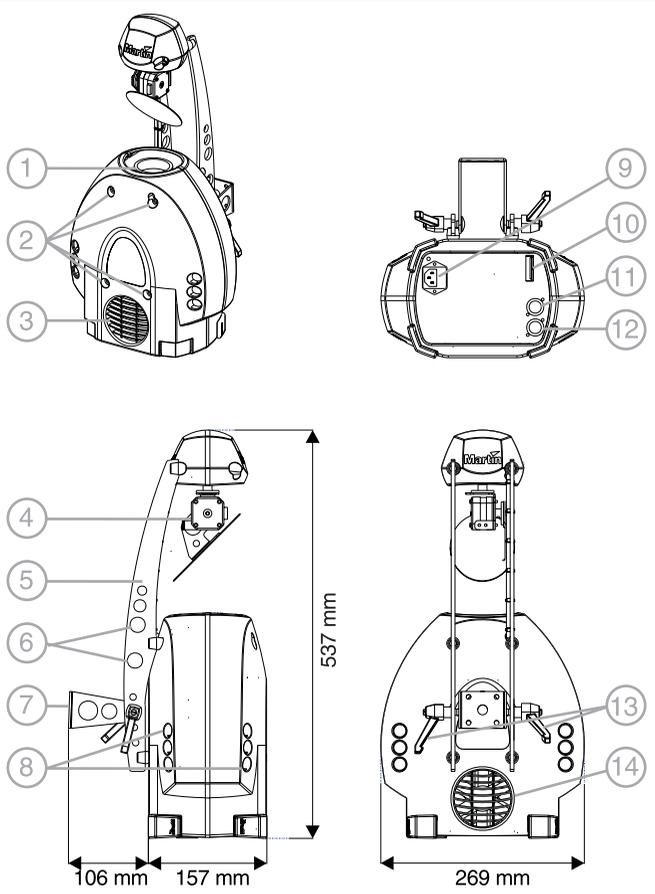


MX-1

user manual



- 1 focus lens
- 2 cover screws
- 3 air vent
- 4 mirror assembly
- 5 pan/tilt arm
- 6 safety cable holes
- 7 mounting bracket
- 8 air vents
- 9 AC input & main fuse
- 10 DIP-switch
- 11 data output
- 12 data input
- 13 swivel locks
- 14 cooling fan



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INTRODUCTION

1

Thank you for selecting the Martin MX-1. The MX-1 is an automated profile spotlight that employs a 250 watt halogen lamp. It provides strobe effects, continuous electronic dimming, 18 color/gobo effects, a moving-mirror with 230° of pan and 76° of tilt, adjustable focus, a 16° beam angle, and a variety of control options.

The MX-1 is not for household use. It is not for children: it presents risks of injury due to electric shock, burns, falls, high-intensity light, and fire. For safe operation, read this manual before powering or installing the fixture, follow the safety precautions listed below, and observe all warnings printed 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 for assistance.

SAFETY PRECAUTIONS

- **Always disconnect the fixture from AC power before opening the fixture or removing any part.**
- **Immediately replace a defective or blown lamp. Allow the fixture to cool for 5 minutes before installing a new lamp.**
- **Always keep combustible materials (for example fabric, wood, paper) at least 10 centimeters (4 inches) away from the fixture.**
- **For protection against dangerous electric shock, ALWAYS ground (earth) the fixture electrically. Use only a source of AC power that complies with local building and electrical codes. NEVER expose the fixture to rain or moisture.**
- **When suspending the fixture above ground level, ALWAYS verify that the structure can hold at least 10 times the weight of all installed devices and secure the fixture with an approved safety cable. Block access below the work area whenever installing or removing the fixture.**
- **Always refer service to a qualified technician.**
- **Always provide a minimum clearance of 10 centimeters (4 inches) around the fan and air vent.**

- **Never place flammable materials anywhere near the fixture.**
- **Never illuminate surfaces within 0.3 meters (12 inches) of the fixture.**
- **Never operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).**
- **Never place filters or other objects over the lens or mirror.**
- **Never stare directly into the light.**
- **Never operate the fixture without all parts installed.**
- **Never modify the fixture or install other than genuine Martin parts.**

UNPACKING

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

The MX-1 comes with:

- halogen lamp (installed)
- 1 3-meter, 3-wire IEC power cable
- 1 user manual

Important! The mirror assembly is secured for transport with a plastic tie. Cut and remove the tie before use.

