DMX REFERENCE

MORPHEUS 420

X-MORPHEUS 420

MATRIX



Manufacturer	MATRIX
GDTF file	MATRIX_MORPHEUS_420_88590.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 10
Mode Extended 11
Mode Standard 16
Mode Basic 20
10 Technical specifications 22
11 Maintenance and cleaning 23
12 Troubleshooting 23
13 Disposal 24

1 About this manual

This document describes the X-MORPHEUS 420 by MATRIX. It was compiled from the GDTF file MATRIX_MORPHEUS_420_88590.gdtf from the GDTF-Share library.

File revision: “VFFF”.

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 MATRIX; 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	550 W
Weight	18.9 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended	39	13	1, 40, 79, 118, ...
Standard	28	18	1, 29, 57, 85, ...
Basic	26	19	1, 27, 53, 79, ...

No light? Check these channels

- Extended: CH 6 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 7 Dimmer above 0
- Standard: CH 6 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 7 Dimmer above 0
- Basic: CH 4 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 5 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

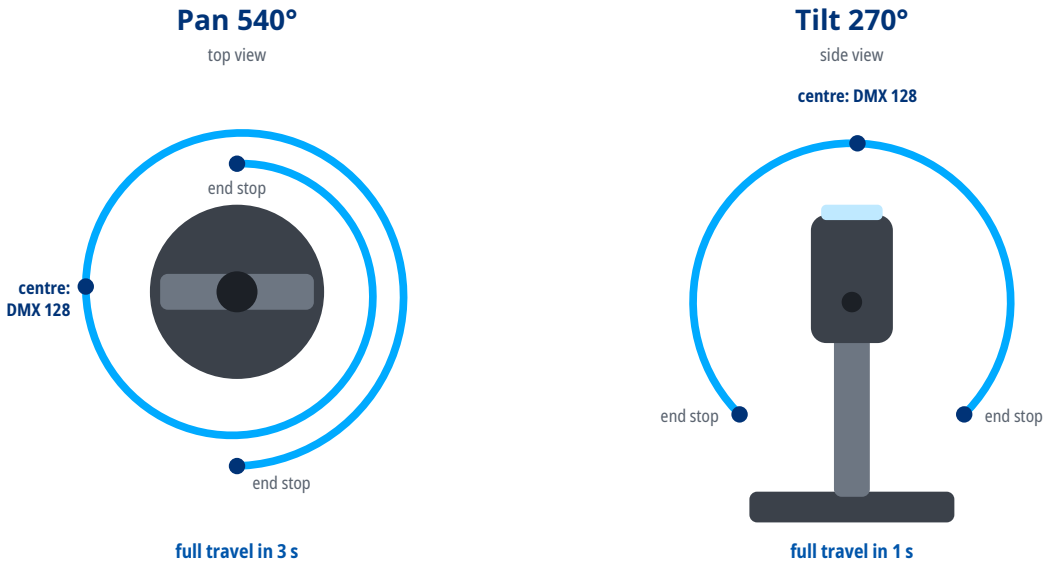
- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do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



Full-travel times as stated in the GDTF file.

5 Installation

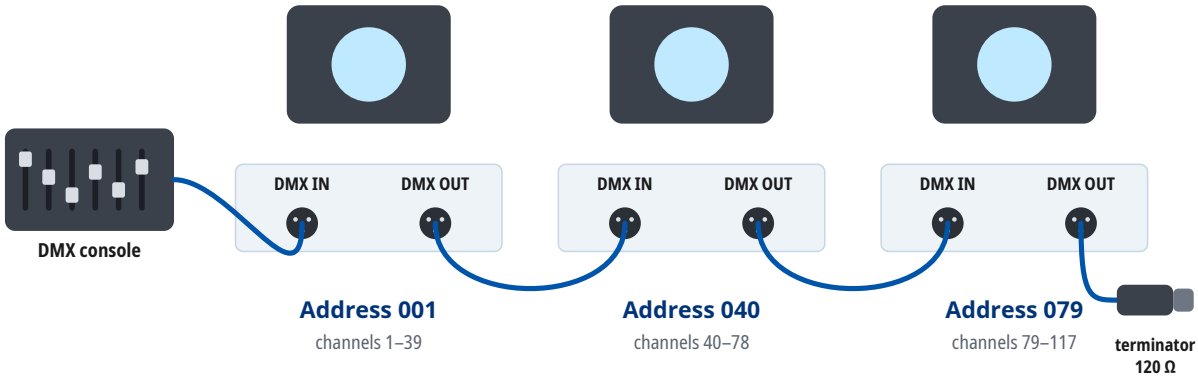
⚠ **WARNING**

- 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: 18.9 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: every unit occupies 39 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”: 39.
- 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”, you can use, for example, the start addresses 1, 40, 79, 118.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

