DMX REFERENCE

MAC Encore Two

Martin Professional



Manufacturer	Martin Professional
GDTF file	Martin_Professional_MAC_Encore_Two_141216.gdtf
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1 About this manual

This document describes the MAC Encore Two by Martin Professional. It was compiled from the GDTF file Martin_Professional_MAC_Encore_Two_141216.gdtf from the GDTF-Share library.

File revision: “20260503, Uploaded to GDTF Share.”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by Martin Professional; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Power consumption	945 W
Weight	36.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic	52	9	1, 53, 105, 157, ...
Extended	62	8	1, 63, 125, 187, ...
Ludicrous	68	7	1, 69, 137, 205, ...
Compact	46	11	1, 47, 93, 139, ...

No light? Check these channels

- Basic: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0
- Extended: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0
- Ludicrous: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer 1 above 0; CH 63 Dimmer 2 above 0; CH 64 Dimmer 3 above 0; CH 65 Dimmer 4 above 0; CH 66 Dimmer 5 above 0; CH 67 Dimmer 6 above 0; CH 68 Dimmer 7 above 0
- Compact: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

⚠ WARNING

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

⚠ WARNING

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ WARNING

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

⚠ CAUTION

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

> ⚠ **CAUTION**
>
> - Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
> - Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them longer than necessary.

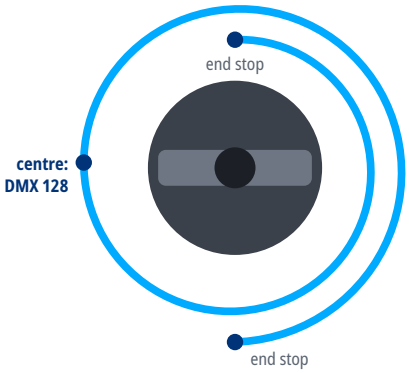
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
> - Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

4 Product description

Range of movement

Pan 540°

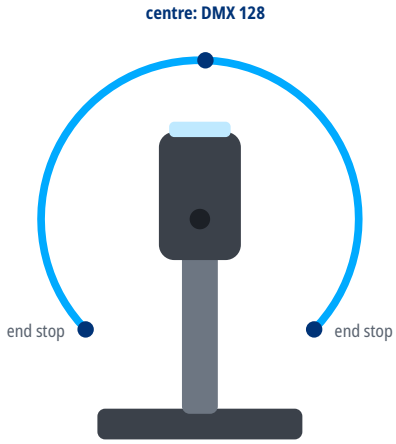
top view



full travel in 3.2 s

Tilt 268°

side view



full travel in 1.8 s

Full-travel times as stated in the GDTF file.

5 Installation

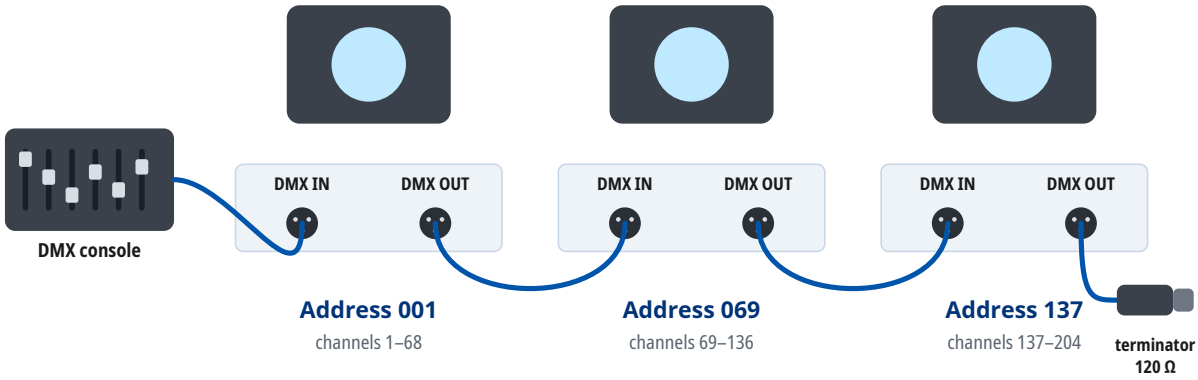
⚠ **WARNING**

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 36.8 kg.
- Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
- Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
- During installation and removal, keep people out of the area below the work position.
- Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

DMX line



Mode Ludicrous: every unit occupies 68 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Ludicrous”: 68.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “Ludicrous”, you can use, for example, the start addresses 1, 69, 137, 205.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

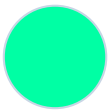
8 Functions at a glance

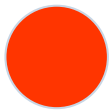
Functions in each DMX mode

	Basic 52 channels	Extended 62 channels	Ludicrous 68 channels	Compact 46 channels
Pan / Tilt	41, 43	51, 53	51, 53	41, 43
Dimmer	2	2	2, 63–68	2
Shutter / strobe	1	1	1	1
Color mixing	4, 6, 8	4, 6, 8	4, 6, 8	4, 6, 8
Color temperature	10, 12	10, 12	10, 12	10, 12
Color wheel	14	14	14	14
Gobo wheel	15, 18	15, 18	15, 18	15, 18
Gobo rotation	16	16	16	16
Prism	24, 25	24, 25	24, 25	24, 25
Frost	22, 23	22, 23	22, 23	22, 23
Zoom	28	29	29	28
Focus	30	31	31	30
Iris	27	27	27	27
Animation wheel	19, 20	19, 20	19, 20	19, 20
Effects / macros	48–52	58–62	58–62	
Pixel control			✓	

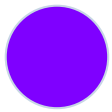
Color wheel

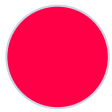
1.
Stepped Selection: Open
DMX 0

2. 
Stepped Selection: Green
DMX 1

3. 
Stepped Selection: Orange
DMX 2

4.
Stepped Selection: Spectral Enhancement
DMX 3

5. 
Stepped Selection: Navy Blue
DMX 4

6. 
Dark Red
DMX 5–6

Gobo wheel 1

1.
Stepped Selection: Open
DMX 0

2. 
Stepped Selection: Gobo 1...7
DMX 1

3. 
Gobo 2
DMX 2

4. 
Gobo 3
DMX 3

5. 
Gobo 4
DMX 4

6. 
Gobo 5
DMX 5

7. 
Gobo 6
DMX 6

8. 
Gobo 7
DMX 7–8

Gobo wheel 2

1 Stepped Selection: Open
DMX 0

2 
Stepped Selection: Gobo 1...11
DMX 1

3 
Gobo 2
DMX 2

4 
Gobo 3
DMX 3

5 
Gobo 4
DMX 4

6 
Gobo 5
DMX 5

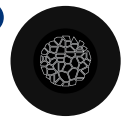
7 
Gobo 6
DMX 6

8 
Gobo 7
DMX 7

9 
Gobo 8
DMX 8

10 
Gobo 9
DMX 9

11 
Gobo 10
DMX 10

12 
Gobo 11
DMX 11–12

Prism

1
Prism Insertion: Open
DMX 0

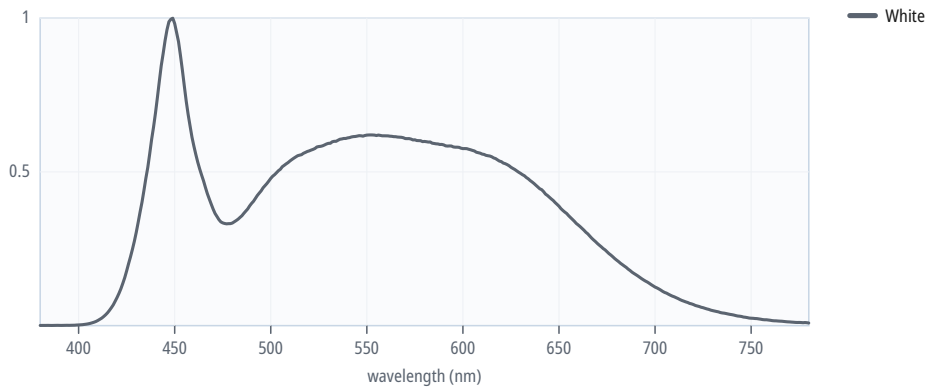
2 
4 facets
4 Facet Prism
DMX 1–2

Animation wheel

1
Stepped Insertion Selection: Open
DMX 0

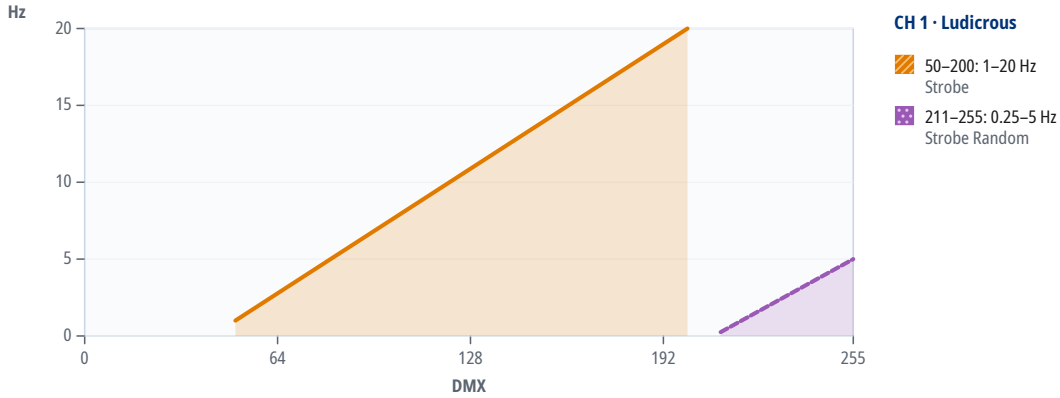
2 
Stepped Insertion Selection: Horizontal
DMX 1

