple operation, advanced passive cooling and versatile configuration options. Cineo's Photo-Accurate Dimming technology is available for both local and remote operation (0-100%). Rotary local controls, as well as wired and wireless DMX controls are integrated into the fixture. MavX can be configured to run on battery, DC or AC power sources. Depending on input power and CCT, MavX can output up to 8,000 lumens.

The fixture can be operated in inclement weather conditions, and although not completely waterproof it can withstand moderately wet environments.



Mounting

The 80/20 slots on both the sides and back of the fixture can accommodate additional accessory mounting options from both Cineo Lighting and others.

The MavX yoke is attached to the fixture via the 80/20 slots on the side of the fixture. To remove, loosen the (4) screws on the yoke mounting plate and slide the yoke off.

Power Options

The MavX fixture features SmartPower™ power control, allowing operation with any 12-24 VDC power source capable of delivering 75-135 watts. This provides compatibility with a wide range of battery and AC options, including camera batteries, car lighter sockets, etc. Configuration of SmartPower™ is covered in detail in the Advanced Power Settings section of this guide.

MavX power supplies and battery adapters attach directly to the 80/20 slots on the back of the fixture, and plug into the 4-pin XLR power connector.

Power adapters available from Cineo include:

900.0195 150 watt studio power supply

900.0086 V-Lock battery plate

900.0094 Gold-Mount plate

Input power from other sources is possible using a properly rated XLR4 connector with the following pin configuration:

Pin1 – GND

Pin2 – NC

Pin3 – NC

Pin4 - +VDC

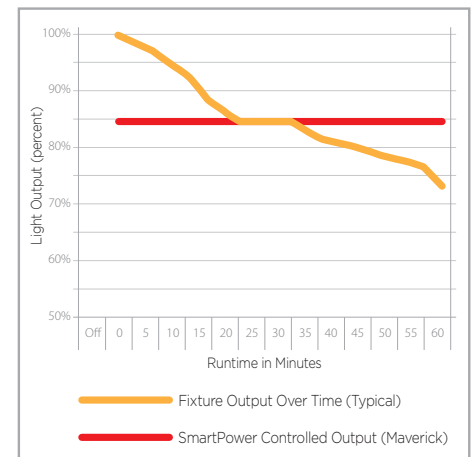
The back of the MavX fixture includes two LED indicators. By observing that state of these indicators, the operating state of the unit can be determined:

● 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.

● 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.





Controls

All connectors and system controls for the Cineo MavX system are located on the control panel on the back of the fixture.

All control of the MavX system is facilitated and displayed on the unit's control panel, which consists of an 8-digit display and (2) rotary encoders, each with a "push" function. The MavX can be controlled from the control panel or remotely via wired or wireless DMX.

Changing operation mode, selecting DMX addresses, configuring wireless operation and advanced power settings are accomplished using the control panel. The operating mode can also be changed remotely using RDM.

Changing Modes

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 or DMX.
3. Push the knob again to select mode.

Advanced Power Settings

Advanced power settings can be changed as follows:

1. Push and hold local knob for approx. 15 seconds, Display shows B for battery.
2. Rotate knob to L (Low capacity 75W battery mode) or H (High capacity 120W battery mode).
3. Push knob again to select.

NOTE: The 120W "H" setting should only be used with batteries whose output equals or exceeds 120 watts. Using this setting with a standard capacity battery may damage the battery.

Selecting Modes

<ol style="list-style-type: none"> 1. Push knob for 5 seconds 2. Rotate and push knob to select mode: <i>Loc</i> – Dimming controlled by knob. <i>Rdd</i> – Dimming controlled by DMX 3. Push knob to select 	<ol style="list-style-type: none"> 4. In DMX mode, rotate left knob to select dimming DMX address. DMX CCT address will increment to the next address 5. Push knob to save
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LED Indicators: ● Local ● DMX Signal

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

Operation

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%. Every 20% increase or decrease changes the output by one camera f-stop.

