

CYBERLIGHT



Cyberlight[®] 2.0 **User Manual**

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HIGH END SYSTEMS[®]



Cyberlight[®] User Manual

Version 2.0

February, 2010

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Declaration of Conformity

according to ISO/IEC Guide 22 and EN45104

Manufacturer's name: Barco Lighting Systems
Manufacturer's address: 2105 Gracy Farms Lane
Austin, Texas 78758 USA

Distributor's name: High End Systems, Inc.
Distributor's address: 2105 Gracy Farms Lane
Austin, Texas 78758 USA

Declares that the product:

Product Name: Cyberlight, Cyberlight 2.0
Product Options: All

conforms to the following EEC directives:

73/23/EEC, as amended by 93/68/EEC
89/336/EEC, as amended by 92/31/EEC and 93/68/EEC

Equipment referred to in this declaration of conformity was manufactured in compliance with the following standards beginning in 1995:

Safety: EN 60598-1 : 2004
EN 60598-2-17: 1989
A1-A3 : 1993
EMC: EN 550103-1 1996 Class A
EN55103-2: 1996



USA, Wednesday, February 10, 2010
Kenneth Stuart Hansen, Compliance Engineer

Product Modification Warning

High End Systems products are designed and manufactured to meet the requirements of United States and International safety regulations. Modifications to the product could affect safety and render the product non-compliant to relevant safety standards.

Mise En Garde Contre La Modification Du Produit

Les produits High End Systems sont conçus et fabriqués conformément aux exigences des règlements internationaux de sécurité. Toute modification du produit peut entraîner sa non conformité aux normes de sécurité en vigueur.

Produktmodifikationswarnung

Design und Herstellung von High End Systems entsprechen den Anforderungen der U.S. Amerikanischen und internationalen Sicherheitsvorschriften. Abänderungen dieses Produktes können dessen Sicherheit beeinträchtigen und unter Umständen gegen die diesbezüglichen Sicherheitsnormen verstoßen.

Avvertenza Sulla Modifica Del Prodotto

I prodotti di High End Systems sono stati progettati e fabbricati per soddisfare i requisiti delle normative di sicurezza statunitensi ed internazionali. Qualsiasi modifica al prodotto potrebbe pregiudicare la sicurezza e rendere il prodotto non conforme agli standard di sicurezza pertinenti.

Advertencia De Modificación Del Producto

Los productos de High End Systems están diseñados y fabricados para cumplir los requisitos de las reglamentaciones de seguridad de los Estados Unidos e internacionales. Las modificaciones al producto podrían afectar la seguridad y dejar al producto fuera de conformidad con las normas de seguridad relevantes.

Important Safety Information

Instructions pertaining to continued protection against fire, electric shock, and injury to persons are found in *Appendix B: Important Safety Information* on page 43. Please read all instructions prior to assembling, mounting, and operating this equipment.

Important: Informations De Sécurité

Les instructions se rapportant à la protection permanente contre les incendies, l'électrocution, excessif et aux blessures corporelles se trouvent dans l'Annexe B. Veuillez lire toutes les instructions avant d'assembler, de monter ou d'utiliser cet équipement.

Wichtige Sicherheitshinweise

Sicherheitsanleitungen zum Schutz gegen Feuer, elektrischen Schlag, und Verletzung von Personen finden Sie in Anhang B. Vor der Montage, dem Zusammenbau und der Inbetriebnahme dieses Geräts alle Anleitungen sorgfältig durchlesen.

Informazioni Importanti Di Sicurezza

Le istruzioni sulla protezione da incendi, folgorazione, e infortuni sono contenute nell'appendice B. Si prega di leggere tutte le istruzioni prima di assemblare, montare e azionare l'apparecchiatura.

Informacion Importante De Seguridad

En el Apéndice B se encuentran instrucciones sobre protección continua contra incendios, descarga eléctrica, y lesiones personales. Lea, por favor, todas las instrucciones antes del ensamblaje, montaje y operación de este equipo.

FCC Information

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Safety Symbols

The following international caution and warning symbols appear in margins throughout this manual to highlight messages.



This symbol appears adjacent to Caution messages. Not heeding these messages could result in personal injury and/or damage to equipment.



This symbol appears adjacent to high voltage warning messages. Not heeding these messages could result in serious personal injury.



This symbol indicates the minimum focus distance from a combustible object.



This symbol cautions against mounting the fixture on or near a flammable surface.



This symbol indicates an explosion hazard.



This symbol cautions against an Ultraviolet Radiation hazard.



This symbol indicates that eye protection should be worn to prevent potential injury.



This symbol warns of a fire hazard.



This symbol indicates that, while operating, equipment surfaces may reach very high temperatures. Allow the fixture to cool before handling.

Warranty Information

Limited Warranty

Unless otherwise stated, your product is covered by a one year parts and labor limited warranty. Dichroic filters and LithoPatterns® high resolution glass gobos are not guaranteed against breakage or scratches to coating. It is the owner's responsibility to furnish receipts or invoices for verification of purchase, date, and dealer or distributor. If purchase date cannot be provided, date of manufacture will be used to determine warranty period.

Returning an Item Under Warranty for Repair

It is necessary to obtain a Return Material Authorization (RMA) number from your dealer or point of purchase BEFORE any units are returned for repair. The manufacturer will make the final determination as to whether or not the unit is covered by warranty. Lamps are covered by the lamp manufacturer's warranty.

Cyberlight 2.0 fixtures must be returned in its original roadcase. Any other parts returned to High End Systems must be packaged in a suitable manner to ensure the protection of such Product unit or parts, and such package shall be clearly and prominently marked to indicate that the package contains returned Product units or parts and with an RMA number. Accompany all returned Product units or parts with a written explanation of the alleged problem or malfunction. Ship returned Product units or parts to: 2105 Gracy Farms Lane, Austin, TX 78758 USA.

Note: *Freight Damage Claims are invalid for fixtures shipped in non-factory boxes and packing materials.*

Freight

All shipping will be paid by the purchaser. Items under warranty shall have return shipping paid by the manufacturer only in the Continental United States. Under no circumstances will freight collect shipments be accepted. Prepaid shipping does not include rush expediting such as air freight. Air freight can be sent customer collect in the Continental United States.

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Warranty is void if the product is misused, damaged, modified in any way, or for unauthorized repairs or parts. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Patents

This product may use one or more of the following patents: US 4,392,187; US 4,602,321; US 4,688,161; US 4,701,833; US 4,709,311; US 4,779,176; US 4,800,474; US 4,962,687; US 4,972,306; US 4,980,806; US 5,010,459; US 5,031,078; US 5,073,847; US 5,078,039; US 5,186,536; US 5,209,560; US 5,278,742; US 5,282,121; US 5,307,295; US 5,329,431; US 5,331,822; US 5,367,444; US 5,402,326; US 5,414,328; US 5,426,576; US 5,430,629; US 5,432,691; US 5,454,477; US 5,455,748; US 5,502,627; US 5,506,762; US 5,515,254; US 5,537,303; US 5,545,951; US 5,588,021; US 5,590,954; US 5,590,955; US 5,640,061; US 5,647,662; US 5,691,886; US 5,702,082; US 5,728,994; US 5,758,955; US 5,758,956; US 5,769,527; US 5,769,531; US 5,774,273; US 5,788,365; US 5,794,881; US 5,795,058; US 5,798,619; US 5,806,951; US 5,812,596; US 5,823,661; US 5,825,548; US 5,828,485; US 5,829,868; US 5,857,768; US 5,882,107; US 5,921,659; US 5,934,794; US 5,940,204; US 5,945,786; US 5,953,151; US 5,953,152; US 5,969,485; US 5,980,066; US 5,983,280; US 5,984,248; US 5,986,201; US 6,011,662; US 6,029,122; US 6,048,080; US 6,048,081; US 6,054,816; US 6,057,958; US 6,062,706; US 6,079,853; US 6,126,288; US 6,142,652; US 6,142,653; US 6,172,822; US 6,175,771; US 6,188,933; US 6,208,087; US 6,219,093; US 6,220,730; US 6,241,366; US 6,249,091; US 6,255,787; US 6,256,136; US 6,261,636; US 6,278,542; US 6,278,545; US 6,278,563; US 6,288,828; US 6,326,741; US 6,327,103; US 6,331,756; US 6,346,783; US 6,421,165; US 6,430,934; US 6,459,217; US 6,466,357; US 6,502,961; US 6,515,435; US 6,523,353; US 6,536,922; US 6,538,797; US 6,545,586; US 6,549,324; US 6,549,326; US 6,563,520; US 6,565,941; US 6,570,348; US 6,575,577; US 6,578,991; US 6,588,944; US 6,592,480; US 6,597,132; US 6,600,270; US 6,601,974; US 6,605,907; US 6,617,792; US 6,621,239; US 6,622,053; US 6,635,999; US 6,648,286; US 6,664,745; US 6,682,031; US 6,693,392; US 6,696,101; US 6,719,433; US 6,736,528; US 6,771,411; US 6,775,991; US 6,783,251; US 6,801,353; US 6,812,653; US 6,823,119; US 6,865,008; US 6,866,390; US 6,866,402; US 6,866,451; US 6,869,193; US 6,891,656; US 6,894,443; US 6,919,916; US 6,930,456; US 6,934,071; US 6,937,338; US 6,955,435; US 6,969,960; US 6,971,764; US 6,982,529; US 6,988,805; US 6,988,807; US 6,988,817; US 7,000,417; US 7,011,429; US 7,018,047; US 7,020,370; US 7,033,028; US 7,048,838; US 7,055,963; US 7,055,964; US 7,057,797; US 7,073,910; US 7,078,869; US 7,092,098; US 7,119,902; US 7,161,562; US 7,175,317; US 7,181,112; US 7,206,023; US 7,210,798; US D347,113; US D350,408; US D359,574; US D360,404; US D365,165; US D366,712; US D370,080; US D372,550; US D374,439; US D377,338; US D381,740; US D409,771; AT E169413; CA 2142619; CA 2145508; CA 2245842; DE 22588.4-08; DE 621495; DE 655144; DE 69320175.4; DE 69322401.0; DE 69331145.2; DE 69525856.7; DE 69734744.3; DE 797503; DK 0655144; DK 1447702; EP 0475082; EP 0621495; EP 0655144; EP 0662275; EP 0767398; EP 0797503; EP 0969247; EP 1447702; ES 0621495; FR 0621495; FR 0655144; FR 0662275; FR 1447702; GB 2043769B; GB 2055842B; GB 2283808B; GB 2290134B; GB 2291814B; GB 2292530B; GB 2292896B; GB 2294909B; GB 2295058B; GB 2303203B; GB 2306887B; GB 2307036B; GB 2316477B; IE 0621495; IT 034244BE; 2005; IT 0621495; IT 0655144; JP 3495373; JP 3793577; NL 0621495; NL 0797503; NL 0969247; UK 0621495; UK 0655144; UK 0662275; UK 0797503; UK 0969247; UK 1447702;



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Cyberlight® 2.0 fixtures can be programmed to provide hard edge beam with full CMY color, multiple gobo patterns and effects, as well as a variety of Shutter/Lamp functions.

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Chapter I:

Product Overview

This chapter describes the features and specifications of the Cyberlight® 2.0 fixture along with a list of related products and accessories.

The Cyberlight® 2.0 luminaire updates the classic Cyberlight fixture with brighter lamp, and improved electronics. The MSR 2000 short arc lamp boosts the light output to 30,000 lumens. An onboard menu system with an LED display replaces dip switches for easy addressing and fixture configuration. A universal power supply eliminates the need to set voltages and provides for electronic strobing. Individual DMX control of the color flags enhance color mixing and allow for a unique tri-color effect.

