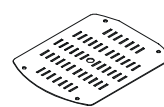
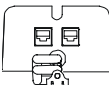
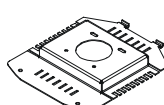
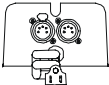
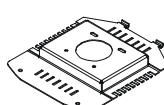
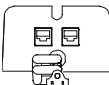
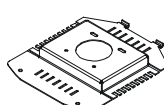
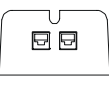


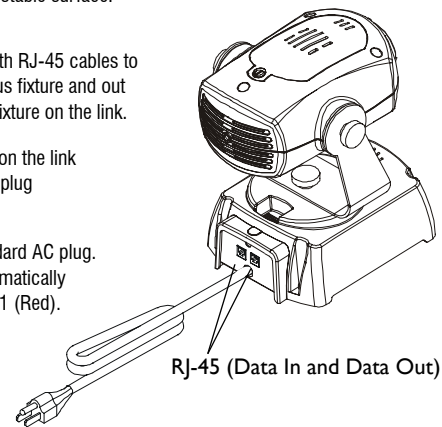
Installing your C-16 fixture

Identify your model type

Type	Part #	Power Connect	Base Plate	Data Connect	Backplate
A	54010001	AC power cord		RJ-45 Data	
	54010011				
	54010021				
B	54010003	J-Box		XLR Data	
	54010013				
	54010023				
C	54010002	J-Box		RJ-45 Data	
	54010012				
	54010022				
D	54010004	J-Box		CAT5 Data	
	54010014				
	54010024				

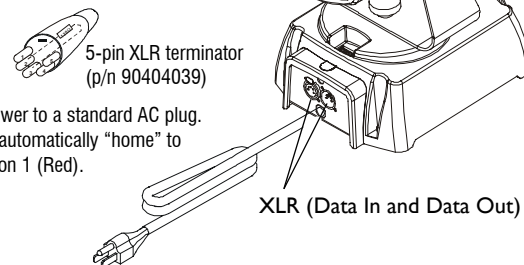
A

- Set the fixture on floor or stable surface.
- Link the units together with RJ-45 cables to bring data in from previous fixture and out from the unit to the next fixture on the link.
- Terminate the last fixture on the link with a RJ-45 termination plug (p/n 55000011).
- Connect power to a standard AC plug. The C-16 fixture will automatically "home" to color position 1 (Red).



B

- Set the fixture on floor or stable surface.
- Link the units together with 5-pin XLR cables to bring data in from previous unit or controller and out from the unit to the next fixture on the link.
- Plug a XLR termination plug into the data out connection of the last fixture on the link.
- Connect power to a standard AC plug. Fixture will automatically "home" to color position 1 (Red).



For all installations:

Mounting

- Only mount to surface able to support fixture weight.
- Once the unit is mounted securely, you can adjust pan and tilt manually.
- C-16 fixtures use convection cooling. Always orient the fixture head with the access door up to allow heat to rise from the unit.

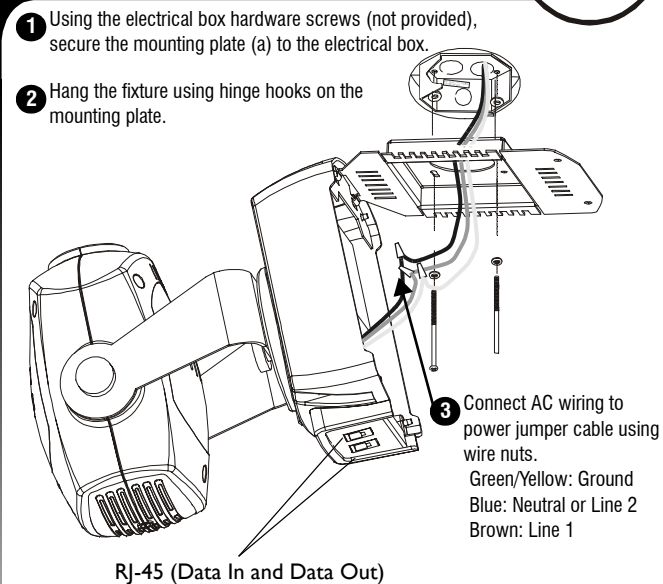
Operating

- A suitable disconnect such as a circuit breaker must be provided in the fixture installation.
- Insure that all connections are made prior to applying power to the fixture.
- This fixture may need to be reset manually after a static discharge.
- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Moving

