



User Manual

August 2006





This user manual is designed to help the operators and owners of Lightscape® products use, troubleshoot, and utilize all of the product's potential.

Customers seeking additional help not mentioned in this user manual should contact Main Light Industries. Please use the "Contact Us" page in this manual or your Lightscape® contact.

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FLAME CERTIFICATES



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LIGHTSCAPE® MANUAL

Getting Started

1. Before hanging and connecting any of the system, visually check for any damage from shipping.
2. Remove curtain from case by removing lid and flipping case on end.
⚠ If there are multiple curtains, remove top curtains by pulling the curtains off a non-latched side of the case to prevent damage.

Properly remove the curtain from the case



3. Tie drapery onto support system.

Secure drapery tightly



4. Place fiber optic fixtures where fiber optic bundles end from drapery. Check dip switches on all fiber optic fixtures for standalone usage or controller usage. Connect the fiber optic bundles to the fiber optic fixtures.

Note: Refer to the fiber optic fixture's manual for correct dip switch settings.

5. Plug in all power for the fiber optic fixtures into proper power sources.

6. Place the controller where the fixtures will be controlled from and plug in power from proper power source.

7. Ensure all units in system are turned on.

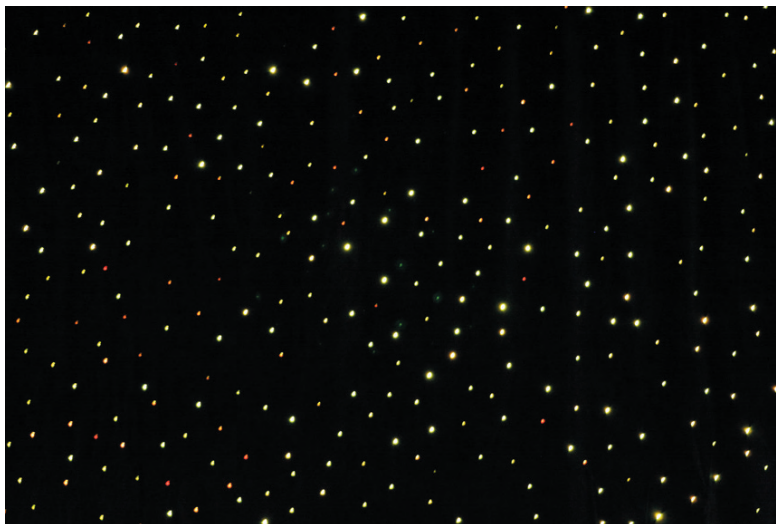
⚠ Last Steps Apply to Controlled Fiber Optic Fixtures ONLY

8. Connect all XLR data cable.

Note: The data should create a chain starting from the controller. Refer to the diagram for more information.

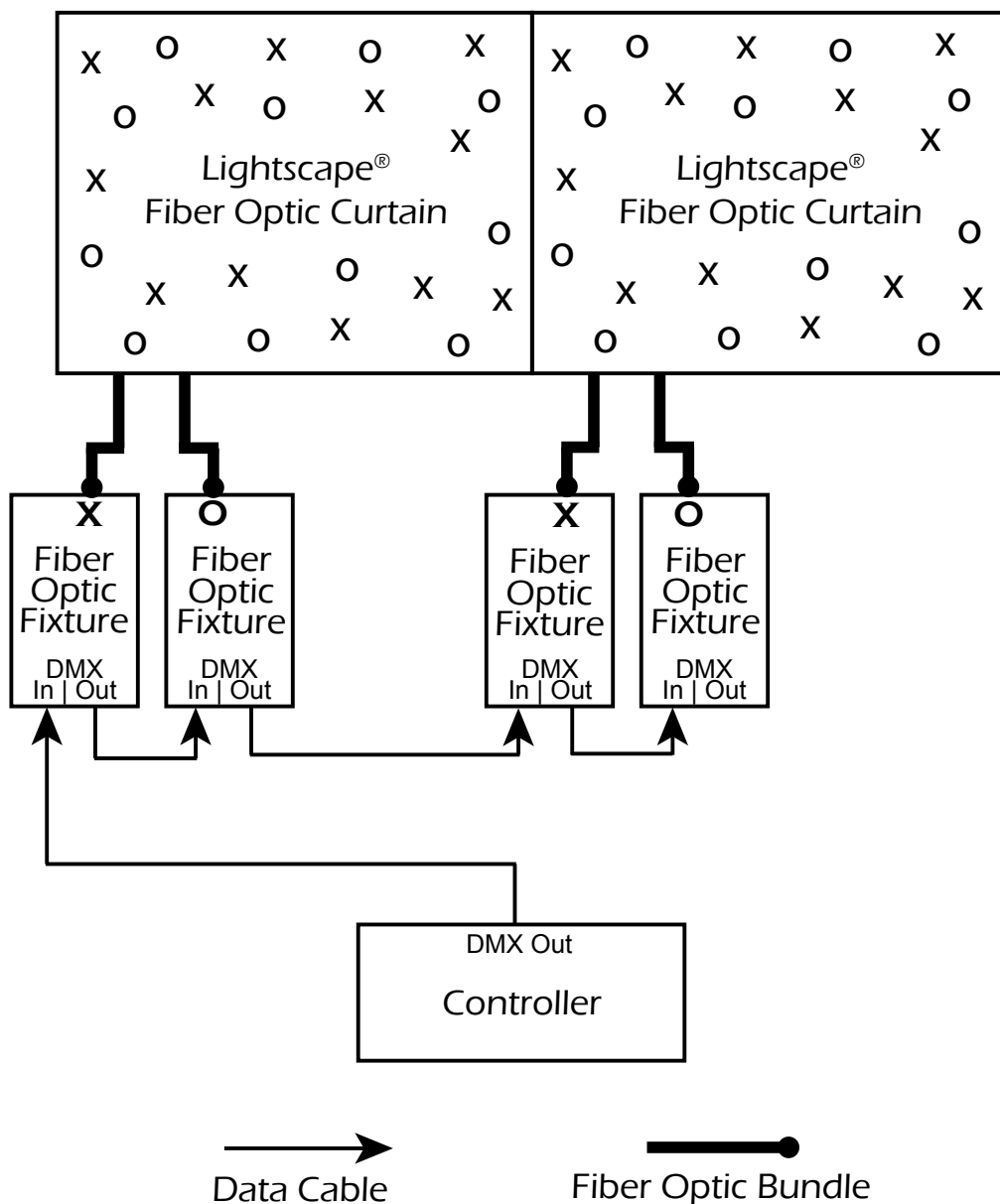
9. Set the controller to strike the fiber optic fixture lamps.

The fiber optic curtain should be lit and ready to use



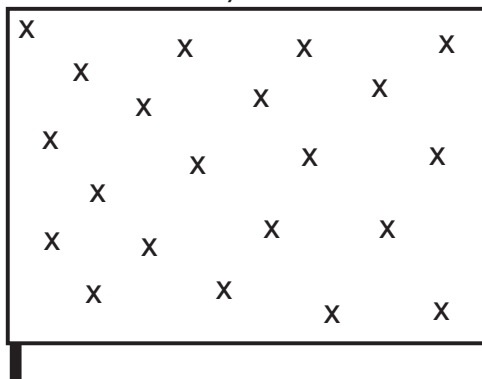
Lightscape® Fiber Optic Curtain Diagrams

