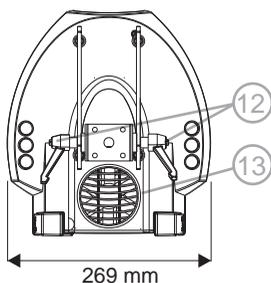
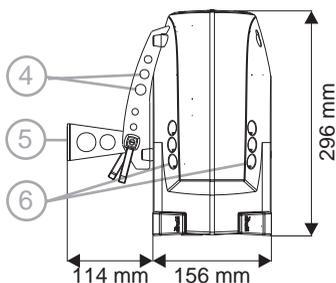
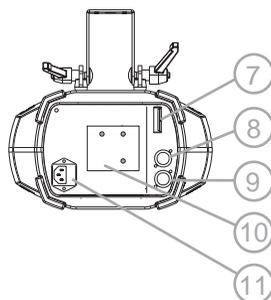
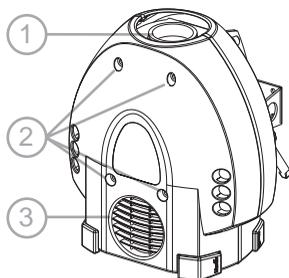


# CX-4

user manual



- 1 focus lens
- 2 cover screws
- 3 air vent
- 4 safety cable holes
- 5 mounting bracket
- 6 air vents
- 7 DIP-switch
- 8 data output
- 9 data input
- 10 lamp access & adjustment
- 11 AC input & main fuse
- 12 swivel locks
- 13 cooling fan




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P/N 35000093, Rev. B

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<b>Introduction</b>	<b>4</b>
<b>Lamp</b>	<b>6</b>
<b>AC power connection</b>	<b>8</b>
<b>Installation</b>	<b>11</b>
<b>Data connection</b>	<b>12</b>
<b>Stand-alone operation</b>	<b>13</b>
<b>MC-1 operation</b>	<b>15</b>
<b>DMX operation</b>	<b>16</b>
<b>Basic service</b>	<b>19</b>
<b>Troubleshooting</b>	<b>21</b>
<b>DMX protocol</b>	<b>22</b>
<b>Specifications</b>	<b>25</b>

# INTRODUCTION

Thank you for selecting the Martin CX-4. The CX-4 is an automated profile spotlight designed for a 150 watt discharge source. It provides colors, gobos, 5 beam angles, a frost effect, continuous dimming, adjustable focus, and multiple control options.

## CX-4 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 to fire and heat, electric shock, and falls. **Read this manual** before powering or installing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed 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 at +45 70 200 201.

### To protect yourself and others from electric shock

- Disconnect the fixture from AC 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 AC 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 any service operation not described in this manual to a qualified technician.
- Never operate the fixture with missing or damaged lenses and/or covers.

## 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.
- Replace the lamp if it becomes defective or worn out. When replacing the lamp, allow the fixture to cool for at least 5 minutes before opening the fixture or removing the lamp. Protect your hands and eyes with gloves and safety glasses.
- Do not illuminate surfaces within 0.3 meters (12 inches) of the fixture.
- Provide a minimum clearance of 0.1 meters (4 inches) around fans and air vents.
- Never place filters or other materials over the lens.
- The exterior of the fixture can reach temperatures up to 65° C (149° F). Allow the fixture to cool for at least 5 minutes 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 CX-4 comes with:

- Philips CDM-SA/T 150W discharge lamp
- 3-meter, 3-wire IEC power cable
- User manual

# LAMP

# 2

The CX-4 uses the Philips CDM-SA/T (short-arc, tubular) 150W discharge lamp. If desired, the GE Arcstream 150 may be substituted.

Lamp	Efficiency	Color Temp.	Average Life
Philips CDM-SA/T 150W	85 Lm/W	4000 K	6000 h
GE Arcstream 150	77 Lm/W	4000 K	6000 h

The CX-4 can be modified with a different lamp socket that allows use of the following lamps:

- Martin HTI 150 W, 2000 h
- OSRAM HTI 150 W, 750 h
- GE CSS 150 W, 1000 h

Please contact your Martin dealer for details.

