

# DMX-250C

## Omega™ 250C

### *USER MANUAL*



*Value - Innovation - Performance*  
Chauvet, 3000 N 29<sup>th</sup> Ct, Hollywood, FL 33020 U.S.A  
(800) 762-1084 – (954) 929-1115  
FAX (954) 929-5560  
[www.chauvetlighting.com](http://www.chauvetlighting.com)

# TABLE OF CONTENT

<b>BEFORE YOU BEGIN</b> .....	<b>3</b>
WHAT IS INCLUDED .....	3
UNPACKING INSTRUCTIONS .....	3
AC POWER .....	3
SAFETY INSTRUCTIONS .....	3
<b>INTRODUCTION</b> .....	<b>4</b>
FEATURES .....	4
DMX CHANNEL SUMMARY .....	4
PRODUCT OVERVIEW .....	5
<b>SETUP</b> .....	<b>6</b>
LAMP .....	6
<i>Lamp installation</i> .....	6
POWER .....	6
MOUNTING .....	7
<i>Orientation</i> .....	7
<i>Rigging</i> .....	7
MANUAL FOCUSING .....	7
FUSE REPLACEMENT .....	7
<b>OPERATING INSTRUCTIONS</b> .....	<b>8</b>
OPERATING MODES .....	8
<i>Stand Alone</i> .....	8
<i>Master/Slave</i> .....	8
<i>Master/Slave settings</i> .....	8
<i>Master/Slave Show Customization</i> .....	9
<i>DMX Mode</i> .....	9
<i>Setting the starting address</i> .....	9
<b>APPENDIX</b> .....	<b>11</b>
DMX PRIMER .....	11
<i>Fixture Linking</i> .....	11
DMX CHANNEL VALUES .....	12
MAINTENANCE .....	13
RETURNS PROCEDURE .....	13
CLAIMS .....	13
GENERAL TROUBLESHOOTING .....	14
TECHNICAL SPECIFICATIONS .....	15

# BEFORE YOU BEGIN

## What is included

- Omega™ 250C (DMX-250C)
- Power cord with plug
- ELC 24V 250W MR-16 lamp
- Diffusion filter and O-ring locking attachment (Installed)
- Manual with Warranty Card

## Unpacking Instructions

Immediately upon receiving a fixture, carefully unpack the carton, check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

## AC Power

To determine the power requirements for a particular fixture, see the label affixed to the back plate of the fixture or refer to the fixture's specifications chart. A fixture's listed current rating is its average current draw under normal conditions. All fixtures must be powered directly off a switched circuit and cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch. Before applying power to a fixture, check that the source voltage matches the fixture's requirement. Check the fixture or device carefully to make sure that if a voltage selection switch exists that it is set to the correct line voltage you will use.

Figure 1 - AC Voltage Switch



### **Warning!**

**Verify that the power select switch on your unit matches the line voltage applied. All fixtures must be connected to circuits with a suitable Earth Ground.**

## Safety Instructions



Please read these instructions carefully, which includes important information about the installation, usage and maintenance?



- Please keep this User Guide for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet.
- Always make sure that you are connecting to the proper voltage and that the line voltage you are connecting to is not higher than that stated on decal or rear panel of the fixture.
- This product is intended for indoor use only!
- To prevent risk of fire or shock, do not expose fixture to rain or moisture. Make sure there are no flammable materials close to the unit while operating.
- The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked.
- Always disconnect from power source before servicing or replacing lamp or fuse and be sure to replace with same lamp source.
- Secure fixture to fastening device using a safety chain. Never carry the fixture solely by its head. Use its carrying handles.
- Maximum ambient temperature is  $T_a: 40^\circ$ . Do not operate fixture at temperatures higher than this.
- In the event of serious operating problem, stop using the unit immediately. Never try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.
- Don't connect the device to a dimmer pack.
- Make sure power cord is never crimped or damaged.
- Never disconnect power cord by pulling or tugging on the cord.
- Avoid direct eye exposure to lamp while it is on.