Lightscape® System Schematic Diagram

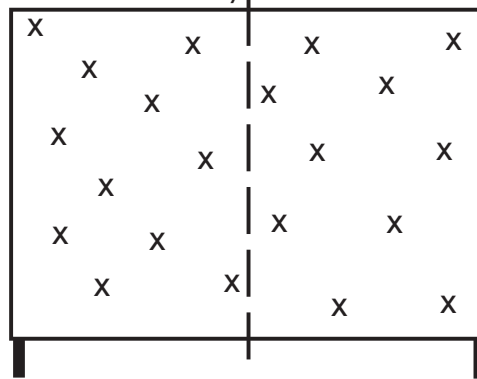


Lightscape[®] Zone and Circuit Configurations

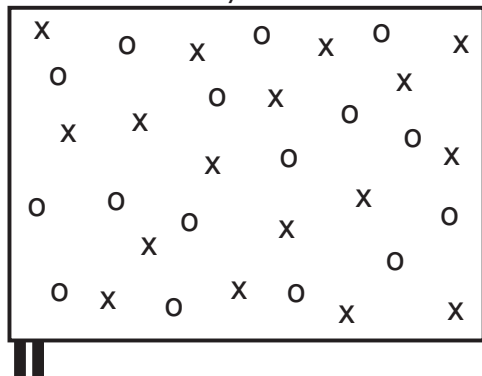
1 Zone / 1 Circuit



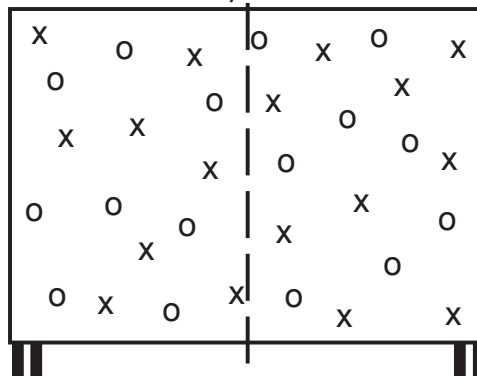
2 Zone / 1 Circuit



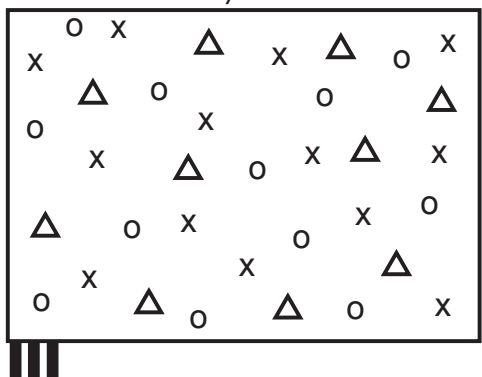
1 Zone / 2 Circuit



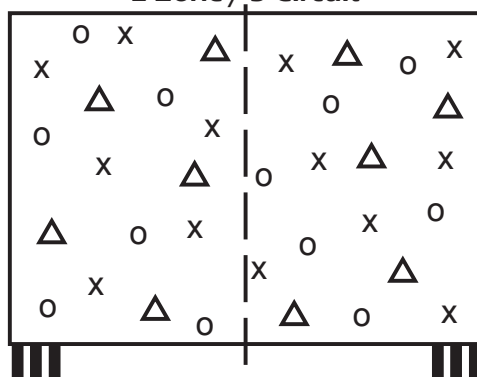
2 Zone / 2 Circuit



1 Zone / 3 Circuit



2 Zone / 3 Circuit



||| Fiber Optic Bundle

Warnings and Maintenance

Warnings:

- Ensure there are no sharp objects near the curtain.
- The curtain has flame retardant capabilities however; measures should be take to keep flames and hot objects away from the curtain.
- Keep the fiber optic fixtures in a well-ventilated area with proper power to prevent overheating and damage.

Repairing the Curtain or Fixtures:

- **ALL major repairs should be done through your Lightscape® dealer.**
- Do not attempt to repair the fiber optic fixtures (with the exception of changing the lamp). Consult the fixture user manual in this document or contact technical support with any questions.
- Any damage to the face of the curtain should be repaired professionally unless the damage needs immediate attention and may increase.
- Minor repairs to the back liner of the curtain should be fixed using a black gaffing tape. Tape a few inches longer than the rip and about three tape widths wide.



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Keeping the Curtain Clean:

- Always check the area that the curtain will be used in for any spilled liquids, dirt, or other materials that may damage the curtain.
- As with all curtains, Lightscape® curtains will absorb dirt and liquids. Extra care should be considered to ensure the area is as clean as possible.
- Fluids used in special effects machines (such as bubble or snow machines) will sometimes leave a residue on the curtain. If possible, avoid effects that will go directly towards the curtain.

Cleaning the Curtain:

- Do not clean the curtain using chemicals or soaking the curtain with any liquid. Soaking the curtain will reduce the flame retardant capabilities of the curtain.
- Occasionally, the curtain may need to be brushed with a broom to remove lint or dust. This is done by sweeping from the top of the curtain towards the bottom. (Sweep in the direction of the natural fabric nap.)
- If absolutely necessary, small stains may be removed by hand using water only with a damp rag. Pat the area with a dry rag and brush the nap back into place.



Handling the Curtain

⚠ Always fold the curtain face in. This is very important to protect the fibers from damage.

⚠ Always grab the curtain by the edges. Damage to the fiber strands inside the curtain will occur if the curtain is grabbed or pulled roughly on inside area of the curtain.

⚠ Never drag a curtain by its fiber optic bundles.

⚠ Larger curtains should be handled by at least two people due to their size and weight.

Folding Instructions

Start Folding Widthwise:

Begin by laying out the curtain and folding the curtain widthwise in half by bringing the edge opposite of the fiber optic bundles towards the tubes, being sure only to pull the curtain by the edges. Carefully continue to fold the curtain in halves widthwise until it is ready to be folded lengthwise (about three to five feet wide).

Finish Folding Lengthwise:

Beginning at the end opposite of the fiber optic bundles, create a rectangle roughly three feet in size with the first fold. Use this rectangle to continue folding the curtain until there is one fold left. Gently place the fiber optic bundles on top of the last section and fold the rest of the curtain on top.



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Contact Us

We are here to help you, contact us if you need any assistance.

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Please call the main phone number and a technical emergency phone number will be provided.



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Lightscape Manual: Contact Us

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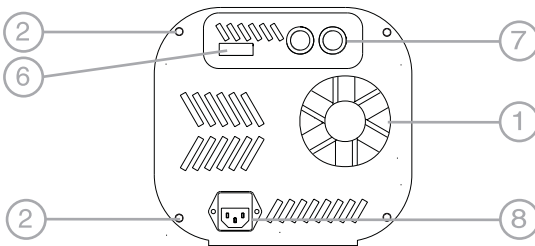
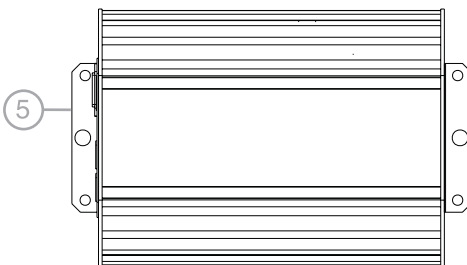
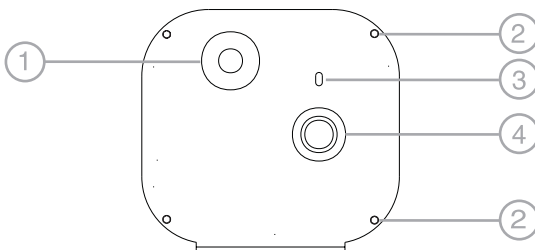
FiberSource QFX 150

user manual




Martin

- 1 cooling fan
- 2 lamp access cover screw
- 3 adaptor set screw
- 4 cable socket
- 5 mounting flange
- 6 DIP-switch
- 7 data sockets
- 8 AC input & main fuse



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INTRODUCTION

1

Thank you for selecting the Martin FiberSource QFX 150. This fiber optic lighting fixture uses a long-life 150 watt discharge lamp and provides 4 colors plus white, full-range dimming, and a variable-speed twinkle effect. It operates with DMX-512 controllers, in stand-alone mode, and in master/slave configuration.

SAFETY INFORMATION

Warning! ***This product is for professional use only. It is not for household use.***

This product presents risks of lethal or severe injury due. **Read this manual** before powering or installing the fixture, follow the safety precautions listed below and observe all warnings in this manual and on the fixture. If you have questions about how to operate the fixture safely, please contact your Martin dealer or call the Martin 24-hour service hotline.

To protect yourself and others from electric shock

- Disconnect the fixture from power before removing or installing the lamp, fuses, or any part, and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the fixture to rain or moisture.
- Refer all service to a qualified technician.