The MX-1 comes from the factory with a Philips 500 hour lamp installed. This is a 24V, 250W ELC halogen lamp. A high-output 50 hour lamp from Osram is also available. *Installing any other lamp may damage the fixture!*

Allow the lamp to cool for at least 5 minutes before packing and moving the fixture. To avoid possible damage, remove the lamp when shipping the fixture.

There are two lamp intensity options that may be selected with DIP-switch pin 12. Set pin 12 to ON for reduced lamp voltage and longer lamp life or to OFF for full intensity.

Warning! ***Always disconnect the fixture from AC power if the lamp blows. Allow the fixture to cool for 5 minutes before installing a new lamp.***

To install a lamp in the MX-1

- 1 Disconnect the fixture from AC power. If replacing a hot lamp, allow it to cool for 5 minutes before removing the cover. The lamp cools faster with the cover in place.
- 2 Remove the 4 cover screws and lift off the cover.
- 3 To remove the lamp, grasp it by the reflector and pull it out of the holder. Pull the socket straight back off the metal pins. Do not pull the wires.
- 4 Push the socket fully onto the pins of the new lamp.
- 5 Gently push the lamp into the holder until it snaps into place.
- 6 Replace the top cover.

AC POWER CONNECTION

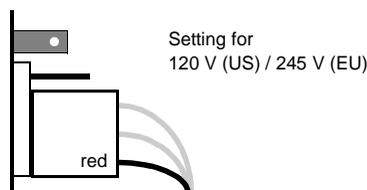
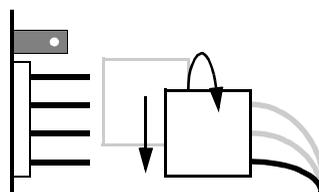
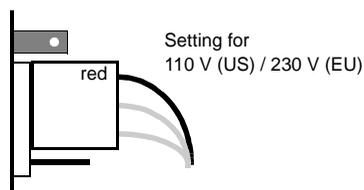
Warning! For protection from dangerous electric shock, the fixture must be grounded (earthed). The AC mains supply shall have a fuse or circuit breaker, and ground-fault protection.

Important! Check voltage setting before applying power. Do not connect the MX-1 to an electrical dimmer system: doing so can damage the electronics.

Before use verify that the fixture's power supply is correctly tapped for the local AC voltage. The default voltage setting is printed on the serial number label near the AC input. The "EU" version may be set to 230 or 245 V AC and the "US" version may be set to 110 or 120 V AC. Use the setting that is closest to the local supply voltage.

To change the voltage setting

- 1 Disconnect the fixture from AC power. Remove the 4 cover screws and lift off the cover.
- 2 Locate and disconnect plug PL124 on the back edge of the printed circuit board. It has red, yellow, and blue wires.
- 3 To select 230 V AC (EU version) or 110 V AC (US version), flip and move the plug *up* so that the *red* wire connects to the *top* pin.
- 4 To select 245 V AC (EU version) or 120 V AC (US version), flip and move the plug *down* so that the *red* wire connects to the *bottom* pin.
- 5 Replace the top cover before applying power.



To install a plug on the mains lead

The fixture's mains lead must be fitted with a grounding-type cord cap that fits your power distribution cable or outlet. Consult a qualified 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

The MX-1 can be fastened directly to a suitable surface or to a rigging clamp by means of its adjustable mounting bracket and it can be placed at an angle directly on the stage or floor using the mounting bracket as a floor stand.

Do not lay the fixture flat on its pan/tilt arms. For maximum lamp life, do not place the fixture directly on or beside a speaker cabinet or other source of strong vibrations.