### **Caution!**

**There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact CHAUVET.**

# INTRODUCTION

The Omega™ 250C DMX-250C brings the latest automated intelligent lighting technology to a super compact and affordable fixture. The Omega™ 250C features a super bright 250 watt halogen bulb encased in a highly optimized dichroic reflector ensuring optimum lamp performance. DMX-512 control means total control of your light show and an internal microphone enables sound activated programs to perform seamlessly. The Omega™ 250C is best suited for small clubs and mobile DJs. Weighing only 15 lbs, any mobile DJ can truly appreciate its portability and extreme power. Ideal show conditions would include 4 or more Omega™ 250Cs and an atmospheric effect device such as a fogger or hazer.

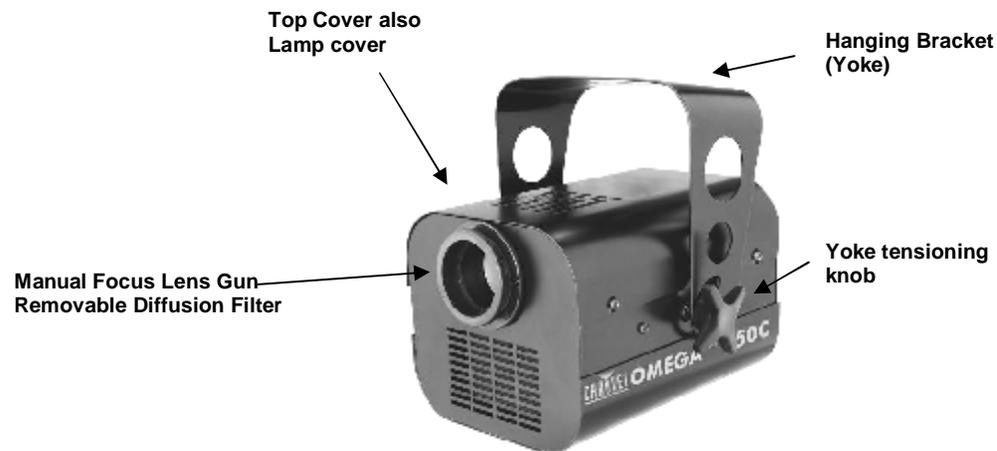
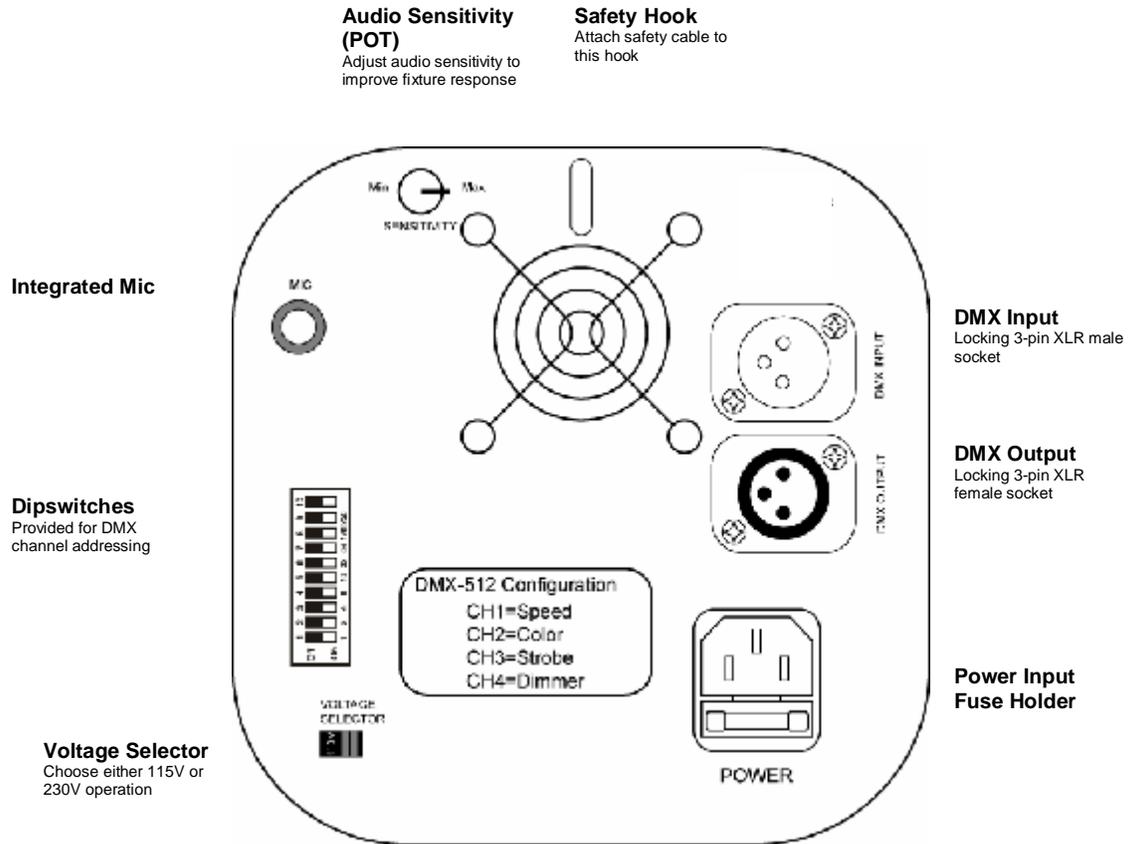
## Features

