

Wizard

user manual



STAND-ALONE OPERATION

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

Several options are available to modify stand-alone operation. These options are selected using the DIP-switch and are described in this chapter.

Important! The Wizard 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 Wizard defaults to stand-alone mode whenever power is applied and there is no control signal. This can be deactivated by activating 8-channel mode (see “Setting 6- or 8-channel DMX mode” on page 27).

Options for trigger type, mirror speed and movement direction can be selected as described under “Stand-alone settings” on page 17.

MASTER / SLAVE OPERATION

Multiple Wizards can be connected together, without a controller, for synchronized “master/slave” operation in which the slaves mimic, or respond to, the behavior of the master.

Connecting units for master / slave operation

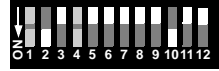
- 1 Connect the output of one Wizard to the input of the next Wizard.
- 2 Connect additional Wizards output to input. Up to 32 may be connected.
- 3 Terminate the link on both ends by inserting a *female* termination plug into the data *input* of the first fixture and a *male* termination plug into the 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.

Setting the master

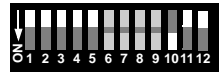
Important! Set only 1 fixture as master (DIP-switch pin 2 and 10 ON).

- 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 (see "Stand-alone settings" on page 17).



Setting 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 (see "Stand-alone settings" on page 17). If none of these options are set then the slave fixture will mimic the master exactly. Use these options if you want a slave fixture to behave differently, for example, to make a show more interesting.



STAND-ALONE SETTINGS

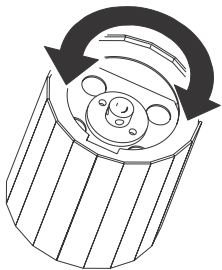
DIP-switch pins 1-9 enable stand-alone options only when pin 10 is ON. When pin 10 is off, the DIP-switch selects a DMX address. *Pin 11 must be OFF for stand-alone operation.*

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

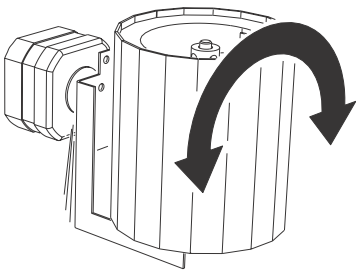
Fixture	Option	Setting (0 = OFF, 1 = ON)										
		1	2	3	4	5	6	7	8	9	10	11
Single or master	Auto trigger (will use default trigger time)	0	1	0					0			
	Music trigger (synchronized with music)	1	1	0					0			
	Slow movement		1	0	1				0			
Slave	Use a different color in relation to the master			0			1				1	0
	Use a different gobo in relation to the master			0				1				
	Rotate the mirror drum in the opposite direction to the master			0					1			
	Swivel the mirror drum in the opposite direction to the master			0						1		

Note that if the slow movement option is not set then movement will be fast.

Mirror drum rotation



Mirror drum swivel



MC-1 OPERATION

6

The Wizard is fully compatible with the Martin MC-1 controller. This chapter describes information about how to configure the Wizard for operation with an MC-1. For further information, refer to the MC-1 user manual.

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 6, 7, 8, and 9 control options that are most useful when operating multiple Wizards from a single MC-1. When these options are set the fixture will behave differently compared to other Wizards that do not have these options set. This is useful if you want to make a light show more diverse.

Option	Setting (0 = OFF, 1 = ON)										
	1	2	3	4	5	6	7	8	9	10	11
Use a different color						1				0	1
Use a different gobo							1			0	1
Rotate the mirror drum in the opposite direction								1		0	1
Swivel the mirror drum in the opposite direction									1	0	1

DMX OPERATION

The Wizard can be connected to and operated from a DMX controller. To do this you need to:

- 1 Choose and set one of the three DMX modes. The three modes are described in the following section, “DMX modes”.
- 2 Set a DMX control address. This is described in “DMX control address” on page 21.

DMX MODES

The Wizard has three DMX modes to choose from:

- *1-channel mode* provides control of the built-in stand-alone features.
- *6-channel mode* provides position control of all effects. This is the default factory set mode.
- *8-channel mode* provides position control of all effects, plus control of the mirror drum swivel rate, and the color and gobo wheel change speed.