To protect yourself and others from UV radiation and lamp explosion

- Do not operate the fixture without a fiber optic cable inserted.
- When replacing the lamp, allow the fixture to cool for at least 5 minutes before opening. Protect your hands and eyes with gloves and safety glasses.
- Never look at a lamp while it is lit.
- Replace the lamp when it becomes defective or worn out, or before usage exceeds 110 percent of the rated average life.

To protect yourself and others from burns and fire

- Never attempt to bypass the thermostatic switch or fuses. Always replace defective fuses with ones of the specified type and rating.
- Keep all combustible materials (for example fabric, wood, paper) at least 0.1 meters (4 inches) away from the fixture. Keep flammable materials well away from the fixture.
- Provide a minimum clearance of 0.1 meters (4 inches) around fans and air vents.
- Allow the fixture to cool before handling.
- Do not modify the fixture or install other than genuine Martin parts.
- Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).

To protect yourself and others from injury due to falls

- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.
- Block access below the work area whenever installing or removing the fixture.

UNPACKING

The packing material is carefully designed to protect the fixture during shipment - always use it to transport the fixture.

The FiberSource QFX 150 comes with:

- Osram HQI-R 150 W lamp
- 3 m power cable w/ 3-pin IEC female cord cap
- 4 dichroic color filters
- user manual

LAMP

2

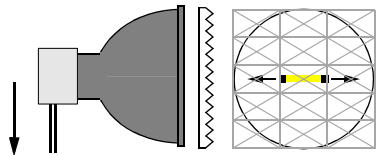
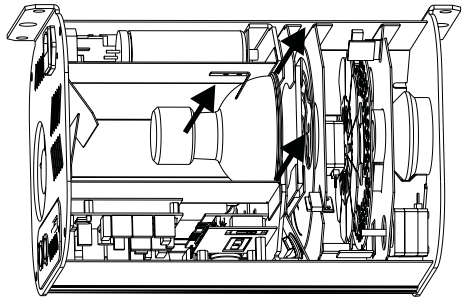
The FiberSource QFX 150 is designed for use with the Osram HQI-R 150 lamp. Do not install any other type of lamp.

Warning! *Disconnect the fixture from power and allow it to cool before opening.*

Important! *Turn the lamp so that the arc is horizontal.*

To install or position the lamp

- 1 Remove the 4 lamp access cover screws and pull off the access cover, which is indicated by the arrow on the rear panel.
- 2 To remove the lamp, place a hand under it and pull it out. Do not lift by the ceramic base alone. Squeeze the sides of the lamp plug and pull it out.
- 3 To position the lamp, turn it so the wires, where they exit the lamp base, point towards the ground when the fixture is installed. This puts the arc in its ideal burning position.
- 4 To install a lamp, plug in the connector and then place the reflector rim in the slot. Gently press the lamp between the springs until it snaps into place.
- 5 Remove and turn the diffusion filter 90°, if necessary, so the long sides of the prisms align with the arc.
- 6 Check the power setting as described in the next section before replacing the lamp access cover.



Turn lamp so wires point towards ground and arc is horizontal.

Align long edge of diffuser prisms with arc.

AC POWER

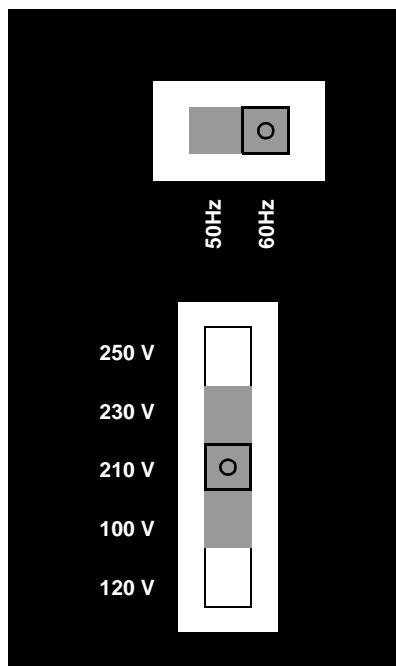
The FiberSource QFX 150 has 10 switch-selectable power supply settings. Always use the setting that is closest to the local AC supply.

Warning! *For protection from electric shock, the fixture must be grounded (earthed). The power supply shall have overload and ground-fault protection.*

Important! *Install fuse and verify that power supply settings match local AC supply before use.*

To check or change the voltage setting

- 1 Disconnect the fixture from power. Remove the lamp access cover.
- 2 Set the 5-position switch to the setting closest to the AC voltage. Use the higher setting if the voltage is halfway between 2 settings. For example, use the 230 V setting instead of the 210 V setting for operation with 220 V power.
- 3 Set the 2-position switch to the AC frequency (50 / 60 Hz).
- 4 Replace the cover and apply a new power setting label to the serial number label.



To install the main fuse

Fuses are provided for 100 - 130 V and 200 - 250 V operation. *Use only the fuse specified for the operating voltage.*


- 1 **Locate the bag containing the fuse for your AC voltage. Insert the fuse in the fuse holder. The holder may be packed with the other fuse.**
- 2 **Remove the label covering the mains input socket.**
- 3 **Insert the fuse holder in the empty slot in the mains input socket. See also “To replace the main fuse” on page 20.**

To install a plug on the power cable

The power cable must be fitted with a grounding-type cord cap that fits your power distribution system. Consult an electrician if you have any doubts about proper installation.

Important! Verify that the feed cables are undamaged and rated for the current requirements of all connected devices before use.

- **Following the cord cap manufacturer’s instructions, connect the yellow and green wire to ground (earth), the brown wire to live, and the blue wire to neutral. The table below shows some pin identification schemes.**

Wire	Pin	Marking	Screw color
brown	live	“L”	yellow or brass
blue	neutral	“N”	silver
yellow/green	ground		green

INSTALLATION

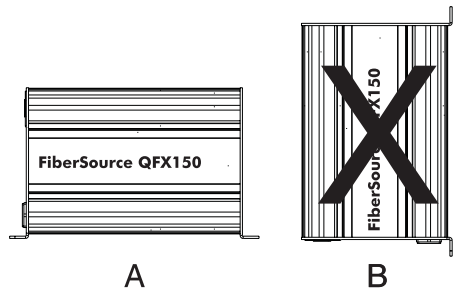
4

The FiberSource QFX 150 can be fastened directly through the 4 rubber washers in the mounting flanges, or hung with 2 rigging clamps (not included) fastened through the 13 mm holes.

INSTALLATION REQUIREMENTS

For optimum performance and ease of service, install the fixture such that

- The long axis is horizontal as shown in A to right. This positions the lamp electrodes for maximum lamp life. Do not install as shown in B.
- The minimum clearance around the fans and air vents at both ends is 10 cm (4 in.) and circulation is adequate keep the air around the fixture at 40° C (104° F) or below.
- The DIP-switch is accessible and there is room to insert cables.
- The lamp access panel can be removed.
- All safety requirements are met.

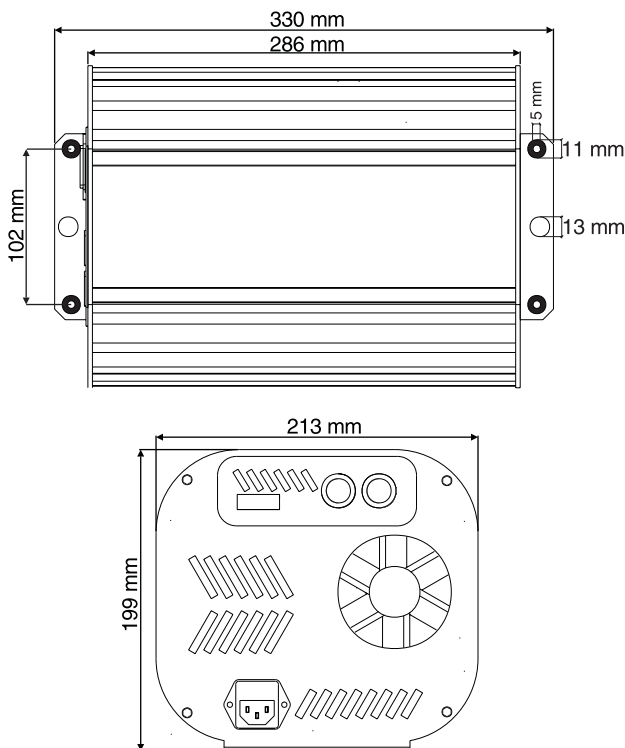


To install the FiberSource QFX 150

Warning! *Always use a secure means of secondary attachment when hanging the fixture with clamps.*

- 1 Verify that the fasteners or clamps can bear 10 times the fixture's weight. Verify that the structure can support 10 times the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc.
- 2 Block access below the work area.
- 3 If fastening directly, place a metal washer over each rubber washer. The metal washer must be as wide as the rubber washer, or wider, to insure a secure hold. Fasten with 4 suitable fasteners 4 - 5 mm (5/32 - 3/16 in.) in diameter.

