

Waterfall 250



User Instructions

©Elation Professional®
4295 Charter Street
Los Angeles Ca. 90058
www.elationlighting.com

Waterfall 250™

Unpacking

Every Waterfall 250™ has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton appears to be damaged, carefully inspect your fixture for any damage and be sure all accessories necessary to operate the unit have arrived intact. In the case damage has been found or parts are missing, please do not return the unit to your dealer. Contact our customer support number first, for further instructions.

Waterfall 250™

Introduction

Introduction: Thank you for purchasing the ©Elation® Waterfall 250™. To optimize the performance of this product, please read these operating instructions carefully to familiarize yourself with the basic operations of this unit. The Waterfall 250™ is an effect that simulates moving water and fire. The Waterfall 250™ was created to meet the demands of theatrical groups and for individuals that desire an incredible effect without strong flashing lights or fog.

Customer Support: ©Elation® provides a customer support line, to provide help and to answer any question should you encounter problems during your set up or initial operation. You may also visit us on the web at www.elationlighting.com for any comments or suggestions. Service Hours are Monday through Friday 9:00 a.m. to 5:00 p.m. Pacific Standard Time.

Tel: (323) 582-3322
Fax: (323) 582-3108
E-mail: support@elationlighting.com

Warning! To prevent or reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.

Caution! There are no user serviceable parts inside this unit. Do not attempt any repairs yourself, doing so will void your manufactures warranty. In the unlikely event your unit may require service please contact ©Elation Professional®.

Waterfall 250™

General Instructions

To optimize the performance of this product, please read these operating instructions carefully to familiarize yourself with the basic operations of this unit. These instructions contain important safety information regarding the use and maintenance of this unit. Please keep this manual with the unit, for future reference.

Waterfall 250™

Product Registration

The Waterfall 250™ carries a two year limited warranty. Please fill out the enclosed warranty card to validate your purchase. All returned service items whether under warranty or not, must be freight pre-paid and accompany a return authorization (R.A.) number. The R.A. number must be clearly written on the outside of the return package. A brief description of the problem as well as the R.A. number must also be written down on a piece of paper included in the shipping carton. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. You may obtain a R.A. number by contacting our customer support team on our toll free customer support number. All packages returned to the service department not displaying a R.A. number on the outside of the package will be returned to the shipper.

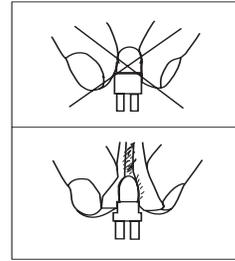
Waterfall 250™

Features

- Micro-Stepping Motors for Smooth Rotation of Textured Glass
- DMX-512 Protocol Compatible (Uses three DMX Channels)
- Master/Slave Operation
- Six Colors Plus White
- Internal Microphone
- ZB-MSD250/2 250w/2000 Hrs./6800°K
- 2 Year Warranty

Waterfall 250™

Discharge Lamp Warning



This fixture is fitted with a discharge lamp which are highly susceptible to damage if improperly handled. Never touch the lamps with your bare fingers as the oil from your hands will shorten lamp life. Also, never move the fixture until the lamps have had ample time to cool. Remember, lamps are not covered under warranty conditions.

This unit emits intense UV radiation which is harmful to the eyes and skin. The intense luminance of the lamp can cause severe damage to the retina. Never operate this unit without it's covers, these covers have been specially designed to shield against UV radiation.

Epileptic Warning: Those suffering from epilepsy should avoid looking directly into the lamp at all times.

Avoid switch the fixture on and off repeatedly in short intervals as this will reduce lamp life and intensity.

To achieve the intensity associated with discharge lamps, these lamps use gas sealed in a high pressure environment to emit a brilliant output. Due to the high pressure involved with the construction of the lamp, the lamp may explode during prolonged extensive use. This risk is increased with age, added care is encouraged when dealing with older lamps. The length of lamp life at the most is 2000 Hrs. Extreme caution should be used when operated this or any fixture fitted with a gas discharge lamp. Never open this unit while in use.

PLEASE READ THE PROPER LAMP REPLACEMENT INSTRUCTIONS LOCATED ON PAGE 12.