Spectra of the light sources



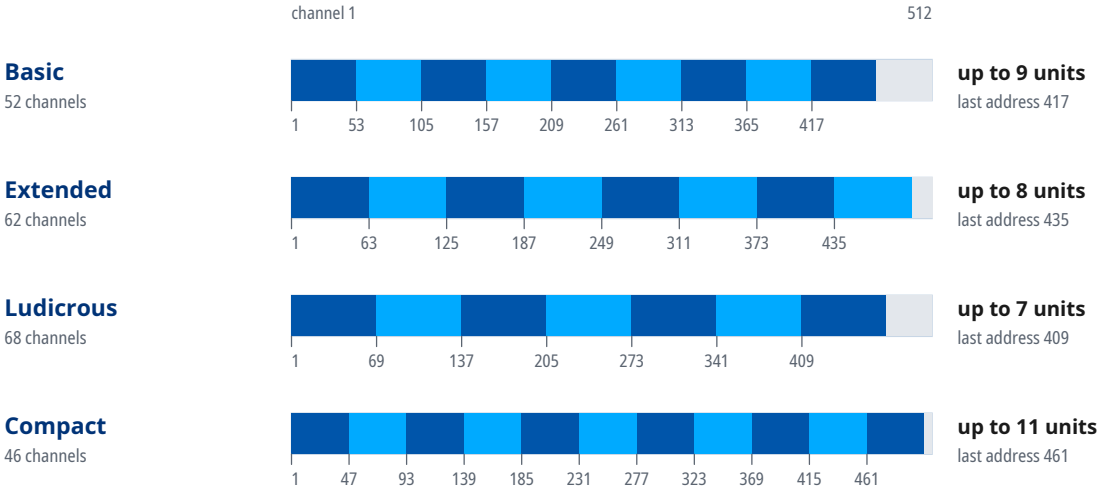
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Ludicrous”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	341	11	U2 · 205	16	U3 · 69
2	69	7	409	12	U2 · 273	17	U3 · 137
3	137	8	U2 · 1	13	U2 · 341	18	U3 · 205
4	205	9	U2 · 69	14	U2 · 409	19	U3 · 273
5	273	10	U2 · 137	15	U3 · 1	20	U3 · 341

Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

RDM personalities

Mode	Channels	RDM personality
Basic	52	1
Extended	62	2
Ludicrous	68	3
Compact	46	4

Mode Basic

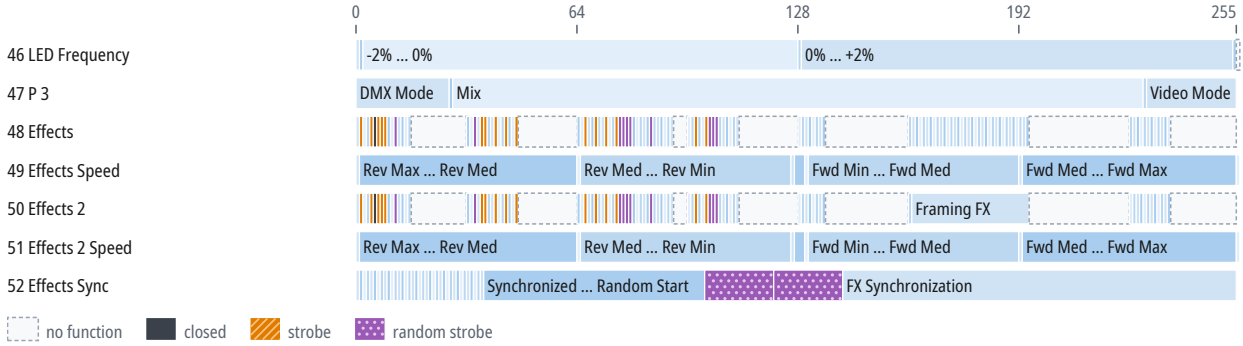
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 30, CH 2 Dimmer 255, CH 4 Cyan 0, CH 6 Magenta 0, CH 8 Yellow 0, CH 10 CTO 0, CH 12 Color Temperature 110, CH 14 Colors 0.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Shutter	0–19	Shutter: Closed
		20–49	Shutter: Open
		50	Strobe: Slow
		51–124	Strobe: Slow ... Medium
		125	Strobe: Medium
		126–199	Strobe: Medium ... Fast
		200	Strobe: Fast
		201–210	Shutter: Open
		211	Strobe Random: Slow
		212–232	Strobe Random: Slow ... Medium
		233	Strobe Random: Medium
		234–254	Strobe Random: Medium ... Fast
		255	Strobe Random: Fast
2	Dimmer	0–63	Closed ... 25%
		64–127	25% ... 50%
		128–191	50% ... 75%
		192–255	75% ... Open
		255	Open
3	Dimmer Fine	0–255	Fine adjustment of CH 2
4	Cyan	0–63	Min ... 25%
		64–127	25% ... 50%
		128–191	50% ... 75%
		192–255	75% ... Max
		255	Max
5	Cyan Fine	0–255	Fine adjustment of CH 4
6	Magenta	0–63	Min ... 25%
		64–127	25% ... 50%
		128–191	50% ... 75%
		192–255	75% ... Max
		255	Max
7	Magenta Fine	0–255	Fine adjustment of CH 6

CH	Function	DMX	Description
8	Yellow	0–63	Min … 25%
		64–127	25% … 50%
		128–191	50% … 75%
		192–255	75% … Max
		255	Max
9	Yellow Fine	0–255	Fine adjustment of CH 8
10	CTO	0–63	Min … 25%
		64–127	25% … 50%
		128–191	50% … 75%
		192–255	75% … Max
		255	Max
11	CTO Fine	0–255	Fine adjustment of CH 10
12	Color Temperature	0–37	No function
		38	2000K
		39	2050K
		40	2100K
		41	2150K
		42	2200K
		43	2250K
		44	2300K
		45	2350K
		46	2400K
		47	2450K
		48	2500K
		49	2550K
		50	2600K
		51	2650K
		52	2700K
		53	2750K
		54	2800K
		55	2850K
		56	2900K
		57	2950K
		58	3000K
		59	3050K
		60	3100K
		61	3150K
		62	3200K
		63	3250K
		64	3300K
		65	3350K
		66	3400K

CH	Function	DMX	Description
12	Color Temperature (continued)	67	3450K
		68	3500K
		69	3550K
		70	3600K
		71	3650K
		72	3700K
		73	3750K
		74	3800K
		75	3850K
		76	3900K
		77	3950K
		78	4000K
		79	4050K
		80	4100K
		81	4150K
		82	4200K
		83	4250K
		84	4300K
		85	4350K
		86	4400K
		87	4450K
		88	4500K
		89	4550K
		90	4600K
		91	4650K
		92	4700K
		93	4750K
		94	4800K
		95	4850K
		96	4900K
		97	4950K
		98	5000K
		99	5050K
		100	5100K
		101	5150K
		102	5200K
		103	5250K
		104	5300K
		105	5350K
		106	5400K
		107	5450K
		108	5500K

CH	Function	DMX	Description
12	Color Temperature (continued)	109	5550K
		110	5600K
		111	5650K
		112	5700K
		113	5750K
		114	5800K
		115	5850K
		116	5900K
		117	5950K
		118	6000K
		119	6050K
		120	6100K
		121	6150K
		122	6200K
		123	6250K
		124	6300K
		125	6350K
		126	6400K
		127	6450K
		128	6500K
		129	6550K
		130	6600K
		131	6650K
		132	6700K
		133	6750K
		134	6800K
		135	6850K
		136	6900K
		137	6950K
		138	7000K
		139	7050K
		140	7100K
		141	7150K
		142	7200K
		143	7250K
		144	7300K
		145	7350K
		146	7400K
		147	7450K
		148	7500K
		149	7550K
		150	7600K

CH	Function	DMX	Description
12	Color Temperature (continued)	151	7650K
		152	7700K
		153	7750K
		154	7800K
		155	7850K
		156	7900K
		157	7950K
		158	8000K
		159	8050K
		160	8100K
		161	8150K
		162	8200K
		163	8250K
		164	8300K
		165	8350K
		166	8400K
		167	8450K
		168	8500K
		169	8550K
		170	8600K
		171	8650K
		172	8700K
		173	8750K
		174	8800K
		175	8850K
		176	8900K
		177	8950K
		178	9000K
		179	9050K
		180	9100K
		181	9150K
		182	9200K
		183	9250K
		184	9300K
		185	9350K
		186	9400K
		187	9450K
		188	9500K
		189	9550K
		190	9600K
		191	9650K
		192	9700K