Cyberlight 2.0 features motorized variable frost from hard edge to soft edge; beam position and movement speed; focus; variable zoom; litho and CYM color selection; color mixing; variable iris; variable-speed rotating lithos; full optical dimming; and automatic cooling system shutdown. The fixture still accepts stock and custom LithoPatterns, including high resolution glass gobos, Art Glass and Special Effects lithos. Electronic lamp ballast provides lamp strobe and dimming.

These improvements along with updated DMX and RDM control make Cyberlight 2.0 brightest mirror fixture with the most features and effects on the market.

Features

Operation

- 170° pan and 90° tilt movement
- Increased mirror movement speeds
- Auto-switching power supply
- LED display for addressing and configuration
- 200v-240v
- 28 DMX channels of standard USITT DMX 512 protocol control
- DMX/RDM Connector: 5-pin XLR
- Compliances: ETL, CE
- Pan and tilt swap; pan and tilt invert
- Remote system enable/disable
- GE 2000 watt MSR lamp with 7000K color temperature
- 750-hour rated lamp life

- Quick lamp change and optimization
- Electronic Lamp ballast

Optics

- Computer-optimized cold-mirror reflector and lens assembly for maximum output
- Enhanced mirror increases efficiency
- Motorized zoom control
- Zoom angle 13° to 22° (16° to 26° using the wide angle effect)
- Field angle up to 36°
- Motorized focus control
- Motorized variable frost from hard edge to soft edge
- Smooth, precise micro-stepped beam positioning
- 100% dimming, fade to black

Effects

- 16 million colors available via sophisticated dichroic subtractive CYM (cyan-yellow-magenta) color model
- Eight-position indexed color wheel with a versatile selection of richly-saturated dichroic colors plus open (white), custom dichroic filters available
- Variable speed (forward and reverse 0-50 RPM) rotating lithopatterns (from 0° to 360°) with replaceable patterns (4 lithos plus open)
- Eight-position fixed litho wheel with seven easily-replaceable LithoPatterns standard
- Litho mixing effects: rotating over fixed, or fixed over fixed
- Eight-position effects wheel including a multi-image prism effect, and a subtractive color dichroic mosaic effect
- Infinitely-variable frost effect
- Wide angle and Diffusion lens effects
- Variable speed motorized iris control
- Variable high-speed strobe shutter and variable high speed electronic strobing
- Variable speed mirror scan, litho, and color changes

Construction

- High-resolution micro-stepping motor control for smooth motion at all speeds
- Full cutaway access to optical system for service and cleaning
- Electronic cooling system control
- Interlocked rear lamp replacement system for easy access
- External lamp position adjustment controls
- Performance oriented exterior design prevents stray light scatter
- Break-resistant mirror

Specifications

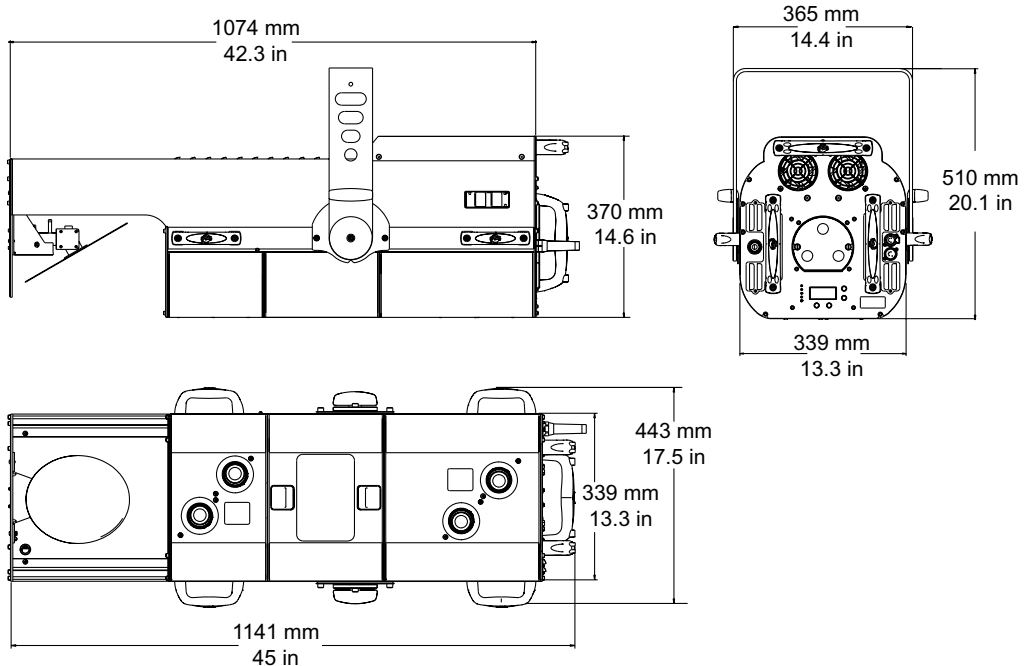
Mechanical Specifications

Fixture weight (including yoke): 45kg (99 lb)

Shipping weight (Box + Fixture + Yoke): 51.3 kg (113 lb)

Dimensions (including yoke): 510 mm x 443 mm x 1141 mm (20.1 in x 17.5 in x 45 in)

Shipping Box Dimensions: 749 mm x 1200 mm x 724 mm (29.5 in x 47.25 in x 28.5 in)



Wheel Components

Dichroic Glass: Diameter: 1.745 in \pm 0.010 in (44.323 mm \pm 0.25 mm)
Thickness: 0.069 in (1.75 mm)

Effects Glass: Diameter: 2.060 in \pm 0.010 in (52.32 mm \pm 0.25 mm)
Thickness: 0.069 in (1.75 mm)

Lithopatterns: Diameter: 1.745 in \pm 0.010 in (44.323 mm \pm 0.25 mm)
Thickness: 0.069 in (1.75 mm)
Image Area: 1.465 in (37.21 mm)

Electrical Specifications

Voltage selectable: 208V / 230V only

Power consumption: 12 Amps at 200V, 10 Amps at 240V

Rated power: 2000W

Rated frequency: 50-60Hz

Rated Lamp Life: 750 hrs



Warning: Class I equipment - For continued protection against electric shock connect this equipment to an earthed (grounded) power source only

This equipment for connection to branch circuit having a maximum overload protection of 20 A

Safety Standards

- EN 60598-1: 1993
- EN 60598-2-17: 1989
- A1-A3: 1993

EMC Standards

- EN 50081-1: 1992
- EN 50082-1: 1992

Environmental Specifications

Maximum ambient temperature: 45° C (113° F)

Maximum exterior surface temperature: 110° C (144° F)

Minimum distance to lighted object: 3 m (9.8 ft)

Minimum distance to flammable objects: 1 m (3.28 ft)



**Caution: Do not mount on a flammable surface
Not for residential use
Use in dry locations only**



Cables and Connectors

Belden® 3107A or equivalent (meets specifications for EIA RS-485 applications) with the following characteristics:

- Two twisted pairs plus a shield
- maximum capacitance between conductors - 30 pF/ft.
- maximum capacitance between conductor and shield - 55 pF/ft.
- maximum resistance of 20Ω / 1000 ft.
- nominal impedance 100-140Ω

Related Products and Accessories

Name	Part Number
Replacement Lamp MSR2000/SA (7000 K)	55030088
Cyberlight LithoPatterns	Call*
Cyberlight custom color wheel dichroic filters	Call*
Cyberlight touring yoke kit	55040005
Cyberlight narrow angle lens kit	55040012
Keal road case	19070004
Whole Hog®3 Lighting Console	25020001
Road Hog® Full Boar Lighting Console	A6020001
Road Hog® Lighting Console	A2020001
Heavy duty 5-pin XLR cable (10')	55050017
Heavy duty 5-pin XLR cable (25')	55050018
Heavy duty 5-pin XLR cable (50')	55050019
Heavy duty 5-pin XLR cable (100')	55050020
Galvanized safety cable	12040001
Cheeseborough clamp	55040014
Mega-Claw clamp	67040007

Chapter 2:

Installation and Setup

Installation includes mounting, connecting to power and establishing Ethernet and DMX links. Setting a start channel configures the fixture for DMX control.

Unpacking the Cyberlight® 2.0 Fixture

Carefully unpack your fixture and verify that it arrived complete and without any damage. If any internal or external parts of the fixture are damaged you must notify both the shipping agent and your sales agent immediately.

Do not discard the shipping carton and packing materials. The carton and packing materials are specifically designed to protect the product during transport. High End Systems assumes no responsibility for products damaged during transport. Any product being returned for repair must be shipped in its original shipping carton and packing materials.

Note: *Before sending anything to the factory, be sure to call your HES dealer/distributor for a Return Authorization (RA) number. The factory cannot accept any goods shipped without an RA number.*

Installing the Power Cord Cap

You must obtain and install a power cord cap before you can connect the Cyberlight 2.0 to a power outlet. The type of power cord cap you must obtain depends on the location in which the Cyberlight 2.0 will be used; different locations (even within the same country) might have different power cord cap requirements.


Note: *Because of the wide variety of power cord caps used worldwide, High End Systems cannot make specific recommendations for the particular power cord cap you should use. Contact a local authority if you are unsure which type of power cord cap you need.*

Power Cord Cap: UK Only

The cores in the mains lead are colored in accordance with the following code:

- **green and yellow:** earth
- **blue:** neutral
- **brown:** live

Since the colors of the cores in the mains lead of this equipment may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

- The core which is colored green and yellow must be connected to the terminal in the plug which is marked with the letter "E" or by the earth symbol , or colored green or green and yellow
- The core which is colored blue must be connected to the terminal which is marked with the letter "N" or colored black
- The core which is colored brown must be connected to the terminal which is marked with the letter "L" or colored red



CAUTION: Class 1 equipment. This equipment must be earthed

VIGTIG FIKKER HEDS INFORMATION - DANMARK

ADVARSEI: RESKYTTEKSE MOD ELEKTRISK SHOCK

VIGTIGT!

LEDERE MED GROEN/GUL ISOLATION

MA KUN TILSLUTTES EN KLEMME MAERKET

ELLER

=



Installing the Yoke

Although you can operate the Cyberlight 2.0 fixture standing on its handles, you will need to install the supplied yoke for truss mounting.