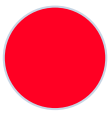
8 Functions at a glance

Functions in each DMX mode

	Extended 39 channels	Standard 28 channels	Basic 26 channels
Pan / Tilt	1, 3	1, 3	1, 2
Pan / Tilt resolution	16 bit	16 bit	8 bit
Dimmer	7	7	5
Dimmer resolution	16 bit	8 bit	8 bit
Shutter / strobe	6	6	4
Color mixing	20, 22, 24	16–18	14–16
Color temperature	26	19	17
Color wheel	18	15	13
Gobo wheel	28, 31	20, 22	18, 20
Gobo rotation	29	21	19
Prism	35, 36	25, 26	23, 24
Frost	38	27	25
Zoom	12	11	9
Focus	14, 16, 17	12–14	10–12

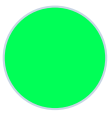
Color wheel

1.
Color 1: OPEN
DMX 0–3

2. 
Color 1: RED
DMX 4–7

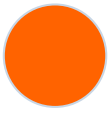
3. 
Color 1: BLUE
DMX 8–11

4.
Color 1: YELLOW
DMX 12–15

5. 
Color 1: GREEN
DMX 16–19

6. 
Color 1: MAGENTA
DMX 20–23

7. 
Color 1: LIGHT BLUE
DMX 24–27

8. 
ORANGE
DMX 28–32

Gobo wheel 1

1.
Gobo: Open
DMX 0–9

2. 
Gobo: G1
DMX 10–19

3. 
Gobo: G2 Lang
DMX 20–29

4. 
Gobo: G3
DMX 30–39

5. 
Gobo: G4
DMX 40–49

6. 
Gobo: G5
DMX 50–59

7. 
Gobo: G6
DMX 60–69

8. 
G7
DMX 70–78

Prism

1
Open
DMX 0–127

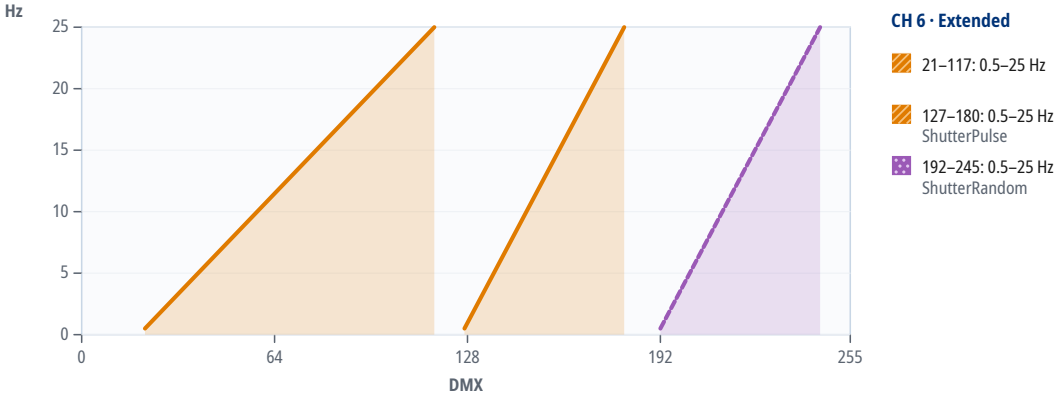
2 
5 facets
5-Facet
DMX 128–191

3 
6 facets
6-Facet Linear
DMX 192–255

Gobo wheel 2

1 Gobo: Open DMX 0–9	5 Gobo: G4 DMX 40–49	9 Gobo: G8 DMX 80–89
2 Gobo: G1 DMX 10–19	6 Gobo: G5 DMX 50–59	10 G9 DMX 90–100
3 Gobo: G2 DMX 20–29	7 Gobo: G6 DMX 60–69	
4 Gobo: G3 DMX 30–39	8 Gobo: G7 DMX 70–77	

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	196	11	391	16	U2 · 79
2	40	7	235	12	430	17	U2 · 118
3	79	8	274	13	469	18	U2 · 157
4	118	9	313	14	U2 · 1	19	U2 · 196
5	157	10	352	15	U2 · 40	20	U2 · 235

