DMX REFERENCE

Smarty Hybrid

ELATION Smarty Hybrid

Elation



Manufacturer	Elation
GDTF file	Elation_Smarty_Hybrid_63872.gdtf
GDTF revision	1.3.7. out for real world testing - updated Color Speed in Extended Mode · 2024-05-13
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1 About this manual

This document describes the ELATION Smarty Hybrid by Elation. It was compiled from the GDTF file Elation_Smarty_Hybrid_63872.gdtf from the GDTF-Share library.

File revision: “1.3.7. out for real world testing - updated Color Speed in Extended Mode”.

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 Elation; 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
Weight	22.2 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standart (20Chan)	20	25	1, 21, 41, 61, ...
Extended (34Chan)	34	15	1, 35, 69, 103, ...

No light? Check these channels

- Standart (20Chan): CH 16 Shutter at 32–63 or 96–127 or 160–191 or 224–255
- Extended (34Chan): CH 27 Shutter at 32–63 or 96–127 or 160–191 or 224–255



Read the manual before use



Do not stare into the light



Indoor use only

3 Safety instructions



Read the manual before use



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

- 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

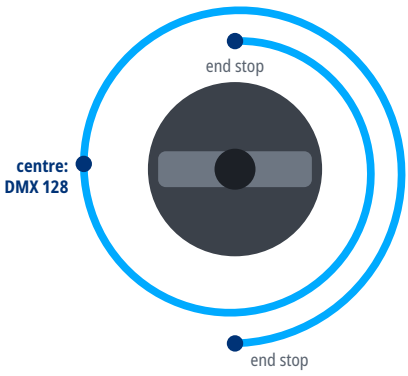
Description in the GDTF file

“Discharge Hybrid Moving-Head with CMY Color-Mixing, 1x ColorWheel, 2x Gobo Wheels, 2x Prisma”

Range of movement

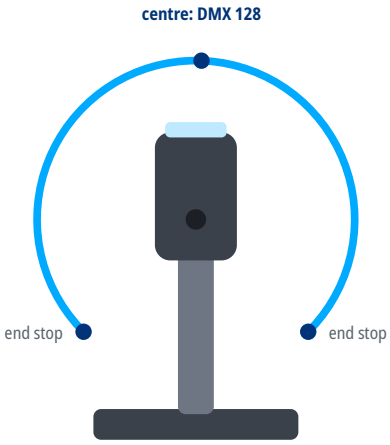
Pan 540°

top view



Tilt 270°

side view



5 Installation

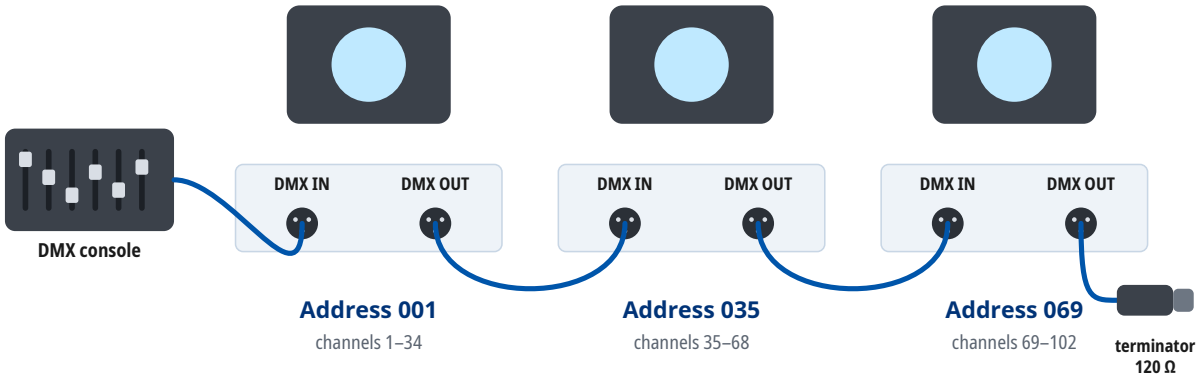
⚠ WARNING

- 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: 22.2 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 (34Chan): every unit occupies 34 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

