DMX REFERENCE

Cobra V2

LPL



Manufacturer	LPL
GDTF file	LPL_Cobra_V2_149015.gdtf
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Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Product description 5
5 Installation 6
6 Connections 6
7 Operation 7
8 Functions at a glance 8
9 DMX channels 12
Mode Extended_540 13
Mode Standard_ 540 24
Mode Extended_CTO_ 540 28
Mode Standard_CTO_ 540 31
10 Technical specifications 34
11 Maintenance and cleaning 35
12 Troubleshooting 35
13 Disposal 36

1 About this manual

This document describes the CobraV2 by LPL. It was compiled from the GDTF file LPL_Cobra_V2_149015.gdtf from the GDTF-Share library.

File revision: “Tested -Real-3D_Review-LPL”.

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 LPL; 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	480 W
Weight	33 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended_540	45	11	1, 46, 91, 136, ...
Standard_ 540	35	14	1, 36, 71, 106, ...
Extended_CTO_ 540	45	11	1, 46, 91, 136, ...
Standard_CTO_ 540	35	14	1, 36, 71, 106, ...

No light? Check these channels

- Extended_540: CH 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0
- Standard_ 540: CH 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0
- Extended_CTO_ 540: CH 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0
- Standard_CTO_ 540: CH 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 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: 110–240 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.

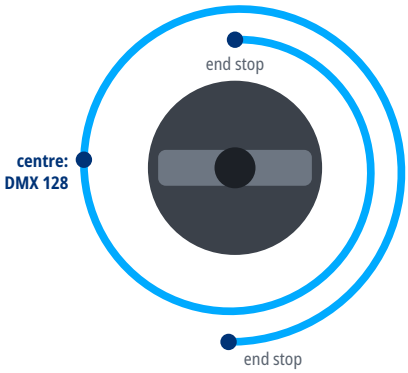
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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 542°

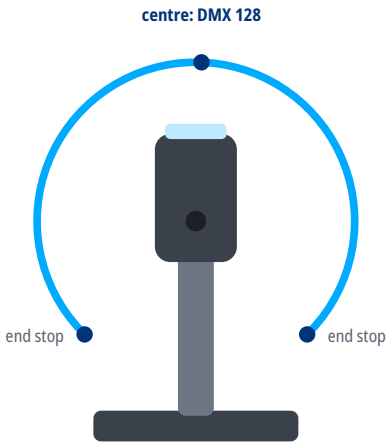
top view



full travel in 3.6 s

Tilt 271°

side view



full travel in 2.2 s

Full-travel times as stated in the GDTF file.

5 Installation

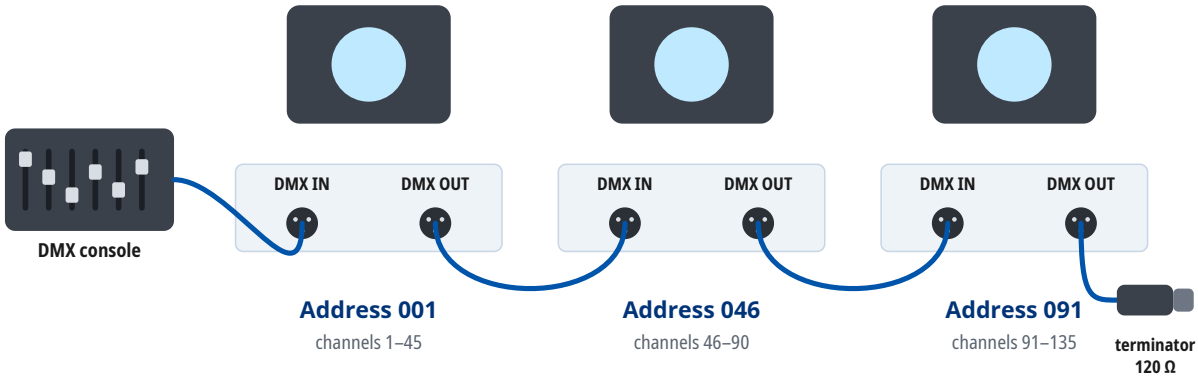
⚠ **WARNING**

- 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: 33 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 Extended_540: every unit occupies 45 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 “Extended_540”: 45.
- 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 “Extended_540”, you can use, for example, the start addresses 1, 46, 91, 136.
- 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

	Extended_540 45 channels	Standard_ 540 35 channels	Extended_CTO_ 540 45 channels	Standard_CTO_ 540 35 channels
Pan / Tilt	1, 3, 6, 7	1, 3, 6, 7	1, 3, 6, 7	1, 3, 6, 7
Dimmer	9	9	9	9
Dimmer resolution	16 bit	8 bit	16 bit	8 bit
Shutter / strobe	8	8	8	8
Color mixing	23, 25, 27	19–21	23, 25, 27	19–21
Color temperature	21	18	11	10
Color wheel	21	18	21	18
Gobo wheel	29, 32	22, 24	29, 32	22, 24
Gobo rotation	30	23	30	23
Prism	33, 34, 36, 37	25–28	33, 34, 36, 37	25–28
Frost	33, 36	25, 27	33, 36	25, 27
Zoom	14, 45	13, 35	14, 45	13, 35
Focus	16, 18	14, 15	16, 18	14, 15
Animation wheel	32	24	32	24

Color wheel

1. Green — DMX 64
2. Orange — DMX 65
3. Blue — DMX 66
4. Red — DMX 67
5. Pink — DMX 68
6. Medium Yellow — DMX 69
7. Deep Purple — DMX 70
8. Velvet Green — DMX 71
9. Amber — DMX 72
10. Light Blue — DMX 73
11. Light Red — DMX 74
12. Follies Pink — DMX 75
13. Yellow — DMX 76
14. Slate Blue — DMX 77
15. Dark Green — DMX 78
16. Dark Amber — DMX 79
17. Medium Blue — DMX 80
18. Magical Magenta — DMX 81
19. Oklahoma Yellow — DMX 82
20. Congo Blue — DMX 83
21. UV — DMX 84
22. Minus Green 1/4 — DMX 85
23. Minus Green 1/2 — DMX 86
24. CTB 1/4 — DMX 87