Warning! *Block access below the work area before proceeding.*

Warning! *Always use a secure means of secondary attachment.*

To rig the MX-1

- 1 Verify that the clamp (not included) is undamaged and can bear at least 10 times the fixture's weight. Bolt the clamp securely to the bracket with a grade 8.8 (minimum) M12 bolt and lock nut, or as recommended by the clamp manufacturer, through the 13 mm hole in the center of the mounting bracket.
- 2 If permanently installing the fixture, verify that the hardware (not included) and mounting surface can bear at least 10 times the fixture's weight. The four 6.2 mm holes and/or the 13 mm hole in the mounting bracket may be used.
- 3 Verify that the structure can support at least 10 times the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc.
- 4 Working from a stable platform, clamp or fasten the fixture to the structure.
- 5 Install a safety cable that can hold at least 10 times the weight of the fixture through/over the support and through a hole in the pan/tilt arm.
- 6 Loosen the swivel locks and tilt the fixture to the desired angle. Turn the swivel locks clockwise to tighten. If a swivel lock does not tighten fully, pull the handle out, turn it counterclockwise, and retighten. Repeat as necessary.
- 7 Verify that the fixture is located at least 0.3 meters (12 in.) away from the surface to be illuminated and 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.

DATA CONNECTION

This section describes how to connect fixtures to a controller.

RECOMMENDED CABLE

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.

CONNECTIONS

The MX-1's XLR data sockets are wired with 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 MX-1 to the controller and/or other lights 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	
Male	Female
1	1
2	2
3	3
4	
5	
P/N 11820005	

3-pin to 5-pin Adaptor	
Male	Female
1	1
2	2
3	3
	4
	5
P/N 11820004	

3-pin to 3-pin Phase-Reversing Adaptor	
Male	Female
1	1
2	3
3	2
P/N 11820006	

To connect the data link

- 1 Connect a data cable to the controller's data output. If the 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. Plug the cable into the fixture's 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	Female Termination Plug
Male XLR 1 2 3  120	Female XLR 1 2 3  120
P/N 91613017	P/N 91613018

STAND-ALONE OPERATION

The MX-1 may be operated without a controller in stand-alone mode. It may be operated as a single unit or together with other MX-1s in “master/slave” configuration.

Several options are available to modify stand-alone operation. These options are selected using the DIP-switch as described below.

Important! ***The MX-1 transmits a signal when DIP-switch pins 2 and 10 are set to ON. To avoid damage to the electronics, connect no more than 1 transmitting device (master or controller) to the data link.***

SINGLE UNIT OPERATION

The fixture defaults to stand-alone mode with music trigger whenever power is applied and there is no control signal. Options for trigger type, mirror speed and movement range, and lamp intensity may be selected as described under “Stand-alone settings”.

MASTER / SLAVE OPERATION

Multiple MX-1s can be connected together, without a controller, for synchronized “master/slave” operation in which the slaves mimic the behavior of the master.

To connect units for master / slave operation

- 1 Connect the output of one MX-1 to the input of the next MX-1.
- 2 Connect additional MX-1s output to input. Up to 32 may be connected.
- 3 Terminate the link on both ends by inserting a *female* termination plug into the data *input* of the first fixture and a *male* termination plug into the data *output* of the last fixture. (The female terminator may not be required if the first fixture is the master.) A termination plug is simply an XLR connector with a 120 ohm, 0.25 W resistor soldered across pins 2 and 3.

To set the master

Important! Set only 1 fixture as master (DIP-switch pin 2 and 10 ON).

- 1 Set DIP-switch pins 2 and 10 to ON.
- 2 Set DIP-switch pins 3, 6, 7, 8, 9, and 11 to OFF.
- 3 Select options with DIP-switch pins 1, 4, 5, and 12.



To set a slave

- 1 Set DIP-switch 10 to ON.
- 2 Set pins 1, 2, 3, 4, 5 and 11 to OFF.
- 3 Select options with DIP-switch pins 6, 7, 8, 9, and 12.