- To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture
- Do not spill water or other liquids into or on to your unit.
- Be sure that the local power outlet match that of the required voltage for your unit.
- Do not attempt to operate this unit if the power cord has been frayed or broken.
- Do not attempt to remove or break off the ground prong from the electrical cord. This prong is used to reduce the risk of electrical shock and fire in the event of an internal short.
- Disconnect from main power before making any type of connection.
- Do not remove the cover under any conditions. There are no user serviceable parts inside.
- Never operate this unit when it's cover is removed.
- Never plug this unit in to a dimmer pack
- Always be sure to mount this unit in an area that will allow proper ventilation. Allow about 6" (15cm) between this device and a wall.
- Do not attempt to operate this unit, if it becomes damaged.
- This unit is intended for indoor use only, use of this product outdoors voids all warranties.
- During long periods of non-use, disconnect the unit's main power.
- Always mount this unit in a safe and stable matter.
- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- Cleaning -The fixture should be cleaned only as recommended by the manufacturer. See page 13 for cleaning details.
- Heat -The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- The fixture should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the appliance.
 - C. The appliance has been exposed to rain or water.
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance.

Power Supply: Before plugging your unit in, be sure the source voltage in your area matches the required voltage of your ©Elation® Waterfall 250.™ The Waterfall 250™ is only available in a 120v version. Because line voltage may vary from venue to venue, you should be sure your unit voltage matches the wall outlet voltage before attempting to operate you fixture.

DMX-512: *DMX is short for Digital Multiplex. This is a universal protocol used as a form of communication between intelligent fixtures and controllers. A DMX controller sends DMX data instructions from the controller to the fixture. DMX data is sent as serial data that travels from fixture to fixture via the DATA "IN" and DATA "OUT" XLR terminals located on all DMX fixtures (most controllers only have a DATA "OUT" terminal).*

DMX Linking: DMX is a language allowing all makes and models of different manufactures to be linked together and operate from a single controller, as long as all fixtures and the controller are DMX compliant. *To ensure proper DMX data transmission, when using several DMX fixtures try to use the shortest cable path possible. The order in which fixtures are connected in a DMX line does not influence the DMX addressing. For example; a fixture assigned a DMX address of 1 may be placed anywhere in a DMX line, at the beginning, at the end, or anywhere in the middle. When a fixture is assigned a DMX address of 1, the DMX controller knows to send DATA assigned to address 1 to that unit, no matter where it is located in the DMX chain.*

Data Cable (DMX Cable) Requirements (For DMX and Master/Slave Operation): The Waterfall 250™ can be controlled via DMX-512 protocol. The Waterfall 250™ is a three channel DMX unit. The DMX address is set on the front panel of the Waterfall 250.™ Your unit and your DMX controller require a standard 3-pin XLR connector for data input and data output (Figure 1). If you are making your own cables, be sure to use standard two conductor shielded cable (This cable may be purchased at almost all professional sound and lighting stores). Your cables should be made with a male and female XLR connector on either end of the cable. Also remember that DMX cable must be daisy chained and can not be split or "Y'ed."



Figure 1

Notice: Be sure to follow figures two and three when making your own cables. Do not use the ground lug on the XLR connector. Do not connect the cable's shield conductor to the ground lug or allow the shield conductor to come in contact with the XLR's outer casing. Grounding the shield could cause a short circuit and erratic behavior.

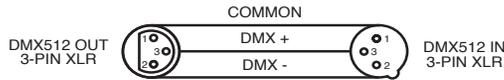


Figure 2

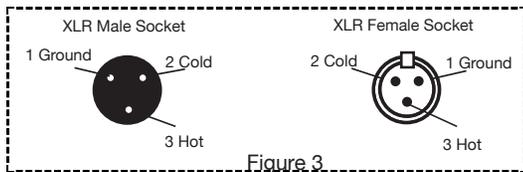


Figure 3

XLR Pin Configuration
Pin 1 = Ground
Pin 2 = Data Compliment (negative)
Pin 3 = Data True (positive)

Special Note: Line Termination. When longer cable runs are used, you should use a terminator pin on the last unit to avoid erratic behavior. A terminator is a 90-120 ohm 1/4 watt resistor which is connected between pins 2 and 3 of a male XLR connector (DATA + and DATA -). This pin is inserted in the female XLR connector of the last unit in your daisy chain to terminate the line. Using a cable terminator (ADJ part number Z-DMX/T) will decrease the possibilities of erratic behavior.