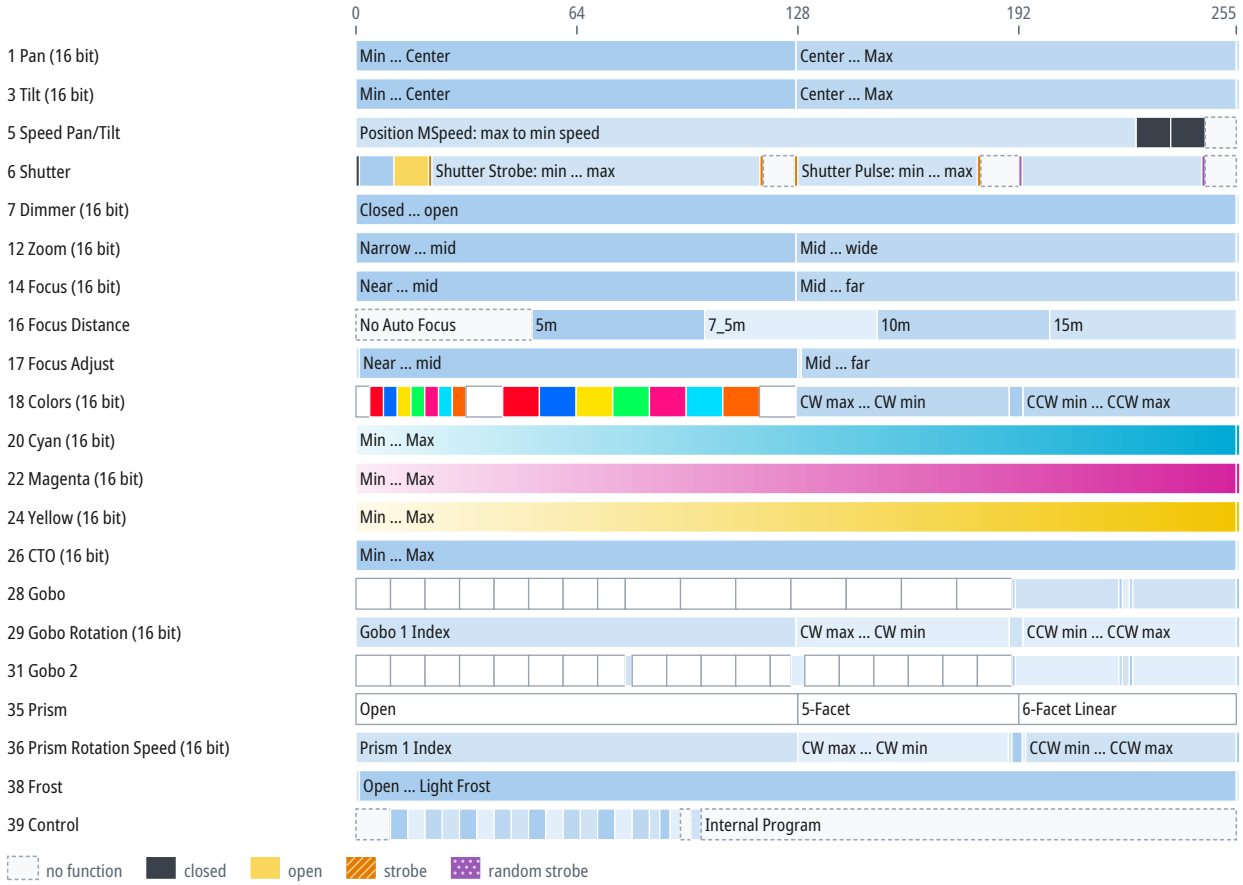
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Extended

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 6 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 11, CH 7 Dimmer 255, CH 18 Colors 0, CH 20 Cyan 0, CH 22 Magenta 0, CH 24 Yellow 0, CH 26 CTO 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
		226–235	Blackout by movement
		236–245	Blackout by all wheels
		246–255	No function
6	Shutter	0	LED OFF: Closed