CH	Function	DMX	Description
12	Color Temperature (continued)	193	9750K
		194	9800K
		195	9850K
		196	9900K
		197	9950K
		198	10000K
		199	10050K
		200	10100K
		201	10150K
		202	10200K
		203	10250K
		204	10300K
		205	10350K
		206	10400K
		207	10450K
		208	10500K
		209	10550K
		210	10600K
		211	10650K
		212	10700K
		213	10750K
		214	10800K
		215	10850K
		216	10900K
		217	10950K
		218	11000K
		219	11050K
		220	11100K
		221	11150K
		222	11200K
		223	11250K
		224	11300K
		225	11350K
		226	11400K
		227	11450K
		228	11500K
		229	11550K
		230	11600K
		231	11650K
		232	11700K
		233	11750K
		234	11800K

CH	Function	DMX	Description
12	Color Temperature (continued)	235	11850K
		236	11900K
		237	11950K
		238	12000K
		239	12050K
		240	12100K
		241	12150K
		242	12200K
		243	12250K
		244	12300K
		245	12350K
		246	12400K
		247	12450K
		248	12500K
		249	12550K
		250	12600K
		251	12650K
		252	12700K
		253	12750K
		254	12800K
		255	12850K
13	Tint	0	-050
		1–62	-050 … -025
		63–64	-025
		65–126	-025 … 0
		127–128	0
		129–190	0 … +025
		191–192	+025
		193–254	+025 … +050
		255	+050
14	Colors	0	Stepped Selection: Open
		1	Stepped Selection: Green
		2	Stepped Selection: Orange
		3	Stepped Selection: Spectral Enhancement
		4	Stepped Selection: Navy Blue
		5	Stepped Selection: Dark Red
		6–23	No Function 1
		24	Wheel Index: Open
		25–40	Split 1
		41	Wheel Index: Green
		42–57	Split 2
		58	Wheel Index: Orange

CH	Function	DMX	Description
14	Colors (continued)	59–74	Split 3
		75	Wheel Index: Spectral Enhancement
		76–91	Split 4
		92	Wheel Index: Navy Blue
		93–108	Split 5
		109	Wheel Index: Dark Red
		110–125	Split 6
		126	Wheel Index: Open
		127	No Function 2
		128–137	Wheel Shake: Open (0.07–0.23 Hz)
		138–147	Wheel Shake: Green (0.07–0.23 Hz)
		148–157	Wheel Shake: Orange (0.07–0.23 Hz)
		158–167	Wheel Shake: Spectral Enhancement (0.07–0.23 Hz)
		168–177	Wheel Shake: Navy Blue (0.07–0.23 Hz)
		178–187	Wheel Shake: Dark Red (0.07–0.23 Hz)
		188–191	No Function 3
		192	CW Max
		193–202	CW Max ... CW Med
		203	CW Med
		204–213	CW Med ... CW Min
		214	CW Min
		215–216	Wheel Spin: Stop
		217	CCW Min
		218–227	CCW Min ... CCW Med
		228	CCW Med
		229–238	CCW Med ... CCW Max
		239	CCW Max
		240	Random Slots: Stop
		241	Random Slots: Min
		242–247	Min ... Med
		248	Med
		249–254	Med ... Max
		255	Random Slots: Max
15	Gobo	0	Stepped Selection: Open
		1–7	Stepped Selection: Gobo 1...7
		8–127	No Function 1
		128–136	Gobo Shake: Gobo 1 (0.11–0.52 Hz)
		137–145	Gobo Shake: Gobo 2 (0.11–0.52 Hz)
		146–154	Gobo Shake: Gobo 3 (0.11–0.52 Hz)
		155–163	Gobo Shake: Gobo 4 (0.11–0.52 Hz)
		164–172	Gobo Shake: Gobo 5 (0.11–0.52 Hz)
		173–181	Gobo Shake: Gobo 6 (0.11–0.52 Hz)

CH	Function	DMX	Description
15	Gobo (continued)	182–190	Gobo Shake: Gobo 7 (0.11–0.52 Hz)
		191	No Function 2
		192	CW Max
		193–202	CW Max ... CW Med
		203	CW Med
		204–214	CW Med ... CW Min
		215	CW Min
		216	CCW Min
		217–227	CCW Min ... CCW Med
		228	CCW Med
		229–238	CCW Med ... CCW Max
		239	CCW Max
		240	Random Slots: Stop
		241	Random Slots: Min
		242–247	Min ... Med
		248	Med
		249–254	Med ... Max
		255	Random Slots: Max
16	Gobo Rotation	0–6	200 deg ... 180 deg
		6–35	180 deg ... 90 deg
		35–63	90 deg ... 0 deg
		63–64	0 deg
		64–92	0 deg ... -90 deg
		92–121	-90 deg ... -180 deg
		121–127	-180 deg ... -200 deg
		127	-200 deg
		128–159	CW Max ... CW Med
		159	CW Med
		160–191	CW Med ... CW Min
		191	CW Min
		191–192	Gobo Rotation: Stop
		192–223	CCW Min ... CCW Med
		224–255	CCW Med ... CCW Max
		255	CCW Max
17	Gobo Rotation Fine	0–255	Fine adjustment of CH 16
18	Gobo 2	0	Stepped Selection: Open
		1–11	Stepped Selection: Gobo 1...11
		12–23	No Function 1
		24	Wheel Index: Open
		25–31	Split 1
		32	Wheel Index: Gobo 1
		33–39	Split 2

CH	Function	DMX	Description
18	Gobo 2 (continued)	40	Wheel Index: Gobo 2
		41–47	Split 3
		48	Wheel Index: Gobo 3
		49–55	Split 4
		56	Wheel Index: Gobo 4
		57–63	Split 5
		64	Wheel Index: Gobo 5
		65–71	Split 6
		72	Wheel Index: Gobo 6
		73–79	Split 7
		80	Wheel Index: Gobo 7
		81–87	Split 8
		88	Wheel Index: Gobo 8
		89–95	Split 9
		96	Wheel Index: Gobo 9
		97–103	Split 10
		104	Wheel Index: Gobo 10
		105–111	Split 11
		112	Wheel Index: Gobo 11
		113–119	Split 12
		120	Wheel Index: Open
		121–127	No Function 2
		128–132	Wheel Shake: Open (0.07–0.23 Hz)
		133–137	Wheel Shake: Gobo 1 (0.07–0.23 Hz)
		138–142	Wheel Shake: Gobo 2 (0.07–0.23 Hz)
		143–147	Wheel Shake: Gobo 3 (0.07–0.23 Hz)
		148–152	Wheel Shake: Gobo 4 (0.07–0.23 Hz)
		153–157	Wheel Shake: Gobo 5 (0.07–0.23 Hz)
		158–162	Wheel Shake: Gobo 6 (0.07–0.23 Hz)
		163–167	Wheel Shake: Gobo 7 (0.07–0.23 Hz)
		168–172	Wheel Shake: Gobo 8 (0.07–0.23 Hz)
		173–177	Wheel Shake: Gobo 9 (0.07–0.23 Hz)
		178–182	Wheel Shake: Gobo 10 (0.07–0.23 Hz)
		183–187	Wheel Shake: Gobo 11 (0.07–0.23 Hz)
		188–191	No Function 3
		192	CW Max
		193–202	CW Max … CW Med
		203	CW Med
		204–213	CW Med … CW Min
		214	CW Min
		215–216	Wheel Spin: Stop
		217	CCW Min

CH	Function	DMX	Description
18	Gobo 2 (continued)	218–227	CCW Min ... CCW Med
		228	CCW Med
		229–238	CCW Med ... CCW Max
		239	CCW Max
		240	Random Slots: Stop
		241	Random Slots: Min
		242–247	Min ... Med
		248	Med
		249–254	Med ... Max
		255	Random Slots: Max
19	Animation System	0	Stepped Insertion Selection: Open
		1	Stepped Insertion Selection: Horizontal
		2	Stepped Insertion Selection: Diagonal
		3	Stepped Insertion Selection: Vertical
		4–23	No Function 1
		24	Free Wheel Insertion: Open
		25–74	Inserting
		75	Free Wheel Insertion: Horizontal
		76–126	Free Wheel Insertion: Diagonal
		127	Free Wheel Insertion: Vertical
		128–148	Wheel Shake: Horizontal (0.13–0.84 Hz)
		149–169	Wheel Shake: Diagonal (0.13–0.84 Hz)
		170–190	Wheel Shake: Vertical (0.13–0.84 Hz)
		191	No Function 2
		192	Wheel Insertion Position Bounce: Stop
		193	Wheel Insertion Position Bounce: Min
		194–238	Wheel Insertion Position Bounce: Med
		239	Wheel Insertion Position Bounce: Max
		240	Random Insertion Positions: Stop
		241	Random Insertion Positions: Min
		242–254	Random Insertion Positions: Med
		255	Random Insertion Positions: Max
20	Animation System Rotation	0–31	-180 deg ... -90 deg
		32–63	-90 deg ... 0 deg
		63–64	0 deg
		64–95	0 deg ... 90 deg
		95	90 deg
		96–127	90 deg ... 180 deg
		127	180 deg
		128–159	CW Max ... CW Med
		159	CW Med
		160–191	CW Med ... CW Min