STAND-ALONE SETTINGS

DIP-switch pins 1-9 enable stand-alone options only when pin 10 is ON. When pin 10 is off, the DIP-switch selects a DMX address. *Pin 11 must be OFF for stand-alone operation.*

Pin 12 selects lamp power and works in all modes. Set it to ON for reduced lamp voltage and longer lamp life; set it to OFF for full intensity.

The DIP-switch 10 setting takes effect only after the fixture has been turned off and on.

Fixture	Option	Setting (0 = OFF, 1 = ON)										
		1	2	3	4	5	6	7	8	9	10	11
single or master	auto trigger	0	1	0					0			
	music trigger	1	1	0					0			
	slow pan/tilt		1	0	1				0			
	wide pan/tilt		1	0		1			0			
slave	random color/gobo			0			1				1	0
	inverted color/gobo			0				1				
	inverted tilt			0					1			
	inverted pan			0							1	

MC-1 OPERATION

7

All new MX-1s and older MX-1s with CPU firmware v 1.7 or higher are fully compatible with the Martin MC-1 Controller. See the MC-1 user manual for additional information.

MC-1 SETTINGS

DIP-switch pin 10 must be set to OFF to enable MC-1 mode operation. Changes to the setting take effect after the fixture has been turned off and on.

DIP-switch pins 5, 7, 8, and 9 select several control options that can be combined to achieve powerful effects quickly and easily.

Pin 12 selects lamp power and works in all modes. Set it to ON for reduced lamp voltage and longer lamp life; set it to OFF for full intensity.

Option	Setting (0 = OFF, 1 = ON)										
	1	2	3	4	5	6	7	8	9	10	11
wide pan/tilt					1					0	
inverted color/gobo							1			0	
inverted tilt								1		0	
inverted pan									1	0	

DMX OPERATION

DMX MODES

The MX-1 has 3 DMX modes to choose from: a 1-channel mode that provides control of the built-in stand-alone features, a 6-channel mode that provides position control of all effects plus speed control of the mirror, and an “extended” 7-channel mode that in addition provides speed control of the effect wheel.

To select DMX mode

- 1 **Disconnect the fixture from power. Set DIP-switch pin 10 to OFF.**
- 2 **To select 1-channel DMX mode, set DIP-switch pin 11 to ON.**
- 3 **To select 6-channel DMX mode, set DIP-switch pin 11 to OFF. Verify that the 6/7 ch. jumper is set for 6 channels. This is the factory configuration. See “Setting the 6/7-ch. DMX jumper” on page 19.**
- 4 **To select 7-channel DMX mode, set DIP-switch pin 11 to OFF. Set the 6/7 ch. jumper for 7 channels as described on page 19.**

DMX ADDRESS

DIP-switch pins 1-9 are used to set the control address. The address, also known as the start channel, is the first channel used to receive instructions from the controller.

For independent control, each fixture must be assigned its own address and non-overlapping control channels. Two MX-1s may share the same address only if they are to respond identically: they will receive the same instructions and individual control will not be possible.

To select DMX address

- 1 **Select an address for the fixture on your controller. Look up the DIP-switch setting for the address in the DIP-switch settings table below.**
- 2 **Disconnect the fixture from power.**
- 3 **Set pins 1 through 9 to the ON (1) or OFF (0) position as listed in the 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. Pin 10 is always OFF for DMX operation.

DIP-Switch Setting 0 = OFF 1 = ON					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1		
					#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1
					#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	1	1
					#6	0	1	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		32	64	96	128	160	192	224	256	288	320	352	384	416	448	480			
1	0	0	0	0	1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481			
0	1	0	0	0	2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482			
1	1	0	0	0	3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483			
0	0	1	0	0	4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484			
1	0	1	0	0	5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485			
0	1	1	0	0	6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486			
1	1	1	0	0	7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487			
0	0	0	1	0	8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488			
1	0	0	1	0	9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489			
0	1	0	1	0	10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490			
1	1	0	1	0	11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491			
0	0	1	1	0	12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492			
1	0	1	1	0	13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493			
0	1	1	1	0	14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494			
1	1	1	1	0	15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495			
0	0	0	0	1	16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496			
1	0	0	0	1	17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497			
0	1	0	0	1	18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498			
1	1	0	0	1	19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499			
0	0	1	0	1	20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500			
1	0	1	0	1	21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501			
0	1	1	0	1	22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502			
1	1	1	0	1	23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503			
0	0	0	1	1	24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504			
1	0	0	1	1	25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505			
0	1	0	1	1	26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506			
1	1	0	1	1	27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507			
0	0	1	1	1	28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508			
1	0	1	1	1	29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509			
0	1	1	1	1	30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510			
1	1	1	1	1	31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511			