- 4 If clamping, bolt the clamps securely to the flanges with grade 8.8 (minimum) M12 bolts and lock nuts, or as recommended by the clamp manufacturer, through the 13 mm holes. Install a safety cable that can hold at least 10 times the weight of the fixture through one of the small holes and around the truss or pipe. Remove a rubber washer if necessary to thread the safety cable.
- 5 Verify that the fixture is located at least 0.1 meters (4 in.) from any combustible materials. Verify that the clearance around the fan and air vents is at least 0.1 meters (4 in.). Verify that there are no flammable materials nearby.



FIBER OPTIC CABLE

The FiberSource male adaptor for 50 - 300 strand cables, P/N 91611016 (not included), is tapered to fit fiber optic cables 8.3 - 19.3 mm (5/16 - 3/4 in.) in diameter. With cables over 8.3 mm in diameter, the adaptor must be shortened for proper fit and maximum light output. Please follow the instructions included with the fiber adaptor.

CABLE CONNECTION

The following guidelines provide a starting point for estimating your needs. Light transmission through fiber-optic cable depends on its quality and results will vary depending on the type of cable used.

SIDE-EMITTING CABLE

With 1 fixture, best results are had when the fiber optic cable is 10 m (33 ft.) or shorter. The length may be increased to 15 m (50 ft.) by looping the cable and illuminating both ends. With 2 fixtures, one at each end of the cable, lengths up to 30 m (100 ft.) can be achieved.

END-EMITTING CABLE

Light output decreases with length; keep the cable as short as possible. The maximum recommended length is 25 meters. Cut the light emitting end of the fibers with a sharp knife for maximum output.

To install fiber optic cable

- 1 **Install the cable in the fiber adaptor according to the instructions packaged with the adaptor.**
- 2 **Insert the adaptor fully into the fiber optic cable socket.**
- 3 **Tighten the set screw with a 2 mm (5/64 in.) Allen wrench.**

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CONTROLLER OPERATION

This FiberSource QFX 150 may be operated with any DMX-512 protocol controller.

DATA CONNECTION

A reliable data connection begins with the right cable. Standard microphone cable cannot transmit DMX data reliably over long runs. For best results, use cable specifically designed for RS-485 applications. Your Martin dealer can supply high quality cable in various lengths.

The FiberSource QFX 150’s data sockets are wired pin 1 to ground, pin 2 to signal - (cold), and pin 3 to signal + (hot). This is the standard pin assignment for DMX devices.

One or more adaptor cables may be required to connect the fixture to the controller and other devices because many devices have 5-pin connectors and others may have reversed signal polarity, that is, pin 2 hot and pin 3 cold.

5-pin to 3-pin Adaptor	3-pin to 5-pin Adaptor	3-pin to 3-pin Phase-Reversing Adaptor																																
<table><tr><th>Male</th><th>Female</th></tr><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>2</td></tr><tr><td>3</td><td>3</td></tr><tr><td>4</td><td></td></tr><tr><td>5</td><td></td></tr></table>	Male	Female	1	1	2	2	3	3	4		5		<table><tr><th>Male</th><th>Female</th></tr><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>2</td></tr><tr><td>3</td><td>3</td></tr><tr><td></td><td>4</td></tr><tr><td></td><td>5</td></tr></table>	Male	Female	1	1	2	2	3	3		4		5	<table><tr><th>Male</th><th>Female</th></tr><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>3</td></tr><tr><td>3</td><td>2</td></tr></table>	Male	Female	1	1	2	3	3	2
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
To connect the data link

- 1

Connect a data cable to the controller’s data output. If controller has a 5-pin output, use a 5-pin male to 3-pin female adaptor cable (P/N 11820005).
- 2

Lead the data cable from the controller to the first fixture and plug the cable into the data input.

- 3 Connect the output of the fixture closest to the controller to the input of the next fixture. If connecting to a fixture with reversed-polarity (pin 3 cold), insert a phase-reversing cable between the two fixtures.
- 4 Continue connecting fixtures output to input. Up to 32 devices may be connected on a serial link.
- 5 Terminate the link by inserting a male termination plug (P/N 91613017) into the data output of the last fixture. A termination plug is simply an XLR connector with a 120 ohm, 0.25 W resistor soldered across pins 2 and 3.

Male Termination Plug
Male XLR 
P/N 91613017

ADDRESS SELECTION

A control address must be set using the DIP-switch on the rear panel. The control address, also known as the start channel, is the first channel used to receive instructions from the controller. The FiberSource QFX 150 uses 5 DMX channels.

Each fixture must be assigned its own address and non-overlapping control channels for individual control. Two FiberSource QFX 150s may share the same address, but they will respond identically and individual control will not be possible.

Important! *Disconnect the fixture from power before changing the DIP-switch setting. Changes take effect after the fixture has been turned off and back on.*

To set the address

- 1 Select an address for the fixture between 1 and 508 on your controller.
- 2 Look up the DIP-switch setting for the address on page 14.
- 3 Disconnect the fixture from power.
- 4 Set pins 1 through 9 to the ON (1) or OFF (0) position as listed in the table.
- 5 Set pin 10 to the OFF position.

DIP-SWITCH ADDRESS TABLE

Find the address in the table below. Read the settings for pins 1 - 5 to the left and read the settings for pins 6 - 9 above the address. “0” means OFF and “1” means ON.

Important! Pin 10 must be OFF for controller operation.

DIP-Switch Setting					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
0 = OFF 1 = ON					#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
					#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
					#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
#1	#2	#3	#4	#5																	
0	0	0	0	0	1	32	64	96	128	160	192	224	256	288	320	352	384	416	448	480	
1	0	0	0	0	2	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481	
0	1	0	0	0	3	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482	
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1	0	0	1	1	26	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505	
0	1	0	1	1	27	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506	
1	1	0	1	1	28	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507	
0	0	1	1	1	29	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508	
1	0	1	1	1	30	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509	
0	1	1	1	1	31	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510	
1	1	1	1	1	32	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511	

CONTROLLABLE EFFECTS

LAMP POWER AND RESET

The lamp on command is on channel 1, the address channel. *When set up for controller operation, the lamp remains off until a lamp-on command is sent.*

A peak of electric current many times the operating current is drawn briefly when striking a lamp. Striking many discharge lamps at once may cause a voltage drop that prevents lamps from striking or trips circuit breakers. When striking multiple fixtures, space lamp on commands at 5 second intervals.

The lamp can be turned off as well, but then it must be allowed to cool for several minutes before it can be turned back on. To prevent accidental lamp off commands, this command only works when the dimmer is closed (ch. 2 < 3) and the twinkle effect is rotating slowly CCW (ch. 4 > 252). If a hot lamp does not strike, send the lamp off command and wait several minutes before trying again.

All effects reset to their home positions when the fixture is powered up. There is also a reset command on channel 1. To prevent accidental resets, the command must be sent for 5 seconds.

DIMMER

The intensity of the light is controlled from full-off to full-on on channel 2.

COLOR

The color wheel is controlled on channel 3. You can program split-color effects with continuous scroll, stick to full color positions using stepped scroll, and rotate the wheel continuously. The speed at which colors fade from one position to another can be controlled on channel 5, the speed channel.

TWINKLE

The speed and direction of the twinkle effect is controlled on channel 4. When stopped, the effect wheel returns to its home position where there is a removable section. The light output can be made more uniform if the twinkle effect is not used by removing this section.