25
CTB 1/2
DMX 88

26
CTB
DMX 89

27
Light Amber
DMX 90–91

28
No Feature: open
DMX 0

Gobo wheel 1

1
Gobo: Open
DMX 0–9

2 
Eccentric Dot
DMX 10–13

3 
Line Mix 18
DMX 14–17

4 
Dot Square 4
DMX 18–21

5 
Square Beam 4
DMX 22–25

6 
Nuclear
DMX 26–29

7 
Dot Line 5
DMX 30–33

8 
Dot Ring 6
DMX 34–37

9 
Dot Mix
DMX 38–41

10 
Five Spokes
DMX 42–45

11 
Nested Half Ring
DMX 46–49

12 
Eight Spokes
DMX 50–53

13 
Nested-Ring-Light
DMX 54–58

Gobo wheel 2

1 
Gobo Fix: 80% Iris Beam
DMX 30

2 
Gobo Fix: 60% Iris Beam
DMX 31

3 
Gobo Fix: 40% Iris Beam
DMX 32

4 
Gobo Fix: 20% Iris Beam
DMX 33

5 
Gobo Fix: Dot Line 2
DMX 34

6 
Gobo Fix: Dot Triangle 3
DMX 35

7 
Gobo Fix: Dot Square 4
DMX 36

8 
Gobo Fix: Dot Ring 5
DMX 37

9 
Gobo Fix: Zig Zag Light
DMX 38

10 
Gobo Fix: Vortex Light
DMX 39

11 
Gobo Fix: Spiral
DMX 40

12 
Gobo Fix: Helix 5
DMX 41

13 
Gobo Fix: Triangle Beam
DMX 42

14 
Gobo Fix: Daisy
DMX 43

15 
Gobo Fix: Nested Star
DMX 44

16 
Gobo Fix: Square Ring 8
DMX 45

17 
Gobo Fix: Circular Saw 4
DMX 46

18 
Gobo Fix: Waves Light
DMX 47

19 
Gobo Fix: Prison Bars
DMX 48

20 
Gobo Fix: Ink Stain
DMX 49

21 
Gobo Fix: Arrows
DMX 50

22 
Gobo Fix: Iris 8
DMX 51

23 
Gobo Fix: Dot Mix 8
DMX 52

24
Gobo Fix: Quarter Beam NE
DMX 53

25 
Gobo Fix: Quarter Beam SE
DMX 54

26 
Gobo Fix: Quarter Beam SW
DMX 55

27 
Gobo Fix: Quarter Beam NW
DMX 56

28 
Gobo Fix: Half Beam Down
DMX 57

29 
Gobo Fix: Half Beam Up
DMX 58

30 
Gobo Fix: Half Beam Left
DMX 59

31 
Gobo Fix: Half Beam Right
DMX 60

32 
Gobo Fix: Crash Test Icon
DMX 61

33 
Gobo Fix: Split Triangle 4
DMX 62

34 
Gobo Fix: Split Triangle 1
DMX 63

35 
Gobo Fix: Iron Ball Light
DMX 64

36
Open
DMX 0–3

37 
Gobo Fix: Vertical Line
DMX 66

38 
Gobo Fix: Bold Line
DMX 67

39 
Gobo Fix: Square Line 3 V
DMX 68

40 
Gobo Fix: Square Line 3 H
DMX 69

41 
Gobo Fix: Four Lines H
DMX 70

42 
Gobo Fix: Four Lines V
DMX 71

43 
Gobo Fix: Square Beam
DMX 72

44 
Gobo Fix: Rubik Cube
DMX 73

45 
Gobo Fix: Split Cross
DMX 74

46 
Gobo Fix: Square Beam 9
DMX 75

47 
Gobo Fix: Dot Ring 6
DMX 76

48 
Gobo Fix: Dot Ring 7
DMX 77

49 
Gobo Fix: Split Circle 6
DMX 78

50 
Gobo Fix: Dot Mix
DMX 79

51 
Gobo Fix: Triangle Beam
DMX 80

52 
Gobo Fix: Compass 4
DMX 81

53 
Gobo Fix: Star Line 5
DMX 82

54 
Gobo Fix: Star Beam
DMX 83

55 
Gobo Fix: Star 8
DMX 84

56 
Gobo Fix: Star 10
DMX 85

57 
Gobo Fix: Star 12
DMX 86

58 
Gobo Fix: Arrow Ring 6
DMX 87

59 
Gobo Fix: Helix 3
DMX 88

60 
Gobo Fix: Five Spokes
DMX 89

61 
Gobo Fix: Arrow Ring 3
DMX 90

62 
Gobo Fix: Nested Cross
DMX 91

63 
Gobo Fix: Split Square 1
DMX 92

64 
Gobo Fix: X Cross
DMX 93

65
Gobo Fix: Tilde
DMX 94

66
Gobo Fix: Open
DMX 95

67
Gobo Fix: Mirror Ball 9
DMX 96

68
Gobo Fix: Split Target
DMX 97

69
Gobo Fix: Split Square 2
DMX 98

70
Gobo Fix: Split Triangle 2
DMX 99

71
Gobo Fix: Split Circle 2
DMX 100

72
Gobo Fix: Number 0...9
DMX 101

73 
Number 1
DMX 102

74 
Number 2
DMX 103

75 
Number 3
DMX 104

76 
Number 4
DMX 105

77 
Number 5
DMX 106

78 
Number 6
DMX 107

79 
Number 7
DMX 108

80 
Number 8
DMX 109

81 
Number 9
DMX 110–111

Prism 1

1
Prism: Open
DMX 0–40

2 
8 facets
Prism 8 Circular
DMX 41–83

3 
6 facets
Prism 6 Circular
DMX 84–126

4 
6 facets
Prism 6 Linear
DMX 127–169

5 
4 facets
Prism 4(4l)
DMX 170–213

Prism 2

1
Prism: Open
DMX 0–40

2 
16 facets
Prism 16 Circular
DMX 41–83

3 
6 facets
Prism 6 Circular
DMX 84–126

4 
6 facets
Prism 6 Linear
DMX 127–169

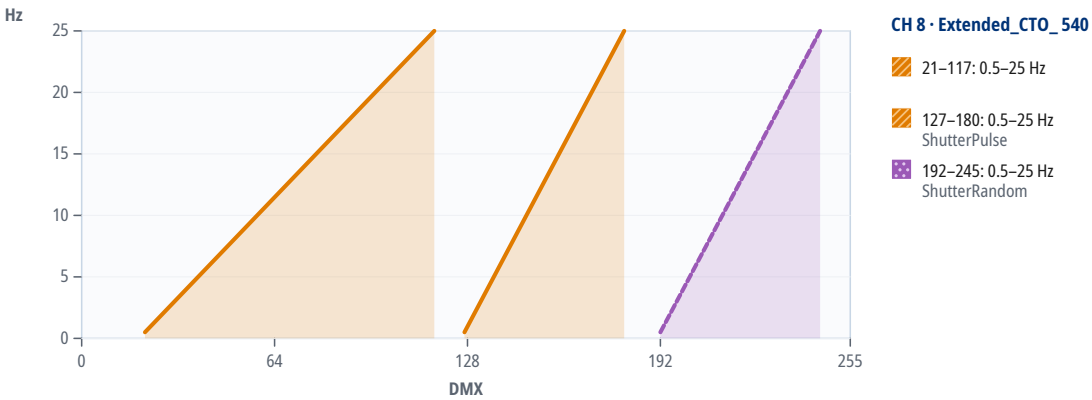
5 
4 facets
Prism 4(4l)
DMX 170–213

Animation wheel

1
Open

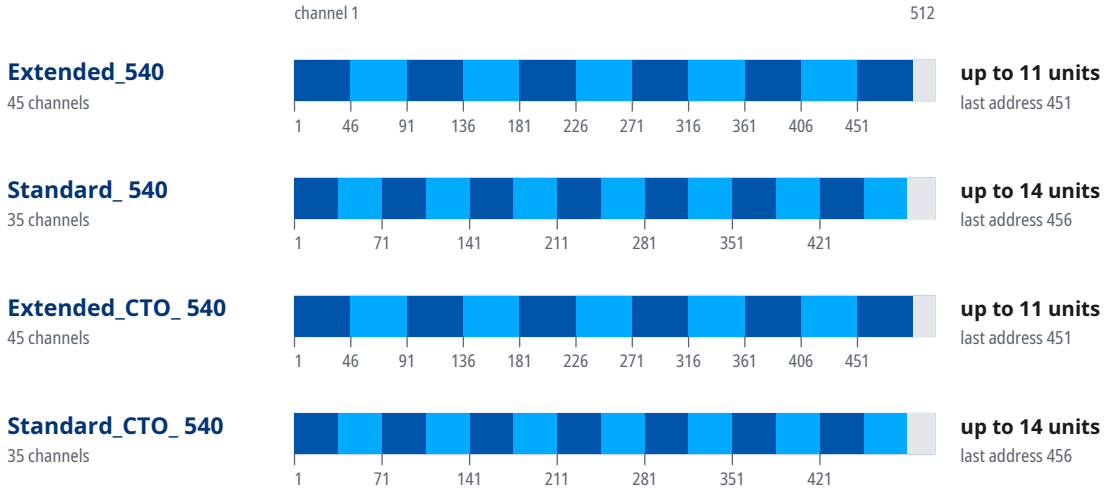
2 
CW Max
DMX 3

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended_540”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	226	11	451	16	U2 · 181
2	46	7	271	12	U2 · 1	17	U2 · 226
3	91	8	316	13	U2 · 46	18	U2 · 271
4	136	9	361	14	U2 · 91	19	U2 · 316
5	181	10	406	15	U2 · 136	20	U2 · 361