CH	Function	DMX	Description
6	Shutter (continued)	1–10	LED OFF
		11–20	Open
		21	Shutter Strobe: min
		22–116	Shutter Strobe: min … max
		117	Shutter Strobe: max
		118–126	Open
		127	Shutter Pulse: min
		128–179	Shutter Pulse: min … max
		180	Shutter Pulse: max
		181–191	Open
		192	Shutter Random: min
		193–244	Shutter Random: min … max
		245	Shutter Random: max
		246–255	Open
7	Dimmer	0–255	Closed … open
		255	Open
8	Dimmer Fine	0–255	Fine adjustment of CH 7
12	Zoom	0–127	Narrow … mid
		128–255	Mid … wide
		255	Wide
13	Zoom Fine	0–255	Fine adjustment of CH 12
14	Focus		When CH 16 is 0–50:
		0–127	Near … mid
		128–255	Mid … far
		255	Far
			When CH 16 is 51–255:
		0–255	
15	Focus Fine	0–255	Fine adjustment of CH 14
16	Focus Distance	0–50	No Auto Focus
		51–100	5m
		101–150	7_5m
		151–200	10m
		201–255	15m
17	Focus Adjust		When CH 16 is 51–255:
		0	Near
		1–127	Near … mid
		128	Mid
		129–254	Mid … far
		255	Far
			When CH 16 is 0–50:
		0–255	
18	Colors	0–3	Color 1: OPEN

CH	Function	DMX	Description
18	Colors (continued)	4–7	Color 1: RED
		8–11	Color 1: BLUE
		12–15	Color 1: YELLOW
		16–19	Color 1: GREEN
		20–23	Color 1: MAGENTA
		24–27	Color 1: LIGHT BLUE
		28–31	Color 1: ORANGE
		32–42	Color 1 Index: Open
		42–53	Color 1 Index: RED
		53–64	Color 1 Index: BLUE
		64–74	Color 1 Index: YELLOW
		74–85	Color 1 Index: GREEN
		85–96	Color 1 Index: MAGENTA
		96–106	Color 1 Index: LIGHT BLUE
		106–117	Color 1 Index: ORANGE
		117–127	Color 1 Index: OPEN
		128–189	CW max ... CW min
		189	CW min
		190–193	Rainbow: stop
		194–255	CCW min ... CCW max
		255	CCW max
19	Colors Fine	0–255	Fine adjustment of CH 18
20	Cyan	0–255	Min ... Max
		255	Max
21	Cyan Fine	0–255	Fine adjustment of CH 20
22	Magenta	0–255	Min ... Max
		255	Max
23	Magenta Fine	0–255	Fine adjustment of CH 22
24	Yellow	0–255	Min ... Max
		255	Max
25	Yellow Fine	0–255	Fine adjustment of CH 24
26	CTO	0–255	Min ... Max
		255	Max
27	CTO Fine	0–255	Fine adjustment of CH 26
28	Gobo	0–9	Gobo: Open
		10–19	Gobo: G1
		20–29	Gobo: G2 Lang
		30–39	Gobo: G3
		40–49	Gobo: G4
		50–59	Gobo: G5
		60–69	Gobo: G6
		70–77	Gobo: G7

CH	Function	DMX	Description
28	Gobo (continued)	78–93	Gobo 1 Shake: G1 (0.5–10 Hz)
		94–109	Gobo 1 Shake: G2 Lang (0.5–10 Hz)
		110–125	Gobo 1 Shake: G3 (0.5–10 Hz)
		126–141	Gobo 1 Shake: G4 (0.5–10 Hz)
		142–157	Gobo 1 Shake: G5 (0.5–10 Hz)
		158–173	Gobo 1 Shake: G6 (0.5–10 Hz)
		174–189	Gobo 1 Shake: G7 (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
29	Gobo Rotation	0–127	Gobo 1 Index (360°)
		128–189	CW max ... CW min
		189	CW min
		190–193	Gobo 1 Rotation: stop
		194–255	CCW min ... CCW max
		255	CCW max
30	Gobo Rotation Fine	0–255	Fine adjustment of CH 29
31	Gobo 2	0–9	Gobo: Open
		10–19	Gobo: G1
		20–29	Gobo: G2
		30–39	Gobo: G3
		40–49	Gobo: G4
		50–59	Gobo: G5
		60–69	Gobo: G6
		70–77	Gobo: G7
		78–79	G7 ... G8
		80–89	Gobo: G8
		90–99	Gobo: G9
		100–109	Gobo 2 Shake: G1 (0.5–10 Hz)
		110–119	Gobo 2 Shake: G2 (0.5–10 Hz)
		120–125	Gobo 2 Shake: G3 (0.5–10 Hz)
		126–129	G3 ... G4
		130–139	Gobo 2 Shake: G4 (0.5–10 Hz)
		140–149	Gobo 2 Shake: G5 (0.5–10 Hz)
		150–159	Gobo 2 Shake: G6 (0.5–10 Hz)
		160–169	Gobo 2 Shake: G7 (0.5–10 Hz)
		170–179	Gobo 2 Shake: G8 (0.5–10 Hz)
		180–189	Gobo 2 Shake: G9 (0.5–10 Hz)