FADE SPEED

Channel 5 controls the speed of the color wheel, allowing you to achieve variable fades on controllers without cross-faders. If your controller has cross-faders, and you use them, then set channel 5 to 0 (tracking), for best results.

STAND-ALONE OPERATION

CONTROL OPTIONS

The FiberSource QFX 150 can be operated without a controller in stand-alone mode. This mode provides various combinations of color and twinkle effect that are selected using DIP-switch pins 1 - 7.

The twinkle effect may be set to off, slow, medium, or fast using DIP-switch pins 1 and 2. If the twinkle effect is not required, a section of the effect wheel can be removed to increase the uniformity of the output: refer to “To remove or replace the twinkle wheel section” on page 19.

The speed at which the color wheel moves from one color to the next may be set to snap, slow, medium, or fast using DIP-switch pins 3 and 4. This setting has no effect if white or color 1 is selected.

The color or colors are selected using DIP-switch pins 5, 6, and 7. You can select white, color 1 (position 1), a range of colors, and continuous rotation. If continuous color wheel rotation is selected, then the color change speed must be slow, medium, or fast.

If a range of colors is selected, the color wheel holds at position 1 for 1 second, moves to position 2 at the selected change speed, holds for 1 second, and so on. When the last position is reached, the color wheel reverses direction. Colors can be arranged in any order as described under “To change color filters” on page 19.

To set stand-alone behavior

- 1 Disconnect the fixture from power.**
- 2 Set DIP-switch pins 1 - 7 on or off as shown in the table below to achieve the desired combination of effects.**
- 3 Set pins 8 and 9 to off. Set pin 10 to on.**
- 4 Apply power to the fixture.**

The option setting will take effect and the lamp will automatically strike. Note, however, that a hot lamp must cool for several minutes before it can be restruck. If the lamp does not strike, disconnect the fixture from power for several minutes to reduce strain on the starter while the lamp cools.

Important! DIP-switch pin 10 must be ON for stand-alone operation.

0 = OFF 1 = ON	pin 1	pin 2	pin 3	pin 4	pin 5	pin 6	pin 7	pin 8	pin 9	pin 10
Effect	Setting									
no twinkle	0	0						0	0	1
slow twinkle	1	0						0	0	1
medium twinkle	0	1						0	0	1
fast twinkle	1	1						0	0	1
snap color change			0	0				0	0	1
slow color change			1	0				0	0	1
medium color change			0	1				0	0	1
fast color change			1	1				0	0	1
white					0	0	0	0	0	1
color 1					1	0	0	0	0	1
color 1 - 2					0	1	0	0	0	1
color 1 - 4					1	1	0	0	0	1
color 1 - 6					0	0	1	0	0	1
color 1 - 8					1	0	1	0	0	1
color 1 - 9					0	1	1	0	0	1
continuous rotation*					1	1	1	0	0	1

* Continuous rotation is not available when snap color change is selected.



MASTER/SLAVE OPERATION



Several FiberSource QFX 150s may be connected together for synchronous operation without a controller. They are connected together and one, the master, is set up in stand-alone mode and sends control instructions to the others. Up to 32 fixtures can be can be connected and operated this way.

Important *Verify that all slave fixtures are set as described. Damage can be caused if there is more than 1 device (master fixture or controller) sending control signals on the serial data link.*

To connect and set fixtures for master/slave operation

- 1 Disconnect all fixtures from power.
- 2 Plug a 3-pin XLR data cable into the OUT socket of the first fixture and the IN socket of the next fixture.
- 3 Continue connecting fixtures output to input. Up to 32 FiberSource QFX 150s may be connected.
- 4 Terminate the data link on both ends. Insert a female termination plug (P/N 91613018) into the IN socket of the first fixture. Insert a male termination plug (P/N 91613017) into the OUT socket of the last fixture. A termination plug is an XLR connector with a 120 ohm, 0.25 W resistor soldered across pins 2 and 3.
- 5 Select any one fixture to be the master. Set the desired stand-alone options using the master's DIP-switch as described on page 16.
- 6 On all other fixtures (slaves), set DIP-switch pin 1 to the ON position; set all other DIP-switch pins to the OFF position.
- 7 Apply power to the fixtures.

Male Termination Plug
Male XLR 1 2  120 3  120
P/N 91613017

Female Termination Plug
Female XLR 1 2  120 3  120
P/N 91613018

The FiberSource QFX 150 requires simple routine maintenance. The maintenance schedule depends heavily on the operating environment; please consult a Martin service technician for recommendations.

Any service procedure not described here should be referred to a qualified technician.

Warning! *Disconnect the fixture from power before removing any cover.*

Important! *Excessive dust, grease, and smoke fluid buildup degrades performance and causes overheating and damage to the fixture that is not covered by the warranty.*

To change color filters

- 1 Disconnect the fixture from power. Remove the lamp access cover.
- 2 Turn the color wheel by hand until the desired filter is accessible.
- 3 Using a soft cloth or gloves, gently tilt the outside edge of the filter back towards the lamp to unlock. Remove filter.
- 4 To place a filter in the wheel, insert the plastic holder between the spring clip with the protruding tab facing forwards until it snaps into place.
- 5 Replace the lamp access cover before applying power.

To remove or replace the twinkle wheel section

The twinkle wheel has a removable section for uniform light output when the effect is not used.

- 1 Disconnect the fixture from power. Remove the lamp access cover.
- 2 Turn the twinkle wheel by hand until the removable section is aligned with the cable socket. Turn the color wheel so that the open position is aligned with the cable socket.
- 3 Support the twinkle wheel with one hand and unlock the removable section by pulling the outside edge back towards the lamp. Grasp the section and pull it up and out.
- 4 To replace the section, turn the wheel to the open position and slide the section between the wheel and the spring clip, with the heads of the screws towards

the cable socket. Center the section and then support the wheel with a finger from the front as you press the 2 screw heads through the wheel.

- 5 Replace the lamp access cover before applying power.

To clean optical components

Use care when cleaning optical components. The surface of the color filters is fragile and small scratches may be visible.

- 1 Disconnect the fixture from power and allow it to cool completely. Remove the lamp access cover.
- 2 Blow or vacuum away loose dust. Remove residues from filters with a soft cloth or cotton swabs wetted with isopropyl alcohol. Regular glass cleaner may also be used, but no residues may remain.
- 3 Rinse with distilled water. Mixing the water with a small amount of wetting agent such as Kodak Photoflo will help prevent streaking and spotting.
- 4 Dry with a clean, soft and lint-free cloth or blow dry with compressed air.

To clean the fan and air vents

To maintain adequate cooling, dust must be cleaned from the fan and air vents periodically.

- 1 Disconnect the fixture from power.
- 2 Remove dust and dirt from the fan blades and vent grills using a soft brush, cotton swab, vacuum, or compressed air.

To replace the main fuse

- 1 Unplug the mains cable from the input socket. Pry open the fuse holder as shown.
- 2 Remove the defective fuse and replace it with one of the same type and rating.
- 3 Replace the fuse holder in the mains input socket.



To replace the secondary fuse

- 1 Disconnect the fixture from power.
- 2 Remove one screw by the DIP-switch and one screw by the data IN socket.
- 3 Pull the circuit board assembly out until you can access the fuse, which is located behind the data IN socket.
- 4 Remove the defective fuse and replace it with one of the same type and rating.
- 5 Replace the circuit board assembly before applying power.

10

TROUBLESHOOTING

Problem	Probable cause(s)	Remedy
Fixture is completely dead.	No power to fixture.	Check that power is switched on and cables are plugged in.
	Primary fuse blown.	Replace fuse.
	Secondary fuse blown.	Replace fuse.
Fixture resets correctly but does not respond to the controller.	The controller is not connected.	Connect controller.
	Reversed data signal polarity.	Install a phase-reversing cable between the controller and the fixture.
	Bad data link connection	Inspect connections and cables. Repair or replace damaged cables.
	Data link not terminated.	Insert termination plug in output of the last fixture on the link.
	Incorrect address setting.	Check DIP-switch settings.
	One of the fixtures is transmitting as a master or is defective.	Bypass one fixture at a time until normal operation is regained; unplug both cables from fixture and connect them directly together. Contact Martin technician for service.
Fixture fails to reset correctly.	An effect requires mechanical adjustment.	Contact Martin technician for service.
No light.	Lamp too hot to strike.	Allow lamp to cool.
	Power settings do not match AC supply.	Check AC setting.
	Defective lamp.	Replace lamp.
Lamp cuts out intermittently or burns out too quickly.	Fixture is too hot.	Allow fixture to cool.
	Power settings do not match AC supply.	Check settings.
	Defective fan.	Contact Martin technician for service.