CH	Function	DMX	Description
20	Animation System Rotation (continued)	191	CW Min
		191–192	Wheel Rotation: Stop
		192–223	CCW Min … CCW Med
		224–255	CCW Med … CCW Max
		255	CCW Max
21	Animation System Rotation Fine	0–255	Fine adjustment of CH 20
22	Frost	0	Open
		1–63	Open … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Full
		255	Full
23	Frost 2	0	Open
		1–63	Open … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Full
		255	Full
24	Prism	0	Prism Insertion: Open
		1	Prism Insertion: Prism
		2–127	No Function 1
		128–191	Prism Shake: Prism (0.13–0.83 Hz)
		192–255	No Function 2
25	Prism Rotation	0–31	-180 deg … -90 deg
		32–63	-90 deg … 0 deg
		63–64	0 deg
		64–95	0 deg … 90 deg
		95	90 deg
		96–127	90 deg … 180 deg
		127	180 deg
		128–159	CW Max … CW Med
		159	CW Med
		160–191	CW Med … CW Min
		191	CW Min
		191–192	Prism Rotation: Stop
		192–223	CCW Min … CCW Med

CH	Function	DMX	Description
25	Prism Rotation (continued)	224–255	CCW Med … CCW Max
		255	CCW Max
26	Prism Rotation Fine	0–255	Fine adjustment of CH 25
27	Iris	0	Iris: Open
		1–47	Iris: Open … 25%
		48	25%
		49–95	25% … 50%
		96	50%
		97–143	50% … 75%
		144	75%
		145–190	Iris: 75% … Closed
		191	Iris: Closed
		192	Iris Pulse Open: Stop
		193	Iris Pulse Open: Min
		194–207	Iris Pulse Open: Min … Med
		208	Iris Pulse Open: Med
		209–222	Iris Pulse Open: Med … Max
		223	Iris Pulse Open: Max
		224	Iris Pulse Close: Stop
		225	Iris Pulse Close: Min
		226–239	Iris Pulse Close: Min … Med
		240	Iris Pulse Close: Med
		241–254	Iris Pulse Close: Med … Max
		255	Iris Pulse Close: Max
28	Zoom	0–127	Wide … Medium
		128–255	Medium … Narrow
		255	Narrow
29	Zoom Fine	0–255	Fine adjustment of CH 28
30	Focus	0–127	Far … Medium
		128–255	Medium … Near
		255	Near
31	Focus Fine	0–255	Fine adjustment of CH 30
32	Blade 1 A	0	Min
		1–127	Min … Med
		128	Med
		129–254	Med … Max
		255	Max
33	Blade 1 Rotation	0	CCW Max
		1–127	CCW Max … Parallel
		128	Parallel
		129–254	Parallel … CW Max
		255	CW Max

CH	Function	DMX	Description
34	Blade 2 A	0	Min
		1–127	Min … Med
		128	Med
		129–254	Med … Max
		255	Max
35	Blade 2 Rotation	0	CCW Max
		1–127	CCW Max … Parallel
		128	Parallel
		129–254	Parallel … CW Max
		255	CW Max
36	Blade 3 A	0	Min
		1–127	Min … Med
		128	Med
		129–254	Med … Max
		255	Max
37	Blade 3 Rotation	0	CCW Max
		1–127	CCW Max … Parallel
		128	Parallel
		129–254	Parallel … CW Max
		255	CW Max
38	Blade 4 A	0	Min
		1–127	Min … Med
		128	Med
		129–254	Med … Max
		255	Max
39	Blade 4 Rotation	0	CCW Max
		1–127	CCW Max … Parallel
		128	Parallel
		129–254	Parallel … CW Max
		255	CW Max
40	Shaper Rotation	0	CCW Max
		1–127	CCW Max … Parallel
		128	Parallel
		129–254	Parallel … CW Max
		255	CW Max
41	Pan	0–127	Min … Center
		128–255	Center … Max
		255	Max
42	Pan Fine	0–255	Fine adjustment of CH 41
43	Tilt	0–127	Min … Center
		128–255	Center … Max
		255	Max

CH	Function	DMX	Description
44	Tilt Fine	0–255	Fine adjustment of CH 43
45	Control	0–9	Idle
		10–14	Reset Entire Fixture (5s)
		15	No Function 1
		16	Reset Color Only (5s)
		17	Reset Beam Only (5s)
		18	Reset Pan and Tilt Only (5s)
		19–22	No Function 2
		23	Linear (1s)
		24	Square Law (1s)
		25	Inverse Square Law (1s)
		26	S-Curve (1s)
		27	Pan and Tilt Speed: Standard (1s)
		28	Pan and Tilt Speed: Fast (1s)
		29	Smooth (1s)
		30	Effects Shortcuts: Enable (1s)
		31	Effects Shortcuts: Disable (1s)
		32	Focus Tracking: Disable (1s)
		33	Near (1s)
		34	Medium (1s)
		35	Far (1s)
		36	Video Tracking: Enable (1s)
		37	Video Tracking: Disable (1s)
		38	Extended Gamut (1s)
		39	Calibrated Color (1s)
		40	Direct Color (1s)
		41–51	No Function 3
		52	Control Panel Display: On (1s)
		53	Control Panel Display: Off (1s)
		54	Constant Full (1s)
		55	Regulated High (1s)
		56	Regulated Medium (1s)
		57	Regulated Low (1s)
		58	Regulated Ultra Low (1s)
		59–60	No Function 4
		61	Hibernation Mode: Enable (5s)
		62	Hibernation Mode: Disable (5s)
		63	Follow Spot Mode: Enable (5s)
		64	Follow Spot Mode: Disable (5s)
		65	Pan and Tilt Limits: Enable (5s)
		66	Pan and Tilt Limits: Disable (5s)
		67	Store Lower Pan Limit (5s)

CH	Function	DMX	Description
45	Control (continued)	68	Store Upper Pan Limit (5s)
		69	Store Lower Tilt Limit (5s)
		70	Store Upper Tilt Limit (5s)
		71	Reset (5s)
		72	Tungsten Emulation: Enable (1s)
		73	Tungsten Emulation: Disable (1s)
		74	Record Current Look (5s)
		75	Offline Run Stand-Alone Show (5s)
		76	Offline Hold Last Look (5s)
		77–78	No Function 5
		79	Gobo CT Correction: Enable (1s)
		80	Gobo CT Correction: Disable (1s)
		81–86	No Function 6
		87	Keylight Calibration: Disable (1s)
		88	Manual (1s)
		89	Automatic (1s)
		90–93	No Function 7
		94	Framing Mode: Standard (1s)
		95	Legacy (1s)
		96–99	No Function 8
		100	Enable Calibration (5s)
		101	Store Pan and Tilt Calibration (5s)
		102	Store Pan and Tilt Calibration (5s) ... Store Cyan Calibration (5s)
		103	Store Cyan Calibration (5s)
		104	Store Magenta Calibration (5s)
		105	Store Yellow Calibration (5s)
		106	Store CTO Calibration (5s)
		107	Store All CMYC Calibration (5s)
		108	Store Gobo 1 Calibration (5s)
		109	Store Gobo 1 Calibration (5s) ... Store Gobo 2 Calibration (5s)
		110	Store Gobo 2 Calibration (5s)
		111	Store Framing Calibration (5s)
		112	Store Iris Calibration (5s)
		113	Store Focus Calibration (5s)
		114	Store Zoom Calibration (5s)
		115	Store ColorWheel Calibration (5s)
		116–193	Store ColorWheel Calibration (5s) ... Start CTO Keylight Calibration (5s)
		194	Start CTO Keylight Calibration (5s)
		195	Start Spectral Enhancement Keylight Calibration (5s)
		196	Store CTO Keylight Calibration (5s)
		197	Store Spectral Enhancement Keylight Calibration (5s)

CH	Function	DMX	Description
45	Control (continued)	198	Store All Calibration (5s)
		199	Reset All Calibration To Factory Default (5s)
		200–255	No Function 9
46	LED Frequency	0	Hybrid
		1	-2%
		2–127	-2% ... 0%
		128	0%
		129–253	0% ... +2%
		254	+2%
		255	No Function
47	P 3	0–26	DMX Mode
		27	DMX
		28–227	Mix
		228	Video
		229–255	Video Mode
48	Effects	0	No Effect
		1	Strobe Pulse Width
		2	Wave
		3	Step
		4	Pulse
		5	Blackout Strobe
		6	2x Strobe
		7	3x Strobe
		8	4x Strobe
		9	Up Down Flash
		10	Up Flash Down Flash
		11	Random Levels
		12	Electric Arc
		13	Atomic Lighting
		14	Thunderstorm
		15	Welding
		16–31	No Function
		32	Stop Motion
		33	Movie Flicker
		34	Random Dimmers
		35	Shakey Dimmers
		36	Negative Pulse
		37	Positive Pulse
		38	Radar Wave
		39	Radar Step
		40	Radar Pulse
		41	OddEven Wave