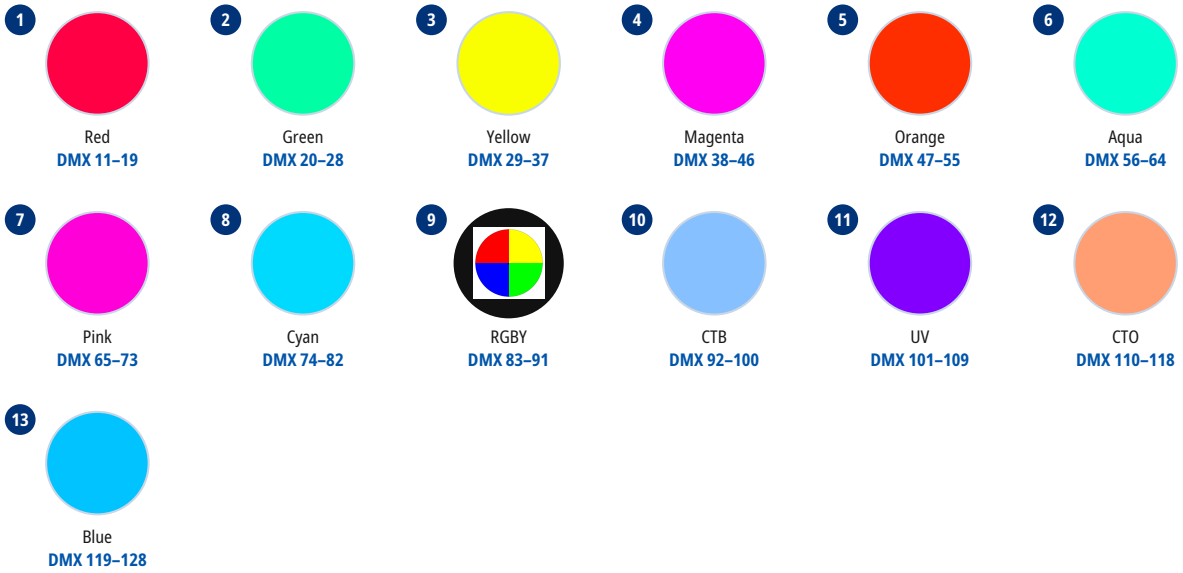
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Extended (34Chan)”: 34.
- Choose start addresses so that the channels of individual devices do not overlap and the last 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 (34Chan)”, you can use, for example, the start addresses 1, 35, 69, 103.
- 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

	Standart (20Chan) 20 channels	Extended (34Chan) 34 channels
Pan / Tilt	1, 3	1, 3
Dimmer	17	28
Shutter / strobe	16	27
Color mixing	5–7	5, 7, 9
Color wheel	8	11
Gobo wheel	9, 11	13, 16
Gobo rotation	10	14
Prism	12, 13	18, 19
Frost	19	30
Zoom	15	23
Focus	14	21, 25
Effects / macros	12	18, 31, 32

