

# **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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## Contact Information

### U.S. and the Americas

#### ***Sales Department***

Barco Lighting Systems  
2105 Gracy Farms Lane  
Austin, TX 78758 USA  
voice: 512.836.2242  
fax: 512.837.5290  
Toll Free: 800.890.8989

#### ***Customer Service***

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2105 Gracy Farms Lane  
Austin, TX 78758 USA  
voice: 800.890.8989  
fax: 512.834.9195  
toll free: 800.890.8989

#### **World Wide Web:**

<http://www.highend.com>

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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

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## 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.

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## 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.**

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## 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.

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## 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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# Chapter 1:

## 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

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### 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

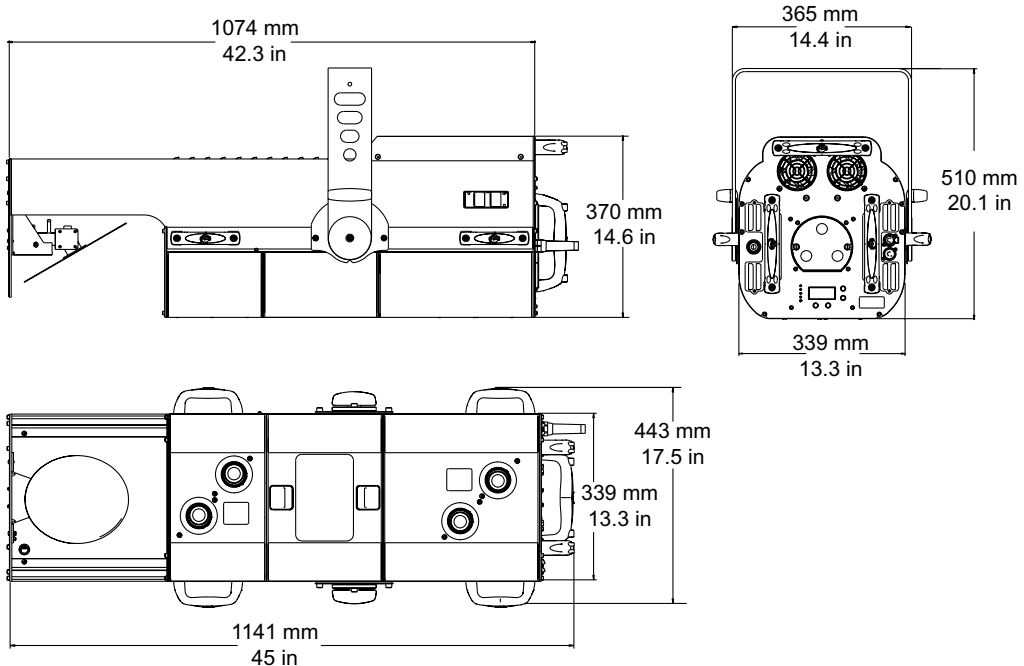
### Mechanical Specifications

**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

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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

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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

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