Termination reduces signal errors and avoids signal transmission problems and interference. It is always advisable to connect a DMX terminal, (Resistance 120 Ohm 1/4 W) between PIN 2 (DMX-) and PIN 3 (DMX +) of the last fixture.

Figure 4

5-Pin XLR DMX Connectors. Some manufactures use 5-pin XLR connectors for DATA transmission in place of 3-pin. 5-pin XLR fixtures may be implemented in a 3-pin XLR DMX line. When inserting standard 5-pin XLR connectors in to a 3-pin line, a cable adaptor must be used, these adaptors are readily available at most professional sound and lighting stores. The chart below details a proper cable conversion.

3-Pin XLR to 5-Pin XLR Conversion		
Conductor	3-Pin XLR Female (Out)	5-Pin XLR Male (In)
Ground/Shield	Pin 1	Pin 1
Data Compliment (- signal)	Pin 2	Pin 2
Data True (+ signal)	Pin 3	Pin 3
Not Used		Pin 4 - Do Not Use
Not Used		Pin 5 - Do Not Use

Stand Alone:

This function is used when using only one unit or running more than one unit as individual fixtures. See page 10 for detailed info of dipswitch traits.

- A. Set dipswitch 10 to the “On” position.
- B. Plug the unit in, the unit will react to sound via an internal microphone.
- C. Use the audio sensitivity knob on the rear of the unit to make the unit more or less sensitive to sound. Turning the knob in a clockwise direction will make the unit more sensitive to sound.

Master / Slave Operation:

This function will allow you to link up to 4 units together. In this mode, the units will react to sound via the master units’ internal microphone. The units will run to the built in programs of the unit functioning as the master.

- A. Use XLR cables to daisy chain the fixtures together. Remembering the female XLR is the output, and the male XLR is the input.
- B. Be sure to follow the dipswitch chart on page 9.
- C. For longer cable runs, we suggest a terminator at the last fixture in the cable run (see terminator on page 7).

Universal DMX Control:

This function allows you to use a universal DMX controller such as the LSC® Show Designer 2.™ The use of a DMX controller will allow you to customize the operation of the fixture allowing you to have independent control of the color wheel and the ability to black out the lamp. This will allow you to create your own programs or use your fixtures as textured color changers.

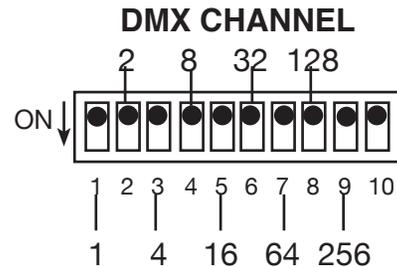
- A. The Waterfall 250™ is a three channel DMX fixture.
- B. When using a DMX controller and setting up for DMX operation follow the standard DMX Binary Code for a three (3) channel unit. Channel 1 is color, channel 2 is glass wheel 1, and channel 3 is glass wheel 2.
- C. For help running in DMX mode consult the manual that came with your DMX controller.
- D. For longer cable runs we suggest a terminator at the last fixture (see terminator on page 7).

Waterfall 250™

DMX Addressing

DMX stands for Digital Multiplex. This is a universal binary language used as a form of communication between intelligent fixtures. Each dipswitch represents a binary value.

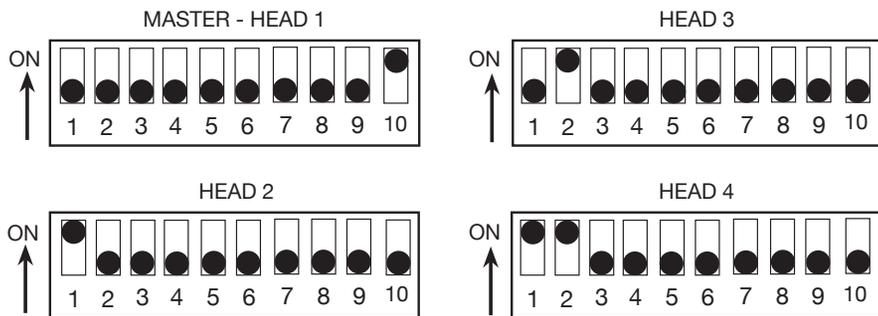
Dipswitch 1 address equals 1
 Dipswitch 2 address equals 2
 Dipswitch 3 address equals 4
 Dipswitch 4 address equals 8
 Dipswitch 5 address equals 16
 Dipswitch 6 address equals 32
 Dipswitch 7 address equals 64
 Dipswitch 8 address equals 128
 Dipswitch 9 address equals 256