1-channel DMX operation

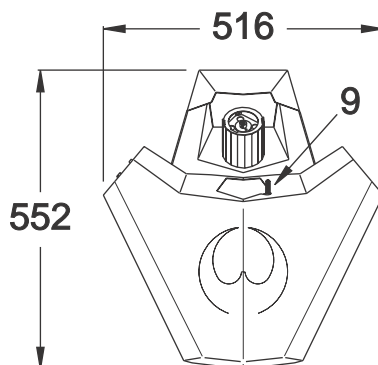
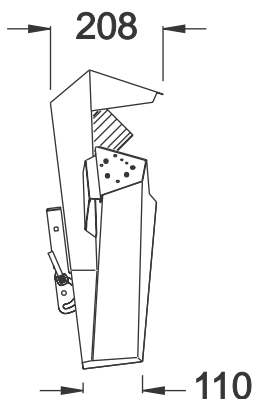
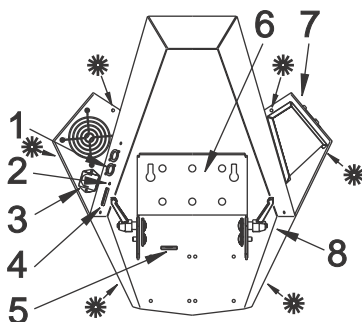
The functions shown in the following table are available in 1-channel mode. When a “stand-alone” function is selected, the fixture steps through a routine using a built-in microphone to trigger the action to the beat of the music. Note that multiple fixtures cannot be synchronized in this mode.

DMX value	Percent	Function
0-10	0-3	Light off
11-20	4-7	Light on
21-80	8-31	Strobe
81-115	32-44	Slow music trig (every 2 seconds)
116-140	45-54	Medium music trig (every second)
141-175	55-68	Fast music trig (every 0.2 seconds)
176-210	69-82	Random music trig (between 0.2-2.0 seconds)
211-255	83-100	Trigger whenever DMX value 240 is crossed

Measurements are expressed in millimeters.

- 1 Data sockets
- 2 Power and Data LEDs
- 3 Power inlet & main fuse
- 4 DIP switch
- 5 Safety cable eye
- 6 Mounting bracket
- 7 Lamp housing
- 8 Swivel locks
- 9 Focus rod

* Cover access screws



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6-channel DMX operation

The 6-channel and 8-channel mode functions are described in detail in “DMX protocol” on page 31.

Channel 1 controls lamp on, lamp off, the dimmer and the strobe rate. It also allows you to execute a random “stand-alone” program using automatic or music trigger, and to reset the fixture to its home position.

Channel 2 controls the rotation of the parabolic reflector. This channel has no effect if the stand-alone program is selected on channel 1.

Channel 3 controls the color wheel and is used to select colors, split colors, the twinkle effect and color rotation. When the stand-alone program is running this channel still has active control of the color wheel, unless the DMX value is set to greater than 250 (>98%).

Channel 4 controls the gobo wheel. This channel functions even if the stand-alone program is selected. When the stand-alone program is running this channel still has active control of the gobo wheel, unless the DMX value is set to greater than 250 (>98%).

Channel 5 controls the mirror drum’s swivel position. This has no affect if the stand-alone program is running.

Channel 6 controls mirror drum rotation direction and speed. This has no effect if the stand-alone program is running.

8-channel DMX operation

Channel 7 controls the mirror drum swivel speed, allowing you to vary the speed with controllers without cross-fade times. If your controller has cross-faders and you use them, turn the speed function off by setting channel 7 to 0 percent. This channel has no effect if the stand-alone program is running.

Channel 8 provides speed control of the color and gobo wheels, allowing you to program slow or fast transitions from one effect position to another. This channel has no effect if the stand-alone program is running.

Setting the 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.
 - 6-channel DMX mode, set DIP-switch pin 11 to OFF.
 - 8-channel DMX mode, set DIP-switch pin 11 to OFF, and then follow the procedure in “Setting 6- or 8-channel DMX mode” on page 27.

DMX CONTROL ADDRESS

The control address, also known as the start channel, is the first channel used to receive instructions from the controller. Each fixture needs its own control address set, and uses this address and subsequent control channels to receive instructions from a controller. The Wizard uses one, six, or eight control channels depending on the DMX mode that has been specified.

If the Wizard is set to 6-channel mode, it reads the data on the start channel and the next five channels. If the DMX control address is set to 100, the fixture uses channels 100, 101, 102, 103, 104, and 105. Channel 106 would be the control address for the next fixture.

For independent control, each fixture must be assigned its own address and non-overlapping control channels. If two or more fixtures are set up with the same address, they will receive the same instructions and should behave identically. Setting up identical fixtures with the same address is a good tool for troubleshooting unexpected behavior and an easy way to achieve synchronized action.

Specifying a DMX address

DIP-switch pins 1-9 are used to set the control address:

- 1 Select an address for the fixture on your controller. If you are calculating the DMX addresses for multiple fixtures then the Martin Address Calculator is available on the internet at <http://www.martin.dk/service/utilities/AddrCalc/index.asp>
- 2 Look up the DIP-switch setting using the Martin DIP Switch Calculator (also available on the internet, at <http://www.martin.dk/service/dipswitchpopup.htm>), or look for the address in the following DIP-switch settings table.
- 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.

