CINEO LIGHTING™

CINEO | HS²wave™

User Guide

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

www.cineolighting.com

Welcome to Cineo HS² Wave

Cineo Lighting continues to pioneer Remote Phosphor technology for image capture with HS², the third-generation of the revolutionary HS fixture currently in use on motion picture sets and in broadcast studios worldwide. All HS² components are 100% cross-compatible with all legacy HS fixtures, accessories, phosphor panels, and cabling.

The HS² lamphead is both lightweight and rugged, and includes industry-standard 80/20 mounting slots on both the sides and back of the fixture for attaching the power supply and yokes. Two distinct mixing chambers allow custom CCT mixing via DMX. A hinged top access panel allows for easy, one-handed phosphor panel and accessory changes. The dimensions and output are identical to all legacy HS fixtures.

The new RDM450 Wave power supply is smaller and lighter weight than previous HS-series power supplies and features Cineo's new advanced control panel. The Wave power supply comes equipped with a Lumen Radio™ wireless DMX transceiver that works in conjunction with the unit's wired DMX interfaces to provide dimming and RDM programming of the fixture. The Wave power supply is attached directly to the HS² head for one-piece operation or can be operated remotely up to 300 feet from the fixture.

The HS² Wave represents Cineo Lighting's commitment to constant innovation of illumination technology. This third-generation 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 HS^2, 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 HS^2 is not intended for residential use. It is intended for use in a professional studio.
4. Cineo HS^2 must be serviced by a qualified technician.
5. The Cineo HS^2 are rated as IP22 – for damp environments.
6. Cineo products are not certified for use in hazardous locations.
7. The Cineo HS^2 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 HS^2 lampheads or power supplies.

The HS^2 lamphead weighs 13 lbs. (6 kg) excluding accessories and the power supply weighs 12 lbs. (5.5 kg). The combined weight should be considered when choosing a suitable safety cable.

Safety cables must securely be attached to the yoke slots on HS^2 lamphead 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 HS^2 in the required orientation for safety purposes.

Ensure the Cineo HS^2 lamphead and power supply are operated within an ambient temperature range of -20 to +50°C (-4 to 122°F).