CH	Function	DMX	Description
48	Effects (continued)	42	OddEven Step
		43	OddEven Pulse
		44	5 Step Wave
		45	5 Step Step
		46	5 Step Pulse
		47–63	No Function 1
		64	Rainbow Wave
		65	Rainbow Step
		66	Rainbow Pulse
		67	RGB Wave
		68	RGB Step
		69	RGB Pulse
		70	CMY Wave
		71	CMY Step
		72	CMY Pulse
		73	Mix to White Wave
		74	Mix to White Step
		75	Mix to White Pulse
		76	Random Mix Wave
		77	Random Mix Step
		78	Random Mix Pulse
		79	Random Subtle Wave
		80	RedWhiteBlue Fade
		81	RedWhiteBlue Snap
		82	Full Bumps
		83	All Bumps
		84	Split Bumps
		85	Random Split Bumps
		86	Color Shaker
		87	Fire
		88	Water
		89	Ice
		90	Hot and Cold
		91	Warm and Fuzzy
		92–95	No Function 2
		96	Iris Wave
		97	Iris Step
		98	Iris Pulse
		99	Zoom Wave
		100	Zoom Step
		101	Zoom Pulse
		102	Random Size Wave

CH	Function	DMX	Description
48	Effects (continued)	103	Random Size Step
		104	Random Size Pulse
		105	Prism Quarter Tick Tock
		106	Prism Half Tick Tock
		107	Prism Full Tick Tock
		108	Beam Splash
		109	Beam Splash Invert
		110	Pin to Flood
		111–127	No Function 3
		128	Gobo 1 Tick Tick Tick
		129	Gobo 1 Quarter Tick Tock
		130	Gobo 1 Half Tick Tock
		131	Gobo 1 Full Tick Tock
		132	Gobo 1 Fade Spin Zoom
		133	Gobo 1 Twist
		134	Gobo 1 Expand Twist
		135	Gobo 1 Collapse Twist
		136–159	No Function 4
		160	Framing FX
		161	Vertical Bar Slim
		162	Vertical Bar Medium
		163	Vertical Bar Large
		164	Horizontal Bar Slim
		165	Horizontal Bar Medium
		166	Horizontal Bar Large
		167	Small Square
		168	Medium Square
		169	Large Square
		170	Small Horizontal Rectangle
		171	Medium Horizontal Rectangle
		172	Large Horizontal Rectangle
		173	Small Vertical Rectangle
		174	Medium Vertical Rectangle
		175	Large Vertical Rectangle
		176	Small Parallelogram Left
		177	Medium Parallelogram Left
		178	Small Parallelogram Right
		179	Medium Parallelogram Right
		180	Vertical Bar Slim to Horizontal Bar Slim
		181	Vertical Bar Medium to Horizontal Bar Medium
		182	Vertical Bar Large to Horizontal Bar Large
		183	Vertical Bar Slim to Medium Square

CH	Function	DMX	Description
48	Effects (continued)	184	Vertical Bar Medium to Medium Square
		185	Horizontal Bar Slim to Medium Square
		186	Horizontal Bar Medium to Medium Square
		187	Medium Square to Medium Horizontal Rectangle
		188	Medium Square to Medium Vertical Rectangle
		189	Medium Square to Large Horizontal Rectangle
		190	Medium Square to Large Vertical Rectangle
		191	Small Square to Small Parallelogram Left
		192	Medium Square to Medium Parallelogram Left
		193	Small Square to Small Parallelogram Right
		194	Medium Square to Medium Parallelogram Right
		195–223	No Function 5
		224	Pan and Tilt Circle Small
		225	Pan and Tilt Circle Medium
		226	Pan and Tilt Circle Large
		227	Pan and Tilt Figure 8 Small
		228	Pan and Tilt Figure 8 Medium
		229	Pan and Tilt Figure 8 Large
		230	Pan and Tilt Diagonal Line Small
		231	Pan and Tilt Diagonal Line Medium
		232	Pan and Tilt Diagonal Line Large
		233	Pan and Tilt Square Small
		234	Pan and Tilt Square Medium
		235	Pan and Tilt Square Large
		236–255	No Function 6
49	Effects Speed	0	Rev Max
		1–63	Rev Max ... Rev Med
		64	Rev Med
		65–125	Rev Med ... Rev Min
		126	Rev Min
		127–129	Stop
		130	Fwd Min
		131–191	Fwd Min ... Fwd Med
		192	Fwd Med
		193–254	Fwd Med ... Fwd Max
		255	Fwd Max
50	Effects 2	0	No Effect
		1	Strobe Pulse Width
		2	Wave
		3	Step
		4	Pulse
		5	Blackout Strobe

CH	Function	DMX	Description
50	Effects 2 (continued)	6	2x Strobe
		7	3x Strobe
		8	4x Strobe
		9	Up Down Flash
		10	Up Flash Down Flash
		11	Random Levels
		12	Electric Arc
		13	Atomic Lighting
		14	Thunderstorm
		15	Welding
		16–31	No Function
		32	Stop Motion
		33	Movie Flicker
		34	Random Dimmers
		35	Shakey Dimmers
		36	Negative Pulse
		37	Positive Pulse
		38	Radar Wave
		39	Radar Step
		40	Radar Pulse
		41	OddEven Wave
		42	OddEven Step
		43	OddEven Pulse
		44	5 Step Wave
		45	5 Step Step
		46	5 Step Pulse
		47–63	No Function 1
		64	Rainbow Wave
		65	Rainbow Step
		66	Rainbow Pulse
		67	RGB Wave
		68	RGB Step
		69	RGB Pulse
		70	CMY Wave
		71	CMY Step
		72	CMY Pulse
		73	Mix to White Wave
		74	Mix to White Step
		75	Mix to White Pulse
		76	Random Mix Wave
		77	Random Mix Step
		78	Random Mix Pulse

CH	Function	DMX	Description
50	Effects 2 (continued)	79	Random Subtle Wave
		80	RedWhiteBlue Fade
		81	RedWhiteBlue Snap
		82	Full Bumps
		83	All Bumps
		84	Split Bumps
		85	Random Split Bumps
		86	Color Shaker
		87	Fire
		88	Water
		89	Ice
		90	Hot and Cold
		91	Warm and Fuzzy
		92–95	No Function 2
		96	Iris Wave
		97	Iris Step
		98	Iris Pulse
		99	Zoom Wave
		100	Zoom Step
		101	Zoom Pulse
		102	Random Size Wave
		103	Random Size Step
		104	Random Size Pulse
		105	Prism Quarter Tick Tock
		106	Prism Half Tick Tock
		107	Prism Full Tick Tock
		108	Beam Splash
		109	Beam Splash Invert
		110	Pin to Flood
		111–127	No Function 3
		128	Gobo 1 Tick Tick Tick
		129	Gobo 1 Quarter Tick Tock
		130	Gobo 1 Half Tick Tock
		131	Gobo 1 Full Tick Tock
		132	Gobo 1 Fade Spin Zoom
		133	Gobo 1 Twist
		134	Gobo 1 Expand Twist
		135	Gobo 1 Collapse Twist
		136–159	No Function 4
		160	FX 1 Y Axis
		161–194	Framing FX
		195–223	No Function 5

CH	Function	DMX	Description
50	Effects 2 (continued)	224	Pan and Tilt Circle Small
		225	Pan and Tilt Circle Medium
		226	Pan and Tilt Circle Large
		227	Pan and Tilt Figure 8 Small
		228	Pan and Tilt Figure 8 Medium
		229	Pan and Tilt Figure 8 Large
		230	Pan and Tilt Diagonal Line Small
		231	Pan and Tilt Diagonal Line Medium
		232	Pan and Tilt Diagonal Line Large
		233	Pan and Tilt Square Small
		234	Pan and Tilt Square Medium
		235	Pan and Tilt Square Large
		236–255	No Function 6
51	Effects 2 Speed	0	Rev Max
		1–63	Rev Max ... Rev Med
		64	Rev Med
		65–125	Rev Med ... Rev Min
		126	Rev Min
		127–129	Stop
		130	Fwd Min
		131–191	Fwd Min ... Fwd Med
		192	Fwd Med
		193–254	Fwd Med ... Fwd Max
		255	Fwd Max
52	Effects Sync		FX Synchronization
		0	No Sync
		1	Fixture Offset 10deg
		2	Fixture Offset 20deg
		3	Fixture Offset 30deg
		4	Fixture Offset 40deg
		5	Fixture Offset 50deg
		6	Fixture Offset 60deg
		7	Fixture Offset 70deg
		8	Fixture Offset 80deg
		9	Fixture Offset 90deg
		10	Fixture Offset 100deg
		11	Fixture Offset 110deg
		12	Fixture Offset 120deg
		13	Fixture Offset 130deg
		14	Fixture Offset 140deg
		15	Fixture Offset 150deg
		16	Fixture Offset 160deg