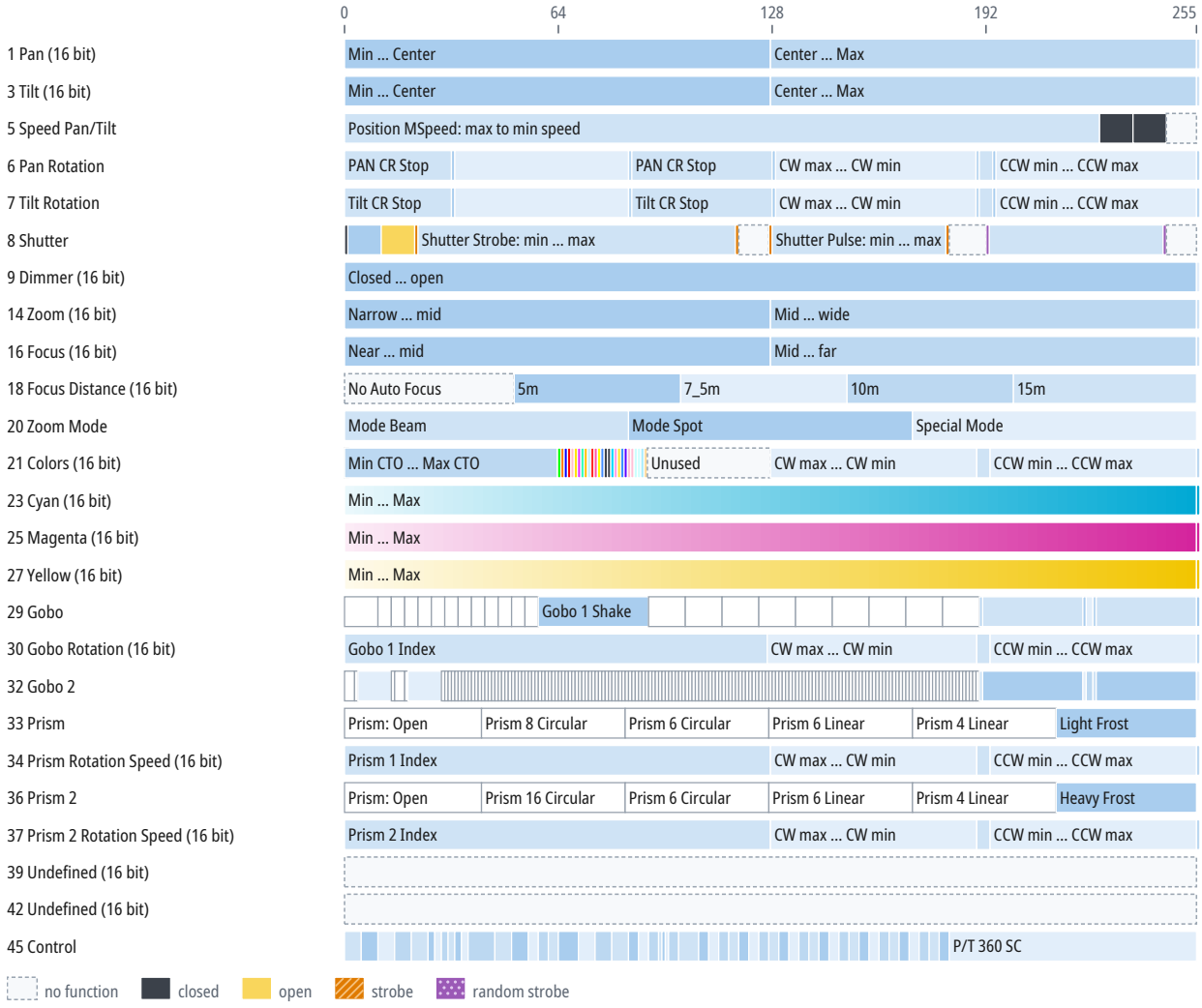
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Extended_540

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 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 8 Shutter 11, CH 9 Dimmer 255, CH 21 Colors 0, CH 23 Cyan 0, CH 25 Magenta 0, CH 27 Yellow 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–225	Position MSpeed: max to min speed

CH	Function	DMX	Description
5	Speed Pan/Tilt (continued)	226–235	Blackout by movement
		236–245	Blackout by all wheels
		246–255	No function
6	Pan Rotation	0–31	PAN CR Stop
		32	Stop by SpinOut
		33–84	Stop by SpinOut ... Stop by ShortCut
		85	Stop by ShortCut
		86–127	PAN CR Stop
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Pause
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
7	Tilt Rotation	0–31	Tilt CR Stop
		32	Stop by SpinOut
		33–84	Stop by SpinOut ... Stop by ShortCut
		85	Stop by ShortCut
		86–127	Tilt CR Stop
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Pause
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
8	Shutter	0	LED OFF: Closed
		1–10	LED OFF
		11–20	LED ON: open
		21	Shutter Strobe: min
		22–116	Shutter Strobe: min ... max
		117	Shutter Strobe: max
		118–126	LED ON: open
		127	Shutter Pulse: min
		128–179	Shutter Pulse: min ... max
		180	Shutter Pulse: max
		181–191	LED ON: open
		192	Shutter Random: min
		193–244	Shutter Random: min ... max
		245	Shutter Random: max
		246–255	LED ON: open

CH	Function	DMX	Description
9	Dimmer	0–255	Closed ... open
		255	Open
10	Dimmer Fine	0–255	Fine adjustment of CH 9
14	Zoom	0–127	Narrow ... mid
		128–255	Mid ... wide
		255	Wide
15	Zoom Fine	0–255	Fine adjustment of CH 14
16	Focus		When CH 18 is 0:
		0–127	Near ... mid
		128–255	Mid ... far
		255	Far
			When CH 18 is 0:
		0–255	
17	Focus Fine	0–255	Fine adjustment of CH 16
18	Focus Distance	0–50	No Auto Focus
		51–100	5m
		101–150	7_5m
		151–200	10m
		201–255	15m
19	Focus Distance Fine	0–255	Fine adjustment of CH 18
20	Zoom Mode	0–84	Mode Beam
		85–169	Mode Spot
		170–255	Special Mode
21	Colors	0	Color 1: open
		0–63	Min CTO ... Max CTO
		63	Max CTO
		64	Green
		65	Orange
		66	Blue
		67	Red
		68	Pink
		69	Medium Yellow
		70	Deep Purple
		71	Velvet Green
		72	Amber
		73	Light Blue
		74	Light Red
		75	Follies Pink
		76	Yellow
		77	Slate Blue
		78	Dark Green
		79	Dark Amber

CH	Function	DMX	Description
21	Colors (continued)	80	Medium Blue
		81	Magical Magenta
		82	Oklahoma Yellow
		83	Congo Blue
		84	UV
		85	Minus Green 1/4
		86	Minus Green 1/2
		87	CTB 1/4
		88	CTB 1/2
		89	CTB
		90	Light Amber
		91–127	Unused
		128–189	CW max ... CW min
		189	CW min
		190–193	Rainbow: stop
		194–255	CCW min ... CCW max
		255	CCW max
22	Colors Fine	0–255	Fine adjustment of CH 21
23	Cyan	0–255	Min ... Max
		255	Max
24	Cyan Fine	0–255	Fine adjustment of CH 23
25	Magenta	0–255	Min ... Max
		255	Max
26	Magenta Fine	0–255	Fine adjustment of CH 25
27	Yellow	0–255	Min ... Max
		255	Max
28	Yellow Fine	0–255	Fine adjustment of CH 27
29	Gobo	0–9	Gobo: Open
		10–13	Eccentric Dot
		14–17	Line Mix 18
		18–21	Dot Square 4
		22–25	Square Beam 4
		26–29	Nuclear
		30–33	Dot Line 5
		34–37	Dot Ring 6
		38–41	Dot Mix
		42–45	Five Spokes
		46–49	Nested Half Ring
		50–53	Eight Spokes
		54–57	Nested Ring Light
		58–90	Gobo 1 Shake
		91–101	StarDust (0.5–10 Hz)