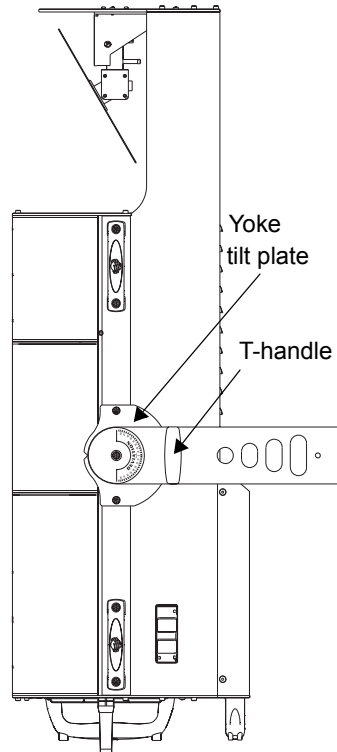
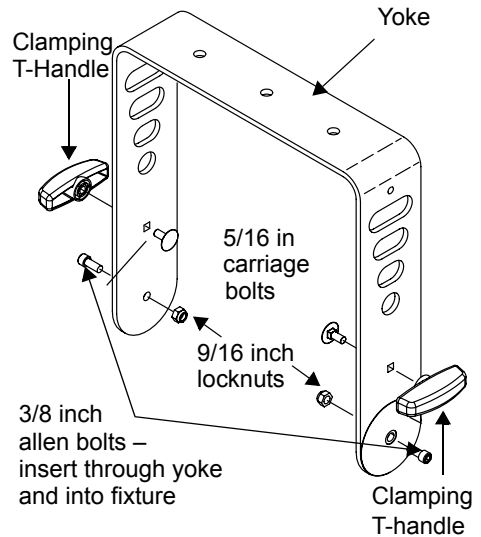
Yoke kit components:

- two 5/16 inch carriage bolts
- two clamping T-handles
- yoke
- two 3/8 inch allen cap screws
- two 9/16 inch locknuts (nut with nylon insert)

Installing the yoke:

Note: *If you are installing this yoke on a fixture that has already been put into use, disconnect the unit from power and allow at least 10 minutes to cool.*

1. To assemble the yoke, insert the carriage bolts through the square-shaped hole in the yoke and loosely attach the clamping T-handles to the carriage bolts.
2. Remove the center access door and stand the fixture on its end handles.
3. Position the U-shape of the yoke is opposite the center access door, aligning the bottom holes on the yoke with the yoke pivot hole.
4. Insert the two 3/8 inch allen bolts through the round holes in each side of the yoke, and through the holes in the side of the Cyberlight 2.0. Tighten them using your fingers or an allen wrench.
5. Place a locknut on the end of each allen bolt. You can use either a 3/8 inch socket wrench or a 3/8 inch wrench to turn the nut. Tighten the nut until so you are still able to pivot the fixture.
6. Position the yoke as desired, using the deviation degree markings on the yoke for exact positioning, and firmly tighten the T-handles.
7. On the top of each yoke are three 13 mm (1/2-inch) diameter mounting holes which provide two different ways to mount the fixture.



Mounting the Cyberlight 2.0 Fixture



WARNING!
Equipment suitable for dry locations only. Do not expose this equipment to rain or moisture.

This equipment must be earthed.



CAUTION!
Always use a secondary safety cable through the yoke when mounting this fixture.

Mount the fixtures and controllers in a location that is away from direct heat and protected from moisture.



Maintain a minimum focus distance of 3 meters (from a combustibles object).



Do not mount within 1 meter of a flammable surface.

Standing the Fixture on its End Handles

The Cyberlight end handles are designed to support the weight of the fixture; however, make sure you observe the following guidelines:

- The fixture must be located away from moving objects that could strike it and cause it to become unbalanced.
- The fixture must be mounted on a sturdy, stable surface.
- If the surface is other than floor height, make sure you use safety cables as described in the next section.

Mounting the Fixture on a Truss or Other Support System



WARNING!
Before mounting, disconnect power to the fixture. If it has been operating, allow the fixture to cool for five minutes before handling.

Truss or Other Support System

If you are mounting the fixture(s) on a truss or another type of support, verify that the truss or support will handle the weight of *all* the devices you are mounting. The Cyberlight 2.0 fixture with its yoke weighs 45kg (99 lb).

Safety Cable

High End Systems strongly recommends that you use a safety cable when mounting any fixture. You must supply your own safety cable and verify that the cable is capable of supporting the weight of the fixture. You can order galvanized safety cables from your High End Systems dealer/distributor (see *Related Products and Accessories* on page 5).

Clamps

You must supply two clamps and verify they are capable of supporting the weight of the fixture with the yoke (45kg (99 lb)). You can order truss clamps from your High End Systems dealer/distributor (see *Related Products and Accessories* on page 5).

Make sure the fixture **cannot** be rotated all the way around (360°). (Using two clamps is a good way to do this). Allowing the fixture to rotate 360° could loosen the clamp mounting bolts.

Mounting Procedure

Because of the variety of conceivable lighting designs, you should consider the procedure below as a suggested guideline only. High End Systems cannot make specific recommendations for your particular lighting design or venue.



CAUTION:

Always stand on a firm, stable surface and use three people to mount each Cyberlight 2.0 fixture; two people to hold the fixture while it is being secured in place, and one person to secure the fixture to its support and to attach clamps and safety cables.

Only experienced lighting personnel should attempt to hang a lighting fixture to an appropriate theatrical truss.

To mount the fixture:

1. Attach two clamps using the holes on the yoke. *Use locking washers when attaching the clamp to the yoke*
2. Tighten the clamps firmly to the Cyberlight yoke and to the support.
3. Loop one or more suitable safety cables around the support and around the Cyberlight yoke.



CAUTION:

Do not use the fixture handles as a safety cable attachment point. The Cyberlight handles are intended only for hand-lifting the fixture.

WARNING:

Failure to use a safety cable could result in injury or death. High End Systems supplies the proper safety cables and may be contacted for replacements if necessary. For more information go to: www.highend.com/trusshang.

Linking Cyberlight 2.0 Fixtures

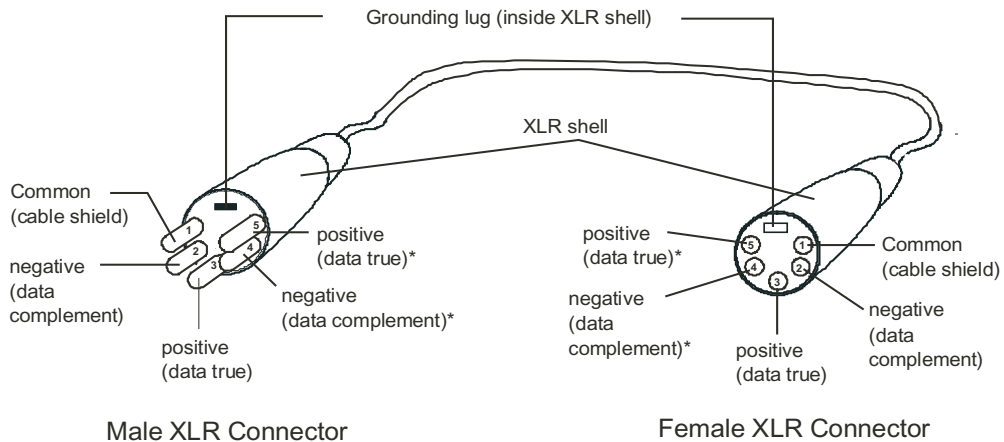
Cyberlight 2.0 fixtures operate on standard DMX512 link controlled by a DMX console. The number of fixtures on a link will be determined by the combined number of channels required by all the fixtures. A Cyberlight 2.0 fixture requires a 28 channel footprint on a standard DMX512 link.

Cable Connectors

Use data-grade cable and 5-pin XLR cable connectors to attach your fixture to the DMX link.

The Cyberlight 2.0 fixture accepts 5-pin XLR cable connectors. Cabling must have a male XLR connector on one end of the cable and a female XLR connector on the other end.

Pin one is the common (cable shield), pin two is the data complement (negative), pin three is the data true (positive). Pins four and five are not used, but they allow a secondary data link to pass through the fixture.



**This data line is not used by the fixture, but allows data to pass through the fixture.*

Test each cable with a voltage/ohm meter (VOM) to verify correct polarity and to make sure that the negative and positive pins are not grounded or shorted to the shield or to each other.

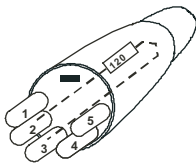


CAUTION! Do not connect anything to the ground lug on the XLR connectors. Do not connect or allow contact between the common (cable shield) and the fixture's chassis ground. Grounding the common could cause a ground loop and/or erratic behavior.

Connecting to DMX512 Link

To link one or more fixtures to a DMX controller:

1. Connect the male XLR connector of a DMX Data cable to the controller's DMX Data Out connector.
2. Connect the Data cable's female XLR connector to the Data In connector of the first (or next) fixture on the DMX link.
3. Continue linking the remaining fixtures connecting a cable from the Data Out connector of each fixture to the Data In connector of the next fixture on the link.
4. Terminate the link by installing a 120 ohm, 1/4 watt (minimum) terminator in the fixture's Data Out (female) cable connector in the last fixture on each DMX link. A terminator on the last fixture of the link prevents data reflection, which can corrupt the data communication on the link.



To construct a terminator:

1. Disassemble a male 5-pin XLR connector.
2. Solder a 120 ohm resistor, minimum of 1/4 watt, between Pin 2 and Pin 3.
3. Reassemble the XLR connector.

Powering On the Fixture



WARNING:

This equipment is designed for connection to a branch circuit having a maximum overload protection of 20 A.



CAUTION:

Do not power on the fixture until *verifying* that the line cord cap is suitable for the power source in your location. For more information, see *Installing the Power Cord Cap* on page 7.

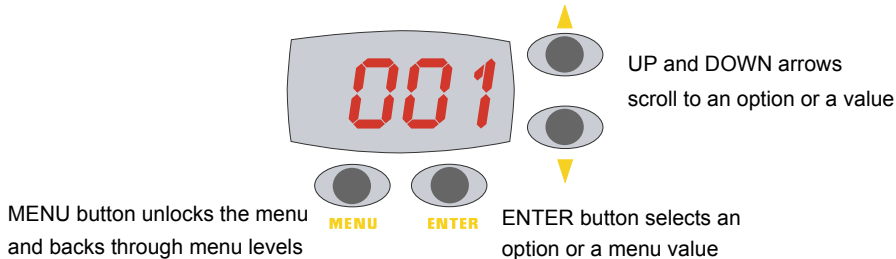
To power on the Cyberlight 2.0 fixture, simply connect it to a 200V-240V AC power source. Once the fixture is connected to a power source, it automatically begins a homing procedure to verify that fixture components are functioning.

Setting the DMX Start Channel

Each Cyberlight 2.0 fixture requires a block of consecutive channels on a 512-Channel DMX link.

To set the Start Channel on an Cyberlight 2.0 fixture:

1. Access the fixture's menu system via the dot matrix display on the fixture's front panel. For a detailed description of the menu system, see *Chapter 3: The Menu System* on page 15.



2. To unlock the menu, press and hold the <Menu> button until *AddR* appears on the LED display. Press the <Enter> button to select.
3. The display will show the start channel currently assigned to the fixture.
4. Use the <Up> and <Down> arrow buttons to select a valid DMX start channel from 0-485. The display will flash a new option ready for selection. For more information on addressing your fixture, see
5. Press the <Enter> button to store the new DMX Start channel. The display will stop flashing when a new option is entered.

When setting the Start channel on a fixture, remember:

- A fixture's physical location on the link does not have to coincide with the order of channel range assignments in the link.
- The fixture's channel range must not overlap any other device's channel range on the link. When two devices on the same DMX link have overlapping channel ranges, one or both devices will be disabled or behave erratically. The single exception would be if two or more fixtures need to respond to controller commands in exactly the same way. In that case, those fixtures must be the same type and must share the *entire* channel range.

Shutting Down the Fixture

A DMX controller can shut down the fixture remotely with the Shutdown option in the Control Channel or you can simply disconnect from power. The Cyberlight 2.0 fixture automatically shuts down in the event of DMX data loss longer than five minutes.

Chapter 3

The Menu System

You can use the fixture's onboard menu system to configure and test the Cyberlight 2.0 fixture.