- advanced 4 channel DMX-512 fixture
- 14 colors plus open
- diffusion filter for color wash effect (installed)
- electronic dimming
- manual focus
- reliable micro-stepping motors
- built-in beat activated programs
- built-in microphone
- automatically enters stand-alone mode when no DMX signal is present
- fan cooled
- linkable via master/slave controller
- programmable via any universal DMX controller
- thermal fuse protection
- switch-selectable power setting 115V/230V
- 2 year warranty

## DMX Channel Summary

CHANNEL	FUNCTION
1	Speed
2	Color
3	Strobe
4	Dimmer

## Product Overview



# SETUP

## Lamp

You will need to install a lamp prior to the initial operation of the fixture. An ELC 250W halogen lamp is included.

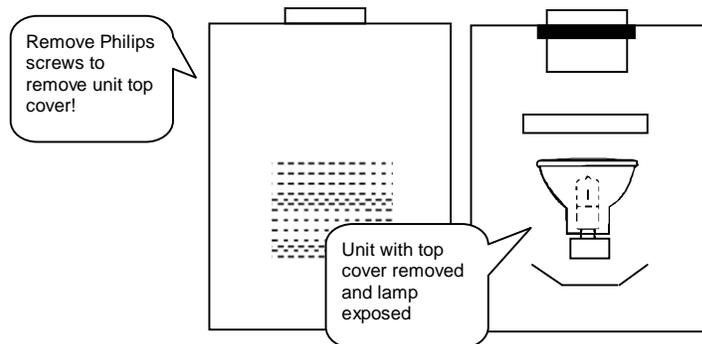
### **Warning!**

**When replacing the lamp, please wait 15 minutes after powering down to allow the unit to cool down! Always disconnect from main power prior to lamp replacement.**

Do not touch the envelope (glass area) of the bulb with bare hands. If this happens, clean the lamp with alcohol and wipe it with a lint free cloth before installation.

## LAMP INSTALLATION

- 1) Remove the 2 screws nearest the top of the fixture on both sides for a total of 4 screws removed.
- 2) Remove the top cover completely to expose lamp cage.
- 3) Make sure the lamp is no longer hot before handling. Hold the lamp by its base and slide it upwards until it is free from the retaining clips. Disconnect lamp from lamp socket.
- 4) Connect a new lamp to the lamp socket and follow the same procedure as above to insert lamp into lamp cage.
- 5) Replace top cover and screws.
- 6) No lamp alignment is necessary for this fixture.



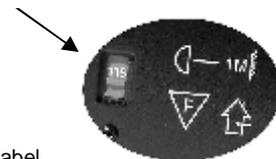
## Power

Your product is equipped with switch-selectable AC power setting.

### **Warning!**

**Verify that the power select switch on your unit matches the line voltage applied. All fixtures must be connected to circuits with a suitable Earth Ground.**

Slide switch up or down depending on your line voltage.



- To determine the power requirements for a particular fixture, see the label affixed to the back plate of the fixture or refer to the fixture's specifications chart.
- A fixture's listed current rating is its average current draw under normal conditions.
- All fixtures must be powered directly off a switched circuit and cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch.
- Before applying power to a fixture, check that the source voltage matches the fixture's requirement.
- All fixtures must be connected to circuits with a suitable Earth Ground.

## Mounting

### ORIENTATION

This fixture may be mounted in any position provided there is adequate room for ventilation.