System Components, Connections and Controls

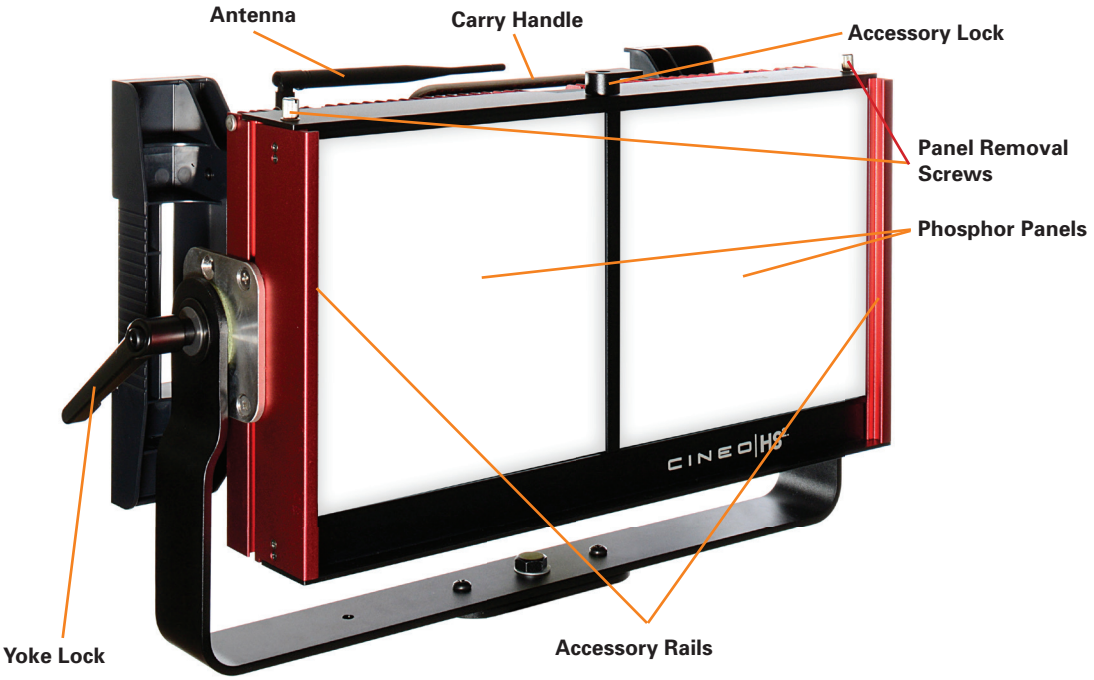
Cineo HS2 Lamphead

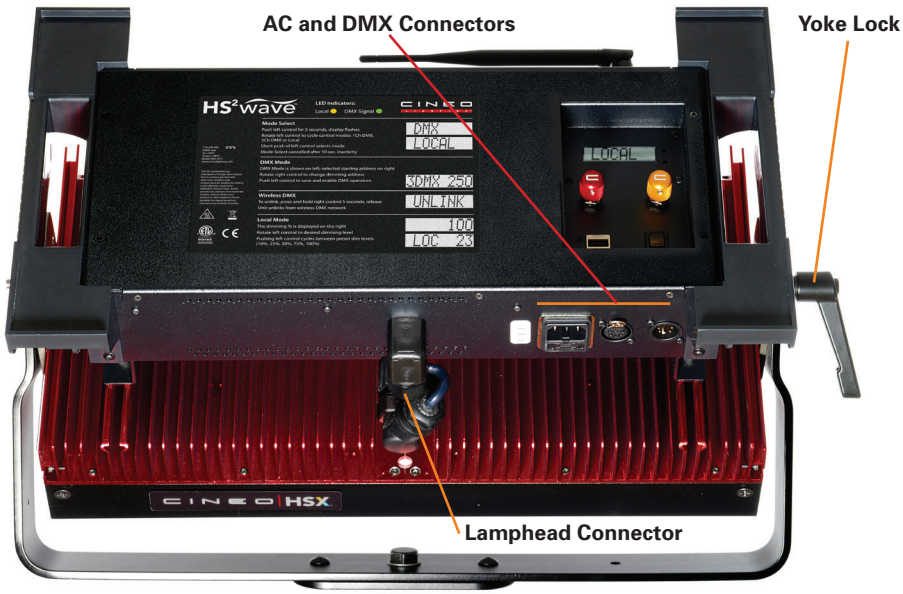
The HS² lamphead is controlled by an external power supply. The lamphead includes a cable-mounted, keyed multi-pin connector for connection to the power supply. To reduce strain on the cable connector, a cable retainer is provided

The HS² lamphead is completely cross-compatible with all other Cineo HS-series power supplies, and can be used interchangeably with all HS power supply models.

Two panel removal thumbscrews located on the top of the lamphead will release the panel access door for removal of the remote phosphor panels. The panel door has a safety "kill switch" that will turn the light off when the door is opened. For proper operation ensure that the door is securely fastened but not over tightened.

Please refer to the Cineo catalog for current lamphead mounting options and light control.





Remote Phosphor Panels

Color temperature (CCT) for the HS² fixture is changed by removing and replacing the remote phosphor panels on the front of the lamphead.

Cineo HS² should only be used with Cineo remote phosphor panels in place.

Panels should always be inserted with the glossy side out.

Do not expose to abrasive surfaces.

Please reference the Cineo catalog for available color temperature options.

To change panels, follow these steps:

1. Unthread the captive thumbscrews located on the top door of the lamphead.
2. When opening the door, the LEDs will automatically shut off.
3. Remove panels and replace with panels correlating to the desired CCT, making sure that the panels are well-seated in the slots and the glossy, labeled side of the panel is facing outward.
4. Avoid touching LEDs and the white reflective material.
5. Close door and tighten the retaining thumbscrews. NOTE: Please make sure that thumbscrews are securely fastened but not overly-tightened. The fixture may not illuminate if the door is not fully closed.

Accessory Attachment

The accessory attachment rails are designed to accept all Cineo HS-series light control accessories including louvers, egg crates, barn doors, gel frames and soft boxes. The HS² includes an accessory lock on the top of the lamphead that can be positioned to hold the accessories in place. Reference the Cineo Catalogue for various light control options.

Yoke Removal and Adjustment

The HS² yoke is attached to the lamphead via the 80/20 slots on the side of the fixture. To remove, loosen the (4) screws on the yoke mounting plate, open the top door on the lamphead and slide the yoke off. Note that there are two sets of mounting hole in the yoke mounting plate which can position the center of gravity either directly over the yoke, or offset when the power supply is mounted on the back of the lamphead. Power supply mounting and removal are covered later in this document.

Cineo HS² Wave Power Supply

All connectors and system controls for the Cineo HS² system are located on the power supply. Note that the HS² Wave power supply is completely cross-compatible with all other Cineo HS-series power supplies, and can be used interchangeably with any HS-series lamphead.