DMX PROTOCOL

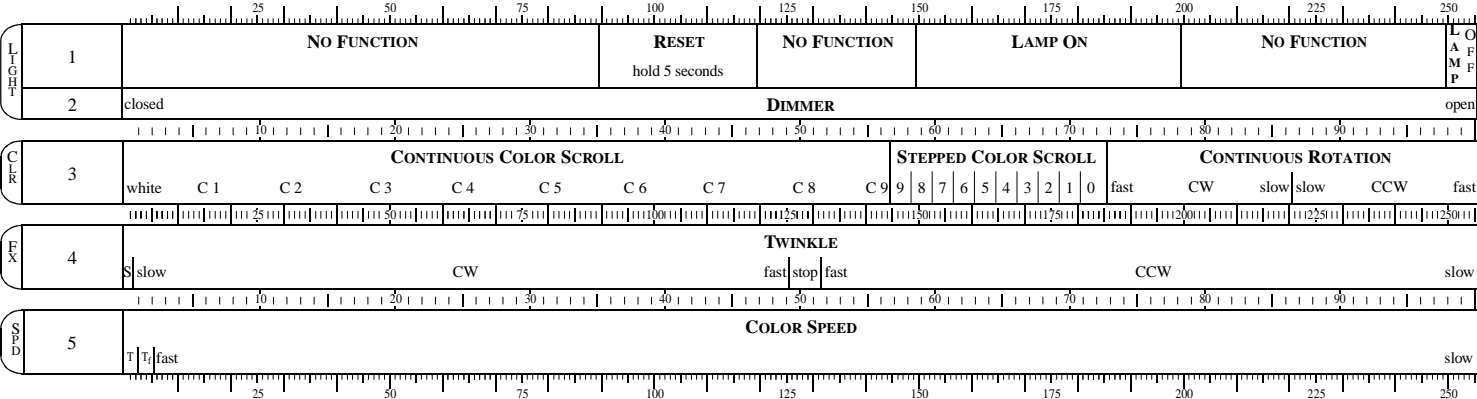
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Channel	Value	Percent	Function
1	0 - 89	0 - 35	Reset and lamp power
	90 - 119	35 - 46	No function
	120 - 149	47 - 58	Reset (time > 5 sec.)
	150 - 199	59 - 78	No function
	200 - 249	78 - 98	Lamp on
	250 - 255	98 - 100	No function
			Lamp off (w/ Ch. 2 < 3 & Ch. 4 > 252)
2	0 - 255	0 - 100	Dimmer
			Closed to Open
3	0 - 144	0 - 56	Color Wheel
	0	0	Continuous scroll
	16	6	Open
	32	12	Color 1 (blue 108)
	48	18	Color 2 (green 206)
	64	25	Color 3 (yellow 603)
	80	31	Color 4 (red 308)
	96	37	Color 5 (-)
	112	44	Color 6 (-)
	128	50	Color 7 (-)
	144	56	Color 8 (-)
			Color 9 (-)
	145 - 185	57 - 72	Stepped scroll
	145 - 148	57 - 58	Color 9 (-)
	149 - 152	58 - 59	Color 8 (-)
	153 - 156	60 - 61	Color 7 (-)
	157 - 160	61 - 63	Color 6 (-)
	161 - 164	63 - 64	Color 5 (-)
	165 - 168	65 - 66	Color 4 (red 308)
	169 - 172	66 - 67	Color 3 (yellow 603)
	173 - 176	68 - 69	Color 2 (green 206)
	177 - 180	69 - 70	Color 1 (blue 108)
	181 - 185	71 - 72	Open
			Continuous rotation
	186 - 220	73 - 86	CW, fast to slow
	221 - 255	87 - 100	CCW, slow to fast
4	0 - 1 2 - 125 126 - 131 132 - 255	0 0 - 49 49 - 51 52 - 100	Twinkle Wheel
			Stop/Open
			CW, slow to fast
			Stop
			CCW, fast to slow
5	0 - 2 3 - 5 6 - 255	0 1 2 - 100	Color Speed
			Tracking (speed function off)
			Fast speed with shortcut enabled
			Fast to slow, shortcut disabled

Start code = 0

FiberSource QFX150 DMX Protocol

Implemented from software version 1.0



* Close dimmer and set channel 4 to full to enable lamp off.

T = tracking mode (speed function off)

T_f = tracking mode with shortcuts

SPECIFICATIONS



PHYSICAL

Length: 330 mm (13.0 in)
Width: 213 mm (8.4 in)
Height: 199 mm (7.8 in)
Weight: 10.4kg (lbs)

SOURCE

Osram HQI-R 150 (included): 150 W, 6000 hr., 4200K

CONTROL

Control options:DMX-512, stand-alone, master/slave
DMX channels: 5
Data I/O: locking 3-pin XLR, pin 1 shield, pin 2 cold (-), pin 3 hot (+)
Recommended cable: ... 24 AWG (min.), low capacitance, 85-150 Ω shielded twisted pair

INSTALLATION

Orientation: horizontal
Minimum distance to combustible materials:0.1 m (4 in)
Minimum clearance around fan and air vents:0.1 m (4 in)

AC SUPPLY

Power supply options: 100/120/210/230/250 V, 50/60 Hz (switch-selectable)
Maximum power and current: 205W, 1.9A @ 120V; 195W, 1.0A @ 230V

FUSES

Primary fuse: T 3.15 A, high I²t, 250 V, P/N 05020013
Secondary fuse: T 2.0 A, 250 V, P/N 05020009

CONSTRUCTION

Housing: sheet steel and aluminum
Finish: black, electrostatic powder coating
Protection factor: IP 20

ACCESSORIES



Male adaptor for 50 - 300 strand cables with installation materials:	P/N 91611016
G-clamp:	P/N 91602003
Half-coupler clamp:	P/N 91602005
Accessory color filter, blue 111:	P/N 62327015
Accessory color filter, blue 101:	P/N 62327016
Accessory color filter, cyan 401:	P/N 62327017
Accessory color filter, green 202:	P/N 62327018
Accessory color filter, yellow 604:	P/N 62327019
Accessory color filter, red 301:	P/N 62327021
Accessory color filter, pink 312:	P/N 62327022
Accessory color filter, magenta 507:	P/N 62327023
Accessory color filter, purple 502:	P/N 62327025
Accessory color filter, green 204:	P/N 62327034
Accessory color filter, orange 306:	P/N 62327035



OPERATOR 192

User Instructions

Elation Professional ®
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Los Angeles CA. 90058
www.elationlighting.com

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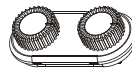
Welcome

Main features as below:

- 8 dimming faders & total 192 DMX channels
- Speed fader & Fade Time fader
- 30 banks x 8 programmable scenes
- 12 programmable chases, each chase can record up to 240 steps
- Fade time setting & Pan/Tilt setting
- Manual control gets first priority
- Built-in microphone or line input for audio triggering
- MIDI control upon banks, chases and blackout
- External step Control & Fog machine control
- 7-segment LED display
- USB connector for both DJ work light and data backup
- Scan Master II with joystick module or with jog wheel module available as your desire



Joystick module



Jog wheel module

Every effort has been made to design dependability, reliability and comfort into each unit. New products are being designed constantly to meet the needs of both entertainment and the lighting industry. We welcome your comments about our product and services.

It is both a privilege and a pleasure serving you.

General Instruction

This is a professional lighting controller with a total of 192 DMX output channels. 30 banks of programmable scenes (one bank contains 8 scenes) and 12 chases with up to 240 steps each are provided for your application. Speed, Fade Time & Pan/Tilt adjustment are also provided by this unit. USB connector can be used to realize data backup and DJ work light.