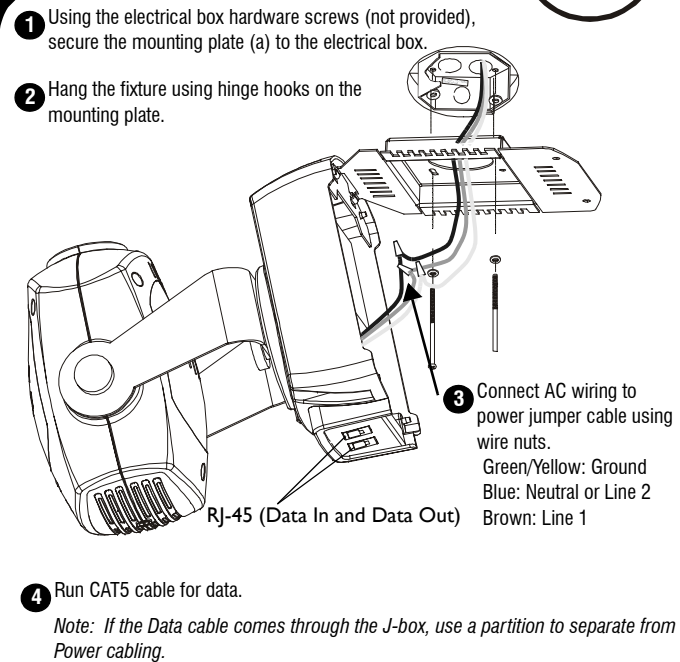
- Remove lamp before transporting unit.

C



- Using the electrical box hardware screws (not provided), secure the mounting plate (a) to the electrical box.
- Hang the fixture using hinge hooks on the mounting plate.
- Connect AC wiring to power jumper cable using wire nuts. Green/Yellow: Ground Blue: Neutral or Line 2 Brown: Line 1
- Close fixture and secure with the two (2) M5 x 10 socket cap screws.
- Link the units together with RJ-45 cables to bring data in from previous fixture and out from the unit to the next fixture on the link.
- Terminate the last fixture on the link with a RJ-45 termination plug (p/n 55000011).
- Turn on circuit breaker. The C-16 fixture will automatically "home" to color position 1 (Red).

D



- Using the electrical box hardware screws (not provided), secure the mounting plate (a) to the electrical box.
- Hang the fixture using hinge hooks on the mounting plate.
- Connect AC wiring to power jumper cable using wire nuts. Green/Yellow: Ground Blue: Neutral or Line 2 Brown: Line 1
- Run CAT5 cable for data. Note: If the Data cable comes through the J-box, use a partition to separate from Power cabling.
- Snap NF-50 Ferrite (provided) around Data cable wires.
- Use the 3-position data terminal block (provided) and connect: Pin 1: Common Pin 2: Data - Pin 3: Data + Note: Terminate the last fixture on the link with a 120 ohm resistor between pin 2 and 3 on data connector.
- Plug data terminal block into logic board location TB3.
- Close fixture and secure with the two (2) M5 x 10 socket cap screws.
- Turn on circuit breaker. The fixture will automatically "home" to color position 1 (Red).

Maintenance

Accessing Replacement Parts

- Disconnect the C-16 fixture from power or shut off circuit breaker before replacing any parts.
- Loosen captive screw and lift the access door away from fixture.

Replacing a Lamp

- If fixture has been operating, allow lamp to cool.
- Pull lamp straight out of socket and replace with Sylvania Tru-Aim IR MR-16 50W lamp.

Replacing a Filter

- Gently raise spring clip holding color filter and rotate toward center of carousel.
- Lift old filter out of carousel and insert new filter between tabs.
- Lifting slightly, rotate spring clip over filter and release to hold filter in place.

Cleaning

Use a mild glass cleaner (containing no ammonia) and a soft, lint-free cotton cloth to clean any C-16 surfaces.

Declaration of Conformity

(according to ISO/IEC Guide 22 and EN45104)

Manufacturer's name: High End Systems, Inc.
 Manufacturer's address: 2217 West Braker Lane
 Austin, Texas 78758 USA
 Distributor's name: High End Systems, Inc.
 Distributor's address: 2217 West Braker Lane
 Austin, Texas 78758 USA

Declares that the product

Product Name: C-16
 Product Number: C-16
 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 first manufactured in compliance with the following standards in 2002:

Safety: EN 60598-1: 1997
 EN 60598-2-17: 1989
 AI-A3: 1993
EMC: EN 55022, 1998 Class A ITE
 FCC CFR 47 Part 15
 CNS-13438
 VCCI
 EN 61000-3-2
 EN 61000-3-3
 EN 55024:1998
 EN61000-4-2: 1995 Level 3 Class 2
 EN61000-4-3: 1995 Level 2 (3V/m)
 EN61000-4-4: 1995 Level 2 (1/.5kV)
 EN61000-4-5: 1995 Level 3 (2/1kV)
 EN61000-4-6: 1996 Level 2 (3Vrms)
 EN61000-4-11:1994

USA, Tuesday, May 30, 2002

Kenneth Hansen
 Kenneth Stuart Hansen, Compliance Engineer

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.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Insure that all connections are made prior to applying power to the fixture.
 Caution: This fixture may need to be reset manually after a static discharge.

Important Safety Information CAUTION - RISK OF FIRE. MIN 75°C SUPPLY CONDUCTORS. THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED. CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR.
 ATTENTION - RISQUE D'INCENDIE. MIN 75°C SUPPLY CONDUCTORS. CE PRODUIT DOIT ETRE INSTALLE SELON LE CODE D'INSTALLATION PERTINENT, PAR UNE PERSONNE QUI CONNAIT BIEN LE PRODUIT ET SON FONCTIONNEMENT AINSI QUE LES RISQUES INHERENTS. CONSULTER UN ELECTRICIEN QUALIFIE POUR VOUS ASSURER QUE LES CONDUCTEURS DE LA DERIVATION SONT ADEQUATS.

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.

Operating your C-16 fixture

Manual Control

Controlling Standalone Fixtures

Local Control

You can set functions manually using the 10-position DIP-switch controls to run independently or link the units together and use one C-16 fixture as the Master to synchronize the timing on all units.

Use the DIP-switches to choose a specific color or half-color (A half color splits the beam between two adjacent colors). You can also adjust rotation direction, speed and pauses between rotations.

The following table shows DIP-switch settings for all the C-16 functions with a bullet indicating a switch set to the **ON** position.

DIP-switch Settings

Options	DIP-switch Setting									
	10	9	8	7	6	5	4	3	2	1
Color 1 (Red)	•									
Color 1+2 (Red/Aqua)	•				•					•
Color 2 (Aqua)	•				•					•
Color 2+3 (Aqua/Magenta)	•				•					•
Color 3 (Magenta)	•				•					•
Color 3+4 (Magenta/Yellow)	•				•					•
Color 4 (Yellow)	•				•					•
Color 4+5 (Yellow/Blue)	•				•					•
Color 5 (Blue)	•				•					•
Color 5+6 (Blue/Pink)	•				•					•
Color 6 (Pink)	•				•					•
Color 6+1 (Pink/Red)	•				•					•

Continuous Rotate Speed

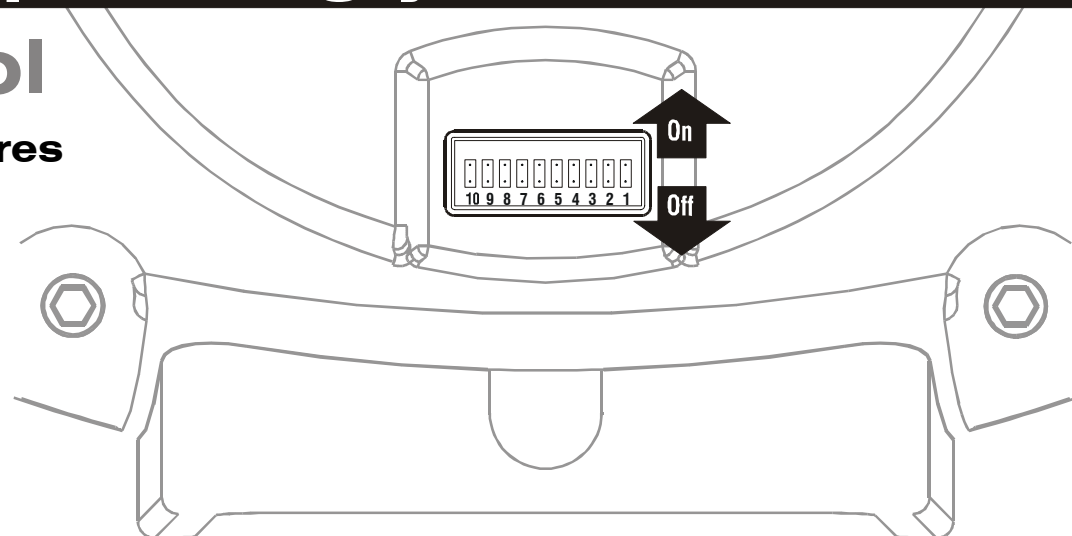
(Switch #5 OFF for Forward and ON for Reverse Rotation)