CH	Function	DMX	Description
52	Effects Sync (continued)	17	Fixture Offset 170deg
		18	Fixture Offset 180deg
		19	Fixture Offset 190deg
		20	Fixture Offset 200deg
		21	Fixture Offset 210deg
		22	Fixture Offset 220deg
		23	Fixture Offset 230deg
		24	Fixtrue Offset 240deg
		25	Fixture Offset 250deg
		26	Fixture Offset 260deg
		27	Fixture Offset 270deg
		28	Fixture Offset 280deg
		29	Fixture Offset 290deg
		30	Fixture Offset 300deg
		31	Fixture Offset 310deg
		32	Fixture Offset 320deg
		33	Fixture Offset 330deg
		34	Fixture Offset 340deg
		35	Fixture Offset 350deg
		36	Synchronized
		37–100	Synchronized ... Random Start
		101–120	Random Start
		121–140	Random Duration
		141–255	FX Synchronization

Mode Extended

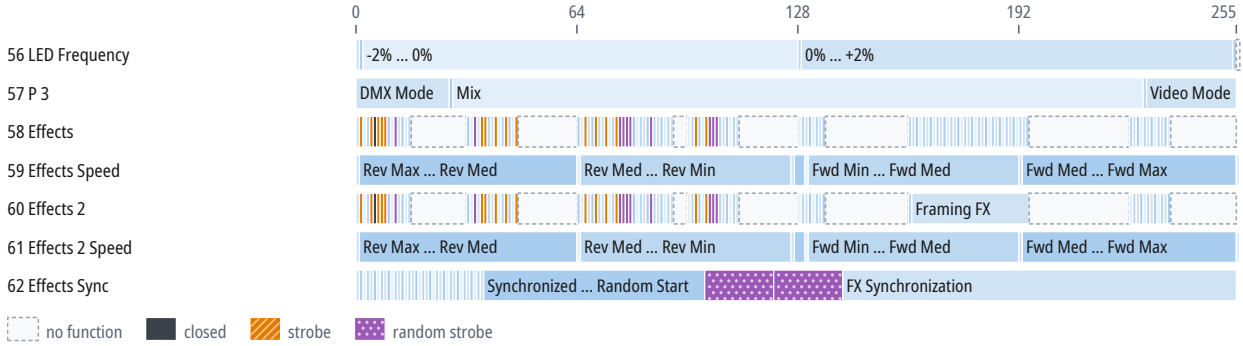
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 30, CH 2 Dimmer 255, CH 4 Cyan 0, CH 6 Magenta 0, CH 8 Yellow 0, CH 10 CTO 0, CH 12 Color Temperature 110, CH 14 Colors 0.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Shutter		Same as CH 1 in the mode “Basic” (p. 12)
2	Dimmer		Same as CH 2 in the mode “Basic” (p. 12)
3	Dimmer Fine	0–255	Fine adjustment of CH 2
4	Cyan		Same as CH 4 in the mode “Basic” (p. 12)
5	Cyan Fine	0–255	Fine adjustment of CH 4
6	Magenta		Same as CH 6 in the mode “Basic” (p. 12)
7	Magenta Fine	0–255	Fine adjustment of CH 6
8	Yellow		Same as CH 8 in the mode “Basic” (p. 13)
9	Yellow Fine	0–255	Fine adjustment of CH 8
10	CTO		Same as CH 10 in the mode “Basic” (p. 13)
11	CTO Fine	0–255	Fine adjustment of CH 10
12	Color Temperature		Same as CH 12 in the mode “Basic” (p. 13)
13	Tint		Same as CH 13 in the mode “Basic” (p. 18)
14	Colors		Same as CH 14 in the mode “Basic” (p. 18)
15	Gobo		Same as CH 15 in the mode “Basic” (p. 19)
16	Gobo Rotation		Same as CH 16 in the mode “Basic” (p. 20)
17	Gobo Rotation Fine	0–255	Fine adjustment of CH 16
18	Gobo 2		Same as CH 18 in the mode “Basic” (p. 20)
19	Animation System		Same as CH 19 in the mode “Basic” (p. 22)
20	Animation System Rotation		Same as CH 20 in the mode “Basic” (p. 22)
21	Animation System Rotation Fine	0–255	Fine adjustment of CH 20
22	Frost		Same as CH 22 in the mode “Basic” (p. 23)
23	Frost 2		Same as CH 23 in the mode “Basic” (p. 23)
24	Prism		Same as CH 24 in the mode “Basic” (p. 23)
25	Prism Rotation		Same as CH 25 in the mode “Basic” (p. 23)
26	Prism Rotation Fine	0–255	Fine adjustment of CH 25
27	Iris	0–47	Iris: Open ... 25%
		48–95	25% ... 50%
		96–143	50% ... 75%
		144	75%
		144–191	Iris: 75% ... Closed

CH	Function	DMX	Description
27	Iris (continued)	191	Iris: Closed
		192	Iris Pulse Open: Stop
		192–207	Iris Pulse Open: Min ... Med
		208–223	Iris Pulse Open: Med ... Max
		223	Iris Pulse Open: Max
		224	Iris Pulse Close: Stop
		224–239	Iris Pulse Close: Min ... Med
		240–255	Iris Pulse Close: Med ... Max
		255	Iris Pulse Close: Max
28	Iris Fine	0–255	Fine adjustment of CH 27
29	Zoom		Same as CH 28 in the mode “Basic” (p. 24)
30	Zoom Fine	0–255	Fine adjustment of CH 29
31	Focus		Same as CH 30 in the mode “Basic” (p. 24)
32	Focus Fine	0–255	Fine adjustment of CH 31
33	Blade 1 A	0–127	Min ... Med
		128–255	Med ... Max
		255	Max
34	Blade 1 A Fine	0–255	Fine adjustment of CH 33
35	Blade 1 Rotation	0–127	CCW Max ... Parallel
		128–255	Parallel ... CW Max
		255	CW Max
36	Blade 1 Rotation Fine	0–255	Fine adjustment of CH 35
37	Blade 2 A	0–127	Min ... Med
		128–255	Med ... Max
		255	Max
38	Blade 2 A Fine	0–255	Fine adjustment of CH 37
39	Blade 2 Rotation	0–127	CCW Max ... Parallel
		128–255	Parallel ... CW Max
		255	CW Max
40	Blade 2 Rotation Fine	0–255	Fine adjustment of CH 39
41	Blade 3 A	0–127	Min ... Med
		128–255	Med ... Max
		255	Max
42	Blade 3 A Fine	0–255	Fine adjustment of CH 41
43	Blade 3 Rotation	0–127	CCW Max ... Parallel
		128–255	Parallel ... CW Max
		255	CW Max
44	Blade 3 Rotation Fine	0–255	Fine adjustment of CH 43
45	Blade 4 A	0–127	Min ... Med
		128–255	Med ... Max
		255	Max
46	Blade 4 A Fine	0–255	Fine adjustment of CH 45

CH	Function	DMX	Description
47	Blade 4 Rotation	0–127	CCW Max ... Parallel
		128–255	Parallel ... CW Max
		255	CW Max
48	Blade 4 Rotation Fine	0–255	Fine adjustment of CH 47
49	Shaper Rotation	0–127	CCW Max ... Parallel
		128–255	Parallel ... CW Max
		255	CW Max
50	Shaper Rotation Fine	0–255	Fine adjustment of CH 49
51	Pan		Same as CH 41 in the mode “Basic” (p. 25)
52	Pan Fine	0–255	Fine adjustment of CH 51
53	Tilt		Same as CH 43 in the mode “Basic” (p. 25)
54	Tilt Fine	0–255	Fine adjustment of CH 53
55	Control		Same as CH 45 in the mode “Basic” (p. 26)
56	LED Frequency		Same as CH 46 in the mode “Basic” (p. 28)
57	P 3		Same as CH 47 in the mode “Basic” (p. 28)
58	Effects		Same as CH 48 in the mode “Basic” (p. 28)
59	Effects Speed		Same as CH 49 in the mode “Basic” (p. 31)
60	Effects 2		Same as CH 50 in the mode “Basic” (p. 31)
61	Effects 2 Speed		Same as CH 51 in the mode “Basic” (p. 34)
62	Effects Sync		Same as CH 52 in the mode “Basic” (p. 34)