To optimize performance of this product, please read the instructions carefully to familiarize yourself with the basic operations.

Warnings

- This unit is intended for indoor use only.
- Do not make any inflammable liquids, water or metal objects enter the unit.
- To reduce the risk of fire or electric shock, do not expose the unit to rain or high levels of moisture.
- No user serviceable parts inside, do not dismantle the unit by yourself.
- Repairs must be done by qualified personnel.
- Please do not allow children to play and tamper with this product.

Cautions

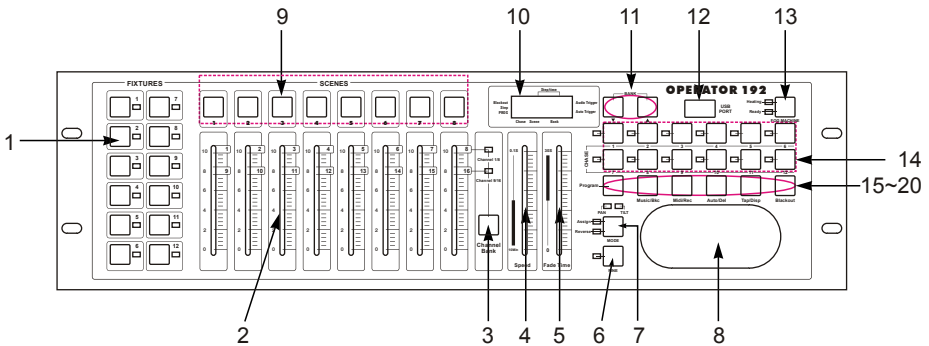
- When unpacking, please check the unit is not damaged. Should something wrong happen to this product, contact the local dealer immediately.
- All rights reserved. No part of the manual included with this product may be reproduced, transmitted, transcribed or translated into any language in any form, by any means, without authorized permission.

Notice:

Specifications and improvements in the design of this product and this manual are subject to change without any prior notice.

Control and Functions

Front View



1. Fixture buttons(1~12):

Used to select relevant fixture.

2. Channel faders(1~8):

Used to control the dimming output of each corresponding channel.

3. Channel Bank button:

To switch between Ch1~8 and Ch9~16.

4. Speed fader:

To adjust the speed level (0.1 second ~10 minutes).

5. Fade Time fader:

To adjust the fade time (0~30seconds).

6. FINE button:

In the "FINE" mode, you can adjust the Pan/Tilt finely.

7. MODE button:

This is a multi-functional button, please see the operation for details.

8. Pan/Tilt joystick:

Used to adjust the Pan/Tilt level.

9. Scene buttons (1~8): to select a scene.

10. LED-display:

This LED-display shows you relevant information depending on your operation.

11. Bank Up/Down button:

To select a bank or step (see operation guide for details).

Control and Functions

12. USB socket:

It's for data backup or USB light connection.

13. Fog-machine button:

It's for fog-machine control.

14. Chase button(1~12): to select a chase.

15. Program button :

Used to enter/exit the programing mode.

16. Music/Bkc button:

Used to enter audio control or to realize Bank copy.

17. Midi/Rec button:

It's for MIDI setting and/or for scene/chase recording.

18. Audio/Del button :

Used to enter the AUTO mode, or to delete a scene/chase.

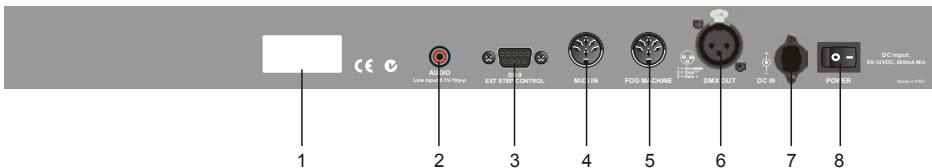
19. Tap/Disp button:

It is a multi-functional button, please see the operation for details.

20. Black-out button:

This will allow the operator to instantly stop all channels' output (press this button again to reactivate the output).

Rear View



1. Label.

2. Audio input: to input audio data (0.1V-1Vp-p).

3. DB-9 connector: to connect an external step controller.

4. MIDI IN: to receive MIDI data.

5. Fog machine connector: to connect with the fog machine.

6. DMX OUT: 3 Pin DMX output socket (female).

7. DC INPUT: to input main power (DC 9V~15V, 500mA Min).

8. Power switch: to turn on/off the main power.

Operation Guide

Scene Operation

When powered on, this unit will be firstly in the Manual control mode, and all channel outputs are in black-out state (the Blackout LED flashes at the display window). You can also press the Blackout button to enable the channel output.

Press and hold down the Program button for about 2 seconds till the PROG LED flashes, this means you have entered the programing mode. Press and hold down the Program button for about 2 seconds again (till the PROG LED goes out) to exit from the Programing mode.

To record a scene

- (1) Enter the Programing mode as the above told you.
- (2) Press a Fixture button, its LED will be lit.
- (3) Use the channel faders to set a scene (You can use the Channel Bank button to select between Ch1~8 and Ch9~16 as your desire).
- (4) Then press the REC button to record the scene that you have set.
- (5) Select a bank (01~30).
- (6) Select a Scene button (1~8) in this bank and press it, all LEDs flash briefly, this means you setting has been saved.
- (7) Set the other scene(s) in the same way as your desire.
- (8) After finishing your settings, you can press and hold down the Program button for about 2 seconds (till the PROG LED goes out) to exit from the Programing mode.

Note: The recorded scene can be reedited; if you reedit a scene and save it, the old scene will be replaced by the new one.

To edit a scene

- (1) Enter the Programing mode.
- (2) Select your desired being edited scene in a bank.
- (3) Press a Fixture button (its LED lights up), and then set a new scene.
- (4) Press Midi/Rec button, and then press the selected scene button (all LEDs flash briefly, that means your setting has been saved).

Operation Guide

To copy a scene

- (1) Enter the Programing mode.
- (2) Select your desired being copied scene in a bank.
- (3) Press Midi/Rec button.
- (4) Press your selected Scene button in the relevant bank, all LEDs flash briefly, that means your copy operating has been saved.

To delete a scene

- (1) Enter the Programing mode.
- (2) Select a scene to be deleted.
- (3) Press and hold down the DEL button, and at the same time, tap your selected Scene button, all LEDs will flash briefly, that means the scene has been deleted.

To delete all the scenes

Before turning on the power, you press and hold down the Program button and the Bank Down button, and then turn on the power at the same time, all LEDs flash briefly, this just means all the scenes have already been deleted.

Scene Playback

1. Manual trigger:

- (1) When powered on, this unit will be firstly in the Manual control mode, and all channel outputs are in black-out state (the Blackout LED flashes at the display window).
- (2) Tap the Blackout button (Blackout LED goes out) to enable the channel output.
- (3) Select your desired scene to be replayed, tap this scene button to enable the scene (Tap this scene button again to disable the scene).

2. Auto trigger:

- (1) Tap the AUTO button, the Auto Trigger LED will light up at the display window, this indicates you that you are now in the Auto trigger mode.
- (2) Tap Bank Up/Down button to select desired bank (0~30).
- (3) You can use the Speed fader (or Tap/disp button) and the Fade Time fader to adjust the running state.
- (4) Tap the Auto button again (Auto Trigger LED goes out) to exit from the Auto mode.

Note: You can tap the Tap/Disp button twice to create an interval running rate.

Operation Guide

3. Audio trigger:

- (1) Tap the Music/Bkc button, the Audio Trigger LED will light up at the display window, this indicates you that you are now in the Audio trigger mode.
- (2) Tap Bank Up/Down button to select desired bank (the scenes in the bank will run sensitively by the Audio signal through the built-in microphone).
- (3) Tap the Audio button again (Audio Trigger LED goes out) to exit from the Audio mode.

Chase Operation

This product has 12 programmable chases, each chase can record up to 240 scenes/steps. Please see the below instructions for Chase setting.