Gobo wheel 1



Gobo wheel 2

1 
G1-00 (Beam Open)
DMX 0–10

2
G1-00 (Spot Open)
DMX 11–21

3 
G1-01 (Sinus)
DMX 22–31

4 
G1-02 (Triangle)
DMX 32–41

5 
G1-03 (small Dots)
DMX 42–51

6 
G1-04 (Scrible)
DMX 52–61

7 
G1-05 (Circles)
DMX 62–71

8 
G1-06 (Florales)
DMX 72–81

9 
G1-07 (Shattered Glass)
DMX 82–91

10 
G1-08 (Efflux)
DMX 92–102

Gobo wheel 3

1
Gobo 2 Select: Open
DMX 0–9

2 
G2-01 (Beam-Reducer TINY)
DMX 10–17

3 
G2-02 (Beam-Reducer LITTLE)
DMX 18–25

4 
G2-03 (Beam-Reducer SMALL)
DMX 26–33

5 
G2-04 (Beam-Reducer)
DMX 34–41

6 
G2-05 (Circle-Ovals)
DMX 42–49

7 
G2-06 (Bars)
DMX 50–57

8 
G2-08 (Round Star)
DMX 58–65

9 
G2-09 (4-Holes)
DMX 66–73

10 
G2-10 (Plus)
DMX 74–81

11 
G2-11 (4-Dots)
DMX 82–89

12 
G2-12 (Minus)
DMX 90–97

13 
G2-13 (Fan)
DMX 98–106

Prism

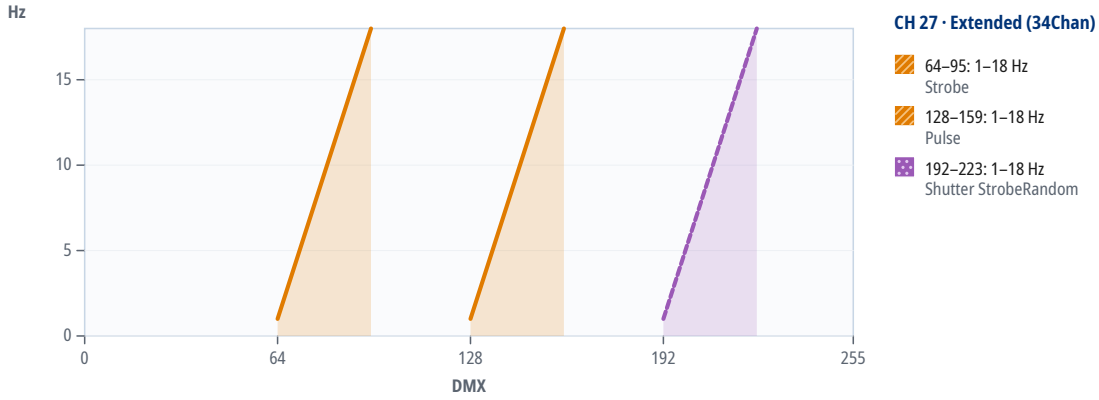
1
Prism Select: Open
DMX 0–31

2 
16 facets
16-Facet Prism
DMX 32–64

3 
4 facets
4-Facet Linear Prism
DMX 65–94

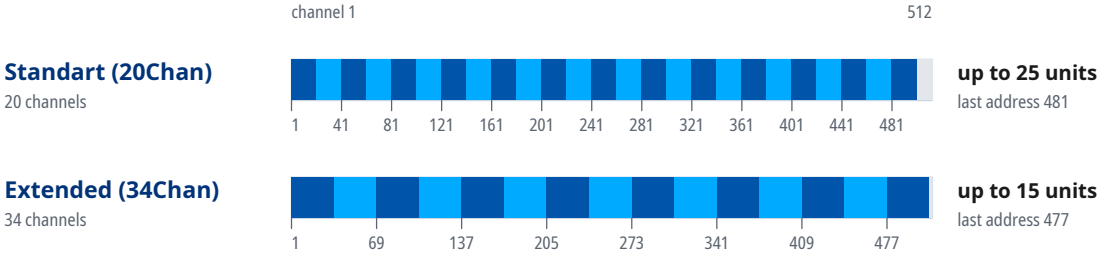
4 
20 facets
16 + 4 Facet PRISM combined
DMX 95–128

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended (34Chan)”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	171	11	341	16	U2 · 1
2	35	7	205	12	375	17	U2 · 35
3	69	8	239	13	409	18	U2 · 69
4	103	9	273	14	443	19	U2 · 103
5	137	10	307	15	477	20	U2 · 137

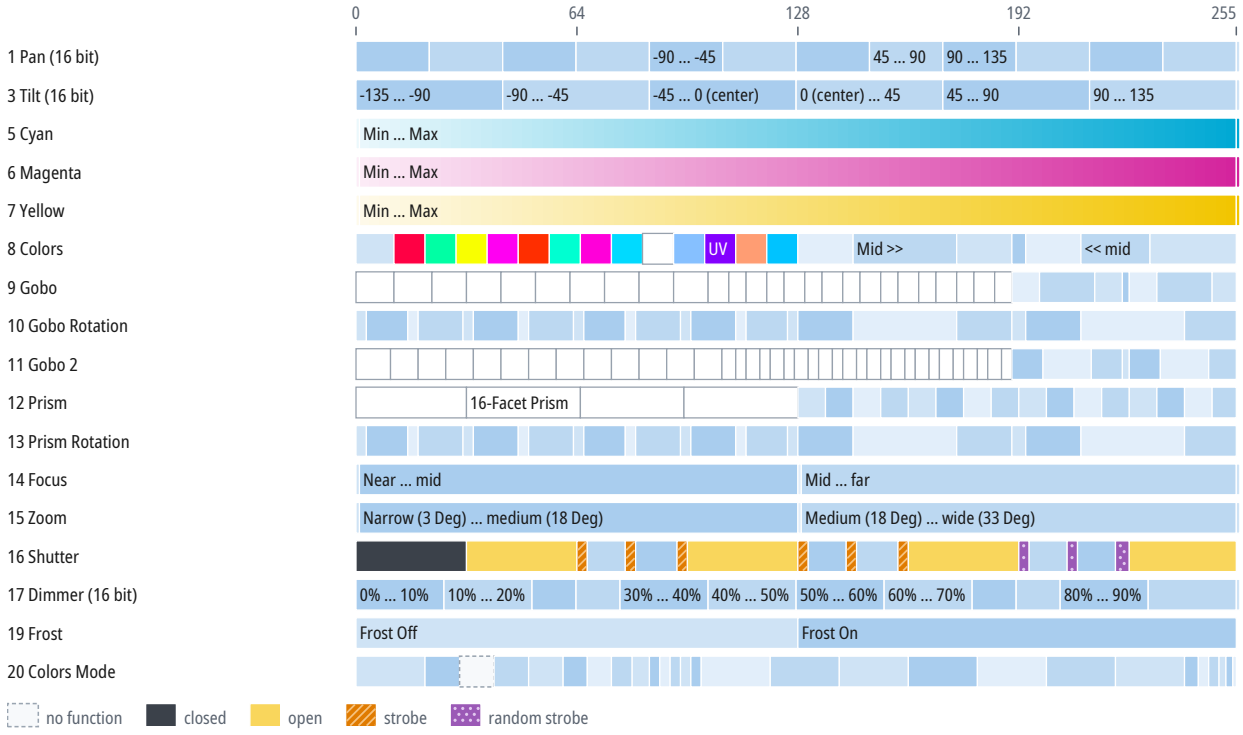
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Standart (20Chan)