### RIGGING

It is important never to obstruct the fan or vents pathway. Mount the fixture using a suitable "C" or "O" type clamp. Adjust the angle of the fixture by loosening both knobs and tilting the fixture. After finding the desired position, retighten both knobs.

Figure 2 - Hanging Clamp



- When selecting installation location, take into consideration lamp replacement access and routine maintenance.
- Safety cables should always be used.
- Never mount in places where the fixture will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation.

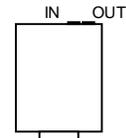
Note!  
Clamp is sold separately.

## Manual Focusing

To adjust the focus, please follow the instructions below.

- 1) If operating in stand alone mode, turn the music down so that the unit temporarily stops any activity, other wise turn the lamp on using Channel 4.
- 2) Rotate the lens gun either clockwise or counter-clockwise until the spot is defined by a hard edge.

Rotate lens gun clockwise and counter-clockwise to achieve desired focus.



## Fuse Replacement

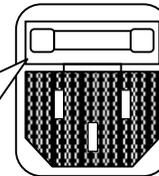


**Disconnect the power cord before replacing a fuse and always replace with the same type fuse.**



With a flat head screwdriver wedge the fuse holder out of its housing. Remove the damaged fuse from its holder and replace with exact same type fuse. Insert the fuse holder back in its place and reconnect power.

The fuse is located inside this compartment. Remove using a flat head screwdriver.



# OPERATING INSTRUCTIONS

## Operating Modes

The Omega™ 250C DMX-250C can be operated in three ways.

- A stand-alone mode will listen to sound and run through its diverse range of built in programs.
- Master/Slave mode will allow the command of up to as many units you want in a synchronized light show to the sound.
- DMX control mode will provide the greatest flexibility and creativity. Each fixture trait can be controlled individually using any universal DMX-512 controller.

### Stand Alone

The Stand Alone mode is activated automatically when the fixture is absent of DMX signal or a controller is not connected. The Omega™ 250C will run through its built in programs as it listens to the sound.

### Master/Slave

The Master/Slave mode will allow you to link up to as many units you want in a daisy chain fashion. In this mode, the first unit in the daisy chain will automatically command all other units following. The programs are constructed based on the control of four units. Connecting the Omega™ 250Cs for (Master/Slave) operation does not require any menu or setting selections. Simply connect each Omega™ 250C in a daisy like fashion using qualified 3 pin DMX cables as described below.

## MASTER/SLAVE SETTINGS

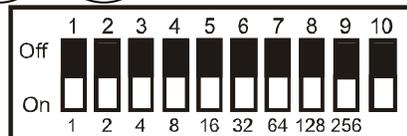
- 1) Connect the (male) 3 pin connector side of the DMX cable to the output (female) 3 pin connector of the first fixture.
- 2) Connect the end of the cable coming from the first fixture which will have a (female) 3 pin connector to the input connector of the next fixture consisting of a (male) 3 pin connector. Then, proceed to connect from the output as stated above to the input of the following fixture and so on as illustrated below in figure 5.

The built in programs were created using a set of 4 fixtures. When connecting fixtures together, leaving all dipswitches in the off position, will enable the auto-location function. The auto-location



function will automatically enumerate units in sets of four and will execute the programs based on a 4 fixture show.

All dipswitches in the OFF position will enable the auto-location method.



### Note!

**For additional information on linking fixtures read under section “DMX Primer”**

## MASTER/SLAVE SHOW CUSTOMIZATION

You can manually assign a slave device number to the fixtures by adjusting the dip-switches as illustrated below. This provides a way for you to customize the playback such as creating unison movement across selections or counter movements.