The onboard Cyberlight 2.0 menu system allows you to:

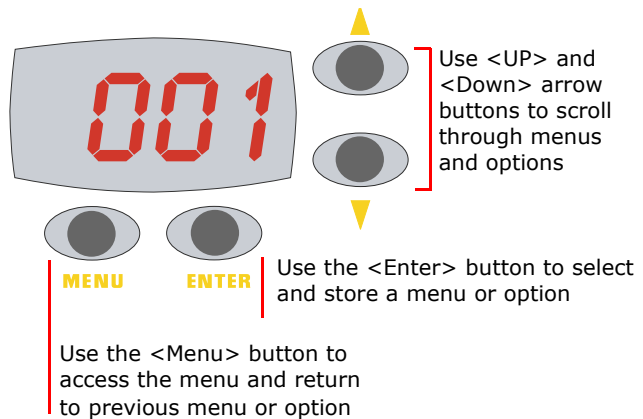
- Assign a DMX start channel.
- Access fixture options such as homing the fixture, viewing fixture status, and performing self tests.
- View all DMX values on the link.
- Identify fixture errors.

Navigating the Menu System

After homing, The alphanumeric screen will display HES, CYBR, The model (2000 or 1500 depending on the power setting) the software version in the form V Major.minor (V1.1 for example), and the DMX address in the C### format.

You can access and navigate the menu system via the four menu navigation buttons on the fixture's front panel.

The alphanumeric LED display shows the menu items you select from the menu map. When accessing fixture options, the display will flash when a new option is *selected* (by pressing the <Up> or <Down> arrow buttons), and stops flashing when a new option is *stored* (by pressing the <Enter> button).



To access the menu system: press and hold the <Menu> button until *AddR* appears on the display. The menu system is protected against inadvertent menu changes by requiring the <Menu> button to be held for a few seconds before allowing entry to the menu system.

To return to the previous option or menu *without changing the value*: press the <Menu> button.

Cyberlight 2.0 Menu Map

Level 1	Level 2	Level 3	Level 4	Level 5	Description		
ADDR	Cxxx				Change the existing DMX start channel		
SET	FACT	ON			Sets factory defaults on		
		OFF			Sets factory defaults off		
	DSPL	ON			Sets the LED display on		
		OFF			Sets the LED display off		
	P/IN	ON			Sets pan invert on		
		OFF			Sets pan invert off		
	T/IN	ON			Sets tilt invert on		
		OFF			Sets tilt invert off		
	SWAP	ON			Sets pan/tilt swap on		
		OFF			Sets pan/tilt swap off		
DLOS	SHRT				Turns LEDs off one second after DMX data is lost.		
	LONG				Retains LED state after DMX data is lost until the unit is shutdown		
MODE	XLd	YES			Selects Extended protocol		
		NO			Selects Standard protocol		
	LAMP	2000				Runs the lamp at 2000W	
		1500				Runs the lamp at 1500W	
TEST	HOME	HOLD			Homes the fixture		
	LAMP	ON			Manually turns the lamp on		
		OFF			Manually turns the lamp off		
	BOOT	NO					
		YES	DONE			Copies BOOT code to fixture	
			EMTY				
	SELF	PAN	TILT			Mirror movement function	
			SHUT				Shutter strobe movement
			CYAN				Color flag movement
		MAGN					
		YELW					
		COLR	LT1				Rotating Gobo Wheel: wheel movement
			LT1R				Rotating Gobo Wheel: rotating gobo movement
			LT2				Static Gobo Wheel movement
			IRIS				Tests Iris function
			FX				Effects wheel motion
ZOOM						Zoom lens range	
FCUS						Focus lens range	
FRST						Frost flags movement	

Level 1	Level 2	Level 3	Level 4	Level 5	Description	
TEST	S/UP	OFF				
		ON			Setup mode for mechanical homing	
INFO	VER	####			Shows the	
	UNIQ	#####			Shows the fixture's unique ID number	
	TEMP	CURR	CPU		####	Shows the current internal temperature at the logic board
			LPS		####	Shows the current internal temperature at the lamp power supply
		MAX	CPU		####	Shows the maximum internal temperature recorded at the logic board
			LPS		####	Shows the maximum internal temperature recorded at the lamp power supply
		MIN	CPU		####	Shows the minimum internal temperature recorded at the logic board
			LPS		####	Shows the internal temperature recorded at the lamp power supply
	RST	YES	HOLD		When you select Yes the Max and Min temperature readings reset to the current. DONE will display when the process is complete.	
			DONE			
	F/HR	####			Shows current number of fixture hours	
	DMX	1-512		####	Shows the DMX data for the selected DMX channel on the link.	
	L/HR	####			Shows Lamp hours	
	L/ST	####			Shows the current number of Lamp strikes	
	L/RS	NO			When you select Yes the Lamp hours are reset to zero. DONE will display when the process is complete.	
		YES	DONE			
	FAN	LMP1		####	Shows the rotations per second of the two fans located in the lamp power supply compartment	
		LMP2		####		
	M/VR	P/T		####	Shows Pan and Tilt HW.SW version	
		Z/FC		####	Shows Zoom and Focus lenses HW.SW version	
FR/C			####	Shows Frost and Cyan flags HW.SW version		
M/Y			####	Shows Magenta and Yellow flags HW.SW version		
C/L1			####	Shows Color and Rotating Gobo Wheel HW.SW version		
LAMP			####	Shows Lamp HW.SW version		
FAN			####	Shows Fan HW.SW version		
DISP			####	Shows LED display HW.SW version		

Cyberlight 2.0 Menu Options

The sections below explain how to access the fixture options shown in the fixture's menu map. This manual uses the following conventions in the descriptions for menus and menu navigation buttons:

Example	Meaning
<Button>	Press the appropriate LED display navigation button on the fixture. For example, the <Enter> button on the LED display panel.
<i>Menu Option</i>	Italics are used to indicate the appropriate menu selection you should choose from the on-board menu system. For example, the <i>AddR</i> menu option.

Address Menu (AddR)

The DMX Start Channel is the first channel of a device's channel range on a DMX link and identifies the fixture for the DMX controller. There are 512 available channels on each DMX universe divided among all the devices in a particular universe. A device must have a unique DMX Start Channel number in order to respond independently to controller commands. You must assign a DMX start channel to every fixture on the link.

The Address menu allows you to change the DMX start channel that is currently assigned to the fixture. The fixture's DMX channel range must not overlap any other device's channel range on the link. When two devices on the same DMX universe have overlapping channel ranges, one or both devices will be disabled or behave erratically.

Note: *The single exception would be if two or more fixtures need to respond to controller commands in exactly the same way. In that case, those fixtures must be the same type and must share the entire channel range.*

The Cyberlight 2.0 fixture requires a unique range of 28 channels on the DMX link. The last valid Start Channel on a DMX512 link is 485.

To set the DMX start channel:

1. Press and hold <Menu> until *AddR* appears on the LED display. Press <Enter> to select.
2. Select a new DMX start channel. The LED display flashes when a new start channel is selected.
3. Press <Enter> to accept the new DMX start channel. The LED display stops flashing when a new option is entered. If you do not press <Enter>, the new option you selected is not stored.

Set Menu (SET)

Setting Factory Defaults (FACT)

When you set this menu item on, all factory options return to their default settings. Cyberlight 2.0 fixtures are shipped from the factory with the following default option settings:

pan/tilt swap = off	pan invert = off	LED off with DMX data loss = short
tilt invert = off	LED display = on and bright	

The factory default menu option displays *On* if all the factory options are at the factory default settings. If any of the items listed above are not at the factory default setting, the display reads *OFF*. Selecting the *OFF* option will have no effect. To restore the factory default setting:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *SET* menu. Press <Enter> to select.
3. Scroll to the *FACT* menu (this will be the first menu displayed). Press <Enter>.
4. Scroll to *ON* to restore the factory option defaults.
5. Press <Enter> to store.

Changing the Display Output (DSPL)

You can manually turn the fixture's alphanumeric LED display on or off. If you want to remotely change the display output (using a DMX console), see *Control Settings* on page 39.

To turn the display off:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *SET* menu. Press <Enter> to select.
3. Scroll to the *DSPL* menu. Press <Enter> to select.
4. Scroll to *ON* to set the LED display to normal intensity.
5. Press <Enter> to store.

Inverting Pan (P/IN)

This menu item inverts the direction of the pan motor, to allow fixtures mounted opposite each other horizontally to respond to pan movement commands in the same direction.

To invert the fixture's pan motion:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *SET* menu. Press <Enter> to select.
3. Scroll to the *P/IN* menu. Press <Enter> to select.
4. Scroll to *ON* to invert the fixture's pan motion, or *OFF* to return the fixture's pan motion to normal orientation.
5. Press <Enter> to store.

Inverting Tilt (T/IN)

This menu item inverts the direction of the tilt motor, to allow fixtures mounted opposite each other vertically to respond to tilt movement commands in the same direction.

To invert the fixture's tilt motion:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *SET* menu. Press <Enter> to select.
3. Scroll to the *T/IN* menu. Press <Enter> to select.
4. Scroll to *ON* to invert the fixture's tilt motion, or *OFF* to return the fixture's tilt motion to normal orientation.
5. Press <Enter> to store.

Swapping Pan and Tilt (SWAP)

This menu option swaps the pan motor and tilt motor operation to allow fixtures hung perpendicular to each other to respond to pan and tilt movement commands in the same direction. To swap pan and tilt motion:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *SET* menu. Press <Enter> to select.
3. Scroll to the *SWAP* menu. Press <Enter> to select.
4. Scroll to *ON* to swap the fixture's pan and tilt motion, or *OFF* to return the fixture's pan and tilt motion to normal orientation.
5. Press <Enter> to store.

Data Loss (DLOS)

Use this menu item to determine how the fixture will react in the event of DMX data loss by turning off the LED's upon Data Loss or keeping the LEDs on until shut down.

To select a data loss option:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *SET* menu. Press <Enter> to select.
3. Scroll to the *dLOS* menu. Press <Enter> to select.
4. Scroll to *LONG* to turn the LEDs off only when the fixture is shut down, or *SHRT* to turn off the LEDs one second after data loss.
5. Press <Enter> to store.

Mode Menu (MODE)

Crossloading the Fixture (XLd)

The Cyberlight fixture can crossload software from one fixture to additional Cyberlight 2.0 fixtures on the same link. To crossload software:

1. Disconnect the data cable between the console and the first fixture.
2. Hold <MENU> on the master fixture (the fixture with the latest software version) until the display changes to *AddR*.
3. Using the up and down buttons, scroll to the *MOdE* field and press <ENTER>.
4. Using the up and down buttons, scroll to the *XLd* field and press <ENTER>. The master fixture will upload its software to all connected fixtures on the link. The slave fixtures will display *UPLd* during the process. After the fixtures have completed the upload, they will reset and home.
5. Notes: If the fixture(s) take longer than one minute to reset after an upload, turn off the fixture(s) and repeat the procedure. If a new boot code was included with the latest software, you will need to store the boot code on each fixture. Refer to "Changing Boot Codes" on page 3-9.

Selecting Lamp Power (LAMP)

1. You can select between 2000W and 1500W to power the lamp. To select power:
2. Hold <MENU> on the master fixture (the fixture with the latest software version) until the display changes to *AddR*.
3. Using the up and down buttons, scroll to the *MOdE* field and press <ENTER>.
4. Using the up and down buttons, scroll to the *LAMP* field and press <ENTER>.
5. Scroll to *2000* to set the power to 2000W, or *1500* to select 1500W.
6. Press <Enter> to store.