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 16 Shutter at 32–63 or 96–127 or 160–191 or 224–255. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 6 Magenta 0, CH 7 Yellow 0, CH 8 Colors 0, CH 16 Shutter 50, CH 17 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–21	-270 ... -225
		21–42	-225 ... -180
		42–63	-180 ... -135
		64–85	-135 ... -90
		85–106	-90 ... -45
		106–127	-45 ... 0 (center)
		128–149	0 (center) ... 45
		149–170	45 ... 90
		170–191	90 ... 135
		191	135
		192–213	135 ... 180
		213–234	180 ... 225
		234–255	225 ... 270
		255	270
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–42	-135 ... -90
		42–85	-90 ... -45

CH	Function	DMX	Description
3	Tilt (continued)	85–127	-45 ... 0 (center)
		128–170	0 (center) ... 45
		170–213	45 ... 90
		213–255	90 ... 135
		255	135
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan	0	Min
		1–254	Min ... Max
		255	Max
6	Magenta	0	Min
		1–254	Min ... Max
		255	Max
7	Yellow	0	Min
		1–254	Min ... Max
		255	Max
8	Colors	0–10	Open / White
		11–19	Red
		20–28	Green
		29–37	Yellow
		38–46	Magenta
		47–55	Orange
		56–64	Aqua
		65–73	Pink
		74–82	Cyan
		83–91	RGBY
		92–100	CTB
		101–109	UV
		110–118	CTO
		119–127	Blue
		128–143	Color 1 Spin: fast >>>
		144–173	Mid >>
		174–189	Color 1 Spin: slow >
		190–193	No Rotation
		194–209	Color 1 Spin: < slow
		210–229	<< mid
		230–255	Color 1 Spin: <<< fast
9	Gobo	0–10	G1-00 (Beam Open)
		11–21	G1-00 (Spot Open)
		22–31	G1-01 (Sinus)
		32–41	G1-02 (Triangle)
		42–51	G1-03 (small Dots)
		52–61	G1-04 (Scrible)

CH	Function	DMX	Description
9	Gobo (continued)	62–71	G1-05 (Circles)
		72–81	G1-06 (Florales)
		82–91	G1-07 (Shattered Glass)
		92–101	G1-08 (Efflux)
		102–107	G1-01 (Sinus) slow
		108–112	G1-01 (Sinus) fast
		113–118	G1-02 (Triangle) slow
		119–123	G1-02 (Triangle) fast
		124–129	G1-03 (small Dots) slow
		130–134	G1-03 (small Dots) fast
		135–140	G1-04 (Scrible) slow
		141–145	G1-04 (Scrible) fast
		146–151	G1-05 (Circles) slow
		152–156	G1-05 (Circles) fast
		157–162	G1-06 (Florales) slow
		163–167	G1-06 (Florales) fast
		168–173	G1-07 (Shattered Glass) slow
		174–178	G1-07 (Shattered Glass) fast
		179–184	G1-08 (Efflux) slow
		185–189	G1-08 (Efflux) fast
		190–197	<<< WheelSpin
		198–213	<< WheelSpin
		214–221	< WheelSpin
		222–223	WheelSpin STOP
		224–231	WheelSpin >
		232–247	WheelSpin >>
		248–255	WheelSpin >>>
10	Gobo Rotation	0–2	180
		3–14	180 ... 135
		15–17	135
		18–30	135 ... 90
		31–33	90
		34–46	90 ... 45
		47–49	45
		50–62	45 ... 0
		63–65	0
		66–77	0 ... -45
		78–80	-45
		81–93	-45 ... -90
		94–96	-90
		97–109	-90 ... -135
		110–112	-135