Find the address in the following 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.

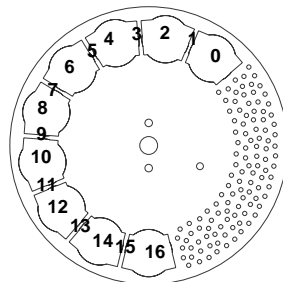
DIP-Switch Setting 0 = OFF 1 = ON					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1		
					#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1
					#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	1	1
					#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
#1	#2	#3	#4	#5																			
0	0	0	0	0	1	32	64	96	128	160	192	224	256	288	320	352	384	416	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			
1	1	0	0	0	4	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483			
0	0	1	0	0	5	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484			
1	0	1	0	0	6	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485			
0	1	1	0	0	7	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486			
1	1	1	0	0	8	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487			
0	0	0	1	0	9	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488			
1	0	0	1	0	10	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489			
0	1	0	1	0	11	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490			
1	1	0	1	0	12	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491			
0	0	1	1	0	13	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492			
1	0	1	1	0	14	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493			
0	1	1	1	0	15	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494			
1	1	1	1	0	16	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495			
0	0	0	0	1	17	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496			
1	0	0	0	1	18	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497			
0	1	0	0	1	19	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498			
1	1	0	0	1	20	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499			
0	0	1	0	1	21	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500			
1	0	1	0	1	22	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501			
0	1	1	0	1	23	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502			
1	1	1	0	1	24	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503			
0	0	0	1	1	25	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504			
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			

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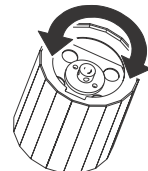
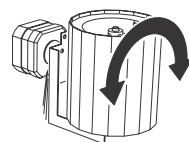
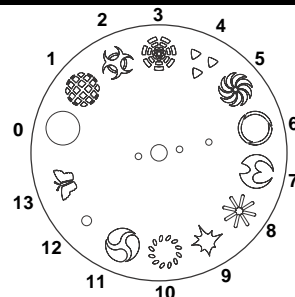
DMX PROTOCOL

A

Channel	Value	Percent	Function
1	0-1	0	Light
	2-129	1-50	Shutter closed
	130-189	51-74	Dimmer (closed-open) & Lamp on
	190-199	75-78	Strobe (fast to slow)
	200-209	79-82	Shutter closed
	210-219	83-86	Random strobe
	220-229	87-90	Stand-alone music trig
	230-239	91-94	Stand-alone auto trig
	240-249	95-98	Shutter closed
	250-255	99-100	Reset (hold for >5 seconds)
2	0-1	0	Lamp off (when set for > 5 seconds & channel 3 & 4 > 252)
	Parabolic reflector rotation		
	0-1	0	No rotation
	2-122	1-47	Clockwise rotation (slow to fast)
	123-132	48-51	No rotation
	133-253	52-99	Counter clockwise rotation (fast to slow)
3	254-255	100	No rotation
	Color		
	0-5	0-1	0 Open
	6-11	2-4	1 Open / Blue
	12-17	5-6	2 Blue 108
	18-23	7-8	3 Blue / Orange
	24-29	9-10	4 Orange 306
	30-35	11-13	5 Orange / Purple
	36-41	14-15	6 Purple 502
	42-47	16-17	7 Purple / Green
	48-53	18-20	8 Green 206
	54-59	21-22	9 Green / Blue
	60-65	23-25	10 Blue 101
	66-71	26-27	11 Blue / Yellow
	72-77	28-29	12 Yellow 603
	78-83	30-32	13 Yellow / Magenta
	84-89	33-35	14 Magenta 507
	90-95	36-37	15 Magenta / Open
	96-101	38-39	16 Open
	102-169	40-66	Color rotation (slow to fast)
	170-175	67-68	No rotation
	176-243	69-95	Twinkle rotation (slow to fast)
	244-249	96-97	No rotation
	250-255	98-100	Remote stand-alone music trig and auto trig



Channel	Value	Percent	Function
4	0-10	0-3	Gobo
	11-22	4-8	0 Open
	23-34	9-13	1 Gridball
	35-46	14-17	2 Virus
	47-58	18-22	3 Tunnel
	59-70	23-26	4 Triple dot
	71-82	27-31	5 Whirl
	83-94	32-36	6 Cone
	95-106	37-41	7 Wizard
	107-118	42-46	8 Spokes
	119-130	47-50	9 Splat
	131-142	51-55	10 Ellipse Halo
	143-154	56-60	11 Ying Yang Yung
	155-169	61-66	12 Dot
	170-239	67-94	13 Butterfly
	240-249	95-97	Wheel rotation (Slow to fast)
	250-255	98-100	No rotation
			Remote stand-alone music trig and auto trig
5	0	0	Mirror drum swivel
	127	50	Max Left
	255	100	Neutral
			Max Right
6	0-1	0	Mirror drum rotation
	2-122	1-48	No rotation
	123-132	49-52	Clockwise rotation (slow to fast)
	133-253	53-99	No rotation
	254-255	100	Counter clockwise rot. (fast to slow)
			No rotation
7*	0-255	0-100	Speed channel for mirror drum swivel Fast to slow
8*	0-255	0-100	Speed channel for color and gobo Fast to slow



* Only available in 8-channel mode. See “DMX modes” on page 19.