Test Menu (TEST)

The Test menu allows you to manually home the fixture and perform fixture self tests to determine the origin of mechanical problems.

Homing the Fixture (HOME)

This menu item allows you to manually home the fixture. To remotely home the fixture using a DMX console, see *Control Settings* on page 39. To manually home the fixture:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *TEST* menu. Press <Enter> to select.
3. Scroll to the *HOME* option (this will be the first option displayed).
4. Press <Enter> to store.

Lamp Test (LAMP)

The Lamp Test menu gives the user the options of manually striking the lamp or turning it off. To access the lamp function:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *TEST* field and press <ENTER> to select.
3. Using the up and down buttons, scroll to the *LAMP* field and press <ENTER>.
4. Using the up and down buttons, scroll to *ON* to strike the lamp or *OFF* to extinguish the lamp.
5. Press <Enter> to store.

Changing Boot Codes (BOOT)

When the Cyberlight 2.0 fixture is uploaded, occasionally it is necessary to include a new boot code with the latest software. This is apparent when *bOOT dIff* appears in the display. To accept and store the new boot code:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *TEST* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *bOOT* field and press <ENTER>. The fixture will display *dONE*, *RST*, and home.



Caution: Do not remove power from the fixture during the above procedure.

Performing Self Tests (SELF)

The following self tests are available:

Parameter	Self-Test Description
PAN	Moves through the entire pan range
TILT	Moves through the entire tilt range
SHUT	Tests Shutter strobe movement
CYAN	Moves the specific pair of color flags selected
MAGN	
YELW	
COLR	Static color wheel function
LT1	Rotating Gobo Wheel: wheel movement
LT1R	Rotating Gobo Wheel: rotating gobo movement
LT2	Static Gobo Wheel movement
IRIS	Tests Iris function
FX	Tests Effects wheel motion
ZOOM	Moves the Zoom lens through the range
FCUS	Moves through the Focus range
FRST	Tests Frost flags movement

To start a self test process:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *TEST* menu. Press <Enter> to select.
3. Scroll to the *SELF* menu. Press <Enter> to select.
4. Scroll to the desired option (listed above).
5. Press <Enter> to start the test. The fixture will perform the selected self test.
6. Press <Menu> to exit the test.

Moving the Fixture to Setup Position (S/UP)



Caution: The setup position is used only by qualified service personnel during maintenance.

To place the fixture in setup position before servicing:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *TEST* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *S/UP* field and press <ENTER>. The display will indicate *SET NOW* while the motors are electronically locked into place.
4. Perform the appropriate maintenance procedures.
5. Press <MENU> to reset and home the fixture.

Information Menu (INFO)

The Information menu allows you to view current fixture information such as internal temperature, fixture hours, software version, and DMX data for any other device on the link.

Viewing the Current Software Version (VER)

To view the current software version:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *INFO* menu. Press <Enter> to select.
3. Scroll to the *VER* option.
4. Press <Enter>. The LED will display the fixture's current software version.

Viewing the Unique Fixture ID (UNIQ)

To view the fixture's identification number:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *INFO* menu. Press <Enter> to select.
3. Scroll to the *UNIQ* option.
4. Press <Enter>. The LED will display the fixture's unique ID number.

Note: *This option also contains the commands for setting the ID number for the first time at the factory. In that case UP and DOWN will be displayed as the number is generated .*

Monitoring Internal Fixture Temperature (TEMP)

The Cyberlight 2.0 menu system lets you monitor the internal fixture temperature at the CPU board and the lamp power supply. You can view the current, maximum and minimum temperatures at each of these points or reset the maximum and minimum temperature readings to the current temperature.

To view the fixture's current internal temperature:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *TEMP* field and press <ENTER>.
4. Using the up and down buttons, scroll to the *CURR* field and press <ENTER>.

The fixture will display the current internal temperature followed by C (degrees centigrade) for the CPU and the LPS locations.

To view the fixture's minimum internal temperature (lowest ambient at power on):

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *TEMP* field and press <ENTER>.
4. Using the up and down buttons, scroll to the *MIN* field and press <ENTER>.

The fixture will display the minimum internal temperature followed by C (degrees centigrade) for the CPU and the LPS locations.

To view the fixture's maximum internal temperature (since the last reset):

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *TEMP* field and press <ENTER>.
4. Using the up and down buttons, scroll to the *MAX* field and press <ENTER>.

The fixture will display the maximum internal temperature followed by C (degrees centigrade) for the CPU and the LPS locations.

To reset the minimum and maximum temperature readings:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *TEMP* field and press <ENTER>.
4. Using the up and down buttons, scroll to the *RST* field and press <ENTER>. The display flashes *YES* until <ENTER> is pressed, then displays *HOLD* while resetting and *DONE* after resetting the maximum and minimum temperatures to the current internal temperature at the CPU and LPS locations.

Viewing Fixture Hours

To view the time a fixture has spent turned on:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *F/HR* field and press <ENTER>. The fixture will display the total fixture hours.

Note: *The display will indicate Hxxx for hours and M xx for minutes until H999. When fixture hours exceed 999, the display will no longer indicate minutes, instead it will use all four digits to display hours. If the display indicates OVER, the counter has rolled over 9999 hours and must be manually reset.*

Viewing DMX Data for the Link (DATA)

This procedure allows you to use a Cyberlight 2.0 fixture to view DMX channel values all devices on the DMX link. Use this menu option to:

- Checking current DMX values on this fixture
- Test devices that do not have built-in DMX diagnostics
- Check fixtures that are physically inconvenient to monitor directly

If you experience a problem with a device on the link, use this menu to select a DMX channel in the device's channel range and view its DMX value. After noting the value of the channel you selected, use your DMX console to change that channel's value.

If the value of the DMX channel you selected does not change, there may be a problem with the DMX cable or your transmitting device (i.e. DMX console).

If the DMX channel value changes, but the device does not respond, the device may be faulty. Consult the documentation provided with that device for more information.

To view DMX data for another device on the DMX link:

1. Press and hold <Menu> until *AddR* appears on the LED display.
2. Scroll to the *INFO* menu. Press <Enter> to select.
3. Scroll to the *dMX* menu. Press <Enter> to select.
4. Scroll to the desired DMX channel (001–512). Channel numbers will flash.
5. Press <Enter> The DMX value for the selected channel will be displayed.

Viewing Lamp Hours (L/HR)

To view the number of hours the lamp has spent on (ignited):

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *L/HR* field and press <ENTER> to view the lamp hours.

Note: *If the display indicates OVER, the counter has rolled over 9999 hours.*

Viewing Lamp Strikes (L/ST)

To view the number of times the ignitor has attempted to strike the lamp:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *L/ST* field and press <ENTER>. The fixture will display the number of times the lamp has attempted to strike.

Notes: *Lamp strikes are automatically reset when the lamp hours are reset. See “Resetting Lamp Hours” on page 3-6. If the display indicates OVER, the counter has rolled over 9999 lamp strikes and must be manually reset.*

Resetting Lamp Hours (L/RS)

To reset lamp hours:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *L/RS* field and hold <ENTER> until the fixture resets the lamp hours to 0000.

Monitoring the Fan Speed (FAN)

To monitor the lamp power supply fan speed:

1. Hold <MENU> until the display changes to *AddR*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *FAN* field and hold <ENTER>.
4. Using the up and down buttons, scroll to the *LMP1* and to *LMP2* to view the rotations per second of each of the lamp power supply fans.

Viewing Module Version Number (M/VR)

To view the hardware and software version number of each fixture module:

1. Hold <MENU> until the display changes to *Addr*.
2. Using the up and down buttons, scroll to the *INFO* field and press <ENTER>.
3. Using the up and down buttons, scroll to the *VER* field and press <ENTER>. The fixture will display the current HW and SW version of the following fixture modules.

Pan and Tilt (P/T)

Zoom and Focus (Z/FC)

Frost and Cyan (FR/C)

Magenta and Yellow (M/Y)

Static Color and Gobo Wheels (C/L1)

LAMP

FAN

Display (DISP)

Chapter 4:

Fixture Programming

Cyberlight® 2.0 fixtures can be programmed to provide hard edge beam with full CMY color, multiple gobo patterns and effects, as well as a variety of Shutter/Lamp functions.

DMX Programming Overview

A parameter is a fixture attribute that can be controlled to modify the light beam in terms of color, beam quality and pattern, intensity, or focus (position). DMX programming assigns a DMX value to each of the fixture's parameters. A look (sometimes referred to a *scene* or a *cue*) is one combination of parameter settings. These looks are the building blocks for show creation.

Full Speed versus MSpeed Control

Some parameters can be set to operate at full speed or MSpeed (motor speed). Full speed operations are completed in the shortest length of time after the motor starts moving. With MSpeed control, change occurs smoothly over the entire MSpeed time value selected. For example, if you select an MSpeed time of 30 seconds, the motor will gradually change position until it reaches its new destination at the end of 30 seconds.

DMX Programming Options

Using a DMX controller, you can program an unlimited number of looks and retain direct control over the Cyberlight® 2.0 fixture at all times.

Programming with a DMX Console

Wholehog® lighting consoles; and Hog® 3PC software are available from High End Systems to control Cyberlight® 2.0 fixtures (see *Related Products and Accessories* on page 5). For information on whether your DMX controller supports Cyberlight 2.0 fixtures, contact the controller's vendor. For information on operating your fixture with a controller (or control device such as DMX control software), consult the documentation provided with the controller.

Cyberlight® 2.0 DMX Parameters

DMX console libraries define parameters for the following Cyberlight 2.0 functions over a 28-channel range and are copyrighted and available in High End Systems consoles.

For more information on developing libraries for DMX consoles from other manufacturers, contact High End Systems.

Channel	Function
1	Pan
2	
3	Tilt
4	
5	Color Function
6	Cyan
7	Magenta
8	Yellow
9	Static Color Function
10	Static Color Position
11	Static Gobo Function
12	Static Gobo Position
13	Rotating Gobo Position
14	Rotating Gobo Rotate Function

Channel	Function
15	Rotating Gobo Rotate
16	
17	Effect Function
18	Effect Position
19	Frost
20	Zoom
21	Focus
22	Iris
23	Shutter/Lamp Function
24	Shutter
25	Dim
26	MSpeed
27	Macro
28	Control

Pan and Tilt

The **Pan** and **Tilt** parameters control the Cyberlight® 2.0 fixture's 170° pan range and 90° tilt range. Pan and Tilt functions each utilize two channels to provide 16 bit adjustment to a fraction of a degree.

Pan and Tilt motion for Cyberlight® 2.0 fixtures can be controlled with MSpeed values, (see *MSpeed (Motor Speed)* on page 38). If you choose to use MSpeed for color changes without affecting Pan and Tilt parameters, set Pan/Tilt MSpeed OFF in the Control parameter.

Color Mixing Flags

The Cyberlight® 2.0 fixture has a full CMY color mixing system supplemented with an additional wheel with eight static color options. Color mixing of the main beam utilizes CMY dichroic flags.

CMY Color Mixing

The **Cyan, Magenta** and **Yellow** color channels control the colors you can select. The CMY color mixing system creates an infinite range of color by moving pairs of Cyan, Magenta and Yellow flags. Color selection is available in either full speed (controller crossfading the flag positions), or MSpeed (MSpeed control of the flag motor) modes. For more information on MSpeed, see *MSpeed (Motor Speed)* on page 38.