CH	Function	DMX	Description
31	Gobo 2 (continued)	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
35	Prism	0–127	Open
		128–191	5-Facet
		192–255	6-Facet Linear
36	Prism Rotation Speed	0–128	Prism 1 Index (360°)
		128–189	CW max … CW min
		189–190	CW min … stop
		190–193	Prism 1 Rotation: stop
		193–194	Stop … CCW min
		194–255	CCW min … CCW max
		255	CCW max
37	Prism Rotation Speed Fine	0–255	Fine adjustment of CH 36
38	Frost	0	Open
		1–254	Open … Light Frost
		255	Light Frost
39	Control	0–9	Display: No Function
		10–14	Display Off
		15–19	Display On
		20–24	Display Inv Off
		25–29	Display Inv On
		30–34	Auto Fan
		35–39	Stage Fan
		40–44	Silence Fan
		45–49	Super Silence Fan
		50–54	Square Law
		55–59	Linear
		60–64	1200 Hz
		65–69	2400 Hz
		70–74	16000 Hz
		75–79	LEDFrequency
		80–84	All Motor Reset
		85–87	Scan Motor Reset
		88–90	Color Motor Reset
		91–93	Gobo Motor Reset

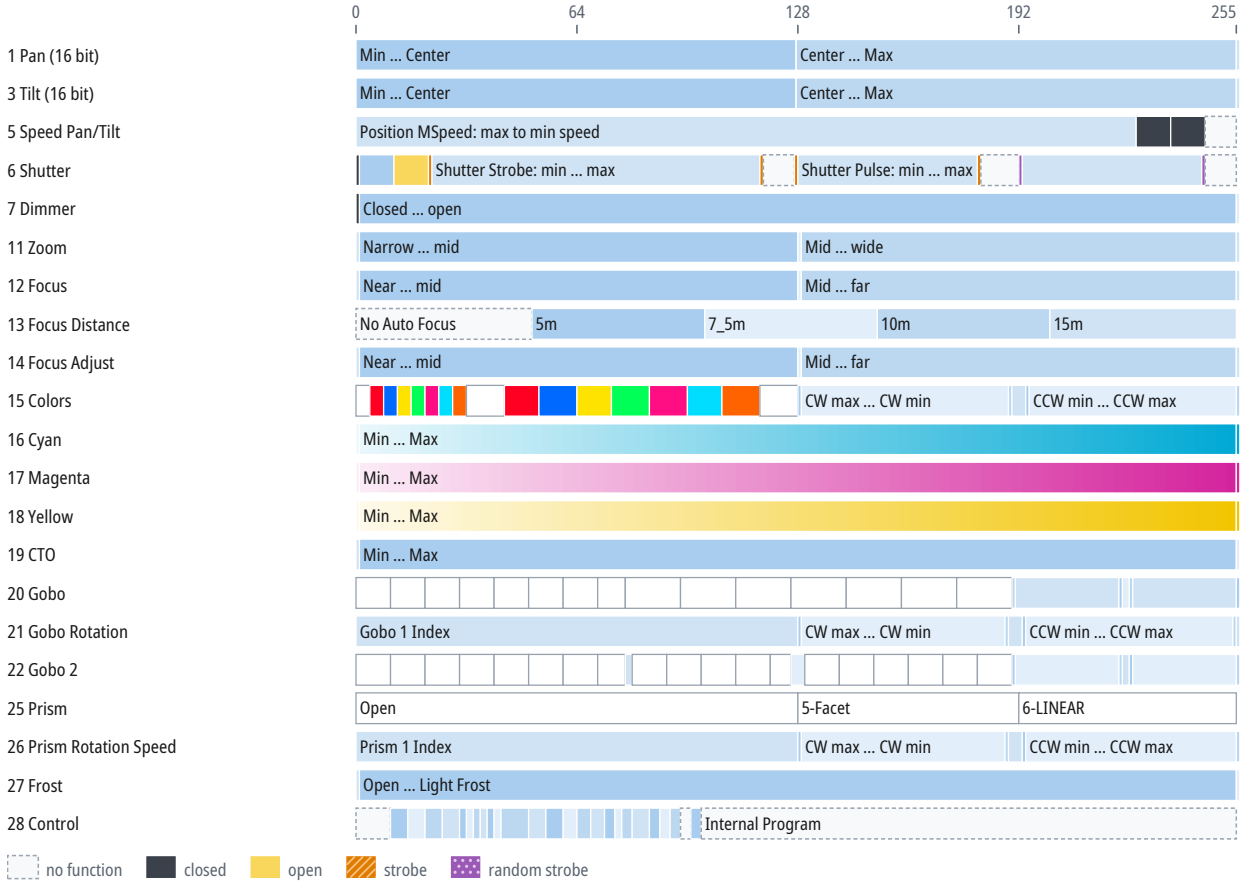
CH	Function	DMX	Description
39	Control (continued)	94–96	Motor Reset: No Function
		97–99	Other Motor Reset
		100–255	Internal Program