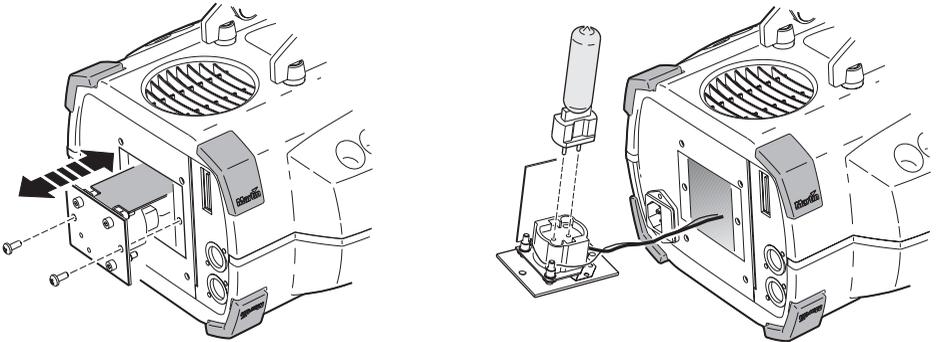
**Warning!** *Installing a lamp other than specified may be hazardous.*

## To install a lamp

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

- 1 Remove 2 screws from the lamp-socket assembly with a Pozidriv #2 screwdriver. Remove the lamp assembly.
- 2 Remove the old lamp from the socket.
- 3 Holding the new lamp by its base (do not touch the glass), insert the lamp pins squarely into the socket.
- 4 If your fingers touched the glass bulb, clean it with a clean, lint-free cloth wetted with alcohol.

- 5 Insert the lamp assembly with the black metal shield up, between the lamp and the fan. Replace the screws.



## To align the lamp

Realignment when changing the lamp may improve performance.

- 1 Strike the lamp and project the light on a flat surface.
- 2 Using a 3 mm Allen wrench, center the hot-spot horizontally with the top-left adjustment screw. Center the hot-spot vertically with the bottom-right adjustment screw.
- 3 if there is significant hot-spot, flatten the field by turning all 3 adjustment screws clockwise 1/4-turn at a time until the light is evenly distributed and there is no further improvement.
- 4 If the light is brighter around the edge than it is in the center, or if light output is low, turn the screws counterclockwise 1/4-turn at a time until the light is evenly distributed and there is not further improvement.

# AC POWER CONNECTION

The CX-4 power supply must be wired to the voltage and frequency setting that most closely matches the local AC supply. The factory setting is shown on the serial number label.