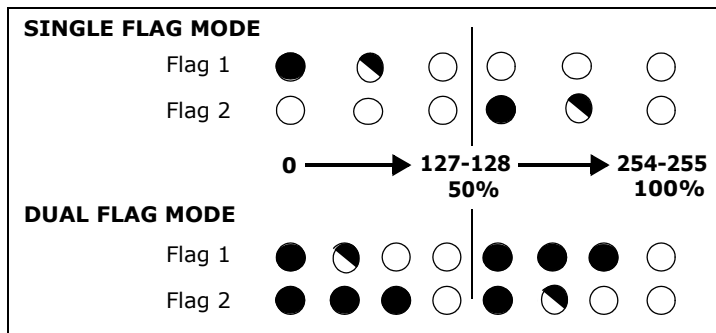
Color Function

The Color Function you choose will effect which parameter values are available for each individual color (Cyan, Magenta, and Yellow). The following table describes the Color Functions available in the Cyberlight® 2.0 fixture.

Color Function	Description
Continuous	Allows exact positioning of the color flags
Random	Selects whole color positions at variable speeds
Cycle	Cycles through colors
Tri-Color, single flag	Controls movement of one flag of a pair with the other flag open
Tri-Color, dual flag	Controls movement of one flag of a pair with the other flag closed (fully saturated)

Tri Color Effect

Independent control over individual flags in each color pair allows you to create tri-color beam effects. You can choose whether to control one or both flags of a pair.



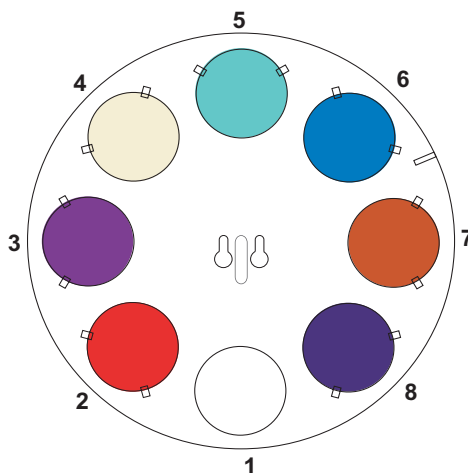
Static Color Wheel

Static Color Position

This parameter lets you select one of six dichroic colors, or an CTO adjustment litho on the Static Color Wheel.

Note: *The CTO color correction dichroic filter is salmon-colored and can be used to color-correct the Cyberlight 2.0 to a 2950° K (tungsten) color temperature to match tungsten-filament lighting fixtures.*

Position	Description
1	Open
2	Red
3	Purple
4	CTO
5	Aqua
6	Dark Blue
7	Dark Orange
8	Indigo



Static Color Function

This parameter provides options for how you control the color selection:

Static Color Function	Description
Indexed	Takes the quickest path and snaps to the chosen color on the wheel.
Forward Spin	Spins the wheel forward through the colors at variable speeds.
Reverse Spin	Spins the wheel in reverse through the colors at variable speeds.
Slow Scan	Performs a scan of one static color position from each side at a slow rate
Fast Scan	Performs a scan of one static color position from each side at a fast rate
Random	Selects random static color positions at variable speeds.
Blink	Closes and opens the shutter between indexed static color changes.

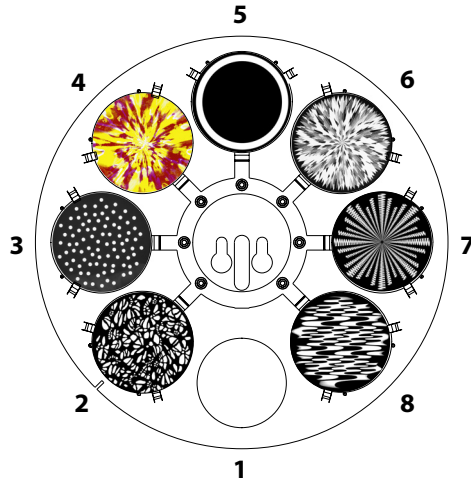
You can select either full speed or MSpeed (MSpeed control of the wheel motor) mode to control the motor speed of the function you choose. For more information on MSpeed, See *MSpeed (Motor Speed)* on page 38.

Static Gobo Wheel

Static Gobo Position

This parameter lets you select from seven factory provided litho patterns on the Static Gobo Wheel.

Position	Description
1	Open
2	Leaves
3	Dots
4	Abyss
5	Tunnel
6	Sharp Burst
7	Lapse



Static Gobo Function

This parameter provides options for how you control the wheel and gobo selection on the Static Gobo Wheel.

Static Gobo Function	Description
Indexed	Takes the quickest path and snaps to the chosen gobo position on the wheel.
Forward Spin	Spins the wheel forward through the gobo positions at variable speeds.
Reverse Spin	Spins the wheel in reverse through the gobo positions at variable speeds.
Slow Scan	Performs a scan of one gobo position from each side at a slow rate
Fast Scan	Performs a scan of one gobo position from each side at a fast rate
Random	Selects random gobo positions at variable speeds.
Blink	Closes and opens the shutter between indexed gobo position changes.

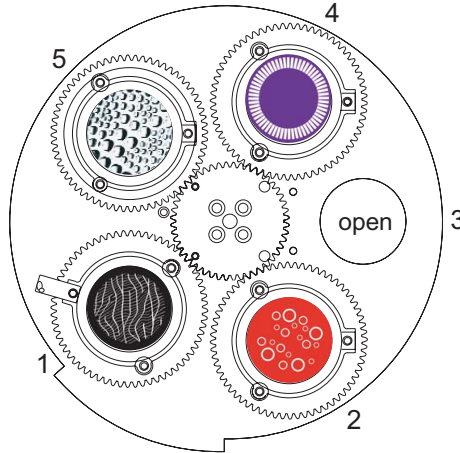
You can select either full speed or MSpeed (MSpeed control of the wheel motor) mode to control the motor speed of the function you choose. For more information on MSpeed, See *MSpeed (Motor Speed)* on page 38.

Rotating Gobo Wheel

Rotating Gobo Position

The **Rotating Gobo Position** parameter lets you select from the four factory provided lithopatterns on the Rotating Gobo Wheel.

Position	Description
1	Net
2	Red Rings
3	Open
4	Indigo Chicklet
5	Droplets



Rotating Gobo Function

The **Rotating Gobo Function** parameter setting determines how the individual aperture wheels on the Rotating Gobo Wheel move.

Gobo Rotate Function	Description
Indexed	Rotates the specified indexed aperture to any position
Forward Rotate	Forward aperture rotation from slowest to fastest
Reverse Rotate	Reverse aperture rotation from slowest to fastest
Blink	Closes and opens the shutter on rotate position changes
Forward Animate Rotate	Forward aperture rotation in strobing steps
Reverse Animate Rotate	Reverse aperture rotation in strobing step

You can select either full speed or MSpeed (MSpeed control of the wheel motor) mode to control the motor speed of the function you choose. For more information on MSpeed, See *MSpeed (Motor Speed)* on page 38.

Rotating Gobo Rotate Coarse/Rotating Gobo Rotate Fine

When the **Rotating Gobo Function** channel is set to Indexed or Blink, these two channels allows for 16-bit adjustment to the Rotating Gobo Wheel aperture position.

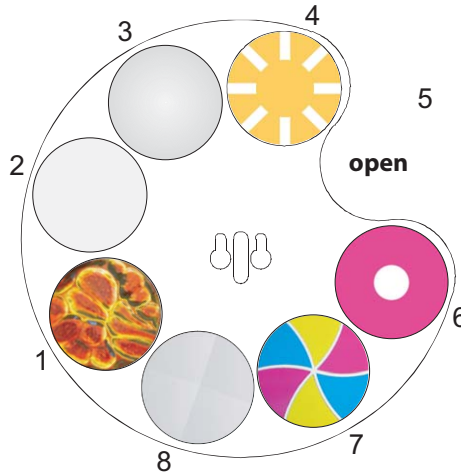
When a rotate option is selected in the **Rotating Gobo Function** parameter. the **Rotating Gobo Rotate Coarse** parameter sets the selected aperture's rotation speed from slow to fast.

Effect Wheel

Effect Position

This parameter lets you select from seven factory provided effects on the Static Effect Wheel.

Position	Description
1	Amber Stony
2	Diffusion
3	Wide Angle
4	Yellow Burst
5	Open
6	Magenta Ring
7	Tri-color Mosaic



Effect Function

This parameter provides options for how you control the wheel and effect selection on the Static Effect Wheel.

Static Gobo Function	Description
Indexed	Takes the quickest path and snaps to the chosen color on the wheel.
Slow Scan	Performs a scan of one effect position from each side at a slow rate
Fast Scan	Performs a scan of one effect position from each side at a fast rate
Random	Selects random static effect positions at variable speeds.
Blink	Closes and opens the shutter between indexed effect position changes.

You can select either full speed or MSpeed (MSpeed control of the wheel motor) mode to control the motor speed of the function you choose. For more information on MSpeed, See *MSpeed (Motor Speed)* on page 38.

Frost

This parameter controls the movement of the frost flags. When the controller DMX value = 0, the frost flags are fully open. Increasing the DMX value creates a variable frost until the flags are fully closed at the maximum value.

Zoom

The Cyberlight 2.0 Zoom lens provides a standard zoom range of 13°-22° and is controlled by the zoom parameter. When the controller DMX value = 0, the range is set at 13°. Increasing the value widens the beam to 22° at a maximum DMX value.

You can also choose to use the Wide Angle effect to modify the zoom range to 16°-26°. Select Position 3 on the Effect Position parameter and the Indexed option in the Effect Function parameter to put the wide angle effect into the beam path, (see *Effect Wheel* on page 35).

Iris

This parameter controls the movement of the Iris. When the controller DMX value = 0, the iris is closed. Increasing the value gradually opens the iris until it is fully open at the maximum DMX value.

Dim

In Cyberlight 2.0 fixtures, the Dim parameter provides full dimming capability without changing the color temperature or the beam shape. The dim values range from closed (DMX value of 0) to fully open (DMX value of 255).

Shutter and Lamp Effects

Shutter/Lamp Function

The **Shutter/Lamp Function** channel determines how the **Shutter** channel will function. When you select one of the following options in the **Shutter/Lamp Function** channel, the **Shutter** channel sets the strobe rate from slow to fast.

Shutter/Lamp Function	Shutter Channel
Close	Closes shutter
Normal Shutter Functions	Strobes beam at specified intervals from slow to fast.
Random/Random Strobe	Allows all Cyberlight 2.0 fixtures on the DMX link to strobe their shutters at random times from slow to fast.
Synchronous/Random Strobe	Allows all Cyberlight 2.0 fixtures on the DMX link to strobe their shutters at random times in unison from slow to fast.
Lamp Functions	(see next table)
Open	Opens shutter

When you select the Lamp Functions option in the **Shutter/Lamp Function** channel, the **Shutter** channel lets you create lamp boost, lightning and strobing effects.

Shutter/Lamp Function	Shutter Channel
Lamp Functions	Closes shutter
	Periodic lamp strobes lamp at specified intervals from slow to fast.
	Allows all Cyberlight 2.0 fixtures on the DMX link to strobe their lamps at random times from slow to fast.
	Allows all Cyberlight 2.0 Fixtures on the DMX link to strobe their lamps at random times in unison from slow to fast.
	Boost lamp, black. Six time ranges from 1–.25 second ^{Note}
	Boost lamp, white. Six time ranges from 1–.25 second ^{Note}
	Lightning strikes. Six lightning variations are available. ^{Note} The Dim channel scales the overall brightness of the lightning strobe.
	Opens shutter

NOTE: *The Boost effect boosts the Lamp above the fixture’s Watt level for the specified period of time. The lamp is also boosted during the Lightning effects.*

Before another Boost or Lightning effect can occur, the Shutter channel must be moved to either closed or open, or the Lamp Control channel must be moved outside the Lamp Function range.