60-minute rotation	•									
45-minute rotation	•									•
30-minute rotation	•									•
15-minute rotation	•									•
10-minute rotation	•									•
5-minute rotation	•									•
2-minute rotation	•									•
1-minute rotation	•									•

Rotate and Pause at Color Positions 1-6

(Switch #5 OFF for Forward and ON for Reverse Rotation)

60-minute rotation, 20min. pause	•									•
45-minute rotation, 15min. pause	•									•
30-minute rotation, 10min. pause	•									•
15-minute rotation, 5min. pause	•									•
10-minute rotation, 3min. pause	•									•
5-minute rotation, 1min. pause	•									•
2-minute rotation, 30sec. pause	•									•
1-minute rotation, 10sec. pause	•									•



Controlling Linked Fixtures

Shared DIP-switch Control

You can control linked fixtures without a DMX controller, by using the appropriate DIP-switch settings and selecting one C-16 fixture as the "Master". In the Shared Switch Control mode, you set the DIP switches the same as for local control for the Master. The "Slave" units ignore their own setting and take the Master settings.

Setting switches #9 and #10 ON specifies shared control.

Setting switch #8 ON designates that fixture as the master.

Turning switch #7 OFF turns on DIP sharing mode. In DIP sharing mode, a Master fixture reads its own DIP-switch setting, and transmits it to Slave fixtures.

In DIP sharing mode, a Slave fixture ignores its own DIP setting, and uses the setting received from the Master on the link.

Preset Control

The C-16 fixture has two banks each (A and B) of User and Factory Presets. Each bank contains 16 different "looks". Factory Presets can be run but not changed. You can change User Presets using a DMX controller. Master and slave fixtures can run different presets but the Master fixture controls the timing to synchronize playback. Setting switch #7 ON specifies preset mode. Switches #1 and #2 select the desired preset.

NOTE: Designate only one C-16 fixture on the link as the Master fixture for Preset and DIP-switch shared modes.

For more information on programming your C-16 fixture, download the C-16 Technical Programming Guide from the High End Systems website (www.highend.com) or call Customer Service at 800.890.8989.

Limited Warranty. Unless otherwise stated, your product is covered by a one-year parts and labor limited warranty. Dichroic filters 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.

Any Product unit or 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: 2227 West Braker Lane, Austin, TX 78758 USA.

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

Shared Control DIP-switch Settings

Options	DIP-switch Setting									
	10	9	8	7	6	5	4	3	2	1
Shared Switch Control										
Master	•	•	•							
Slave	•	•								Copies Master
Preset Control (Master synchronizes presets)										
Master (User A Presets)	•	•	•	•						
Master (User B Presets)	•	•	•	•						•
Master (Factory A Presets)	•	•	•	•						•
Master (Factory B Presets)	•	•	•	•						•
Slave (User A Presets)	•	•	•	•						
Slave (User B Presets)	•	•	•	•						•
Slave (Factory A Presets)	•	•	•	•						•
Slave (Factory B Presets)	•	•	•	•						•

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.

REPAIR OR REPLACEMENT AS PROVIDED FOR UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. HIGH END SYSTEMS, INC. MAKES NO WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO ANY PRODUCT, AND HIGH END SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HIGH END SHALL NOT BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGE, INCLUDING LOST PROFITS, SUSTAINED OR INCURRED IN CONNECTION WITH ANY PRODUCT OR CAUSED BY PRODUCT DEFECTS OR THE PARTIAL OR TOTAL FAILURE OF ANY PRODUCT REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, AND WHETHER OR NOT SUCH DAMAGE WAS FORESEEN OR UNFORESEEN.

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.

DMX Control

You can control C-16 fixtures using any DMX controller like the HandShake® handheld controller from High End Systems.

Setting a Start Channel

Each C-16 fixture needs a range of 2 channels on a standard 512DMX link. Use the DIP switches to set the Start Channel for a C-16 fixture. Turning switch #10 OFF specifies DMX control mode. The remaining nine switches set the DMX start address for the fixture. The base DMX address is 1, with switches 1-9 OFF. As switches 1-9 are moved to the ON position they add their value to 1 to form the DMX start channel, as shown in the following table.