CH	Function	DMX	Description
29	Gobo (continued)	102–112	IronFilings (0.5–10 Hz)
		113–123	NestedTriangle (0.5–10 Hz)
		124–134	Vortex (0.5–10 Hz)
		135–145	BlackAndWhiteTarget (0.5–10 Hz)
		146–156	SmokeRings (0.5–10 Hz)
		157–167	DotLine11 (0.5–10 Hz)
		168–178	NestedRingsYellow (0.5–10 Hz)
		179–189	CMYLiquidEffect (0.5–10 Hz)
		190	CW max
		191–220	CW max … CW min
		221	CW min
		222–223	Gobo 1 Wheel Rotation: Stop
		224	CCW min
		225–254	CCW min … CCW max
		255	CCW max
30	Gobo Rotation	0–127	Gobo 1 Index (360°)
		127–189	CW max … CW min
		189	CW min
		190–193	Gobo 1 Rotation: stop
		194–255	CCW min … CCW max
		255	CCW max
31	Gobo Rotation Fine	0–255	Fine adjustment of CH 30
32	Gobo 2	0–2	Open
		3	CW Max
		4–13	CW Max … CW Min
		14	CW Min
		15–17	Animation Wheel: Stop (Speed=0)
		18	CCW Min
		19–28	CCW Min … CCW Max
		29	CCW Max
		30	Gobo Fix: 80% Iris Beam
		31	Gobo Fix: 60% Iris Beam
		32	Gobo Fix: 40% Iris Beam
		33	Gobo Fix: 20% Iris Beam
		34	Gobo Fix: Dot Line 2
		35	Gobo Fix: Dot Triangle 3
		36	Gobo Fix: Dot Square 4
		37	Gobo Fix: Dot Ring 5
		38	Gobo Fix: Zig Zag Light
		39	Gobo Fix: Vortex Light
		40	Gobo Fix: Spiral
		41	Gobo Fix: Helix 5

CH	Function	DMX	Description
32	Gobo 2 (continued)	42	Gobo Fix: Triangle Beam
		43	Gobo Fix: Daisy
		44	Gobo Fix: Nested Star
		45	Gobo Fix: Square Ring 8
		46	Gobo Fix: Circular Saw 4
		47	Gobo Fix: Waves Light
		48	Gobo Fix: Prison Bars
		49	Gobo Fix: Ink Stain
		50	Gobo Fix: Arrows
		51	Gobo Fix: Iris 8
		52	Gobo Fix: Dot Mix 8
		53	Gobo Fix: Quarter Beam NE
		54	Gobo Fix: Quarter Beam SE
		55	Gobo Fix: Quarter Beam SW
		56	Gobo Fix: Quarter Beam NW
		57	Gobo Fix: Half Beam Down
		58	Gobo Fix: Half Beam Up
		59	Gobo Fix: Half Beam Left
		60	Gobo Fix: Half Beam Right
		61	Gobo Fix: Crash Test Icon
		62	Gobo Fix: Split Triangle 4
		63	Gobo Fix: Split Triangle 1
		64	Gobo Fix: Iron Ball Light
		65	Gobo Fix: Open
		66	Gobo Fix: Vertical Line
		67	Gobo Fix: Bold Line
		68	Gobo Fix: Square Line 3 V
		69	Gobo Fix: Square Line 3 H
		70	Gobo Fix: Four Lines H
		71	Gobo Fix: Four Lines V
		72	Gobo Fix: Square Beam
		73	Gobo Fix: Rubik Cube
		74	Gobo Fix: Split Cross
		75	Gobo Fix: Square Beam 9
		76	Gobo Fix: Dot Ring 6
		77	Gobo Fix: Dot Ring 7
		78	Gobo Fix: Split Circle 6
		79	Gobo Fix: Dot Mix
		80	Gobo Fix: Triangle Beam
		81	Gobo Fix: Compass 4
		82	Gobo Fix: Star Line 5
		83	Gobo Fix: Star Beam

CH	Function	DMX	Description
32	Gobo 2 (continued)	84	Gobo Fix: Star 8
		85	Gobo Fix: Star 10
		86	Gobo Fix: Star 12
		87	Gobo Fix: Arrow Ring 6
		88	Gobo Fix: Helix 3
		89	Gobo Fix: Five Spokes
		90	Gobo Fix: Arrow Ring 3
		91	Gobo Fix: Nested Cross
		92	Gobo Fix: Split Square 1
		93	Gobo Fix: X Cross
		94	Gobo Fix: Tilde
		95	Gobo Fix: Open
		96	Gobo Fix: Mirror Ball 9
		97	Gobo Fix: Split Target
		98	Gobo Fix: Split Square 2
		99	Gobo Fix: Split Triangle 2
		100	Gobo Fix: Split Circle 2
		101–110	Gobo Fix: Number 0...9
		111	Gobo 2 Shake: 80% Iris Beam
		112	Gobo 2 Shake: 60% Iris Beam
		113	Gobo 2 Shake: 40% Iris Beam
		114	Gobo 2 Shake: 20% Iris Beam
		115	Gobo 2 Shake: Dot Line 2
		116	Gobo 2 Shake: Dot Triangle 3
		117	Gobo 2 Shake: Dot Square 4
		118	Gobo 2 Shake: Dot Ring 5
		119	Gobo 2 Shake: Zig Zag Light
		120	Gobo 2 Shake: Vortex Light
		121	Gobo 2 Shake: Spiral
		122	Gobo 2 Shake: Helix 5
		123	Gobo 2 Shake: Triangle Beam
		124	Gobo 2 Shake: Daisy
		125	Gobo 2 Shake: Nested Star
		126	Gobo 2 Shake: Square Ring 8
		127	Gobo 2 Shake: Circular Saw 4
		128	Gobo 2 Shake: Waves Light
		129	Gobo 2 Shake: Prison Bars
		130	Gobo 2 Shake: Ink Stain
		131	Gobo 2 Shake: Arrows
		132	Gobo 2 Shake: Iris 8
		133	Gobo 2 Shake: Dot Mix 8
		134	Gobo 2 Shake: Quarter Beam NE