Dipswitch 10 is used to control the Master/Slave operation. Turning dipswitch 10 on will activate that unit as a "Master Unit."

Waterfall 250™

Master/Slave Settings



Waterfall 250™

DMX Traits

Channel	Value	Function
1 ↓	<u>0 - 255</u>	<u>COLOR</u>
	0	BLACKOUT
	1 - 40	WHITE
	42 - 49	WHITE/RED
	50 - 52	RED
	53 - 69	RED/BLUE
	70 - 82	BLUE
	83 - 96	BLUE/GREEN
	97 - 106	GREEN
	107 - 121	GREEN/YELLOW
	122 - 132	YELLOW
	133 - 146	YELLOW/ORANGE
	147 - 152	ORANGE
	153 - 170	ORANGE/PURPLE
	171 - 175	PURPLE
	176 - 255	COLOR ROTATION SLOW → FAST
	2 ↓	<u>0 - 255</u>
0		NO ROTATION
1 - 129		COUNTER CLOCKWISE ROTATION FAST → SLOW
	130 - 255	CLOCKWISE ROTATION SLOW → FAST
3 ↓	<u>0 - 255</u>	<u>TEXTURE GLASS 2</u>
	0	NO ROTATION
	1 - 129	COUNTER CLOCKWISE ROTATION FAST → SLOW
	130 - 255	CLOCKWISE ROTATION SLOW → FAST

To run a unit or units in stand alone mode with a built in waterfall program, follow the dipswitch chart below. This for either setting a certain color or a certain waterfall effect.

0=Off 1=On	WATERFALL 250 FUNCTION LIST										FUNCTION
	Dp 1	Dp 2	Dp 3	Dp 4	Dp 5	Dp 6	Dp 7	Dp 8	Dp 9	Dp 10	
0	0	0	0	0	0	0	0	0	0	1	SOUND ACTIVE
1	0	0	0	0	0	0	0	0	0	1	WHITE
0	1	0	0	0	0	0	0	0	0	1	WHITE/RED
1	1	0	0	0	0	0	0	0	0	1	RED
0	0	1	0	0	0	0	0	0	0	1	RED/BLUE
1	0	1	0	0	0	0	0	0	0	1	BLUE
0	1	1	0	0	0	0	0	0	0	1	BLUE/GREEN
1	1	1	0	0	0	0	0	0	0	1	GREEN
0	0	0	1	0	0	0	0	0	0	1	GREEN/YELLOW
1	0	0	1	0	0	0	0	0	0	1	YELLOW
0	1	0	1	0	0	0	0	0	0	1	YELLOW/ORANGE
1	1	0	1	0	0	0	0	0	0	1	ORANGE
0	0	1	1	0	0	0	0	0	0	1	ORANGE/PURPLE
1	0	1	1	0	0	0	0	0	0	1	PURPLE
0	1	1	1	0	0	0	0	0	0	1	ROTATION SLOW
1	1	1	1	0	0	0	0	0	0	1	ROTATION FAST
1	1	1	1	0	0	0	0	0	0	1	SLOW WATERFALL 1
1	1	1	1	0	0	0	0	0	0	1	SLOW WATERFALL 2
1	1	1	1	0	1	0	0	0	0	1	SLOW WATERFALL 3
1	1	1	1	0	1	0	0	0	0	1	SLOW WATERFALL 4
1	1	1	1	0	0	0	0	0	1	1	FAST WATERFALL 1
1	1	1	1	0	0	0	0	0	1	1	FAST WATERFALL 2
1	1	1	1	0	1	0	0	0	1	1	FAST WATERFALL 3
1	1	1	1	0	1	0	0	0	1	1	FAST WATERFALL 4

Caution: Always replace with the exact same type lamp, unless otherwise specified by an authorized ©Elation® service technician. Replacing with anything other than the specified part can damage your unit and will void your manufactures warranty.