Mode Standard

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 6 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 11, CH 7 Dimmer 255, CH 15 Colors 0, CH 16 Cyan 0, CH 17 Magenta 0, CH 18 Yellow 0, CH 19 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “Extended” (p. 11)
6	Shutter		Same as CH 6 in the mode “Extended” (p. 11)
7	Dimmer	0	Closed

CH	Function	DMX	Description
7	Dimmer (continued)	1–254	Closed … open
		255	Open
11	Zoom	0	Narrow
		1–127	Narrow … mid
		128	Mid
		129–254	Mid … wide
		255	Wide
12	Focus		When CH 13 is 0–50:
		0	Near
		1–127	Near … mid
		128	Mid
		129–254	Mid … far
		255	Far
			When CH 13 is 51–255:
		0–255	
13	Focus Distance		Same as CH 16 in the mode “Extended” (p. 12)
14	Focus Adjust		When CH 13 is 51–255:
		0	Near
		1–127	Near … mid
		128	Mid
		129–254	Mid … far
		255	Far
			When CH 13 is 0–50:
		0–255	
15	Colors	0–3	Color 1: Open
		4–7	Color 1: RED
		8–11	Color 1: BLUE
		12–15	Color 1: YELLOW
		16–19	Color 1: GREEN
		20–23	Color 1: MAGENTA
		24–27	Color 1: LIGHT BLUE
		28–31	Color 1: ORANGE
		32–42	Color 1 Index: Open
		43–52	Color 1 Index: RED
		53–63	Color 1 Index: BLUE
		64–73	Color 1 Index: YELLOW
		74–84	Color 1 Index: GREEN
		85–95	Color 1 Index: MAGENTA
		96–105	Color 1 Index: LIGHT BLUE
		106–116	Color 1 Index: ORANGE
		117–127	Color 1 Index: Open

CH	Function	DMX	Description
15	Colors (continued)	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
16	Cyan	0	Min
		1–254	Min … Max
		255	Max
17	Magenta	0	Min
		1–254	Min … Max
		255	Max
18	Yellow	0	Min
		1–254	Min … Max
		255	Max
19	CTO	0	Min
		1–254	Min … Max
		255	Max
20	Gobo	0–9	Gobo: Open
		10–19	Gobo: G1
		20–29	Gobo: G2 LANG
		30–39	Gobo: G3
		40–49	Gobo: G4
		50–59	Gobo: G5
		60–69	Gobo: G6
		70–77	Gobo: G7
		78–93	Gobo 1 Shake: G1 (0.5–10 Hz)
		94–109	Gobo 1 Shake: G2 LANG (0.5–10 Hz)
		110–125	Gobo 1 Shake: G3 (0.5–10 Hz)
		126–141	Gobo 1 Shake: G4 (0.5–10 Hz)
		142–157	Gobo 1 Shake: G5 (0.5–10 Hz)
		158–173	Gobo 1 Shake: G6 (0.5–10 Hz)
		174–189	Gobo 1 Shake: G7 (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
21	Gobo Rotation	0–127	Gobo 1 Index (360°)