Mode Ludicrous

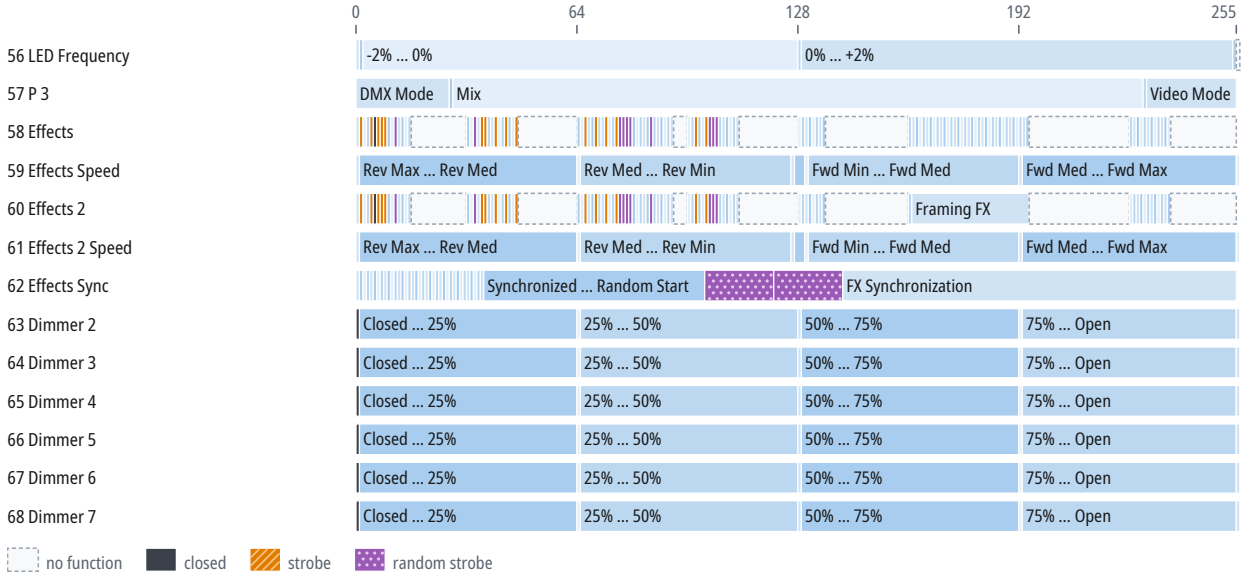
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer 1 above 0; CH 63 Dimmer 2 above 0; CH 64 Dimmer 3 above 0; CH 65 Dimmer 4 above 0; CH 66 Dimmer 5 above 0; CH 67 Dimmer 6 above 0; CH 68 Dimmer 7 above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 30, CH 2 Dimmer 1 255, CH 4 Cyan 0, CH 6 Magenta 0, CH 8 Yellow 0, CH 10 CTO 0, CH 12 Color Temperature 110, CH 14 Colors 0, CH 63 Dimmer 2 255, CH 64 Dimmer 3 255, CH 65 Dimmer 4 255, CH 66 Dimmer 5 255, CH 67 Dimmer 6 255, CH 68 Dimmer 7 255.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Shutter		Same as CH 1 in the mode “Basic” (p. 12)
2	Dimmer 1	0–63	Closed ... 25%
		64–127	25% ... 50%
		128–191	50% ... 75%
		192–255	75% ... Open
		255	Open
3	Dimmer 1 Fine	0–255	Fine adjustment of CH 2
4	Cyan		Same as CH 4 in the mode “Basic” (p. 12)
5	Cyan Fine	0–255	Fine adjustment of CH 4
6	Magenta		Same as CH 6 in the mode “Basic” (p. 12)
7	Magenta Fine	0–255	Fine adjustment of CH 6
8	Yellow		Same as CH 8 in the mode “Basic” (p. 13)
9	Yellow Fine	0–255	Fine adjustment of CH 8
10	CTO		Same as CH 10 in the mode “Basic” (p. 13)
11	CTO Fine	0–255	Fine adjustment of CH 10
12	Color Temperature		Same as CH 12 in the mode “Basic” (p. 13)
13	Tint		Same as CH 13 in the mode “Basic” (p. 18)
14	Colors		Same as CH 14 in the mode “Basic” (p. 18)
15	Gobo		Same as CH 15 in the mode “Basic” (p. 19)
16	Gobo Rotation		Same as CH 16 in the mode “Basic” (p. 20)
17	Gobo Rotation Fine	0–255	Fine adjustment of CH 16
18	Gobo 2		Same as CH 18 in the mode “Basic” (p. 20)
19	Animation System		Same as CH 19 in the mode “Basic” (p. 22)
20	Animation System Rotation		Same as CH 20 in the mode “Basic” (p. 22)
21	Animation System Rotation Fine	0–255	Fine adjustment of CH 20
22	Frost		Same as CH 22 in the mode “Basic” (p. 23)

CH	Function	DMX	Description
23	Frost 2		Same as CH 23 in the mode “Basic” (p. 23)
24	Prism		Same as CH 24 in the mode “Basic” (p. 23)
25	Prism Rotation		Same as CH 25 in the mode “Basic” (p. 23)
26	Prism Rotation Fine	0–255	Fine adjustment of CH 25
27	Iris		Same as CH 27 in the mode “Extended” (p. 37)
28	Iris Fine	0–255	Fine adjustment of CH 27
29	Zoom		Same as CH 28 in the mode “Basic” (p. 24)
30	Zoom Fine	0–255	Fine adjustment of CH 29
31	Focus		Same as CH 30 in the mode “Basic” (p. 24)
32	Focus Fine	0–255	Fine adjustment of CH 31
33	Blade 1 A		Same as CH 33 in the mode “Extended” (p. 38)
34	Blade 1 A Fine	0–255	Fine adjustment of CH 33
35	Blade 1 Rotation		Same as CH 35 in the mode “Extended” (p. 38)
36	Blade 1 Rotation Fine	0–255	Fine adjustment of CH 35
37	Blade 2 A		Same as CH 37 in the mode “Extended” (p. 38)
38	Blade 2 A Fine	0–255	Fine adjustment of CH 37
39	Blade 2 Rotation		Same as CH 39 in the mode “Extended” (p. 38)
40	Blade 2 Rotation Fine	0–255	Fine adjustment of CH 39
41	Blade 3 A		Same as CH 41 in the mode “Extended” (p. 38)
42	Blade 3 A Fine	0–255	Fine adjustment of CH 41
43	Blade 3 Rotation		Same as CH 43 in the mode “Extended” (p. 38)
44	Blade 3 Rotation Fine	0–255	Fine adjustment of CH 43
45	Blade 4 A		Same as CH 45 in the mode “Extended” (p. 38)
46	Blade 4 A Fine	0–255	Fine adjustment of CH 45
47	Blade 4 Rotation		Same as CH 47 in the mode “Extended” (p. 39)
48	Blade 4 Rotation Fine	0–255	Fine adjustment of CH 47
49	Shaper Rotation		Same as CH 49 in the mode “Extended” (p. 39)
50	Shaper Rotation Fine	0–255	Fine adjustment of CH 49
51	Pan		Same as CH 41 in the mode “Basic” (p. 25)
52	Pan Fine	0–255	Fine adjustment of CH 51
53	Tilt		Same as CH 43 in the mode “Basic” (p. 25)
54	Tilt Fine	0–255	Fine adjustment of CH 53
55	Control		Same as CH 45 in the mode “Basic” (p. 26)
56	LED Frequency		Same as CH 46 in the mode “Basic” (p. 28)
57	P 3		Same as CH 47 in the mode “Basic” (p. 28)
58	Effects		Same as CH 48 in the mode “Basic” (p. 28)
59	Effects Speed		Same as CH 49 in the mode “Basic” (p. 31)
60	Effects 2		Same as CH 50 in the mode “Basic” (p. 31)
61	Effects 2 Speed		Same as CH 51 in the mode “Basic” (p. 34)
62	Effects Sync		Same as CH 52 in the mode “Basic” (p. 34)
63	Dimmer 2	0	Closed

CH	Function	DMX	Description
63	Dimmer 2 (continued)	1–63	Closed … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Open
		255	Open
64	Dimmer 3	0	Closed
		1–63	Closed … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Open
		255	Open
65	Dimmer 4	0	Closed
		1–63	Closed … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Open
		255	Open
66	Dimmer 5	0	Closed
		1–63	Closed … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Open
		255	Open
67	Dimmer 6	0	Closed
		1–63	Closed … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%