CH	Function	DMX	Description
10	Gobo Rotation (continued)	113–124	-135 ... -180
		125–127	-180
		128–143	Gobo Rotation >>>
		144–173	Gobo Rotation >>
		174–189	Gobo Rotation >
		190–193	Gobo Rotation STOP
		194–209	Gobo Rotation <
		210–239	Gobo Rotation <<
		240–255	Gobo Rotation <<<
11	Gobo 2	0–9	Gobo 2 Select: Open
		10–17	G2-01 (Beam-Reducer TINY)
		18–25	G2-02 (Beam-Reducer LITTLE)
		26–33	G2-03 (Beam-Reducer SMALL)
		34–41	G2-04 (Beam-Reducer)
		42–49	G2-05 (Circle-Ovals)
		50–57	G2-06 (Bars)
		58–65	G2-08 (Round Star)
		66–73	G2-09 (4-Holes)
		74–81	G2-10 (Plus)
		82–89	G2-11 (4-Dots)
		90–97	G2-12 (Minus)
		98–105	G2-13 (Fan)
		106–109	G2-01 (Beam-Reducer TINY) slow
		110–112	G2-01 (Beam-Reducer TINY) fast
		113–116	G2-02 (Beam-Reducer LITTLE) slow
		117–119	G2-02 (Beam-Reducer LITTLE) fast
		120–123	G2-03 (Beam-Reducer SMALL) slow
		124–126	G2-03 (Beam-Reducer SMALL) fast
		127–130	G2-04 (Beam-Reducer) slow
		131–133	G2-04 (Beam-Reducer) fast
		134–137	G2-05 (Circle-Ovals) slow
		138–140	G2-05 (Circle-Ovals) fast
		141–144	G2-06 (Bars) slow
		145–147	G2-06 (Bars) fast
		148–151	G2-08 (Round Star) slow
		152–154	G2-08 (Round Star) fast
		155–158	G2-09 (4-Holes) slow
		159–161	G2-09 (4-Holes) fast
		162–165	G2-10 (Plus) slow
		166–168	G2-10 (Plus) fast
		169–172	G2-11 (4-Dots) slow
		173–175	G2-11 (4-Dots) fast

CH	Function	DMX	Description
11	Gobo 2 (continued)	176–179	G2-12 (Minus) slow
		180–182	G2-12 (Minus) fast
		183–186	G2-13 (Fan) slow
		187–189	G2-13 (Fan) fast
		190–198	Wheel2Spin >>>
		199–212	Wheel2Spin >>
		213–221	Wheel2Spin >
		222–223	Wheel2Spin STOP
		224–232	Wheel2Spin <
		233–246	Wheel2Spin <<
		247–255	Wheel2Spin <<<
12	Prism	0–31	Prism Select: Open
		32–64	16-Facet Prism
		65–94	4-Facet Linear Prism
		95–127	16 + 4 Facet PRISM combined
		128–135	Prism / Gobo Macro 1
		136–143	Prism / Gobo Macro 2
		144–151	Prism / Gobo Macro 3
		152–159	Prism / Gobo Macro 4
		160–167	Prism / Gobo Macro 5
		168–175	Prism / Gobo Macro 6
		176–183	Prism / Gobo Macro 7
		184–191	Prism / Gobo Macro 8
		192–199	Prism / Gobo Macro 9
		200–207	Prism / Gobo Macro 10
		208–215	Prism / Gobo Macro 11
		216–223	Prism / Gobo Macro 12
		224–231	Prism / Gobo Macro 13
		232–239	Prism / Gobo Macro 14
		240–247	Prism / Gobo Macro 15
		248–255	Prism / Gobo Macro 16
13	Prism Rotation	0–2	180
		3–14	180 ... 135
		15–17	135
		18–30	135 ... 90
		31–33	90
		34–46	90 ... 45
		47–49	45
		50–62	45 ... 0
		63–65	0
		66–77	0 ... -45
		78–80	-45