SPECIFICATIONS - WIZARD

PHYSICAL

- Size (L x W x H)..... 552 x 516 x 208 mm (21.7 x 20.3 x 8.2 in)
- Weight..... 14.5 kg (32 lbs)

CONSTRUCTION

- Housing..... aluminum and steel
- Finishelectrostatic powder coating

THERMAL

- Maximum ambient temperature (T_a)40° C (104° F)
- Maximum surface temperature60° C (140° F)

INSTALLATION

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

CONTROL AND PROGRAMMING

- Data I/O sockets..... 3-pin XLR male/female, pin 1=shield, pin 2 (-), pin 3 (+)
- Control protocol..... USITT DMX-512 (1990)
- Electrical standard RS-485
- DMX modes..... 1-, 6- or 8-channel
- Stand-alone triggers music or auto
- Control methodDMX controller, stand-alone, master/slave

ELECTRICAL, EU MODEL

- Input.....3-prong IEC male socket
- AC Power 230 / 240 / 250 V, 50 Hz
- Main fuse3.15 A T (time delay), P/N 05020013
- Circuit board fuse2 A T (time delay), P/N 05020009
- Maximum power and current @ 230 V, 50 Hz..... 320 W, 1.5 A
- Maximum power and current @ 240 V, 50 Hz..... 320 W, 1.6 A
- Maximum power and current @ 250 V, 50Hz..... 310 W, 1.4 A

ELECTRICAL, US MODEL

- Input.....3-prong IEC male socket
- AC power 100 / 120 / 230 / 250 V, 50 / 60 Hz
- Main fuse6.3 A T (time delay), P/N 05020020
- Circuit board fuse2 A T (time delay), P/N 05020009

- Maximum power and current @ 100 V, 50 Hz 320 W, 3.8 A
- Maximum power and current @ 100 V, 60 Hz 310 W, 3.4 A
- Maximum power and current @ 120 V, 50 Hz 320 W, 2.9 A
- Maximum power and current @ 120 V, 60Hz 310 W, 2.7 A
- Maximum power and current @ 230 V, 50Hz 320 W, 1.5 A
- Maximum power and current @ 230 V, 60Hz 320 W, 1.5 A
- Maximum power and current @ 250 V, 50 Hz 310 W, 1.4 A
- Maximum power and current @ 250 V, 60 Hz 320 W, 1.3 A

OSRAM HSD 250 LAMP

- Power..... 250 watts
- Rated life 2000 hours
- Color temperature 6000K
- Martin part number P/N 97010103

PHILIPS MSD 250/2 LAMP

- Power..... 250 watts
- Rated life 2000 hours
- Color temperature 8500K
- Martin part number P/N 97010100

PHILIPS MSD 200 LAMP

- Power..... 200 watts
- Rated life 2000 hours
- Color temperature 6000K
- Martin part number P/N 97010106

ACCESSORIES

- MC-1 controller, EU 90718000
- MC-1 controller, US..... 90718100
- Osram HSD 250, 2000 hr discharge lamp 97010103
- Philips MSD 200, 2000 hr discharge lamp 97000106
- Philips MSD 250/2, 2000 hr discharge lamp 97000100
- Half-coupler clamp 91602005
- Wizard multi-coupler (for rigging multiple fixtures) 91606010
- Wizard floor stand..... 91606008

INTRODUCTION

1

Thank you for selecting the Martin Wizard. The Wizard is an automated lighting fixture that provides:

- Strobe effects
- Seven solid colors, eight-split colors, and two white positions
- 13 gobos plus open
- A rotating parabolic reflector
- A rotating mirror drum with variable swivel angle
- Adjustable focus
- Mechanical shutter
- Multiple control options that enable a broad range of effects

The combination of the parabolic reflector and the mirror drum provide up to 84 individual beams with the current effect.

WIZARD SAFETY INFORMATION

Warning! ***This product is not for household use. It 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 a Martin distributor for assistance. Refer any service operation not described in this manual to a qualified technician. Do not modify the fixture or install other than genuine Martin accessories and upgrade kits.

Avoiding electric shocks

- 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.