1-CHANNEL DMX OPERATION

The functions shown in the following table are available in 1-channel mode. When a “stand-alone” function is selected, the fixture steps through a routine using a built-in microphone to trigger the action to the beat of the music. Note that multiple fixtures cannot be synchronized in this mode.

DMX value	Percent	Function
0 - 10	0 - 4	Blackout (light off)
11 - 20	5 - 7	Open (light on)
21 - 80	8 - 31	Strobe
81 - 115	32 - 45	Stand-alone with slow music trigger
116 - 140	46 - 55	Stand-alone with medium music trigger
141 - 175	56 - 68	Stand-alone with fast music trigger
176 - 210	69 - 82	Stand-alone with random music trigger
211 - 255	83 - 100	Manual trigger area, crossover at 240 (94%)

6/7-CHANNEL DMX OPERATION

The 6 and 7 channel modes provide all functions listed in the DMX protocol on page 21.

Channel 1 controls the light intensity and the strobe rate. It also allows you to execute a “stand-alone” program with random pan/tilt movement using automatic or music trigger. The fixture can also be reset from the controller on channel 1.

Channel 2 is not used by the MX-1.

Channel 3 controls the position of the color/gobo effect wheel. When set to 100 percent, the wheel moves to random positions using the trigger selected on channel 1.

Mirror pan and tilt are controlled on channels 4 and 5.

Channel 6 controls pan and tilt speed, allowing you to vary the movement speed on controllers without cross-fader. If your controller has cross-faders, and you use them, then set channel 6 to the “tracking” speed (0 percent).

Channel 7 provides speed control of the effect wheel, allowing you to program slow transitions from one effect to another.

The MX-1 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.

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.***

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

CLEANING

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

To clean the fan and air vents

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

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

REPLACING FUSES

The MX-1 has 2 fuses. The main fuse holder is built in to the mains input socket. The secondary fuse is located on the printed circuit board.

Warning! *Never replace fuses with ones of a different rating!*

To replace the main fuse

- 1 Unplug the mains cable from the input socket. Pry open the fuse holder and remove the fuse.
- 2 Replace the fuse with one of the same type. The fuse rating is listed on serial number label.

To replace the secondary fuse

- 1 Disconnect the fixture from AC power. Remove the 4 cover screws and lift off the cover.
- 2 The fuse is located right behind the data input connector. Pry out the defective fuse and replace it with one of the same rating.
- 3 Replace the cover before applying power.

SETTING THE 6/7-CH. DMX JUMPER

- 1 Disconnect the fixture from power.
- 2 Remove the top cover. Locate PL 118 on the printed circuit board, next to DIP-switch pin 12.
- 3 Using a pair of tweezers or similar tool, place the jumper on 1 of the 2 pins, or remove it completely, for 6-channel DMX operation. Place the jumper on both pins to enable 7-channel DMX operation.
- 4 Replace the top cover before applying power.