CH	Function	DMX	Description
32	Gobo 2 (continued)	135	Gobo 2 Shake: Quarter Beam SE
		136	Gobo 2 Shake: Quarter Beam SW
		137	Gobo 2 Shake: Quarter Beam NW
		138	Gobo 2 Shake: Half Beam Down
		139	Gobo 2 Shake: Half Beam Up
		140	Gobo 2 Shake: Half Beam Left
		141	Gobo 2 Shake: Half Beam Right
		142	Gobo 2 Shake: Crash Test Icon
		143	Gobo 2 Shake: Split Triangle 4
		144	Gobo 2 Shake: Split Triangle 1
		145	Gobo 2 Shake: Iron Ball Light
		146	Gobo 2 Shake: Vertical Line
		147	Gobo 2 Shake: Bold Line
		148	Gobo 2 Shake: Square Line 3 V
		149	Gobo 2 Shake: Square Line 3 H
		150	Gobo 2 Shake: Four Lines V
		151	Gobo 2 Shake: Four Lines H
		152	Gobo 2 Shake: Square Beam
		153	Gobo 2 Shake: Rubik Cube
		154	Gobo 2 Shake: Split Cross
		155	Gobo 2 Shake: Square Beam 9
		156	Gobo 2 Shake: Dot Ring 6
		157	Gobo 2 Shake: Dot Ring 7
		158	Gobo 2 Shake: Split Circle 6
		159	Gobo 2 Shake: Dot Mix
		160	Gobo 2 Shake: Triangle Beam
		161	Gobo 2 Shake: Compass 4
		162	Gobo 2 Shake: Star Line 5
		163	Gobo 2 Shake: Star Beam
		164	Gobo 2 Shake: Star 8
		165	Gobo 2 Shake: Star 10
		166	Gobo 2 Shake: Star 12
		167	Gobo 2 Shake: Arrow Ring 6
		168	Gobo 2 Shake: Helix 3
		169	Gobo 2 Shake: Five Spokes
		170	Gobo 2 Shake: Arrow Ring 3
		171	Gobo 2 Shake: Nested Cross
		172	Gobo 2 Shake: Split Square 1
		173	Gobo 2 Shake: X Cross
		174	Gobo 2 Shake: Tilde
		175	Gobo 2 Shake: Mirror Ball 9
		176	Gobo 2 Shake: Split Target

CH	Function	DMX	Description
32	Gobo 2 (continued)	177	Gobo 2 Shake: Split Square 2
		178	Gobo 2 Shake: Split Triangle 2
		179	Gobo 2 Shake: Split Circle 2
		180	Gobo 2 Shake: Number 0
		181	Gobo 2 Shake: Number 1
		182	Gobo 2 Shake: Number 2
		183	Gobo 2 Shake: Number 3
		184	Gobo 2 Shake: Number 4
		185	Gobo 2 Shake: Number 5
		186	Gobo 2 Shake: Number 6
		187	Gobo 2 Shake: Number 7
		188	Gobo 2 Shake: Number 8
		189	Gobo 2 Shake: Number 9
		190	CW max
		191–220	CW max … CW min
		221	CW min
		222–223	Gobo 2 Wheel Rotation: Stop
		224	CCW min
		225–254	CCW min … CCW max
		255	CCW max
33	Prism	0–40	Prism: Open
		41–83	Prism 8 Circular
		84–126	Prism 6 Circular
		127–169	Prism 6 Linear
		170–212	Prism 4 Linear
		213–255	Light Frost
34	Prism Rotation Speed	0–127	Prism 1 Index (360°)
		128–189	CW max … CW min
		189	CW min
		190–193	Prism 1 Rotation: stop
		194–255	CCW min … CCW max
		255	CCW max
35	Prism Rotation Speed Fine	0–255	Fine adjustment of CH 34
36	Prism 2	0–40	Prism: Open
		41–83	Prism 16 Circular
		84–126	Prism 6 Circular
		127–169	Prism 6 Linear
		170–212	Prism 4 Linear
		213–255	Heavy Frost
37	Prism 2 Rotation Speed	0–127	Prism 2 Index (360°)
		128–189	CW max … CW min
		189	CW min

CH	Function	DMX	Description
37	Prism 2 Rotation Speed (continued)	190–193	Prism 2 Rotation: stop
		194–255	CCW min ... CCW max
		255	CCW max
38	Prism 2 Rotation Speed Fine	0–255	Fine adjustment of CH 37
39	Undefined	0	
40	Undefined Fine	0–255	Fine adjustment of CH 39
41	Undefined Fine 1	0–255	
42	Undefined	0	
43	Undefined Fine	0–255	Fine adjustment of CH 42
44	Undefined Fine 2	0–255	
45	Control	0–4	Display
		5–9	Display Off
		10–14	Display On
		15–19	Display Inv Off
		20–24	Display Inv On
		25–26	Auto Fan
		27–28	Stage Fan
		29–30	Silence Fan
		31–32	Super Silence Fan
		33–34	Constant Fan OFF
		35–36	Constant Fan ON
		37–44	Fan Control Mode
		45–49	Square Law
		50–54	Linear
		55–57	1200 Hz
		58–60	2400 Hz
		61–63	16000 Hz
		64–69	25000 Hz
		70–74	Gobo Correction Off
		75–79	Gobo Correction On
		80–84	All Motor Reset
		85–87	PAN/TILT Motor Reset
		88–90	Color Motor Reset
		91–93	Gobo Motor Reset
		94	Gobo Motor Reset ... Reset P/T Fade Off
		95	Reset P/T Fade Off
		96	Reset P/T Fade On
		97–99	Other Motor Reset
		100–105	Motor Reset
		106–108	CMY Speed Slow
		109–111	CMY Speed Medium
		112–114	CMY Speed Fast

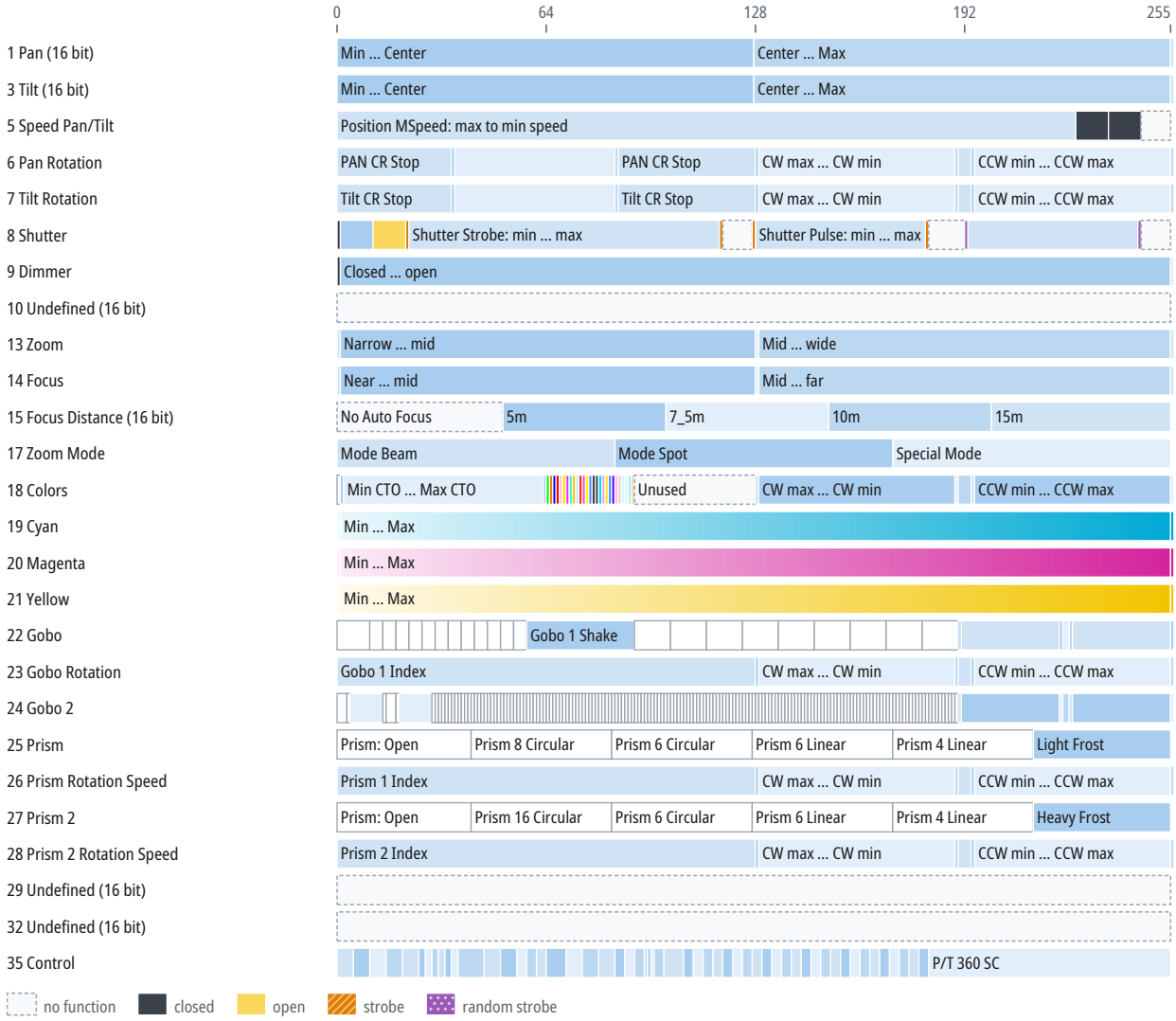
CH	Function	DMX	Description
45	Control (continued)	115–117	Prerig INIT Off
		118–120	Prerig INIT On
		121–123	Pan Degree 540
		124–126	Pan Degree 630
		127–129	Tilt Degree 540
		130–132	Tilt Degree 270
		133–135	CTO Control: Color Wheel
		136–138	CTO Control: Separate Ch
		139–141	25 m Distance
		142–144	15 m Distance
		145–147	8 m Distance
		148–150	Reset Led Fade OFF
		151–153	Reset Led Fade ON
		154–156	Limited Range
		157–159	Full Range
		160–162	Zoom Behavior : OFF
		163–165	Zoom Behavior : Cobra 2
		166–168	Pan/Tilt Spd Fast
		169–171	Pan/Tilt Spd Medium
		172–174	Pan/Tilt Spd Slow
		175–177	Pan Degree 360SC
		178–180	Tilt Degree 360SC
		181–255	P/T 360 SC