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

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

**Important!** *Check the power supply setting before applying power.*

**Important!** *Do not connect the fixture to a dimmer system.*

## To install a plug on the mains lead

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

- 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

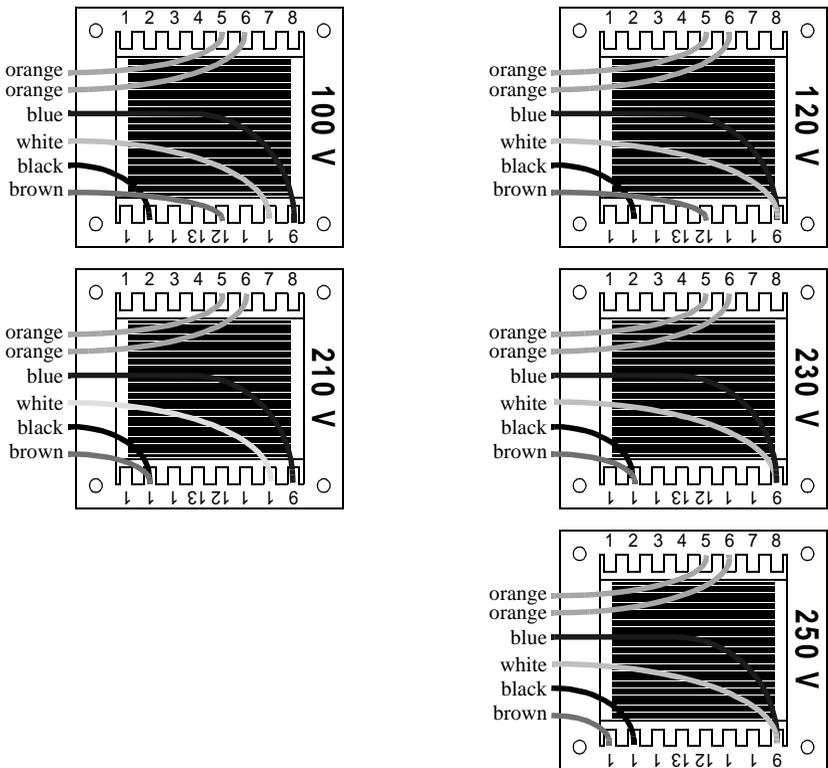
Table 1: Cord cap wiring

# To rewire the power supply

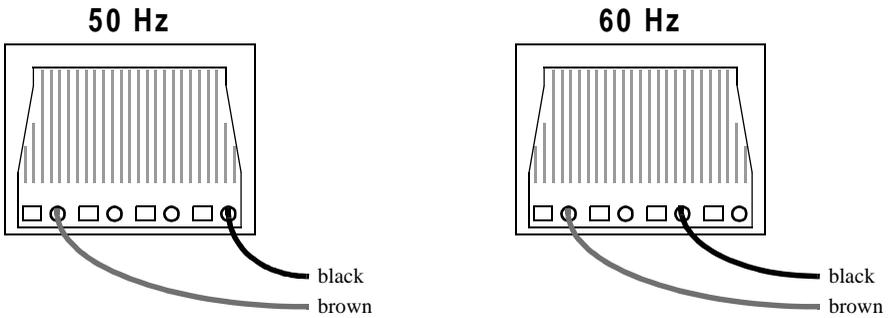
- 1 Disconnect the fixture from AC power. Remove the top cover bolts with a 4 mm Allen wrench and lift off the cover.
- 2 On the transformer, which is located behind the color wheel, move the brown and white wires to the transformer taps shown below for your mains voltage. *Do not move the blue wire from terminal 9 or the black wire from terminal 15.*

Mains voltage	Setting	Brown	White	Blue	Black
95 - 109 V	100 V	12	10		
110 - 130 V	120 V	12	9		
200 - 219 V	210 V	15	10	9	15
219 - 239 V	230 V	15	9		
240 - 260 V	250 V	16	9		

Table 2: Transformer settings



- 3 The frequency setting (50 or 60 Hz) is selected by moving the black wire on the ballast, which is located behind the effect wheel. To set for 50 Hz, move the black wire to the “230-50” terminal. To set for 60 Hz, move the black wire to the “230-60” terminal. See below. The wire is released and locked by inserting a small screwdriver in the square hole next to the terminal and prying back the spring.
- 4 Tug lightly on the black wire to make sure that it is connected securely.
- 5 Replace the top cover.



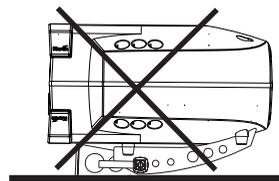
# 4

## INSTALLATION

The CX-4 can be fastened directly to a suitable surface or hung with a rigging clamp bolted to its adjustable mounting bracket.

Do not lay the fixture flat on its mounting bracket arms or position it so that there is less than 10 cm (4 in.) clearance around the fan and air vents.

For maximum lamp life, do not place the fixture directly on or beside a speaker cabinet.



### To rig the CX-4

**Warning!** *Always use a secure means of secondary attachment. Block access below the work area before proceeding.*

- 1 If clamping the fixture, 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 one of the aluminum arms.
- 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

# 5

A reliable data connection begins with the right cable. For best results, use cable specifically designed for RS-485 applications, available from your Martin dealer.

## CONNECTIONS

The data sockets are wired with pin 1 to ground, pin 2 to signal - (cold), and pin 3 to signal + (hot) for compatibility with DMX devices. One or more adaptor cables as shown below may be required for connection to the controller or other lights.

5-pin to 3-pin Adaptor		3-pin to 5-pin Adaptor		3-pin to 3-pin Phase-Reversing Adaptor		Male Termination Plug	
Male	Female	Male	Female	Male	Female	Male XLR	
1	1	1	1	1	1	1	120
2	2	2	2	2	2	2	
3	3	3	3	3	3	3	
4			4				
5			5				
P/N 11820005		P/N 11820004		P/N 11820006		P/N 91613017	

### To connect the data link

- 1 Connect a cable to the controller's data output. If the output socket has a 5 pins, use a 5-pin male to 3-pin female adaptor. Lead the cable to the first fixture and plug it into the data input.
- 2 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. Continue connecting fixtures output to input. Up to 32 devices may be connected on a serial link.
- 3 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.