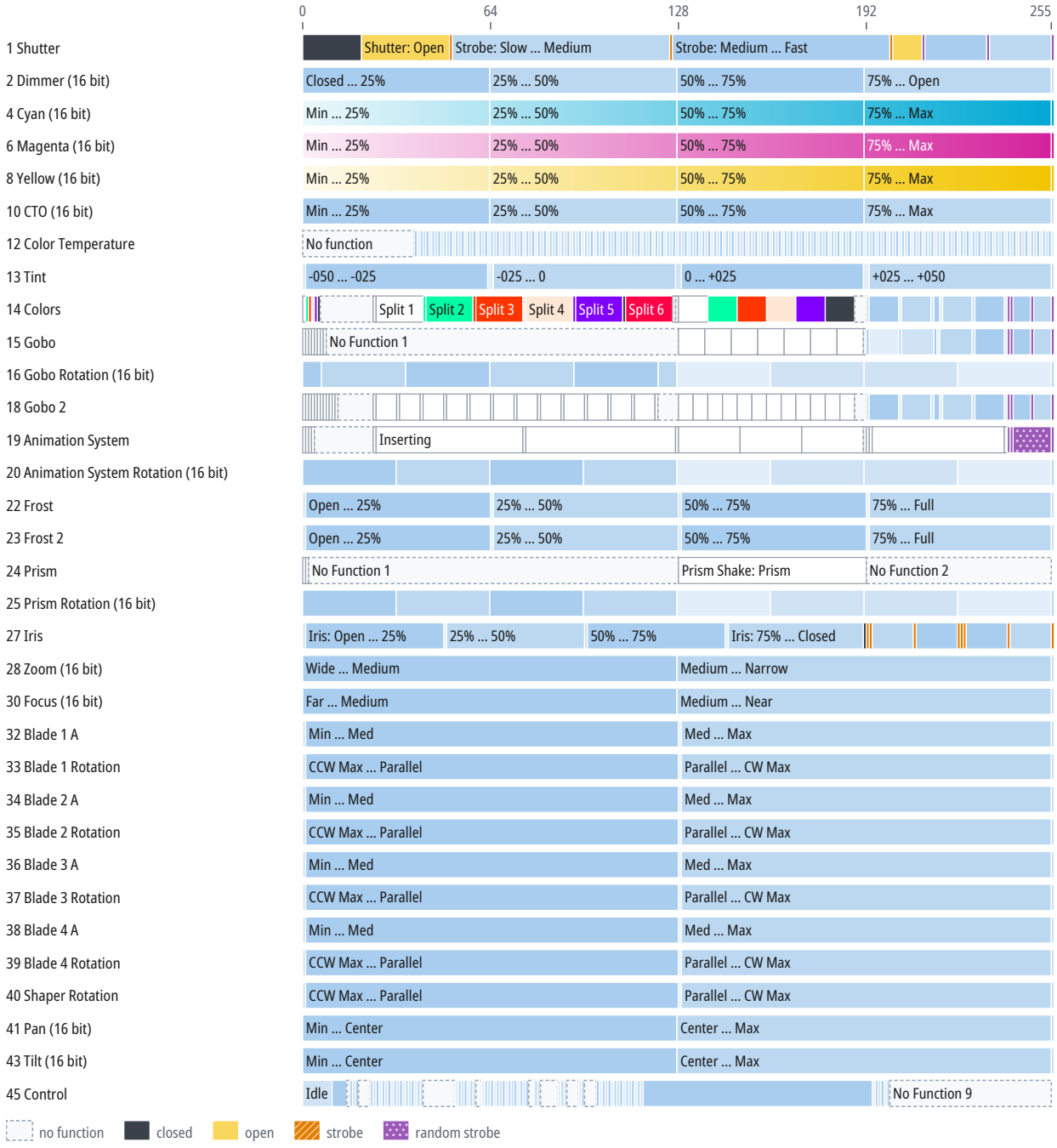
CH	Function	DMX	Description
67	Dimmer 6 (continued)	192	75%
		193–254	75% … Open
		255	Open
68	Dimmer 7	0	Closed
		1–63	Closed … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Open
		255	Open

Mode Compact

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 30, CH 2 Dimmer 255, CH 4 Cyan 0, CH 6 Magenta 0, CH 8 Yellow 0, CH 10 CTO 0, CH 12 Color Temperature 110, CH 14 Colors 0.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Shutter		Same as CH 1 in the mode “Basic” (p. 12)
2	Dimmer		Same as CH 2 in the mode “Basic” (p. 12)
3	Dimmer Fine	0–255	Fine adjustment of CH 2
4	Cyan		Same as CH 4 in the mode “Basic” (p. 12)
5	Cyan Fine	0–255	Fine adjustment of CH 4
6	Magenta		Same as CH 6 in the mode “Basic” (p. 12)
7	Magenta Fine	0–255	Fine adjustment of CH 6
8	Yellow		Same as CH 8 in the mode “Basic” (p. 13)
9	Yellow Fine	0–255	Fine adjustment of CH 8
10	CTO		Same as CH 10 in the mode “Basic” (p. 13)
11	CTO Fine	0–255	Fine adjustment of CH 10
12	Color Temperature		Same as CH 12 in the mode “Basic” (p. 13)
13	Tint		Same as CH 13 in the mode “Basic” (p. 18)
14	Colors		Same as CH 14 in the mode “Basic” (p. 18)
15	Gobo		Same as CH 15 in the mode “Basic” (p. 19)
16	Gobo Rotation		Same as CH 16 in the mode “Basic” (p. 20)
17	Gobo Rotation Fine	0–255	Fine adjustment of CH 16
18	Gobo 2		Same as CH 18 in the mode “Basic” (p. 20)
19	Animation System		Same as CH 19 in the mode “Basic” (p. 22)
20	Animation System Rotation		Same as CH 20 in the mode “Basic” (p. 22)
21	Animation System Rotation Fine	0–255	Fine adjustment of CH 20
22	Frost		Same as CH 22 in the mode “Basic” (p. 23)
23	Frost 2		Same as CH 23 in the mode “Basic” (p. 23)
24	Prism		Same as CH 24 in the mode “Basic” (p. 23)
25	Prism Rotation		Same as CH 25 in the mode “Basic” (p. 23)
26	Prism Rotation Fine	0–255	Fine adjustment of CH 25
27	Iris		Same as CH 27 in the mode “Basic” (p. 24)
28	Zoom		Same as CH 28 in the mode “Basic” (p. 24)
29	Zoom Fine	0–255	Fine adjustment of CH 28
30	Focus		Same as CH 30 in the mode “Basic” (p. 24)
31	Focus Fine	0–255	Fine adjustment of CH 30
32	Blade 1 A		Same as CH 32 in the mode “Basic” (p. 24)
33	Blade 1 Rotation		Same as CH 33 in the mode “Basic” (p. 24)
34	Blade 2 A		Same as CH 34 in the mode “Basic” (p. 25)
35	Blade 2 Rotation		Same as CH 35 in the mode “Basic” (p. 25)
36	Blade 3 A		Same as CH 36 in the mode “Basic” (p. 25)

CH	Function	DMX	Description
37	Blade 3 Rotation		Same as CH 37 in the mode “Basic” (p. 25)
38	Blade 4 A		Same as CH 38 in the mode “Basic” (p. 25)
39	Blade 4 Rotation		Same as CH 39 in the mode “Basic” (p. 25)
40	Shaper Rotation		Same as CH 40 in the mode “Basic” (p. 25)
41	Pan		Same as CH 41 in the mode “Basic” (p. 25)
42	Pan Fine	0–255	Fine adjustment of CH 41
43	Tilt		Same as CH 43 in the mode “Basic” (p. 25)
44	Tilt Fine	0–255	Fine adjustment of CH 43
45	Control		Same as CH 45 in the mode “Basic” (p. 26)
46	LED Frequency		Same as CH 46 in the mode “Basic” (p. 28)

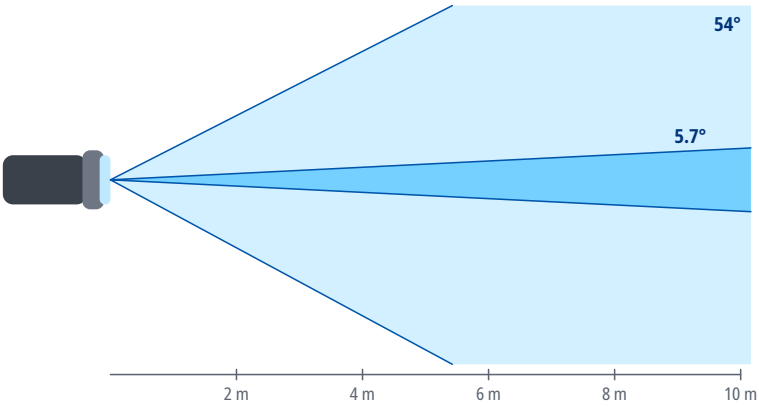
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	5.7–54°
Movement	
Pan	540°
Tilt	268°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	etherCON IN/OUT
RDM	yes (manufacturer ID 0x4D50, device model ID 0x00D7)
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	945 W
Power connectors	powerCONTRUE1TOP IN
Dimensions and construction	
Weight	36.8 kg
Operating environment	
Operating temperature	5 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2000–12850 K
Strobe frequency	1–20 Hz
Color wheel rotation	up to 360 °/s (60 rpm)
Gobo wheel 1 rotation	up to 500 °/s (83 rpm)
Gobo wheel 2 rotation	up to 720 °/s (120 rpm)
Gobo 1 rotation	up to 900 °/s (150 rpm)
Prism rotation	up to 975 °/s (162 rpm)

Spot diameter



Distance	Ø 5.7°	Ø 54°
2 m	0.2 m	2 m
4 m	0.4 m	4.1 m
6 m	0.6 m	6.1 m
8 m	0.8 m	8.2 m
10 m	1 m	10.2 m
15 m	1.5 m	15.3 m

Spot diameter square to the beam axis, calculated from the beam angle.

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.

Problem	Remedy
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.
Movement is reversed	Check whether Pan/Tilt inversion is enabled in the device menu or in the controller.
Moving parts do not reach the correct position after power-on or transport	Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center.
Movement is jerky	Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.