Mode Standard_ 540

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 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 8 Shutter 11, CH 9 Dimmer 255, CH 18 Colors 0, CH 19 Cyan 0, CH 20 Magenta 0, CH 21 Yellow 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended_540” (p. 13)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended_540” (p. 13)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “Extended_540” (p. 13)
6	Pan Rotation	0–34	PAN CR Stop
		35	Stop by SpinOut
		36–84	Stop by SpinOut ... Stop by ShortCut

CH	Function	DMX	Description
6	Pan Rotation (continued)	85	Stop by ShortCut
		86–127	PAN CR Stop
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Pause
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
7	Tilt Rotation	0–34	Tilt CR Stop
		35	Stop by SpinOut
		36–84	Stop by SpinOut ... Stop by ShortCut
		85	Stop by ShortCut
		86–127	Tilt CR Stop
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Pause
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
8	Shutter		Same as CH 8 in the mode “Extended_540” (p. 14)
9	Dimmer	0	Closed
		1–254	Closed ... open
		255	Open
10	Undefined	0	
11	Undefined Fine	0–255	Fine adjustment of CH 10
12	Undefined Fine 1	0–255	
13	Zoom	0	Narrow
		1–127	Narrow ... mid
		128	Mid
		129–254	Mid ... wide
		255	Wide
14	Focus		When CH 15 is 0:
		0	Near
		1–127	Near ... mid
		128	Mid
		129–254	Mid ... far
		255	Far
			When CH 15 is 0:
		0–255	
15	Focus Distance		Same as CH 18 in the mode “Extended_540” (p. 15)

CH	Function	DMX	Description
16	Focus Distance Fine	0–255	Fine adjustment of CH 15
17	Zoom Mode		Same as CH 20 in the mode “Extended_540” (p. 15)
18	Colors	0	Color 1: Open
		1	Min CTO
		2–62	Min CTO ... Max CTO
		63	Max CTO
		64	Green
		65	Orange
		66	Blue
		67	Red
		68	Pink
		69	Medium Yellow
		70	Deep Purple
		71	Velvet Green
		72	Amber
		73	Light Blue
		74	Light Red
		75	Follies Pink
		76	Yellow
		77	Slate Blue
		78	Dark Green
		79	Dark Amber
		80	Medium Blue
		81	Magical Magenta
		82	Oklahoma Yellow
		83	Congo Blue
		84	UV
		85	Minus Green 1/4
		86	Minus Green 1/2
		87	CTB 1/4
		88	CTB 1/2
		89	CTB
		90	Light Amber
		91–127	Unused
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Rainbow: stop
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
19	Cyan	0	Min

CH	Function	DMX	Description
19	Cyan (continued)	1–254	Min ... Max
		255	Max
20	Magenta	0	Min
		1–254	Min ... Max
		255	Max
21	Yellow	0	Min
		1–254	Min ... Max
		255	Max
22	Gobo		Same as CH 29 in the mode “Extended_540” (p. 16)
23	Gobo Rotation	0–127	Gobo 1 Index (360°)
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Gobo 1 Rotation: stop
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
24	Gobo 2		Same as CH 32 in the mode “Extended_540” (p. 17)
25	Prism		Same as CH 33 in the mode “Extended_540” (p. 21)
26	Prism Rotation Speed	0–127	Prism 1 Index (360°)
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Prism 1 Rotation: stop
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
27	Prism 2		Same as CH 36 in the mode “Extended_540” (p. 21)
28	Prism 2 Rotation Speed	0–127	Prism 2 Index (360°)
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Prism 2 Rotation: stop
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
29	Undefined	0	
30	Undefined Fine	0–255	Fine adjustment of CH 29
31	Undefined Fine 2	0–255	
32	Undefined	0	

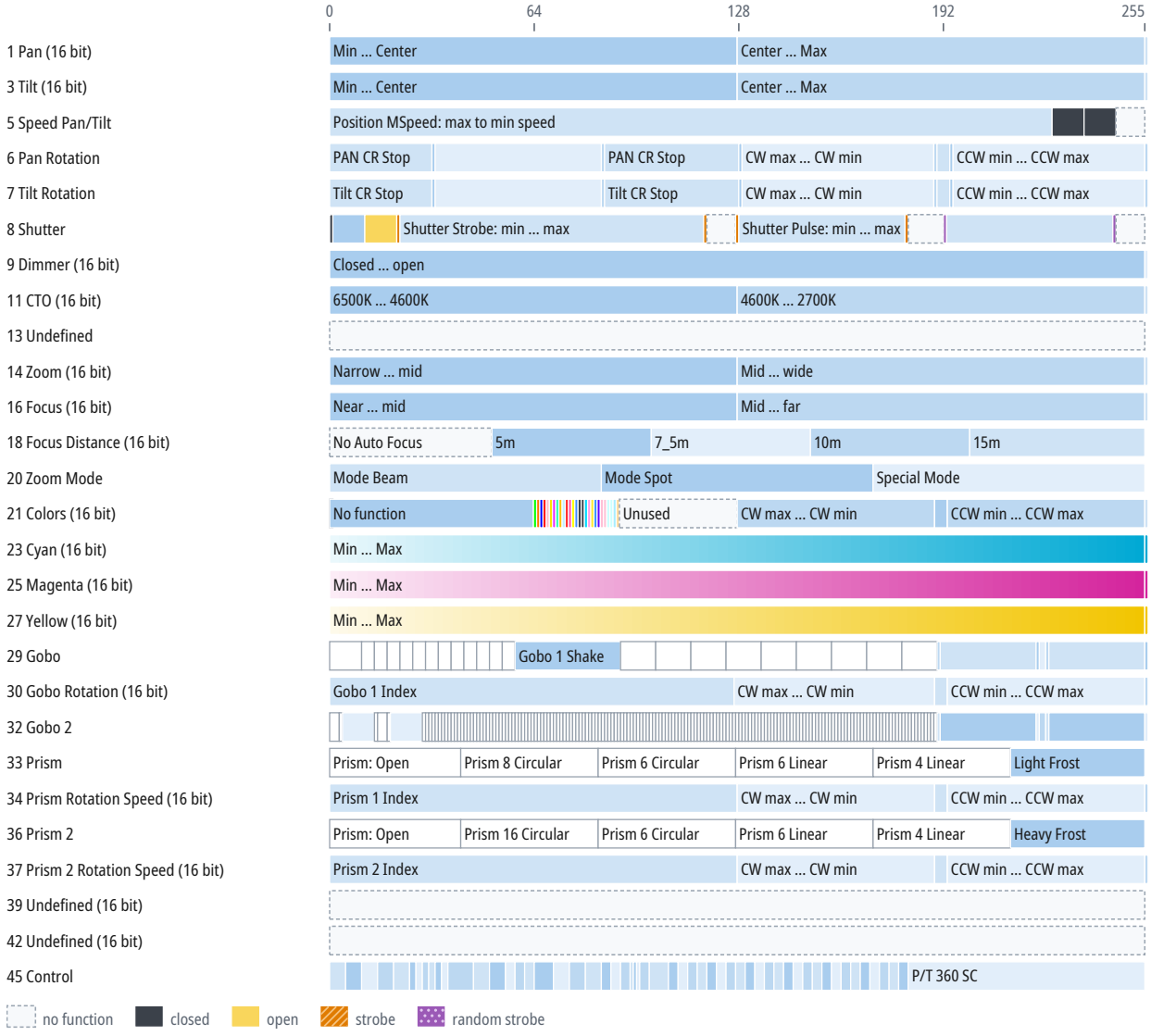
CH	Function	DMX	Description
33	Undefined Fine	0–255	Fine adjustment of CH 32
34	Undefined Fine 3	0–255	
35	Control		Same as CH 45 in the mode “Extended_540” (p. 22)