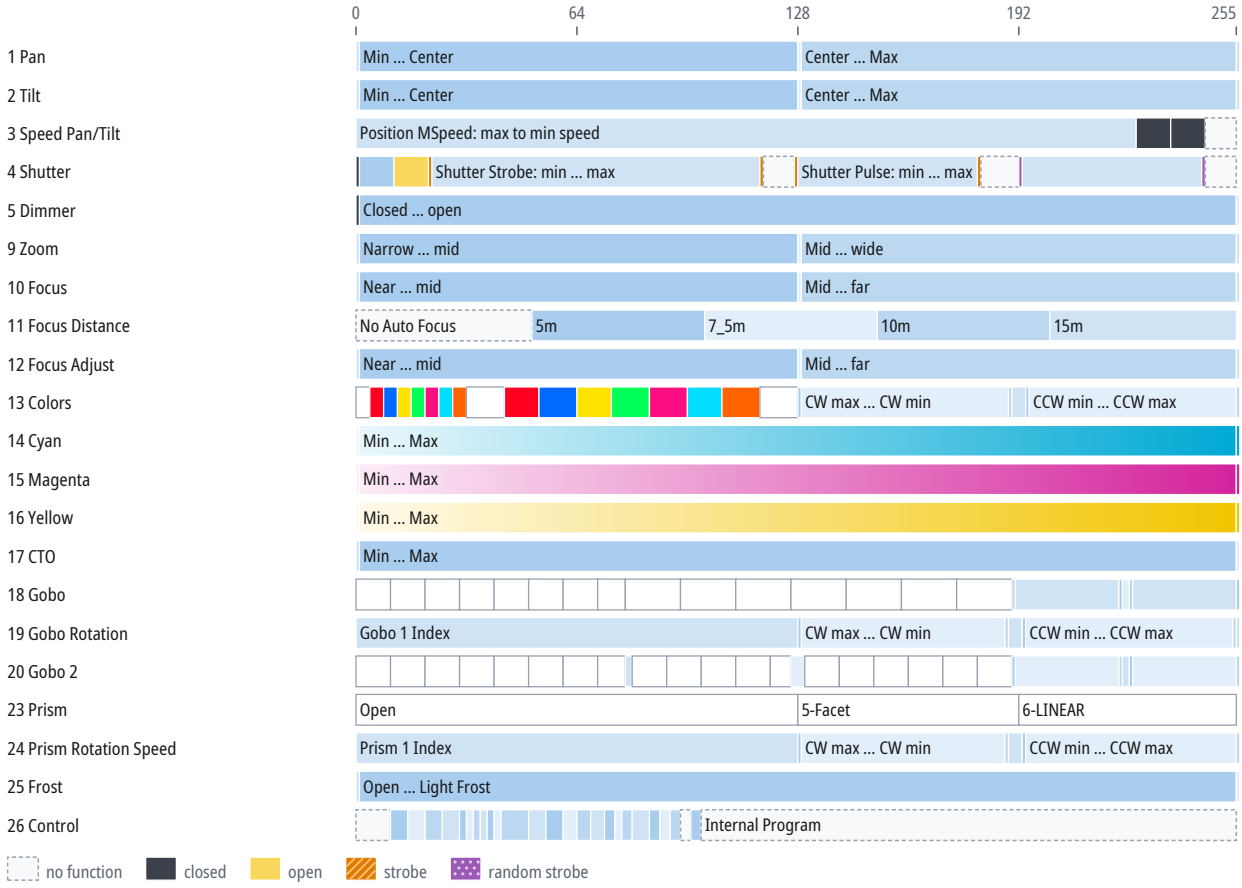
CH	Function	DMX	Description
21	Gobo Rotation (continued)	128	CW max
		129–187	CW max ... CW min
		188	CW min
		189–192	Gobo 1 Rotation: stop
		193	CCW min
		194–253	CCW min ... CCW max
		254	CCW max
		255	Gobo 1 Rotation
22	Gobo 2		Same as CH 31 in the mode “Extended” (p. 14)
25	Prism	0–127	Open
		128–191	5-Facet
		192–255	6-LINEAR
26	Prism Rotation Speed	0–127	Prism 1 Index (360°)
		128	CW max
		129–187	CW max ... CW min
		188	CW min
		189–192	Prism 1 Rotation: stop
		193	CCW min
		194–254	CCW min ... CCW max
		255	CCW max
27	Frost		Same as CH 38 in the mode “Extended” (p. 15)
28	Control	0–9	Display: No Function
		10–14	Display Off
		15–19	Display On
		20–24	Display Inv Off
		25–29	Display Inv On
		30–31	Auto Fan
		32–33	Stage Fan
		34–35	Silence Fan
		36–37	Super Silence Fan
		38–39	Constant Fan OFF
		40–41	Constant Fan ON
		42–49	Unused
		50–54	Square Law
		55–59	Linear
		60–63	1200 Hz
		64–67	2400 Hz
		68–71	16000 Hz
		72–74	25000 Hz
		75–76	Gobo Correction Off
		77–79	Gobo Correction On
		80–84	All Motor Reset

CH	Function	DMX	Description
28	Control (continued)	85–87	Scan Motor Reset
		88–90	Color Motor Reset
		91–93	Gobo Motor Reset
		94–96	Motor Reset: No Function
		97–99	Other Motor Reset
		100–255	Internal Program