### MANUAL SLAVE SETTINGS

<b>FIXTURE 1</b>	<p>Diagram showing 10 dip switches for Fixture 1. The top row is labeled 'Off' and the bottom row is labeled 'On'. Below each switch is a numerical value: 1, 2, 4, 8, 16, 32, 64, 128, 256. Switch 1 is in the 'On' position (black), while switches 2 through 10 are in the 'Off' position (white).</p>
<b>FIXTURE 2</b>	<p>Diagram showing 10 dip switches for Fixture 2. The top row is labeled 'Off' and the bottom row is labeled 'On'. Below each switch is a numerical value: 1, 2, 4, 8, 16, 32, 64, 128, 256. Switch 1 is in the 'Off' position (white), while switches 2 through 10 are in the 'On' position (black).</p>
<b>FIXTURE 3</b>	<p>Diagram showing 10 dip switches for Fixture 3. The top row is labeled 'Off' and the bottom row is labeled 'On'. Below each switch is a numerical value: 1, 2, 4, 8, 16, 32, 64, 128, 256. Switch 1 is in the 'Off' position (white), while switches 2 through 10 are in the 'On' position (black).</p>
<b>FIXTURE 4</b>	<p>Diagram showing 10 dip switches for Fixture 4. The top row is labeled 'Off' and the bottom row is labeled 'On'. Below each switch is a numerical value: 1, 2, 4, 8, 16, 32, 64, 128, 256. Switch 1 is in the 'On' position (black), while switches 2 through 10 are in the 'Off' position (white).</p>

### DMX Mode

Operating in a DMX Control mode environment gives the user the greatest flexibility when it comes to customizing or creating a show. You can tailor your programming to suit a specific event. Whether it is a wedding where a spot light may be required or a lead singer requiring a color solo, the opportunities are end less. In this mode you will be able to control each individual trait of the fixture independently.

### SETTING THE STARTING ADDRESS

This DMX mode enables the use of a universal DMX controller device. Each fixture requires a "start address" from 1 to 511. A fixture requiring one or more channels for control begins to read the data on the channel indicated by the start address. For example, a fixture that occupies or uses 6 channels of DMX and was addressed to start on DMX channel 100, would read data from channels: 100, 101, 102, 103, 104, and 105. Choose start addresses so that the channels used do not overlap and notate the start address selected for future reference.

If this is your first time addressing a fixture using the DMX-512 control protocol then I suggest jumping to the Appendix Section and read the heading "DMX Primer". It contains very useful information that will help you understand its use.

Set the start address using the group of DIP switches located usually on bottom of the fixture. Each dip switch has an associated value. Adding the value of each switch in the ON position will provide

the start address. Determining which switches to toggle ON given a specific start address can be accomplished in the following manner. By subtracting the largest switch value possible from the selected start address which does not cause a negative number.

<p><b>EXAMPLE STARTING ADDRESS</b></p>	<p>THE CHANNEL ADDRESSES WERE SELECTED AT RANDOM. IT IS RECOMMENDED TO SEQUENCE YOUR FIXTURES FOLLOWING A NUMERICAL ORDER.</p>																							
<p><b>Address 10</b></p> <p>Pin # 4 = 8 Pin # 2 = 2 Total = 10</p>		<p>DMX Values</p>																						
<p><b>Address 24</b></p> <p>Pin # 5 = 16 Pin # 4 = 8 Total = 24</p>		<p>DMX Values</p>																						
<p><b>Resolving address using simple math.</b> <b>Address 233</b></p>	<p>233 – (128) = 105, Turn ON Dip # 8 105 – (64) = 41, Turn ON Dip # 7 41 – (32) = 9, Turn ON Dip # 6 9 – (8) = 1, Turn ON Dip # 4 1 – (1) = 0, Turn ON Dip # 1</p> <p>You will most likely use the first available number which maybe number 1. This number was selected for example purposes.</p>	<table border="1"> <thead> <tr> <th>DIP SWITCH</th> <th>(DMX VALUE)</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>4</td><td>8</td></tr> <tr><td>5</td><td>16</td></tr> <tr><td>6</td><td>32</td></tr> <tr><td>7</td><td>64</td></tr> <tr><td>8</td><td>128</td></tr> <tr><td>9</td><td>256</td></tr> <tr><td>10</td><td></td></tr> </tbody> </table>	DIP SWITCH	(DMX VALUE)	1	1	2	2	3	4	4	8	5	16	6	32	7	64	8	128	9	256	10	
DIP SWITCH	(DMX VALUE)																							
1	1																							
2	2																							
3	4																							
4	8																							
5	16																							
6	32																							
7	64																							
8	128																							
9	256																							
10																								