# STAND-ALONE OPERATION

The CX-4 may be operated in a random-action stand-alone mode without a controller. It may be operated as a single unit or in synchronization with other CX-4s in “master/slave” configuration. Several options are available to modify operation. These are selected with the DIP-switch and are described on page 14.

**Important!** *The CX-4 transmits a signal on the data link when DIP-switch pins 2 and 10 are set to ON. To avoid possible damage, connect no more than 1 transmitting device to the data link.*

## SINGLE UNIT OPERATION

---

The fixture enters stand-alone mode with music trigger when power is applied and no control signal is received for 5 seconds. To operate, simply apply power and disconnect the data link.

Options for trigger type and speed may be selected as described below under “Stand-alone settings”. To select stand-alone mode with auto trigger, set DIP-switch pins 1, 3, 5, 6, 7, 8, 9, and 11 to off; set pins 2 and 10 to on. Pins 4 and 12 may be on or off.

## MASTER / SLAVE OPERATION

---

Multiple CX-4s can be connected together for synchronized “master/slave” operation in which the slaves mimic the behavior of the master, which may be any one of the connected fixtures.

### To connect units for master / slave operation

- 1 Connect the output of one CX-4 to the input of the next CX-4.
- 2 Connect additional CX-4s output to input. Up to 32 may be connected.
- 3 Terminate the link on both ends by inserting a *female* termination plug (P/N 91613018) 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.

## 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, 5, 6, 7, 8, 9, and 11 to OFF.
- 3 Select trigger and speed options with DIP-switch pins 1 and 4.



## 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, and 9.



## 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 selects 1-channel DMX mode and must be OFF for stand-alone operation.*

Pin 12 selects the DMX protocol for the effect wheel and has no effect in stand-alone mode.

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 change		1	0	1				0			
slave	random color			0			1				1	0
	random effect			0				1				
	inverted color			0					1			
	inverted effect			0						1		

# MC-1 OPERATION

The CX-4 is fully compatible with the Martin MC-1 Controller. See the MC-1 user manual for additional information.

## MC-1 MODE 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 6, 7, 8, and 9 select control options. The remaining pins have no effect in MC-1 mode.

Option	Setting (0 = OFF, 1 = ON)										
	1	2	3	4	5	6	7	8	9	10	11
random color						1				0	
random effect							1			0	
inverted color								1		0	
inverted effect									1	0	

# DMX OPERATION

# 8

## DMX MODES

---

The CX-4 has 2 DMX modes to choose from: a 1-channel mode that provides control of the built-in stand-alone features, and a 6-channel mode that provides full control of all effects.

The 6-channel mode provides 2 options for controlling the effect wheel that are selected with DIP-switch 12.

### 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. To select 6-channel DMX mode, set DIP-switch pin 11 to OFF**
- 3 **Select the effect wheel control option. Set DIP-switch pin 12 to OFF if you want the effect wheel to be open at DMX values 0 - 9. Set it to ON if you want the gobo wheel to blackout the light at DMX 0 - 9.**

## 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 CX-4s 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 set the DMX address

- 1 **Select an address for the fixture on your controller. Look up the DIP-switch setting for the address in the 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. 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					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	
0 = OFF					#8	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1
1 = ON					#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	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 (dimmer closed)
11 - 20	5 - 7	Open
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%)

## FULL DMX OPERATION

---

*See also the DMX protocol on page 22.*

Channel 1 controls lamp power and strobe rate. It also allows you to execute a program with random color and gobo change using automatic or music trigger.

All effect wheels are reset to their home position when the fixture is powered up; they can also be reset from the controller by sending a reset command on channel 1.

Channel 2 controls the dimmer.

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

Channel 4 controls the effect wheel. The wheel’s position depends on the setting of DIP-switch pin 12 as well as the DMX value. When pin 12 is off, the wheel goes from open at 0 percent to closed at 90 percent. When pin 12 is on, the wheel goes from closed at 0 percent, open at 3 percent, to the small iris at 90 percent. When set to 100 percent, the effect wheel moves to random positions using the trigger selected on channel 1. See the DMX protocol for complete details.

Channel 5 controls the dimmer speed, allowing you to program fades on controllers without cross-faders. If your controller has cross-faders, and you use them, then set channel 5 to the “tracking” speed (0 percent).