Defining a Start Channel

Turning this switch ON	9	8	7	6	5	4	3	2	1
Adds this number	256	128	64	32	16	8	4	2	1

For example, to set a start channel of 195, turn on DIP switches 8, 7 and 2. (Base of 1+128+64+2 = 195).

The High End Systems website (www.highend.com) has a listing of DIP-switch settings for all possible C-16 Start channels.

Use the C-16 DMX Protocol table below to set values for the C-16 functions on your controller. For more information on DMX control go to the C-16 Technical Programming Guide on the High End System website (www.highend.com).

C-16 DMX Protocol

Channel	Options	Dec	%	Hex	
Color Position					
1 Color	Color 1 (Red)	0-3	1-2	0-3	
	Color 1+2 (Red/Aqua)	4-7	2-3	4-7	
	Color 2(Aqua)	8-11	3-4	8-B	
	Color 2+3 (Aqua/Magenta)	12-15	5-6	C-F	
	Color 3 (Magenta)	16-19	6-7	10-13	
	Color 3+4 (Magenta/Yellow)	20-23	7-8	14-17	
	Color 4 (Yellow)	24-27	9-10	18-1B	
	Color 4+5 (Yellow/Blue)	28-31	10-11	1C-1F	
	Color 5 (Blue)	32-35	11-12	20-23	
	Color 5+6 (Blue/Pink)	36-39	13-14	24-27	
	Color 6 (Pink)	40-43	15-16	28-2B	
	Color 6+1 (Pink/Red)	44-47	17-18	2C-2F	
	Rotation				
	Forward Fastest to Slowest	48-125	19-49	30-7D	
Stop	126-129	50	7E-81		
Reverse Slowest to Fastest	130-207	51-81	82-CF		
Position with Blink (Shutter closes during position change)					
Color 6+1 (Pink/Red)	208-211	82-83	D0-D3		
Color 6 (Pink)	212-215	83-84	D4-D7		
Color 5+6 (Blue/Pink)	216-219	84-85	D8-DB		
Color 5(Blue)	220-223	86-87	DC-DF		
Color 4+5 (Yellow/Blue)	224-227	87-88	E0-E3		
Color 4 (Yellow)	228-231	89-90	E4-E7		
Color 3+4 (Magenta/Yellow)	232-235	90-91	E8-EB		
Color 3 (Magenta)	236-239	92-93	EC-EF		
Color 2+3 (Aqua/Magenta)	240-243	93-94	F0-F3		
Color 2 (Aqua)	244-247	95-96	F4-F7		
Color 1+2 (Red/Aqua)	248-252	97-98	F8-FB		
Color 1 (Red)	252-255	99-100	FC-FF		
2 Dim	Off to Maximum light output	0-255	0-100	0-FF	

C-16
ATMOSPHERES

Installation Guide



Your new C-16™ luminaire is a powerful, color-changing spot/wash interior architectural light from High End Systems®. C-16 fixtures come in several configurations to allow easy installation in a variety of applications. You can also choose control options from several onboard programs in stand-alone or master/slave mode; or create your own environment using any DMX-512 controller.

C-16 Specifications

Weight:

3.6 kg (8 lbs)

Optical:

Frost lens: standard (additional lens available)

Dichroic filters: Removable-Red, Aqua, Magenta, Yellow, Blue, Pink (additional colors available).

Electrical:

Power supply: Switching 12V DC
Voltage auto sensing 100V-230V 50-60 Hz
Draws less than 1 amp

Data & Power Configuration:

5-pin XLR and AC power cord
RJ-45 and AC power cord
RJ-45 only with J-box wall/ceiling mount for power
Data and AC power hardwired direct

Lamp:

Model: Sylvania Tru-Aim IR MR-16 50W

Color temperature: 3000°K

Lamp life: 4,000 hours average rated life

Beam angle: Ships with 25° (10°-40° available)

Compliance:

ETL Listed to: UL-1598 CSA 250.0

Compliant to:

EN60598-1 European Luminary Standard

N60598-2-17 European Stage & Studio Standard

C-16 Accessories	Part Number
HandShake handheld controller	10020001
RJ-45 terminator plug	55000011
Male 5-pin XLR terminator plug	90404039
XLR to RJ-45 jumper cable	90409112
Data/Lamp extension cable (4ft.)	90409124
Low Profile Yoke, unpainted	99240031
Low Profile Yoke, black	80071726
Low Profile Yoke, white	80071727
Low Profile Yoke, silver	80071728
Projection lens kit	54040001
Cheeseborough clamp	55040014

P/N: 60600207 Version 1.0

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