The color temperature (CCT) of the fixture is controlled by turning the right (yellow) knob, in a continuously variable range of 2700K to 6500K. Pushing the right control knob cycles the CCT of the fixture between popular settings: 2700, 3200, 4300, 5600 and 6500K.

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 address in the address range of 001 to 512. After selecting the DMX mode using the control panel, the left knob is used to set the DMX address for dimming; the DMX address for CCT control is incremented to the next address. When addresses are chosen, 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 6500K using DMX values 0-255. Standard CCT values and their DMX addresses are shown in the table, to the right:

Wired DMX Connections

MavX uses industry-standard 5-Pin XLR male and female connectors to receive DMX signals and output DMX 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

Note that when the DMX control is in use and DMX signal is lost, the fixture will hold its last level. When the MavX loses power, it retains all of its DMX settings when the power is resumed.

DMX Values to Set CCT

0	2700
34	3200
107	4300
195	5600
221	6000
255	6500

DMX Value = (target CCT – 2700)/14.9
(eg, to set 5200° CCT; 5200 minus 2700 = 2500, divide by 14.9 = DMX 168)

Wireless DMX Control

If the unit is configured to be controlled via DMX and no cable is inserted in the DMX IN port, the LumenRadio CRMX bi-directional 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 an MavX 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".
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.

RDM Support

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

Mode Change and remote programming of DMX addresses are supported. The power supply defaults to a 2-address footprint for RDM auto-assign functions.

Cineo Photo-Accurate Dimming

The dimming curve on the HSX follows a new strategy that provides relative output levels that correspond to image capture. Both DMX values and local control levels directly correlate to camera stops in a meaningful way. The result is extremely predictable light levels within the full output range of the fixture.

The following table shows the relationship between DMX and local values as they relate to camera stops:

DMX Value (0-255)	Local Value (0-100)	% Output increase	Stop Increase
50	20%	100	0
100	40%	200	+1
150	60%	400	+2
200	80%	800	+3
250	100%	1600	+4

Here are examples of how to accurately match camera stops to dimming levels:

Local Control: The Rule of 20 (0-100 scale)

Increase output 1 Stop: Add 20 units (fc/lux is doubled)

Decrease output 1 Stop: Subtract 20 units (fc/lux is reduced 50%)

Adjust ½ Stop = 10 Units (0-100)

DMX Control: The Rule of 50 (0-255 scale)

Increase output 1 Stop: Add 50 DMX values (fc/lux is doubled)

Decrease output 1 Stop: Subtract 50 DMX values (fc/lux is reduced 50%)

Adjust ½ Stop = 25 DMX Values

Maintenance Mode

The MavX includes a maintenance mode that displays the firmware version running on the fixture, as well as performing a system calibration cycle. To enter the maintenance mode, perform the following steps:

1. Disconnect power from the fixture for at least 30 seconds.
2. Depress and hold the knob while re-powering the fixture.
3. The display will show the current firmware version, and then perform a self-calibration.
4. When complete, the fixture will return to its previous operating mode.

Specifications

Input: 10.5-28 DC Volts

Power consumption: 75 or 120 watts @12VDC (user configurable for battery operation);
135watts @24VDC (with AC adapter)

Maximum output: up to 8,000 lumens

Size: 9.5" x 8.5" x 3.25" (241mm x 216mm x 83mm)

Weight: 5 lbs. (2.3 kg)

4-pin XLR power input

50,000 hr. L70 rated

Environmental temperature range: -20°C - +40°C

Max. Temperature rise: +45°C

2-year parts and labor warranty

ETL, cETL, CE and RoHS Compliant

Zero UV light emitted

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° inside the fixture during and after fixture 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 MavX are ESD (Electro-Static Discharge) sensitive. To prevent the possibility of destroying LED components do not touch either in operation or while switched off.

Output Safety

The light-output intensity may be harmful to human eyes. No UV or IR is emitted at any time from this fixture.

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.

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