Channel 6 controls the speed of the color and effect wheels. If your controller has cross-faders, and you use them, then set channel 6 to fast (0 percent).

# BASIC SERVICE

The CX-4 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 top cover bolts with a 4 mm Allen wrench 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 CX-4 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 top cover bolts with a 4 mm Allen wrench 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.

# TROUBLESHOOTING

# 10

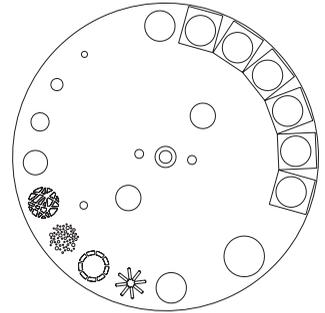
<b>Problem</b>	<b>Probable cause(s)</b>	<b>Remedy</b>
One or more of the fixtures is completely dead.	No power to fixture.	Check that power is switched on and cables are plugged in.
	Primary fuse blown.	Replace fuse.
	Secondary fuse blown.	Replace fuse.
Fixtures reset correctly but all respond erratically 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.
	Incorrect addressing of the fixtures.	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.
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

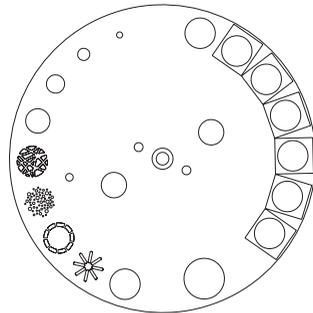


Channel	Value	Percent	Function
1	0 - 9	0 - 3	<b>Strobe, Lamp power, Reset</b>
	10 - 19	3 - 7	No function
	20 - 99	7 - 39	Lamp-on
	100 - 159	39 - 62	No function
	160 - 179	63 - 70	No function
	180 - 204	70 - 80	Strobe, fast to slow
	205 - 229	80 - 90	Shutter closed
	230 - 239	90 - 94	Remote action w/ music trigger
	240 - 249	94 - 98	Remote action w/ auto trigger
	250 - 255	98 - 100	No function
	2	0 - 255	0 - 100
Lamp-off (w/ ch. 2 & 3 > 252, hold for 5 sec.)			
2	0 - 255	0 - 100	<b>Dimmer</b>
2	0 - 255	0 - 100	<b>Closed to open</b>
3	0 - 10	0 - 3	<b>Color Wheel</b>
	11 - 21	4 - 8	Open
	22 - 32	8 - 12	Open / CTC 3200K - 4100K
	33 - 43	13 - 16	CTC 3200K - 4100K
	44 - 54	17 - 21	CTC 3200K - 4100K / CTC ½ Minus Green
	55 - 65	21 - 25	CTC ½ Minus Green
	66 - 76	26 - 29	CTC ½ Minus Green / CTC 5500K - 3400K
	77 - 87	30 - 34	CTC 5500K - 3400K
	88 - 98	34 - 38	CTC 5500K - 3400K / Cyan 104
	99 - 109	39 - 42	Cyan 104
	110 - 120	43 - 47	Cyan 104 / Magenta 507
	121 - 131	47 - 51	Magenta 507
	132 - 142	52 - 55	Magenta 507 / Yellow 603
	143 - 153	56 - 60	Yellow 603
	154 - 164	60 - 64	Yellow 603 / Medium Blue 108
	165 - 175	65 - 68	Medium Blue 108
	176 - 186	69 - 73	Medium Blue 108 / Primary Green 206
	187 - 197	73 - 77	Primary Green 206
	198 - 208	78 - 81	Primary Green 206 / Primary Red 308
	209 - 219	82 - 86	Primary Red 308
	220 - 230	87 - 90	Primary Red 308 / Color Mix 4
231 - 255	91 - 100	Color Mix 4	
231 - 255	91 - 100	Random position w/ trigger selected on ch. 1	