Warning: If you continue to blow lamps or the fuse, STOP using the unit. Contact customer support for further instructions, you may have to return the unit for servicing. Continuing to use the unit may cause serious damage.

Fuse Replacement: Locate and remove the unit’s power cord. Once the cord has been removed located the fuse holder located inside the power socket. Insert a flat-head screw driver into the power socket and gently pry out the fuse holder. Remove the bad fuse and replace with a new one. The fuse holder has a built-in socket for a spare fuse be sure not to confuse the spare fuse with the active fuse.

Lamp Replacement: Caution! Never attempt to change the lamp while the fixture is plugged in. Always disconnect the main power and allow the unit ample time to cool before attempting to replace the lamp. Lamp replacement has been made simple by incorporating the use of a trap door that is retained by thumb screws.

1. Be sure to follow the proper handling procedures that deal with discharge lamps.
2. Remove the thumb screw on the trap door located at the rear of the unit.
3. Slide out the lamp socket assembly to expose the lamp.
4. Carefully remove the old lamp. **NEVER TOUCH A DISCHARGE LAMP WITH YOUR BARE HANDS. NEVER DISCARD A DISCHARGE LAMP IN THE TRASH. FOR PROPER DISPOSAL INSTRUCTIONS, PLEASE REFER TO THE INSTRUCTIONS INCLUDED WITH YOUR NEW DISCHARGE LAMP.**
5. Replace the lamp with an exact match and reassemble in reverse order.

Due to fog residue, smoke, and dust cleaning the internal and external optical lenses must be carried out periodically to maintain optimized light output.

1. Use normal glass cleaner and a soft cloth to wipe down the outside casing.
2. Use a brush to wipe down the fan grill and remove as much built up as possible.
3. Clean the external optics with glass cleaner and a soft cloth every 20 days.
4. Clean the internal optics with glass cleaner and a soft cloth every 30-60 days.
5. Always be sure to dry all parts completely before plugging the unit in.

Cleaning frequency depends on the environment in which the fixture operates (i.e. smoke, fog residue, dust, dew).

2-YEAR LIMITED WARRANTY

A. ©Elation Professional® hereby warrants, to the original purchaser, ©Elation Professional® products to be free of manufacturing defects in material and workmanship for a period of two years (730 days) from the date of purchase. This warranty shall be valid only if the product is purchased within the United States of America, including possessions and territories. It is the owner's responsibility to establish the date and place of purchase by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the ©Elation Professional® factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, ©Elation Professional® will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, ©Elation Professional® shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return thereof.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which ©Elation Professional® concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the ©Elation Professional® factory unless prior written authorization was issued to purchaser by ©Elation Professional®; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up. During the period specified above, Elation Professional® will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of ©Elation Professional® under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of ©Elation Professional®. All products covered by this warranty were manufactured after January 1, 1990, and bear identifying marks to that effect.

E. ©Elation Professional® reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured.

F. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products described above. Except to the extent prohibited by applicable law, all implied warranties made by ©Elation Professional® in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired. The consumer's and or Dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall Elation Professional® be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.

G. This warranty is the only written warranty applicable to ©Elation Professional® products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

Technical Specifications:

Model: Waterfall 250™

Lamp:	ZB-MSD250/2 250w
Lamp Life:	2000 Hrs.
Color Temperature:	6800°K
Voltage:	115v AC
Dimensions:	14.7"(L) x 14.3"(W) x 8.8"(H)
Colors	6 plus White
Weight:	26 Lbs./ 13 Kgs.
Fuse:	10A GMA 115v
DMX Channels:	3
Warranty:	2 Years (730 Days)

Please Note: Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.

©Elation Professional®

Elation World Headquarters:

4295 Charter Street Los Angeles, CA 90058 USA

Tel: 323-582-3322 / Fax: 323-582-3108

Web: www.elationlighting.com / E-mail: info@elationlighting.com