Mode Basic

If the device receives DMX in this mode but gives no light, check these channels: CH 4 Shutter at 11–20, 118–126, 181–191 or 246–255 “open”; CH 5 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 4 Shutter 11, CH 5 Dimmer 255, CH 13 Colors 0, CH 14 Cyan 0, CH 15 Magenta 0, CH 16 Yellow 0, CH 17 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0	Min
		1–127	Min ... Center
		128	Center
		129–254	Center ... Max
		255	Max
2	Tilt	0	Min
		1–127	Min ... Center
		128	Center
		129–254	Center ... Max
		255	Max
3	Speed Pan/Tilt		Same as CH 5 in the mode “Extended” (p. 11)
4	Shutter		Same as CH 6 in the mode “Extended” (p. 11)
5	Dimmer		Same as CH 7 in the mode “Standard” (p. 16)
9	Zoom		Same as CH 11 in the mode “Standard” (p. 17)
10	Focus		When CH 11 is 0–50:
		0	Near
		1–127	Near ... mid
		128	Mid
		129–254	Mid ... far
		255	Far
			When CH 11 is 51–255:
		0–255	
11	Focus Distance		Same as CH 16 in the mode “Extended” (p. 12)
12	Focus Adjust		When CH 11 is 51–255:
		0	Near
		1–127	Near ... mid
		128	Mid
		129–254	Mid ... far
		255	Far
			When CH 11 is 0–50:
		0–255	
13	Colors		Same as CH 15 in the mode “Standard” (p. 17)
14	Cyan		Same as CH 16 in the mode “Standard” (p. 18)
15	Magenta		Same as CH 17 in the mode “Standard” (p. 18)
16	Yellow		Same as CH 18 in the mode “Standard” (p. 18)
17	CTO		Same as CH 19 in the mode “Standard” (p. 18)
18	Gobo		Same as CH 20 in the mode “Standard” (p. 18)
19	Gobo Rotation		Same as CH 21 in the mode “Standard” (p. 18)
20	Gobo 2		Same as CH 31 in the mode “Extended” (p. 14)
23	Prism		Same as CH 25 in the mode “Standard” (p. 19)

CH	Function	DMX	Description
24	Prism Rotation Speed		Same as CH 26 in the mode “Standard” (p. 19)
25	Frost		Same as CH 38 in the mode “Extended” (p. 15)
26	Control		Same as CH 28 in the mode “Standard” (p. 19)

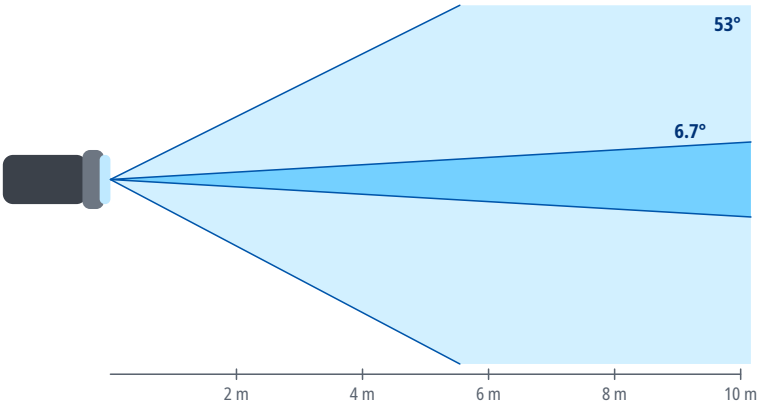
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	300 W
Luminous flux	18,000 lm
Color temperature	7,000 K
Color rendering index (CRI)	72
Optics	
Zoom	6.7–53°
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	5-pin XLR IN/OUT
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	550 W
Power connectors	PowerConBlue IN, NAC3FCB OUT
Dimensions and construction	
Weight	18.9 kg
Operating environment	
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2800–6000 K
Strobe frequency	0.5–25 Hz
LED frequency	1200–16000 Hz
Color wheel rotation	up to 1800 °/s (300 rpm)
Gobo 1 rotation	up to 876 °/s (146 rpm)
Prism rotation	up to 600 °/s (100 rpm)

Spot diameter



Distance	Ø 6.7°	Ø 53°
2 m	0.23 m	2 m
4 m	0.47 m	4 m
6 m	0.7 m	6 m
8 m	0.94 m	8 m
10 m	1.2 m	10 m
15 m	1.8 m	15 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.