CH	Function	DMX	Description
13	Prism Rotation (continued)	81–93	-45 ... -90
		94–96	-90
		97–109	-90 ... -135
		110–112	-135
		113–124	-135 ... -180
		125–127	-180
		128–143	Prism Rotation >>>
		144–173	Prism Rotation >>
		174–189	Prism Rotation >
		190–193	Gobo Rotation STOP
		194–209	< Prism Rotation
		210–239	<< Prism Rotation
		240–255	<<< Prism Rotation
14	Focus	0	Near
		1–127	Near ... mid
		128	Mid
		129–254	Mid ... far
		255	Far
15	Zoom	0	Narrow (3 Deg)
		1–127	Narrow (3 Deg) ... medium (18 Deg)
		128	Medium (18 Deg)
		129–254	Medium (18 Deg) ... wide (33 Deg)
		255	Wide (33 Deg)
16	Shutter	0–31	Shutter closed (1)
		32–63	Shutter open (1)
		64–66	Strobe slow
		67–77	Strobe slow ... Strobe mid
		78–80	Strobe mid
		81–92	Strobe mid ... Strobe fast
		93–95	Strobe fast
		96–127	Shutter open (2)
		128–130	Pulse slow
		131–141	Pulse slow ... Pulse mid
		142–144	Pulse mid
		145–156	Pulse mid ... Pulse fast
		157–159	Pulse fast
		160–191	Shutter open (3)
		192–194	Rnd slow
		195–205	Rnd slow ... Rnd mid
		206–208	Rnd mid
		209–219	Rnd mid ... Rnd fast
		220–223	Rnd fast

CH	Function	DMX	Description
16	Shutter (continued)	224–255	Shutter open (4)
17	Dimmer	0–25	0% … 10%
		25–51	10% … 20%
		51–63	20% … 25%
		63	25%
		64–76	25% … 30%
		76–102	30% … 40%
		102–127	40% … 50%
		127	50%
		128–153	50% … 60%
		153–179	60% … 70%
		179–191	70% … 75%
		191	75%
		192–204	75% … 80%
		204–230	80% … 90%
		230–255	90% … 100%
		255	100%
18	Dimmer Fine	0–255	Fine adjustment of CH 17
19	Frost	0–127	Frost Off
		128–255	Frost On
20	Colors Mode	0–19	COLOR Change Normal
		20–29	COLOR Change to Any Position
		30–39	Reserved (1)
		40–49	Lamp On
		50–59	Lamp Off
		60–66	Lamp Power 190W
		67–73	Lamp Power 240W
		74–79	Lamp Power 280W
		80–84	All Motors Reset
		85–87	Movement Reset
		88–90	Color Reset
		91–93	Gobo Reset
		94–96	Dimmer Reset
		97–99	Other Motors Reset
		100–119	Internal Programm 1
		120–139	Internal Programm 2
		140–159	Internal Programm 3
		160–179	Internal Programm 4
		180–199	Internal Programm 5
		200–219	Internal Programm 6
		220–239	Internal Programm 7
		240–243	Position Modes: reserved

CH	Function	DMX	Description
20	Colors Mode (continued)	244–246	Home Position before Power Off
		247–249	Home Position Off
		250–251	Display Off
		252–253	Display On
		254–255	Display Intensity: reserved

Mode Extended (34Chan)

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 27 Shutter at 32–63 or 96–127 or 160–191 or 224–255. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 7 Magenta 0, CH 9 Yellow 0, CH 11 Colors 0, CH 27 Shutter 50, CH 28 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Standart (20Chan)” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Standart (20Chan)” (p. 10)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan	0–255	Min ... Max
		255	Max
6	Cyan Fine	0–255	Fine adjustment of CH 5

CH	Function	DMX	Description
7	Magenta	0–255	Min ... Max
		255	Max
8	Magenta Fine	0–255	Fine adjustment of CH 7
9	Yellow	0–255	Min ... Max
		255	Max
10	Yellow Fine	0–255	Fine adjustment of CH 9
11	Colors	0–10	Open / White
		11–19	Red
		20–28	Green
		29–37	Yellow
		38–46	Magenta
		47–55	Orange
		56–64	Aqua
		65–73	Pink
		74–82	Cyan
		83–91	RGBY
		92–100	CTB
		101–109	UV
		110–118	CTO
		119–127	Blue
		128–143	Color 1 Spin: fast >>>
		144–173	Mid >>
		174–189	Color 1 Spin: slow >
		190	Slow > ... No Rotation
		190–193	No Rotation
		193	No Rotation ... < slow
		194–207	Color 1 Spin: < slow
		208–239	<< mid
		240–255	Color 1 Spin: <<< fast
12	Colors Fine	0–255	Fine adjustment of CH 11
13	Gobo		Same as CH 9 in the mode “Standart (20Chan)” (p. 11)
14	Gobo Rotation	0–16	180 ... 135
		16–32	135 ... 90
		32–48	90 ... 45
		48–64	45 ... 0
		64–80	0 ... -45
		80–96	-45 ... -90
		96–112	-90 ... -135
		112–128	-135 ... -180
		128	-180
		128–159	Gobo Rotation >>> ... Gobo Rotation >>
		159–189	Gobo Rotation >> ... Gobo Rotation >