# APPENDIX

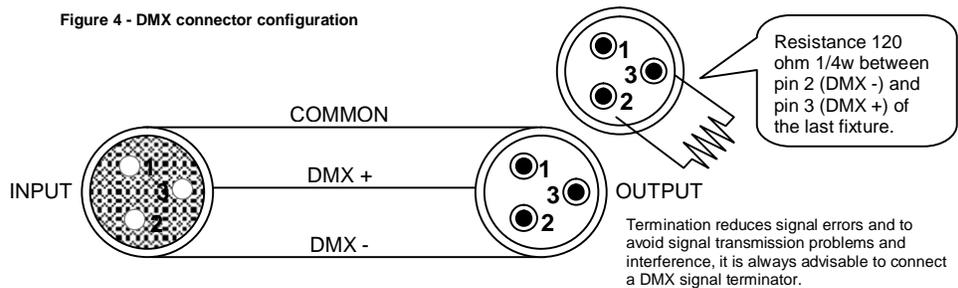
## DMX Primer

There are 512 channels in a DMX-512 connection. Channels may be assigned in any manner. A fixture capable of receiving DMX 512 will require one or a number of sequential channels. The user must assign a starting address on the fixture that indicates the first channel reserved in the controller. There are many different types of DMX controllable fixtures and they all may vary in the total number of channels required. Choosing a start address should be planned in advance. Channels should never overlap. If they do, this will result in erratic operation of the fixtures whose starting address is set incorrectly. You can however, control multiple fixtures of the same type using the same starting address as long as the intended result is that of unison movement or operation. In other words, the fixtures will be slaved together and all respond exactly the same.

DMX fixtures are designed to receive data through a serial Daisy Chain. A Daisy Chain connection is where the DATA OUT of one fixture connects to the DATA IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a controller communicates to each fixture. Use an order that provides for the easiest and most direct cabling. Connect fixtures using shielded two conductor twisted pair cable with three pin XLR male to female connectors. The shield connection is pin 1, while pin 2 is Data Negative (S-) and pin 3 is Data positive (S+). CHAUVET carries 3-pin XLR DMX compliant cables, DMX-10 (33'), DMX-4.5 (15') and DMX-1.5 (5')

## FIXTURE LINKING

Figure 4 - DMX connector configuration



### Note!

**If you use a controller with a 5 pin DMX output connector, you will need to use a 5 pin to 3 pin adapter. Chauvet Model No: DMX5M. The chart below details a proper cable conversion:**

### 3 PIN TO 5 PIN CONVERSION CHART

CONDUCTOR	3 Pin Female (output)	5 Pin Male (Input)
GROUND/SHIELD	Pin 1	Pin 1
DATA ( - ) SIGNAL	Pin 2	Pin 2
DATA ( + ) SIGNAL	Pin 3	Pin 3
DO NOT USE		Do not use
DO NOT USE		Do not use

## DMX Channel Values

Channel	Value	Function
1	000 ⇔ 219 220 ⇔ 239 240 ⇔ 255	<b>Speed</b> Fast > Slow Sound activated mode; Slow Sound activated mode; Fast
2	000 ⇔ 009 010 ⇔ 019 020 ⇔ 029 030 ⇔ 039 040 ⇔ 049 050 ⇔ 059 060 ⇔ 069 070 ⇔ 079 080 ⇔ 089 090 ⇔ 099 100 ⇔ 109 110 ⇔ 119 120 ⇔ 129 130 ⇔ 139 140 ⇔ 149 150 ⇔ 159 160 ⇔ 255	<b>Color</b> Closed White/Open Magenta Amber Cyan Dark Green Pink Blue Red Yellow Green Dark Red Dark Pink UV-Purple Light Blue Orange Color Scroll: Speed set by channel (1)
3	000 ⇔ 100 101 ⇔ 120 121 ⇔ 140 141 ⇔ 160 161 ⇔ 180 181 ⇔ 200 201 ⇔ 255	<b>Strobe</b> No Strobe 1 strobe per second 2 strobos per second 3 strobos per second 4 strobos per second 5 strobos per second 6 strobos per second
4	000 ⇔ 255	<b>Dimming</b> 0% ⇔ 100%

## Maintenance

To maintain optimum performance and minimize wear fixtures should be cleaned frequently. Usage and environment are contributing factors in determining frequency. As a general rule, fixtures should be cleaned at least twice a month. Dust build up reduces light output performance and can cause overheating. This can lead to reduced lamp life and increased mechanical wear. Be sure to power off fixture before conducting maintenance.