Boost effects to black boost the lamp for a specified time then close the shutter.

Boost effects to white boost the lamp for a specified time, then leave the shutter open with the lamp dimmed.

MSpeed (Motor Speed)

The **MSpeed** sets the time required for a motor to complete movement when changing from one position to another. MSpeed provides a means for all motors to reach their target position at the same time, even though each motor may have different distances to travel. MSpeed movement is extremely smooth because the fixture controls its own movements and is not dependent on DMX refresh rates.

MSpeed times vary from 0.15 seconds to 252.7 seconds. However, if you apply MSpeed to a parameter, be sure that the delay value (length of time allowed for the entire look) is longer than the MSpeed value to allow the motors to complete their movement before the end of the cue. An MSpeed value that is longer than the delay value could produce an undesirable result; for example, no light output during the scene. For a listing of exact MSpeed times, see *Appendix A: MSpeed Conversion Table* on page 41.

MSpeed can be applied to the Pan and Tilt, Color, and Wheel functions. You can disable Pan and Tilt MSpeed with the Control channel to allow MSpeed to apply only to **Wheel**.

Macros

The Macro parameter controls Internal Effects™ macros. These are factory-programmed sequences that allow you to quickly program complicated looks in one scene (cue). Each Internal Effect™ macro modifies a specific set of parameters, while allowing user control of all other parameters in the scene. The amplitude of the position macro movement is determined by the Pan Coarse channel and Tilt Coarse channel, respectively. The MSpeed channel controls the speed of the macros.

With the MSpeed set at the default value of DMX 0-4, an Internal Effects macro completes its movement in approximately 2.5 seconds. This provides a pleasing look when the additional variation given by using the MSpeed channel is not required. With the MSpeed set between DMX 5-255, Internal Effects macros complete movement at the selected MSpeed time (up to 25 seconds).

Control Settings

The Control parameter activates certain Fixture functions. To access all Cyberlight 2.0 Control settings (except for Pan & Tilt MSpeed Off), first select a control channel value, then set the Shutter channel to "0."

NOTE: *The Control channel should not be crossfaded.*

Control Setting	Description	
Safe	Disables all Control settings for normal operation.	
Pan & Tilt MSpeed Off	Sets Pan & Tilt MSpeed to ignore MSpeed settings.	
Display Off	Sets display to off.	Set Shutter parameter = 0 to access these control options
Display On	Turns on the display.	
Home All	Remotely homes the fixture.	
Lamp On	Remotely restrikes the fixture's lamp.	
Lamp Off	Remotely extinguishes the fixture's lamp.	
Shutdown	Remotely deactivates the fixture.	

Appendix A:

MSpeed Conversion Table

The following table lists the MSpeed (motor) movement times and their corresponding DMX controller values. If you have a numeric-type controller, use the Value Decimal (dec.) column. If you have a fader-type controller, use the Value Percentage (%) column. If your controller allows you to program hex values, use the Value (hex) column.

Time (sec.)	Value (dec.)	Value (%)	Value (hex)	Time (sec.)	Value (dec.)	Value (%)	Value (hex)	Time (sec.)	Value (dec.)	Value (%)	Value (hex)
0.15	255	100	FF	5.94	217	85	D9	23.30	179	70	B3
0.15	254	100	FE	6.25	216	85	D8	23.92	178	70	B2
0.17	253	99	FD	6.56	215	84	D7	24.54	177	69	B1
0.19	252	99	FC	6.89	214	84	D6	25.17	176	69	B0
0.21	251	98	FB	7.22	213	84	D5	25.80	175	69	AF
0.25	250	98	FA	7.56	212	83	D4	26.45	174	68	AE
0.29	249	98	F9	7.91	211	83	D3	27.10	173	68	AD
0.35	248	97	F8	8.27	210	82	D2	27.76	172	67	AC
0.41	247	97	F7	8.63	209	82	D1	28.43	171	67	AB
0.47	246	96	F6	9.00	208	82	D0	29.11	170	67	AA
0.55	245	96	F5	9.39	207	81	CF	29.80	169	66	A9
0.63	244	96	F4	9.77	206	81	CE	30.49	168	66	A8
0.73	243	95	F3	10.17	205	80	CD	31.19	167	65	A7
0.83	242	95	F2	10.58	204	80	CC	31.90	166	65	A6
0.94	241	95	F1	10.99	203	80	CB	32.62	165	65	A5
1.05	240	94	F0	11.41	202	79	CA	33.34	164	64	A4
1.18	239	94	EF	11.84	201	79	C9	34.08	163	64	A3
1.31	238	93	EE	12.28	200	78	C8	34.82	162	64	A2
1.45	237	93	ED	12.72	199	78	C7	35.57	161	63	A1
1.60	236	93	EC	13.17	198	78	C6	36.33	160	63	A0
1.75	235	92	EB	13.63	197	77	C5	37.09	159	62	9F
1.92	234	92	EA	14.10	196	77	C4	37.87	158	62	9E
2.09	233	91	E9	14.58	195	76	C3	38.65	157	62	9D
2.27	232	91	E8	15.07	194	76	C2	39.44	156	61	9C
2.46	231	91	E7	15.56	193	76	C1	39.44v	156	61	9C
2.66	230	90	E6	16.06	192	75	C0	40.23	155	61	9B
2.86	229	90	E5	16.57	191	75	BF	41.04	154	60	9A
3.07	228	89	E4	17.09	190	75	BE	41.85	153	60	99
3.29	227	89	E3	17.61	189	74	BD	42.68	152	60	98
3.52	226	89	E2	18.14	188	74	BC	43.50	151	59	97
3.76	225	88	E1	18.68	187	73	BB	44.34	150	59	96
4.00	224	88	E0	19.23	186	73	BA	45.19	149	58	95
4.25	223	87	DF	19.79	185	73	B9	46.04	148	58	94
4.52	222	87	DE	20.36	184	72	B8	46.90	147	58	93
4.78	221	87	DD	20.93	183	72	B7	47.77	146	57	92
5.06	220	86	DC	21.51	182	71	B6	48.65	145	57	91
5.34	219	86	DB	22.10	181	71	B5	49.54	144	56	90
5.64	218	85	DA	22.70	180	71	B4	50.43	143	56	8F

Time (sec.)	Value (dec.)	Value (%)	Value (hex)	Time (sec.)	Value (dec.)	Value (%)	Value (hex)	Time (sec.)	Value (dec.)	Value (%)	Value (hex)
51.33	142	56	8E	102.77	95	37	5F	175.24	46	18	2E
52.24	141	55	8D	104.05	94	37	5E	176.92	45	18	2D
53.16	140	55	8C	105.35	93	36	5D	178.61	44	17	2C
54.09	139	55	8H	106.65	92	36	5C	180.30	43	17	2B
55.02	138	54	8A	107.96	91	36	5B	182.01	42	16	2A
55.96v	137	54	89	109.28	90	35	5A	183.72	41	16	29
56.91	136	53	88	110.61	89	35	59	185.44	40	16	28
57.87	135	53	87	111.94	88	35	58	187.17	39	15	27
58.84	134	53	86	113.28	87	34	57	188.90	38	15	26
59.81	133	52	85	114.63	86	34	56	190.65	37	15	25
60.79	132	52	84	115.99	85	33	55	192.40	36	14	24
61.78	131	51	83	117.36	84	33	54	194.16	35	14	23
62.78	130	51	82	118.73	83	33	53	195.92	34	13	22
63.79	129	51	81	120.12	82	32	52	197.70	33	13	21
64.80	128	50	80	121.5v	81	32	51	199.48	32	13	20
65.82	127	50	7F	122.91	80	31	50	201.28	31	12	1F
66.85	126	49	7E	124.31	79	31	4F	203.08	30	12	1E
67.89	125	49	7D	125.73	78	31	4E	204.88	29	11	1D
68.94	124	49	7C	127.15	77	30	4D	206.70	28	11	1C
69.99	123	48	7B	128.58	76	30	4C	208.52	27	11	1B
71.05	122	48	7A	130.02	75	29	4B	210.36	26	10	1A
72.13	121	47	79	134.39	72	28	48	212.19	25	10	19
73.20	120	47	78	135.86	71	28	47	214.04	24	9	18
74.29	119	47	77	137.34	70	27	46	215.90	23	9	17
75.38	118	46	76	138.82	69	27	45	217.76	22	9	16
76.49	117	46	75	140.32	68	27	44	219.63	21	8	15
77.60	116	45	74	141.82	67	26	43	221.51	20	8	14
78.71	115	45	73	143.33	66	26	42	223.40	19	7	13
79.84	114	45	72	144.85	65	25	41	225.30	18	7	12
80.98	113	44	71	146.38	64	25	40	227.20	17	7	11
82.12	112	44	70	147.92	63	25	3F	229.11	16	6	10
83.27	111	44	6F	149.46	62	24	3E	231.03	15	6	0F
84.43	110	43	6E	151.01	61	24	3D	232.96	14	5	0E
85.59	109	43	6D	152.57	60	24	3C	234.90	13	5	0D
86.77	108	42	6C	154.14	59	23	3B	236.84	12	5	0C
87.95	107	42	6B	155.71	58	23	3A	238.79	11	4	0B
89.14	106	42	6A	157.30	57	22	39	240.75	10	4	0A
90.34	105	41	69	158.89	56	22	38	242.72	9	4	09
91.55	104	41	68	160.49	55	22	37	244.70	8	3	08
92.76	103	40	67	162.09	54	21	36	246.68	7	3	07
93.98	102	40	66	163.71	53	21	35	248.68	6	2	06
95.21	101	40	65	165.33	52	20	34	250.68	5	2	05
96.45	100	39	64	166.96	51	20	33	246.68	7	3	07
97.70	99	39	63	168.60	50	20	32	248.68	6	2	06
98.95	98	38	62	170.25	49	19	31	250.68	5	2	05
100.22	97	38	61	171.91	48	19	30	252.68	4	2	04
101.49	96	38	60	173.57	47	18	2F				

Appendix B:

Important Safety Information


WARNING: For Continued Protection Against Fire

1. This equipment is designed for use with Philips type MSR 200 watt SA lamp only. Use of any other type lamp may be hazardous and will void the warranty.
2. Do not mount on a flammable surface.
3. Maintain minimum distance of 1.0 meter (3.28 feet) from combustible materials.
4. Replace fuses only with the specified type and rating.
5. Observe minimum distance to lighted objects of 3.0 meter (9.84 feet).
6. This equipment for connection to branch circuit having a maximum overload protection of 20 A.

WARNING: For Continued Protection Against Electric Shock

1. If this equipment was received without a line cord plug, attach the appropriate line cord plug according to the following code:
 - Brown–live
 - Blue–neutral
 - Green/yellow–earth

Note (For UK only): *As the colours of the cores in the mains lead of this equipment may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:*

 - the core which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter "E" or by the earth symbol , or coloured green or green and yellow.
 - the core which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
 - the core which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red. This equipment must be earthed.
2. Disconnect power before re-lamping or servicing.
3. Equipment suitable for dry locations only. Do not expose this equipment to rain or moisture.
4. Refer servicing to qualified personnel.
5. Class I equipment - this fixture employs a grounded type receptacle and is not intended for connection to a two wire, ungrounded source of supply.