Channel	Value	Percent	Function
			<b>Effect Wheel, DIP-switch 12 OFF</b>
	0-9	0 - 3	Open
	10-19	3 - 7	Open / Red 304
	20-29	7 - 11	Red 304
	30-39	11 - 15	Red 304 / Light Green 204
	40-49	15 - 19	Light Green 204
	50-59	19 - 23	Light Green 204 / Amber 604
	60-69	23 - 27	Amber 604
	70-79	27 - 31	Amber 604 / Blue 101
	80-89	31 - 35	Blue 101
	90-99	35 - 39	Blue 101 / Pink 312
	100-109	39 - 42	Pink 312
4	110-119	43 - 46	Pink 312 / Orange 306
	120-129	47 - 50	Orange 306
	130-139	51 - 54	Frost
	140-149	55 - 58	Open
	150-159	59 - 62	Spokes
	160-169	63 - 66	Dot Circles
	170-179	66 - 70	Star Dots
	180-189	70 - 74	Highways
	190-199	74 - 78	80% Iris
	200-209	78 - 82	60% Iris
	210-219	82 - 86	40% Iris
	220-229	86 - 90	20% Iris
	230-239	90 - 94	Closed
	240-255	94 - 100	Random position w/ trigger selected on ch. 1



Channel	Value	Percent	Function
4	0-9	0 - 3	<b>Effect Wheel, DIP-switch 12 ON</b> Closed
	10-19	3 - 7	Open
	20-29	7 - 11	Open / Red 304
	30-39	11 - 15	Red 304
	40-49	15 - 19	Red 304 / Light Green 204
	50-59	19 - 23	Light Green 204
	60-69	23 - 27	Light Green 204 / Amber 604
	70-79	27 - 31	Amber 604
	80-89	31 - 35	Amber 604 / Blue 101
	90-99	35 - 39	Blue 101
	100-109	39 - 42	Blue 101 / Pink 312
	110-119	43 - 46	Pink 312
	120-129	47 - 50	Pink 312 / Orange 306
	130-139	51 - 54	Orange 306
	140-149	55 - 58	Frost
	150-159	59 - 62	Open
	160-169	63 - 66	Spokes
	170-179	66 - 70	Dot Circles
	180-189	70 - 74	Star Dots
	190-199	74 - 78	Highways
	200-209	78 - 82	80% Iris
	210-219	82 - 86	60% Iris
	220-229	86 - 90	40% Iris
	230-239	90 - 94	20% Iris
240-255	94 - 100	Random position w/ trigger selected on ch. 1	
5	0 - 2	0 - 1	<b>Dimmer Speed</b> Tracking (speed function off)
	3 - 255	2 - 100	Fast to slow
6	0 - 255	0 - 100	<b>Color and Effect Wheel Speed</b> Fast to slow



# SPECIFICATIONS

## PHYSICAL

Size (L x W x H): ..... 296 x 269 x 270 mm (11.7 x 10.6 x 10.6 in)  
Weight: ..... 8.5 kg (18.7 lbs)

## THERMAL

Maximum ambient temperature (Ta): ..... 40° C (104° F)  
Maximum surface temperature: ..... 65° C (149° F)

## CONTROL AND PROGRAMMING

DMX-512 (1990) control: ..... 1 and 6 channel control modes  
Stand-alone control: ..... automatic & music trigger, master/slave configurable  
Data pinout: ..... 3-pin XLR - pin 1 shield, pin 2 cold (-), pin 3 hot (+)

## AC SUPPLY

AC input: ..... 3-pin IEC male socket  
Wiring options: ..... 100/120/210/230/250 V, 50/60 Hz

## MAXIMUM POWER AND CURRENT

@ 100 V, 50 Hz ..... 210 W, 2.9 A  
@ 120 V, 60 Hz ..... 205 W, 2.1 A  
@ 210 V, 60 Hz ..... 160 W, 1.1 A  
@ 230 V, 50 Hz ..... 205 W, 1.1 A  
@ 250 V, 50 Hz ..... 200 W, 1.1 A

## FUSES

Primary fuse: ..... T 3.15 A, high I<sup>2</sup>t, 250 V  
Secondary fuse: ..... T 2.0 A, 250 V

## CONSTRUCTION

Housing: ..... UV-resistant fiber-reinforced composite  
Finish, black: ..... integral color  
Finish, titanium: ..... polyurethane coating

## 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**

CX-4 lamp socket conversion kit .....	91614011
MC-1 Controller, EU: .....	90718000
MC-1 Controller, US: .....	90718100
G-clamp: .....	91602003
Half-coupler clamp: .....	91602005