Problem	Probable cause(s)	Remedy
One or more of the fixtures 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.
Fixtures reset correctly but all respond erratically or not at all to the controller.	The controller is not connected.	Connect controller.
	XLR pin-out of the controller does not match pin-out of the first fixture on the link (i.e. signal is reversed).	Install a phase-reversing cable between the controller and the first fixture on the link.
Fixtures reset correctly but some respond erratically or not at all to the controller.	Bad data link connection	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Data link not terminated with 120Ω termination plug.	Insert termination plug in output jack of the last fixture on the link.
	DIP-switch setting does not match control address.	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 connectors and connect them directly together. Have the defective fixture serviced by a qualified technician.
Color/gobo wheel behaves erratically or does not respond to speed channel.	Incorrect DMX mode setting.	Check jumper on circuit board at PL 118.
An effect fails to reset correctly.	The effect requires mechanical adjustment.	Contact Martin technician for service.
No light.	Lamp missing or blown	Disconnect fixture and replace lamp.
Lamp cuts out intermittently or burns out too quickly.	Fixture is too hot.	Allow fixture to cool.
	The transformer setting does not match local AC voltage.	Check AC setting.

DMX PROTOCOL



Channel	Value	Percent	Function
1	0 - 4	0 - 1	Dimmer, Strobe, Reset Light off
	5 - 154	2 - 60	Dimmer, closed to open
	155 - 169	61 - 66	Dimmer full open
	170 - 229	67 - 89	Strobe, fast to slow
	230 - 239	90 - 93	Stand-alone, music trigger
	240 - 249	94 - 97	Stand-alone, auto trigger
	250 - 255	98 - 100	Reset
	2	0 - 255	0 - 100
3	0 - 11	0 - 4	Color / Gobo Wheel Open
	12 - 23	5 - 8	Position 2
	24 - 35	9 - 13	Position 3
	36 - 47	14 - 18	Position 4
	48 - 59	19 - 23	Position 5
	60 - 71	24 - 27	Position 6
	72 - 83	28 - 32	Position 7
	84 - 95	33 - 37	Position 8
	96 - 107	38 - 41	Position 9
	108 - 119	42 - 46	Position 10
	120 - 131	47 - 51	Position 11
	132 - 143	52 - 55	Position 12
	144 - 155	56 - 60	Position 13
	156 - 167	61 - 65	Position 14
	168 - 179	66 - 70	Position 15
	180 - 191	71 - 74	Position 16
	192 - 203	75 - 79	Position 17
	204 - 215	80 - 84	Position 18
216 - 227	85 - 88	Position 19	
228 - 239	89 - 96	Closed	
240 - 255	97 - 100	Random "stand-alone" position w/ music or auto trigger	
4	0 - 255	0 - 100	Pan Left to right (127 = neutral)
5	0 - 255	0 - 100	Tilt Up to down (127 = neutral)
6	0 - 2	0 - 1	Pan/Tilt Speed Tracking (speed function off)
	3 - 255	2 - 100	Fast to slow
7*	0 - 255	0 - 100	Color / Gobo Speed Fast to slow

*Extended DMX mode (jumper on PL 118)

SPECIFICATIONS

PHYSICAL

- Size (L x W x H)..... 537 x 269 x 263 mm (21.1 x 10.6 x 10.4 in)
- Weight..... 6 kg (13 lbs)

THERMAL

- Maximum ambient temperature (T_a)40° C (104° F)
- Maximum surface temperature65° C (149° F)

CONTROL AND PROGRAMMING

- Data pin-out 3-pin locking XLR, pin 1 shield, pin 2 cold (-), pin 3 hot (+)
- Control protocol..... USITT DMX-512 (1990)
- DMX channels 1/6/7

AC POWER

- Input..... 3-prong IEC male socket
- Maximum power and current.....265 W, 1.2 A @ 230 V
- Primary fuse, EU version..... 2.5 AT / 250 V, P/N 05020010
- Primary fuse, US version..... 5.0 AT / 250 V, P/N 05020018
- Secondary fuse..... 2.0 AT / 250 V, P/N 05020009

INSTALLATION

- Minimum distance to combustible materials 0.1 m (4 in)
- Minimum distance to illuminated surfaces 0.3 m (12 in)
- Minimum clearance around fan and air vents.....0.1 m (4 in)

ACCESSORIES

- MC-1 controller, EU90718000
- MC-1 controller, US90718100
- Osram 24V/250W ELC 50 h halogen lamp.....97000104
- Philips 24V/250W ELC 500 h halogen lamp97000107
- G-clamp:91602003
- Half-coupler clamp:91602005