WARNING: For Protection Against Exposure To Excessive Ultraviolet (UV) Radiation

1. Do not operate this equipment without complete lamp enclosure in place or if shields, lenses, or ultraviolet screens are damaged.
2. Change shields, lenses, or ultraviolet screens if they have become visibly damaged to such an extent that their effectiveness is impaired; for example, by cracks or deep scratches.
3. Never look directly at the lamp while lamp is on.

WARNING: For Continued Protection Against Injury To Persons

1. Use secondary safety cable when mounting this fixture.
2. CAUTION: Hot lamp may be an explosion hazard. Do not open for 5 minutes after switching off wear eye and hand protection when re-lamping.
3. Equipment surfaces may reach temperatures up to 110° C (230° F). Allow 10 minutes for cooling before handling.
4. Change the lamp if it becomes damaged or thermally deformed.

APPENDICE B: IMPORTANTES INFORMATIONS SUR LA SÉCURITÉ

MISE EN GARDE: Pour Une Protection Permanente Contre Les Incendies

1. Cet appareil est conçu pour être exclusivement utilisé avec des lampes de 2000 watts MSR SA. L'usage d'autres lampes peut être risqué et annulera la garantie.
2. Ne pas monter les lampes sur une surface inflammable.
3. Maintenir à une distance minimum de 1.0 mètre de matières inflammables.
4. Ne remplacer les fusibles qu'avec des modèles et valeurs assignées recommandés.
5. Respecter une distance minimum de 3.0 mètre par rapport aux objets éclairés.
6. Cet appareil de connexion au circuit de dérivation comporte une protection contre les surcharges de 20A.

MISE EN GARDE: Pour Une Protection Permanente Contre Les Chocs Électriques

1. Assembler le câble électrique conformément aux instructions du manuel:
2. Déconnecter le courant avant de changer les lampes ou d'effectuer des réparations.
3. Cet équipement doit être uniquement utilisé dans des endroits secs. Ne pas l'exposer à la pluie ou l'humidité.
4. Confiez l'entretien à un personnel qualifié.
5. Equipement de Classe I - Cette pièce fixe utilise une prise de courant branché à la terre et elle ne doit pas être branché à une source électrique, non reliée à la terre, à double fil.

MISE EN GARDE: Pour Une Protection Permanente Contre Des Expositions Excessives Aux Rayons Ultra Violets (UV)

1. Ne pas utiliser cet appareil si le boîtier de la lampe n'est pas complètement fixé ou si les blindages, lentilles, ou écrans ultraviolets sont endommagés.
2. Changer les blindages ou les écrans ultraviolets s'ils sont visiblement endommagés au point que leur efficacité aient été altérée; par exemple par des fissures ou de profondes égratignures.
3. Ne jamais regarder directement la lampe quand celle ci est allumée.

MISE EN GARDE: Pour Une Protection Permanente Contre Les Blessures Corporelles

1. Lors de l'assemblage ou du montage, utiliser un câble de sécurité secondaire
2. AVERTISSEMENT: les lampes chaudes comportent un risque d'explosion. Après l'avoir éteinte, attendre 5 minutes avant de la dégager. Lors du remplacement de la lampe, porter des lunettes, et des gants de protection.
3. Les surfaces de l'appareil peuvent atteindre des températures de 110° C. Laisser refroidir pendant 10 minutes avant la manipulation.
4. Changer la lampe si elle est endommagée ou thermiquement déformé.

ANHANG B: WICHTIGE HINWEISE FÜR IHRE SICHERHEIT

WARNUNG: Zum Schutz vor Brandgefahr

1. Dieses Gerät darf nur mit 2000-Watt-Leuchten SA verwendet werden. Die Verwendung einer anderen Art von Lampen kann gefährlich sein und Erlöschen der Garantie.
1. Dieses Gerät darf nur mit 2000-Watt-Leuchten SA verwendet werden. Die Verwendung einer anderen Art von Lampen kann gefährlich sein und Erlöschen der Garantie. Forderungen zur Folge gehabt.
2. Das Gerät nie auf einer feuergefährlichen Fläche montieren.
3. Stets einen Mindestabstand von 1 Meter zu brennbaren Materialien einhalten.
4. Zum Ersatz nur Sicherungen verwenden, die dem vorgeschriebenen Typ und Nennwert entsprechen.
5. Einen Mindestabstand von 3 Meter zu den angestrahlten Objekten einhalten
6. Dieses Gerät darf nur an eine Zweigleitung mit einem Überlastungsschutz von höchstens 20A angeschlossen werden.

WARNUNG: Zum Schutz Gegen Gefährliche Körperströme

1. Bei der Installation des Netzkabels am Lampensockel folgen Sie bitte Anweisungen in diesem Handbuch.
2. Vor dem Austauschen von Lampen oder vor Wartungsarbeiten stets den Netzstecker ziehen.
3. Diese Geräte sind nur zum Einbau in trockenen Lagen bestimmt und müssen vor Regen und Feuchtigkeit geschützt werden.
4. Überlassen Sie die Wartung qualifiziertem Fachpersonal.
5. Dieses Gerät gehört zur Klasse 1 - Dieser Beleuchtungskörper verwendet eine geerdete Fassung und sollte nicht an eine zweipolige, ungeerdete Stromversorgung angeschlossen werden.

WARNUNG: Zum Schutz Gegen Übermäßige Ultraviolett (UV)-bestrahlung

1. Benutzen Sie dieses Gerät nur, wenn das komplette Lampengehäuse fest eingebaut ist; ebenfalls dürfen keine der Schutzabdeckungen, Linsen oder der UV-Schutz Beschädigungen aufweisen.
2. Die Schutzabdeckungen, Linsen und der UV-Schutz müssen ausgewechselt werden, wenn sie sichtlich dermaßen beschädigt sind, daß sie ihre Wirksamkeit einbüßen, zB infolge von Rissen oder tiefen Kratzern.
3. Nie direkt in die eingeschaltete Lampe schauen.

WARNUNG: Zum Schutz Vor Verletzungen

1. Verwenden Sie bei der Installation des Beleuchtungskörpers ein zusätzliches Sicherheitskabel.
2. VORSICHT: Bei einer heiße Lampe besteht Explosionsgefahr Nach dem Abschalten der Netzspannung sollten Sie etwa 5 Minuten warten, bevor Sie das Lampengehäuse öffnen Schützen Sie beim Auswechseln der Lampen Ihre Hände und tragen Sie eine Schutzbrille.
3. Die Oberflächen des Gerätes können Temperaturen bis zu 110° C erreichen Vor dem Anfassen stets 10 Minuten lang abkühlen lassen.Falls die Lampe beschädigt oder durch Wärmeeinwirkung verformt ist, muß sie ausgewechselt werden.

APÉNDICE B: INFORMACIÓN IMPORTANTE DE SEGURIDAD

ADVERTENCIA: Para Protección Continua Contra Incendios

1. Se ha diseñado este equipo para usarse con tipo MSR 2000 vatios SA lámpara. El uso de otro tipo de lámpara puede resultar peligroso e invalidará la garantía.
2. No monte el equipo sobre una superficie inflamable.
3. Mantenga una distancia mínima de materiales combustibles de 1 metro.
4. Cambie los fusibles únicamente por otros que sean del tipo y la clasificación especificadas.
5. Observe una distancia mínima a objetos iluminados de 13 metro.
6. Este equipo debe conectarse a un circuito derivado que tenga una protección máxima contra las sobrecargas de 20 A.

ADVERTENCIA: Para La Protección Continua Contra Electrocuiones

1. Ensamble la tapa del cordón de alimentación según las instrucciones del manual. Desconecte el suministro de energía antes de recambiar lámparas o prestar servicio de reparación.
2. Este equipo se adecua a lugares secos solamente no lo exponga a la lluvia o humedad.
3. Consulte al personal cualificado.
4. Equipo de Clase 1 Este aparato emplea un enchufe hembra del tipo unido a tierra, y no tiene por finalidad conectarse a una fuente de alimentación bifilar y sin puesta a tierra.

ADVERTENCIA: Para Protección Continua Contra La Exposición A Radiación Ultravioleta (UV) Excesiva

1. No opere este equipo sin tener colocada en su lugar la caja protectora completa de la lámpara o bien, si el blindaje, los lentes o las pantallas ultravioletas están dañadas.
2. Cambie el blindaje, los lentes o las pantallas ultravioleta si nota una avería visible, a tal grado que su eficacia se vea comprometida, por ejemplo, en el caso de grietas o rayaduras profundas.
3. Jamás mire directamente a la lámpara en tanto ésta esté encendida.

ADVERTENCIA: Para Protección Continua Contra Lesiones Corporales

1. Use cable secundario de seguridad al montar este aparato.
2. PRECAUCIÓN: Una lámpara caliente puede constituir un peligro de explosión. No la abra por 5 minutos luego de haberla apagado Lleve puestos un protector ocular y guantes al recambiar lámparas.
3. Las superficies del equipo pueden alcanzar temperaturas máximas de 110 grados centígrados Deje que se enfríen por 10 minutos antes de tocarlas.
4. Cambie la lámpara si ésta se avería o deforma por acción térmica.

APPENDICE B: IMPORTANTI INFORMAZIONI PER LA SICUREZZA

AVVERTENZA: Per La Prevenire Di Incendi

1. Questa apparecchiatura è stata progettata per l'uso esclusivo con MSR2000watt lampada SA. L'uso di qualsiasi altro tipo di lampada può essere pericoloso e può annullare la garanzia.
2. Non montare su superfici infiammabili.
3. Mantenere l'apparecchio ad una distanza minima di 1 metro da materiali combustibili.
4. Rimpiazzare i fusibili utilizzando solo quelli del tipo e della portata (Corrente nominale/velocità) specificata.
5. Mantenere una distanza minima da oggetti illuminati di 3 metri.
6. Questo apparecchio deve essere collegato alla rete con interruttore automatico 20A.

AVVERTENZE: Per La Prevenzione Costante Di Scosse Elettriche

1. Assemblare il terminale del cavo seguendo il manuale delle istruzioni.
2. Scollegare la corrente prima di sostituire la lampada o eseguire la riparazione.
3. Attrezzature idonee per luoghi asciutti solo. Non esporre questo apparecchio a pioggia o umidità.
4. Per qualsiasi riparazione rivolgersi a personale specializzato.
5. Apparecchio di Classe I. Questa apparecchiatura deve essere messa a terra.

AVVERTENZE: Per La Protezione Costante Da Eccessiva Esposizione Agli Ultravioletti

1. Non utilizzare l'apparecchio senza recinzione lampada completa in luogo o se scudi, lenti, schermi o ultravioletta sono danneggiati.
2. Cambia scudi, lenti o schermi a raggi ultravioletti, se ne è visibilmente danneggiate a tale punto che il loro efficacia è limitata, per esempio, da crepe o graffi profondi.
3. Mai guardare direttamente la luce della lampada, mentre è accesa.

AVVERTENZE: Per La Prevenzione Costante Di Danni Fisici Alle Persone

4. Utilizzare cavi di sicurezza secondario quando si monta questo apparecchio.
5. **ATTENZIONE:** lampada a caldo può essere un pericolo di esplosione. Non aprire per 5 minuti dopo aver spento gli occhi e la protezione delle mani, quando Re-Lamping.
6. Apparecchiature superfici possono raggiungere temperature fino a 110° C . Attendere 10 minuti per il raffreddamento prima di maneggiare.
7. Sostituire la lampada se viene danneggiato o termicamente deformato.