Unplug fixture from power. Use a vacuum or air compressor and a soft brush to remove dust collected on external vents and internal components. Clean all glass when the fixture is cold with a mild solution of glass cleaner or Isopropyl Alcohol and a soft lint free cotton cloth or lens tissue. Apply solution to the cloth or tissue and drag dirt and grime to the outside of the lens. Gently polish optical surfaces until they are free of haze and lint. Do not touch the lamp glass when cleaning fixture. Oil and dirt can cause damage and premature aging of the lamp. In the event that the lamp is touched or becomes dirty, clean the lamps with an alcohol wipe.

The cleaning of internal and external optical lenses and/or mirrors must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's optics. Clean with soft cloth using normal glass cleaning fluid. - Always dry the parts carefully. - Clean the external optics at least every 20 days. Clean the internal optics at least every 30/60 days.

## Returns Procedure

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Merchandise Authorization Number (RA #). Products returned without an RA # will be refused. Call CHAUVET and request RA # prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. CHAUVET reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

## Claims

Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise. It is the customer's responsibility to notify and submit claims with the shipper in the event that a fixture is damaged due to shipping. Any other claim for items such as missing component/part, damage not related to shipping, and concealed damage, must be made within seven (7) days of receiving merchandise.

## General Troubleshooting

Symptom	Solution(s)	Applies to			
		Lights	Foggers & Snow	Controllers	Dimmers & Chaser
Auto shut off	Check fan thermal switch reset	✓			
Beam is very dim or not bright	Clean optical system or replace lamp Check 220/110v switch for proper setting	✓			
Breaker/Fuse keeps blowing	Check total load placed on device				✓
Chase is too slow	Check users manual for speed adjustment	✓		✓	✓
Device has no power	Check for power on Mains. Check device's fuse. (internal and/or external)	✓		✓	✓
Fixture is not responding	Check DMX Dip switch settings for correct addressing Check DMX cables Check polarity switch settings	✓			
Fixture is on but there is no movement to the audio	Make sure you have the correct audio mode on the control switches. If audio provided via 1/4" jack, make sure a live audio signal exists Adjust sound sensitivity knob	✓		✓	✓
Lamps cuts off sporadically	Possible bad lamp or fixture is overheating. Lamp may be at end of its life.	✓			
Light will not come on after power failure	Some discharge lamps require a cooling off period before the electronics in the fixture can kick start it again, wait 5 to 10 minutes before powering up	✓			
Loss of signal	Use only DMX cables Install terminator Note: Keep DMX cables separated from power cables or black lights.	✓	✓	✓	✓
Moves slow	Check 220/110v switch for proper setting	✓			
No flash	Re-install bulb, may have shifted in shipping	✓			
No laser output	Bounce mirror motor may have shifted during shipping, readjust	✓			
No light output	Check slip ring & brushes for contact Install bulb Call service technician	✓			
Relay will not work	Check reset switch Check cable connections				✓
Remote does not work	Make sure connector is firmly connected to device	✓	✓		
Stand alone mode	All Chauvet lighting fixtures featuring stand-alone functions do not require additional settings, simply power the fixture and it will automatically enter into this mode	✓			

## Technical Specifications

### WEIGHT & DIMENSIONS

Length ..... 260 mm (10.25 in)  
 Width ..... 266 mm (10.5 in)  
 Height ..... 229 mm (9 in)  
 Weight ..... 6.8 Kg (15 lbs)

### POWER

Switch-selectable power setting ..... 115V 60 Hz or 230V 50 Hz  
 AC input ..... 3-prong IEC 60320 C14 male socket

### LAMPS

ELC3 ..... 300 hr, 250W 24V

### THERMAL

Maximum ambient temperature ..... 40° (104° F)

### FUSE

Main ..... 20mm Glass 3.15A Fast Blow

### CONTROL & PROGRAMMING

Data input ..... locking 3-pin XLR male socket  
 Data output ..... locking 3-pin XLR female socket  
 Data pin configuration ..... pin 1 shield, pin 2 (-), pin 3 (+)  
 Protocols ..... DMX-512 USITT  
 DMX Channels ..... 4

### ORDERING INFORMATION

Omega™ 250C ..... DMX-250C  
 Fuse ..... P170FUSE003