CH	Function	DMX	Description
14	Gobo Rotation (continued)	189–190	Gobo Rotation > ... Gobo Rotation STOP
		190–193	Gobo Rotation STOP
		193–194	Gobo Rotation STOP ... < Gobo Rotation
		194–224	< Gobo Rotation ... << Gobo Rotation
		224–255	<< Gobo Rotation ... <<< Gobo Rotation
		255	<<< Gobo Rotation
15	Gobo Rotation Fine	0–255	Fine adjustment of CH 14
16	Gobo 2	0–9	Gobo 2 Select: Open
		10–17	G2-01 (Beam-Reducer TINY)
		18–25	G2-02 (Beam-Reducer LITTLE)
		26–33	G2-03 (Beam-Reducer SMALL)
		34–41	G2-04 (Beam-Reducer)
		42–49	G2-05 (Circle-Ovals)
		50–57	G2-06 (Bars)
		58–65	G2-08 (Round Star)
		66–73	G2-09 (4-Holes)
		74–81	G2-10 (Plus)
		82–89	G2-11 (4-Dots)
		90–97	G2-12 (Minus)
		98–105	G2-13 (Fan)
		106–109	G2-01 (Beam-Reducer TINY) slow
		110–112	G2-01 (Beam-Reducer TINY) fast
		113–116	G2-02 (Beam-Reducer LITTLE) slow
		117–119	G2-02 (Beam-Reducer LITTLE) fast
		120–123	G2-03 (Beam-Reducer SMALL) slow
		124–126	G2-03 (Beam-Reducer SMALL) fast
		127–130	G2-04 (Beam-Reducer) slow
		131–133	G2-04 (Beam-Reducer) fast
		134–137	G2-05 (Circle-Ovals) slow
		138–140	G2-05 (Circle-Ovals) fast
		141–144	G2-06 (Bars) slow
		145–147	G2-06 (Bars) fast
		148–151	G2-08 (Round Star) slow
		152–154	G2-08 (Round Star) fast
		155–158	G2-09 (4-Holes) slow
		159–161	G2-09 (4-Holes) fast
		162–165	G2-10 (Plus) slow
		166–168	G2-10 (Plus) fast
		169–172	G2-11 (4-Dots) slow
		173–175	G2-11 (4-Dots) fast
		176–179	G2-12 (Minus) slow
		180–182	G2-12 (Minus) fast

CH	Function	DMX	Description
16	Gobo 2 (continued)	183–186	G2-13 (Fan) slow
		187–189	G2-13 (Fan) fast
		190–198	Wheel2Spin >>>
		199–212	Wheel2Spin >>
		213–221	Wheel2Spin >
		222–223	Wheel2Spin STOP
		224–232	< Wheel2Spin
		233–246	<< Wheel2Spin
		247–255	<<< Wheel2Spin
17	Gobo 2 Fine	0–255	Fine adjustment of CH 16
18	Prism		Same as CH 12 in the mode “Standart (20Chan)” (p. 14)
19	Prism Rotation	0–16	180 ... 135
		16–32	135 ... 90
		32–48	90 ... 45
		48–64	45 ... 0
		64–79	0 ... -45
		79–95	-45 ... -90
		95–111	-90 ... -135
		111–127	-135 ... -180
		127	-180
		127–128	Prism Pos Index
		128–143	Prism Rotation >>>
		144–173	Prism Rotation >>
		174–189	Prism Rotation >
		190–193	Gobo Rotation STOP
		194–209	< Prism Rotation
		210–239	<< Prism Rotation
		240–255	<<< Prism Rotation
20	Prism Rotation Fine	0–255	Fine adjustment of CH 19
21	Focus	0–127	Near ... mid
		128–255	Mid ... far
		255	Far
22	Focus Fine	0–255	Fine adjustment of CH 21
23	Zoom	0–127	Narrow (3 Deg) ... medium (18 Deg)
		128–255	Medium (18 Deg) ... wide (33 Deg)
		255	Wide (33 Deg)
24	Zoom Fine	0–255	Fine adjustment of CH 23
25	Focus Distance		When CH 13 is 11–21:
		0–31	Auto Focus Off
		32–59	26ft / 8m
		60–87	29ft / 9m
		88–115	32ft / 10m