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

Power Connections

AC Power In: The IEC power cable connects to the power supply via this port.

AC Fuse Holder: An AC fuse is located under the flip-out 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 front panel of the power supply includes two LED indicators. 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 1-channel or 3-channel 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

All control of the HS2 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 HS2 Wave power supply includes three modes of operation, which can be set locally on the power supply or remotely using RDM protocol. The three modes are:

Local Mode

In this mode, 0-100% dimming is controlled via the left (red) rotary knob on the control panel of the power supply. When in Local Mode, the display shows "LOC", followed by the percentage dim level.

1-Channel DMX Mode

In this mode, the entire output of the fixture is controlled remotely on a single DMX address in the address range of 001 to 512. 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. In this mode, the display shows "1DMX" on the left side of the display, followed by the 3-digit DMX address.

3-Channel DMX Mode

In this mode, the DMX footprint of the fixture includes three addresses: the left side, the right side and fine dimming, all of which are independently controllable. This mode is ideally suited when the lamphead is fitted with different CCT phosphor panels or when precision light levels are required in the 1-33% range. When in this mode, the display shows "3DMX", followed by

the first of the 3 addresses assigned (the left side of the HS²). The following two addresses are automatically mapped to the right side and the fine-dimming channels, respectively.

Changing Modes

Changing operation mode and selecting DMX addresses can be accomplished using the control panel, or remotely using RDM.

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, 1-CH DMX or 3-CH DMX.
3. Push the knob again to select mode.
4. If either DMX mode is selected, the DMX address will be displayed. Rotate the right (yellow) knob to select the desired DMX address and push the knob again to select. The selected mode and address will be displayed.

Mode selection instructions are attached to the front of the power supply for quick reference.

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 an HS² Wave 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.

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 5W.

RDM Support

The HS² Wave 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.

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

Calibration

The HS2 system can be calibrated for optimal dimming characteristics. To perform a calibration sequence, please perform the following:

1. With the power OFF, attach the power supply to the lamphead it will be paired with.
2. Push and hold the left (red) knob on the control panel while turning the power supply ON. 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.
3. When the calibration sequence completes, the system returns to its previous mode and dim level.

Error Codes

The display on the RDM450 will display error conditions it encounters. These are:

ERR1
Cause: Power supply exhibiting over-current condition.
Solution: Make sure the lamphead is properly attached to the power supply

OPEN
Cause: Lamphead cutoff switch is not engaged
Solution Securely close and fasten the top door of the lamphead

HOT
Cause: RDM450 internal temperature exceeds safe limits
Solution: Make sure the unit is properly ventilated

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

The HS2 Wave system is shipped with the power supply attached directly to the back of the lamphead. As with all HS-series fixtures, the power supply can be operated remotely from the lamphead.

To remove the power supply from the lamphead, follow these steps:

1. Loosen the retaining screws that hold the power supply to the 80/20 slots on the back of the lamphead.
2. Slide the power supply upwards in the slots toward the top access door on the lamphead.
3. Detach the cable connector between the power supply and lamphead.
4. Slide the power supply off the bottom of the lamphead.
5. Connect HS-series lamphead cable to the connector on the power supply. Please reference the Cineo catalogue for available cable lengths.
6. Optionally, the power supply side handles can be removed and replaced with protective bumpers (p/n 900.xxxx)
7. For stand-mounting of the power supply, the Power Supply Mounting Clip (p/n 900.0060) offers secure mounting of the power supply remotely from the lamphead.

Do not connect or disconnect lamphead cable when the power supply power is on.

For re-attachment, follow these steps in reverse order.

Specifications

Input voltage: 100-240 VAC 50/60 Hz.
Power consumption: 500 watts, max
Lamp head dimensions: 12" H x 21" W x 3.8" D (290 mm x 532 mm x 96.5 mm)
Lamp head weight: 13 lbs (6 kg)
35,000 hr. L70 rated
HS2 Wave Power Supply dimensions: X" h x Y" w x Z" d *(metrics to follow)
HS2 Wave Power Supply Weight: 12 lbs (5.5 kg)
Environmental temperature range: -20º - + 50º C
Max temperature rise: +45º C
2-year parts and labor warranty
Zero UV light emitted
ETL, cETL certified, 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 lamphead 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 HS^2 lamphead are ESD (Electro-Static Discharge) sensitive. To prevent the possibility of destroying LED components do not touch either in operation or while switched off.

Blue Light Output
Do not bypass the lamphead safety switches that turn off the blue LEDs when phosphor panels are removed. 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 four 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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