Mode Extended_CTO_ 540

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 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 8 Shutter 11, CH 9 Dimmer 255, CH 11 CTO 0, CH 21 Colors 0, CH 23 Cyan 0, CH 25 Magenta 0, CH 27 Yellow 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended_540” (p. 13)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended_540” (p. 13)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “Extended_540” (p. 13)
6	Pan Rotation		Same as CH 6 in the mode “Extended_540” (p. 14)
7	Tilt Rotation		Same as CH 7 in the mode “Extended_540” (p. 14)
8	Shutter		Same as CH 8 in the mode “Extended_540” (p. 14)
9	Dimmer		Same as CH 9 in the mode “Extended_540” (p. 15)
10	Dimmer Fine	0–255	Fine adjustment of CH 9
11	CTO	0–127	6500K … 4600K
		127	4600K
		128–255	4600K … 2700K
		255	2700K
12	CTO Fine	0–255	Fine adjustment of CH 11
13	Undefined	0–255	
14	Zoom		Same as CH 14 in the mode “Extended_540” (p. 15)
15	Zoom Fine	0–255	Fine adjustment of CH 14
16	Focus		Same as CH 16 in the mode “Extended_540” (p. 15)
17	Focus Fine	0–255	Fine adjustment of CH 16
18	Focus Distance		Same as CH 18 in the mode “Extended_540” (p. 15)
19	Focus Distance Fine	0–255	Fine adjustment of CH 18
20	Zoom Mode		Same as CH 20 in the mode “Extended_540” (p. 15)
21	Colors	0	No Feature: open
		0–63	No function
		64	Green
		65	Orange
		66	Blue
		67	Red
		68	Pink
		69	Medium Yellow
		70	Deep Purple
		71	Velvet Green
		72	Amber
		73	Light Blue
		74	Light Red
		75	Follies Pink
		76	Yellow
		77	Slate Blue
		78	Dark Green

CH	Function	DMX	Description
21	Colors (continued)	79	Dark Amber
		80	Medium Blue
		81	Magical Magenta
		82	Oklahoma Yellow
		83	Congo Blue
		84	UV
		85	Minus Green 1/4
		86	Minus Green 1/2
		87	CTB 1/4
		88	CTB 1/2
		89	CTB
		90	Light Amber
		91–127	Unused
		128–189	CW max ... CW min
		189	CW min
		190–193	Rainbow: stop
		194–255	CCW min ... CCW max
		255	CCW max
22	Colors Fine	0–255	Fine adjustment of CH 21
23	Cyan		Same as CH 23 in the mode “Extended_540” (p. 16)
24	Cyan Fine	0–255	Fine adjustment of CH 23
25	Magenta		Same as CH 25 in the mode “Extended_540” (p. 16)
26	Magenta Fine	0–255	Fine adjustment of CH 25
27	Yellow		Same as CH 27 in the mode “Extended_540” (p. 16)
28	Yellow Fine	0–255	Fine adjustment of CH 27
29	Gobo		Same as CH 29 in the mode “Extended_540” (p. 16)
30	Gobo Rotation		Same as CH 30 in the mode “Extended_540” (p. 17)
31	Gobo Rotation Fine	0–255	Fine adjustment of CH 30
32	Gobo 2		Same as CH 32 in the mode “Extended_540” (p. 17)
33	Prism		Same as CH 33 in the mode “Extended_540” (p. 21)
34	Prism Rotation Speed		Same as CH 34 in the mode “Extended_540” (p. 21)
35	Prism Rotation Speed Fine	0–255	Fine adjustment of CH 34
36	Prism 2		Same as CH 36 in the mode “Extended_540” (p. 21)
37	Prism 2 Rotation Speed		Same as CH 37 in the mode “Extended_540” (p. 21)
38	Prism 2 Rotation Speed Fine	0–255	Fine adjustment of CH 37
39	Undefined	0	
40	Undefined Fine	0–255	Fine adjustment of CH 39
41	Undefined Fine 1	0–255	
42	Undefined	0	

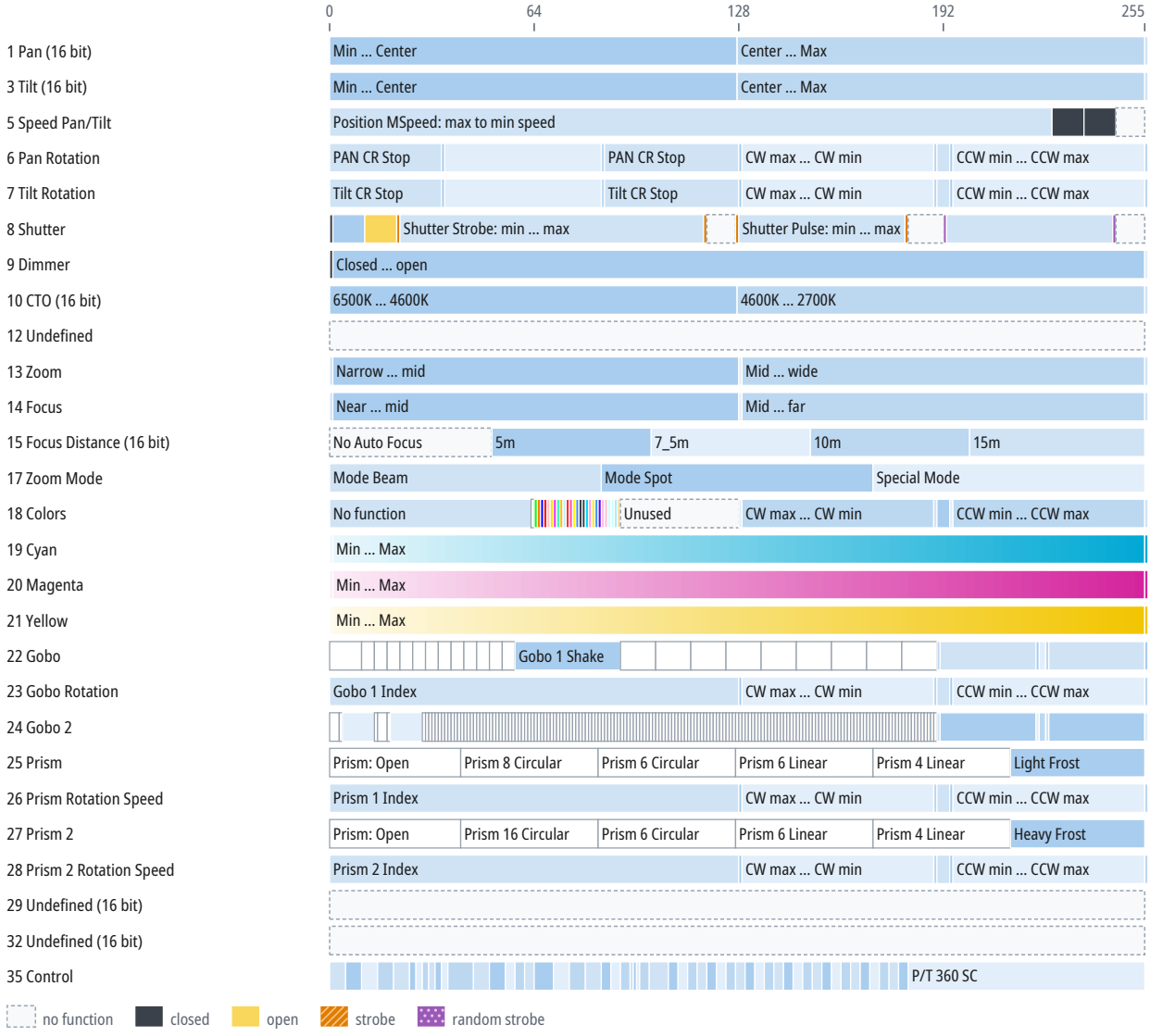
CH	Function	DMX	Description
43	Undefined Fine	0–255	Fine adjustment of CH 42
44	Undefined Fine 2	0–255	
45	Control		Same as CH 45 in the mode “Extended_540” (p. 22)