CH	Function	DMX	Description
25	Focus Distance (continued)	116–143	36ft / 11m
		144–171	39ft / 12m
		172–199	42ft / 13m
		200–227	46ft / 14m
		228–255	49ft / 15m
			When CH 13 is 0–10:
		0–21	Auto Focus Off
		22–39	26ft / 8m
		40–57	29ft / 9m
		58–75	32ft / 10m
		76–93	36ft / 11m
		94–111	39ft / 12m
		112–129	42ft / 13m
		130–147	46ft / 14m
		148–165	49ft / 15m
		166–183	52ft / 16m
		184–201	55ft / 17m
		202–219	59ft / 18m
		220–237	59ft / 18m ... 62ft / 19m
		237	62ft / 19m
		238–255	65ft / 20m
26	Focus Distance Fine	0–255	Fine adjustment of CH 25
27	Shutter		Same as CH 16 in the mode “Standart (20Chan)” (p. 15)
28	Dimmer		Same as CH 17 in the mode “Standart (20Chan)” (p. 16)
29	Dimmer Fine	0–255	Fine adjustment of CH 28
30	Frost		Same as CH 19 in the mode “Standart (20Chan)” (p. 16)
31	Color Macro Speed		Gobo / CMY / Color Macro Speed
		0	Fast
		1–127	Fast ... mid
		128	Mid
		129–254	Mid ... slow
		255	Slow
32	Color Macro		CMY / Color Macros
		0–31	Off
		32–39	Macro 1
		40–47	Macro 2
		48–55	Macro 3
		56–63	Macro 4
		64–71	Macro 5
		72–79	Macro 6
		80–87	Macro 7
		88–95	Macro 8

CH	Function	DMX	Description
32	Color Macro (continued)	96–103	Macro 9
		104–111	Macro 10
		112–119	Macro 11
		120–127	Macro 12
		128–135	Macro 13
		136–143	Macro 14
		144–151	Macro 15
		152–159	Macro 16
		160–167	Macro 17
		168–175	Macro 18
		176–183	Macro 19
		184–191	Macro 20
		192–199	Macro 21
		200–207	Macro 22
		208–215	Macro 23
		216–223	Macro 24
		224–231	Macro 25
		232–239	Macro 26
		240–247	Macro 27
		248–255	Random CMY
33	Speed Pan/Tilt	0	Pan/Tilt fast
		1–111	Pan/Tilt fast ... Pan/Tilt mid
		112	Pan/Tilt mid
		113–224	Pan/Tilt mid ... Pan/Tilt slow
		225	Pan/Tilt slow
		226–235	Blackout by Pan/Tilt Movement
		236–245	Blackout by All Wheel Movement
		246–255	No Function
34	Colors Mode		Same as CH 20 in the mode “Standart (20Chan)” (p. 16)

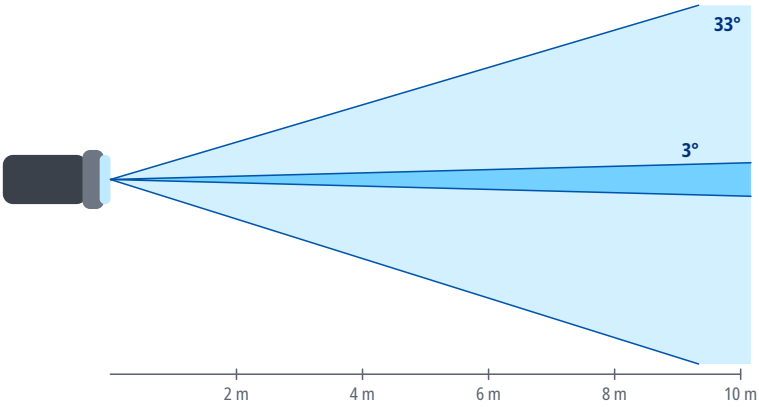
10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	480 W
Luminous flux	11,000 lm
Color temperature	7,205 K
Color rendering index (CRI)	78
Optics	
Zoom	3–33°
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45 IN/OUT
RDM	yes (manufacturer ID 0x22A6, device model ID 0x1496)
Electrical	
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	22.2 kg
Operating environment	
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–18 Hz
Color wheel 1 rotation	up to 180 °/s (30 rpm)
Gobo wheel 2 rotation	up to 180 °/s (30 rpm)
Gobo wheel 3 rotation	up to 180 °/s (30 rpm)
Gobo 2 rotation	up to 180 °/s (30 rpm)
Prism rotation	up to 180 °/s (30 rpm)

Spot diameter



Distance	Ø 3°	Ø 33°
2 m	0.1 m	1.2 m
4 m	0.21 m	2.4 m
6 m	0.31 m	3.6 m
8 m	0.42 m	4.7 m
10 m	0.52 m	5.9 m
15 m	0.79 m	8.9 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.