To record a chase

- (1) Enter the Programing mode.
- (2) Press a Chase button, its LED will be lit.
- (3) Select a scene which you want to record into the chase as the first step.
- (4) Press the REC button, all LEDs will flash briefly, that means your operation has been saved.
- (5) Record more scenes into the chase as your desire till finish your settings. Up to 240 scenes (steps) can be recorded in a chase.

To record a bank of scenes into a chase

- (1) Enter the Programing mode.
- (2) Select a Chase to be edited.
- (3) Select a bank which you want to record into the chase.
- (4) Tap the Music/Bkc button, and then tap the Midi/Rec button, all LEDs will flash briefly, that means the selected bank has been recorded into this chase.

To add a step into a chase

- (1) Enter the Programing mode.
- (2) Select a Chase to be edited.
- (3) Tap the Tap/disp button, the Step LED appears and the display window shows you the current step.
- (4) Tap the Up/Down button to select the step behind which you want to add a step.

Operation Guide

- (5) Set a scene(step), and then tap the Rec button, the display will show you the following step.
- (6) You tap the Tap/disp button, and then tap the Rec button again, all LEDs flash briefly, this means your operation has been saved.

You can add more scenes(steps) into a chase in the same way as the above.

To delete a scene (step) from a chase

- (1) Enter the Programing mode.
- (2) Select a chase to be edited.
- (3) Tap the Tap/disp button, the Step LED appears and the display window shows you the current step.
- (4) Tap the Up/Down button to select the step to be deleted.
- (5) Tap the DEL button to delete this step, all LEDs flash briefly, and the display will show you the ahead step.

To delete a chase

- (1) Enter the Programing mode.
- (2) Select a chase to be deleted.
- (3) Press and hold down the DEL button, and at the same time, tap your selected chase button, all LEDs will flash briefly, that means the chase has been deleted.

To delete all the chases

Before turning on the power, you press and hold down the DEL button and the Bank Down button, and then turn on the power at the same time, all LEDs flash briefly, this just means all the chases have been deleted.

Chase Playback

1. Manual trigger:

- (1) When powered on, this unit will be firstly in the Manual control mode, and all channel outputs are in black-out state (the Blackout LED flashes at the display window).
- (2) Tap the Blackout button (Blackout LED goes out) to enable the channel output.
- (3) Tap your selected Chase button, its LED will be lit. Then use the Fade Time fader to adjust the running state.
- (4) Tap the Up/Down button to run the chase step by step.

Operation Guide

2. Auto trigger:

- (1) Tap the AUTO button, the Auto Trigger LED will light up at the display window, this indicates you that you are now in the Auto trigger mode.
- (2) Select your desired chase and press related chase button, its LED will flash.
- (3) You can then use the Speed fader (or Tap/disp button) and the Fade Time fader to adjust the running state.
- (4) Tap the Auto button again (Auto Trigger LED goes out) to exit from the Auto mode.

Note: You can simultaneously run more scenes as your desire, and the enabled scenes will run by your operating sequence.

3. Audio trigger:

- (1) Tap the Music/Bkc button, the Audio Trigger LED will light up at the display window, this indicates you that you are now in the Audio trigger mode.
- (2) Select your desired chase and press related chase button, its LED will flash. The chase will run sensitively by the audio signal through the built-in microphone.
- (3) Tap the Audio button again (Audio Trigger LED goes out) to exit from the Audio mode.

Bank copy & Fixture copy

Bank copy

1. Enter the Programming mode.
2. Use the Bank Up/Down buttons to select the bank to be copied.
3. Tap the Midi/Rec button, and then select the bank into which you want to copy.
4. Tap the Music/Bkc button, all LEDs flash briefly, this means your operation has been saved. (You can copy the other bank in the same way.)

Fixture copy

1. Enter the Programming mode.
2. Press your selected Fixture button, its LED will be lit.
3. Set your desired channel output.
4. Press and hold down your selected Fixture button, and then tap the Fixture button into which you want to copy to finish your Fixture copy.
5. You can see the related information through the connected DMX receiver.

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PAN/TILT Setting

"Assign"

1. Enter the Programming mode.
2. Press and hold down the MODE button, and then tap the FINE button at the same time, the "Assign" LED will be lit.
3. Tap the Up/Down button to select PAN or TILT.
4. Tap your selected Fixture button.
5. Tap the Tap/disp button, the display will show you like "PH·XX", "PL·XX", "TH·XX" or "TL·XX". (P=Pan, T=Tilt, H=High, L=Low, "XX" is the channel number.)
6. You can press and hold down the MODE button, and then tap relevant scene button to set the Pan/Tilt channel (all LEDs will flash briefly).

"Reverse"

1. Enter the Programming mode.
2. When the "Assign" LED is lit, you press and hold down the MODE button, and then tap the FINE button at the same time, the "Reverse" LED will be lit.
3. Set the Pan/Tilt channel in the same way as above. After your settings, press and hold down the MODE button, and then tap the FINE button at the same time to exit.

Delete Pan/Tilt channel

1. When in "Assign" or "Reverse" operating mode, press the related Fixture button.
2. Press and hold down the MODE button, and then tap the DEL button to delete the Pan/Tilt channel.

Delete all Pan/Tilt channels

Before turning on the power, you press and hold down the DEL button and the MODE button, and then turn on the power at the same time, all LEDs flash briefly, this means means all Pan/Tilt channels have been deleted.

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Fade Time

1. Press and hold down MODE button, and then tap the Tap/disp button, the display may show you "only"; Repeat this operation when "only" appears, the display will show you "All".
2. The "only" or "ALL" display will go out automatically within almost 3 seconds.

"ALL" means that All channels run by the fade time.

"Only" means that only the preset PAN/TILT channels run by the fade time.

MIDI Control

Set MIDI channel

1. Press and hold down the Midi button for about 2 seconds, the display may show you like "In:01", this means the current Midi channel is "01". You can use Up/Down button to set the Midi channel from 01 to 16 as your desire.
2. Then, press and hold down the Midi button for about 2 seconds to save your setting, all the LEDs flash briefly indicating your operation has been saved.
3. Press Blackout button to exit.

MIDI Control :

This unit can receive MIDI data to realize MIDI control upon Bank1~15, Chase1~6 and the Blackout function.

MIDI Note	Control	Function
00~07	Bank 1	Turn on/off Bank 1
08~15	Bank 2	Turn on/off Bank 2
...
112~119	Bank 15	Turn on/off Bank 15
120	Chase 1	Turn on/off Chase 1
121	Chase 2	Turn on/off Chase 2
122	Chase 3	Turn on/off Chase 3
123	Chase 4	Turn on/off Chase 4
124	Chase 5	Turn on/off Chase 5
125	Chase 6	Turn on/off Chase 6
126	Blackout	Enable/disable Blackout

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Data Sending

Before data sending, make sure the connections between this unit and the connected DMX receiver are well done.

1. Before turning on the power, press and hold down the Fixture2 button, the Fixture3 button and the Scene1 button; Then turn on the power, the display will flickeringly show you "Read" (ready). This means the unit is ready to send data.
2. After the above operation, you press and hold down the Scene7 button and Scene8 button to send the data, the LED-display will show you "OUT" till the data sending is finished (You can also tap the Scene1 button during data sending to come back and resend the data).

Data Receiving

Before data receiving, make sure the connections between this unit and the connected DMX receiver are well done.

1. Before turning on the power, press and hold down the Fixture2 button, the Fixture3 button and the Scene2 button; Then turn on the power, the display will flickeringly show you "Read" (ready). This means the unit is ready to receive data.
2. The LED-display shows you "Rece" (receive) during data receiving. (You can also tap the Scene1 button during data sending to come back and resend the data).

Memory stick

You can also use a compact memory stick (sold separately) for convenient data backup and transfer.



Memory stick (sold separately)

Technical Specifications

Power Input	DC9~15V, 500mA
Internal Fuse.....	500mA 250V, 5x20mm
MIDI IN.....	5Pin MIDI connector
DMX OUT.....	5Pin/3Pin(female) DMX connector
SOUND INPUT.....	RCA connector
EXT STEP CONTROL.....	DB-9 connector
Dimensions	483x135x82mm
Weight(approx.)	2.2 kg