Mode Standard_CTO_ 540

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 8 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 9 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 8 Shutter 11, CH 9 Dimmer 255, CH 18 Colors 0, CH 19 Cyan 0, CH 20 Magenta 0, CH 21 Yellow 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended_540” (p. 13)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended_540” (p. 13)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “Extended_540” (p. 13)
6	Pan Rotation		Same as CH 6 in the mode “Standard_ 540” (p. 24)
7	Tilt Rotation		Same as CH 7 in the mode “Standard_ 540” (p. 25)
8	Shutter		Same as CH 8 in the mode “Extended_540” (p. 14)
9	Dimmer		Same as CH 9 in the mode “Standard_ 540” (p. 25)
10	CTO		Same as CH 11 in the mode “Extended_CTO_ 540” (p. 29)
11	CTO Fine	0–255	Fine adjustment of CH 10
12	Undefined	0–255	
13	Zoom		Same as CH 13 in the mode “Standard_ 540” (p. 25)
14	Focus		Same as CH 14 in the mode “Standard_ 540” (p. 25)
15	Focus Distance		Same as CH 18 in the mode “Extended_540” (p. 15)
16	Focus Distance Fine	0–255	Fine adjustment of CH 15
17	Zoom Mode		Same as CH 20 in the mode “Extended_540” (p. 15)
18	Colors	0–62	No function
		63	No Feature: Open
		64	Green
		65	Orange
		66	Blue
		67	Red
		68	Pink
		69	Medium Yellow
		70	Deep Purple
		71	Velvet Green
		72	Amber
		73	Light Blue
		74	Light Red
		75	Follies Pink
		76	Yellow
		77	Slate Blue
		78	Dark Green
		79	Dark Amber
		80	Medium Blue
		81	Magical Magenta
		82	Oklahoma Yellow
		83	Congo Blue
		84	UV

CH	Function	DMX	Description
18	Colors (continued)	85	Minus Green 1/4
		86	Minus Green 1/2
		87	CTB 1/4
		88	CTB 1/2
		89	CTB
		90	Light Amber
		91–127	Unused
		128	CW max
		129–188	CW max ... CW min
		189	CW min
		190–193	Rainbow: stop
		194	CCW min
		195–254	CCW min ... CCW max
		255	CCW max
19	Cyan		Same as CH 19 in the mode “Standard_ 540” (p. 26)
20	Magenta		Same as CH 20 in the mode “Standard_ 540” (p. 27)
21	Yellow		Same as CH 21 in the mode “Standard_ 540” (p. 27)
22	Gobo		Same as CH 29 in the mode “Extended_540” (p. 16)
23	Gobo Rotation		Same as CH 23 in the mode “Standard_ 540” (p. 27)
24	Gobo 2		Same as CH 32 in the mode “Extended_540” (p. 17)
25	Prism		Same as CH 33 in the mode “Extended_540” (p. 21)
26	Prism Rotation Speed		Same as CH 26 in the mode “Standard_ 540” (p. 27)
27	Prism 2		Same as CH 36 in the mode “Extended_540” (p. 21)
28	Prism 2 Rotation Speed		Same as CH 28 in the mode “Standard_ 540” (p. 27)
29	Undefined	0	
30	Undefined Fine	0–255	Fine adjustment of CH 29
31	Undefined Fine 1	0–255	
32	Undefined	0	
33	Undefined Fine	0–255	Fine adjustment of CH 32
34	Undefined Fine 2	0–255	
35	Control		Same as CH 45 in the mode “Extended_540” (p. 22)

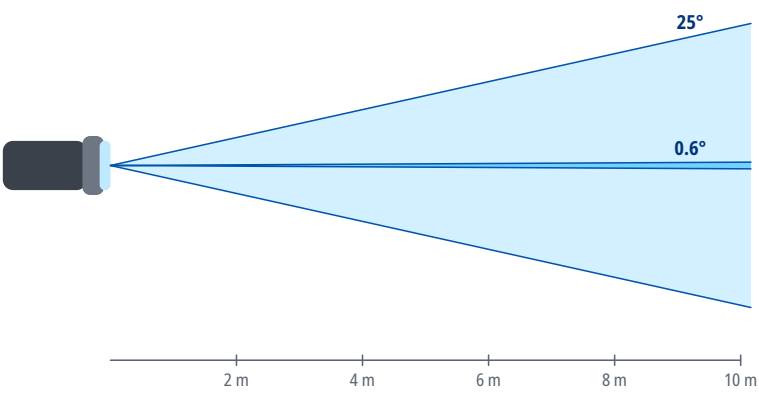
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	260 W
Luminous flux	12,000 lm
Color temperature	6,500 K
Color rendering index (CRI)	67
Optics	
Zoom	0.6–25°
Movement	
Pan	542.1°
Tilt	271.1°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45 IN/OUT
RDM	yes (manufacturer ID 0x4179, device model ID 0x0A81)
Electrical	
Power supply	110–240 V, 50/60 Hz
Power consumption	480 W
Power connectors	powerCONTRUE1TOP IN
Dimensions and construction	
Weight	33 kg
Operating environment	
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2700–6500 K
Strobe frequency	0.5–25 Hz
LED frequency	1200–16000 Hz
Color wheel rotation	up to 702 °/s (117 rpm)
Gobo wheel 1 rotation	up to 702 °/s (117 rpm)
Gobo wheel 2 rotation	up to 702 °/s (117 rpm)
Gobo 1 rotation	up to 876 °/s (146 rpm)
Prism 1 rotation	up to 600 °/s (100 rpm)
Prism 2 rotation	up to 600 °/s (100 rpm)
Animation wheel rotation	up to 702 °/s (117 rpm)

Spot diameter



Distance	Ø 0.6°	Ø 25°
2 m	0.02 m	0.89 m
4 m	0.04 m	1.8 m
6 m	0.06 m	2.7 m
8 m	0.08 m	3.5 m
10 m	0.1 m	4.4 m
15 m	0.16 m	6.7 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.
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.