DMX REFERENCE

Live FX Virtual Fixture

Assimilate Live FX Application and Fixture Control

Assimilate Inc

Manufacturer	Assimilate Inc
GDTF file	Assimilate_Inc_Live_FX_Virtual_Fixture_120314.gdtf
GDTF revision	Added Channelsets for Slots and Versions in Switcher Profile · 2025-12-07
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1 About this manual

This document describes the Assimilate Live FX Application and Fixture Control by Assimilate Inc. It was compiled from the GDTF file Assimilate_Inc_Live_FX_Virtual_Fixture_120314.gdtf from the GDTF-Share library.

File revision: “Added Channelsets for Slots and Versions in Switcher Profile”.

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 Assimilate Inc; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
LFX Fixture Full	55	9	1, 56, 111, 166, ...
LFX Fixture Sampler	12	42	1, 13, 25, 37, ...
LFX Player Control	5	102	1, 6, 11, 16, ...
LFX CDL Grade	20	25	1, 21, 41, 61, ...
LFX Light Cards	19	26	1, 20, 39, 58, ...
LFX Switcher Input	9	56	1, 10, 19, 28, ...

No light? Check these channels

- LFX Fixture Full: CH 1 Dimmer above 0; CH 46 Color Brightness above 0


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.

4 Product description

Description in the GDTF file

“This virtual fixture maps a series of properties as defined in Assimilate Live FX Virtual Production software. (remote) Control the color sampling and color grade of a fixture in Live FX, which in turn is mapped to a physical fixture. Control general application functions like player state, version selection. Control CDL grading parameters.”

5 Installation

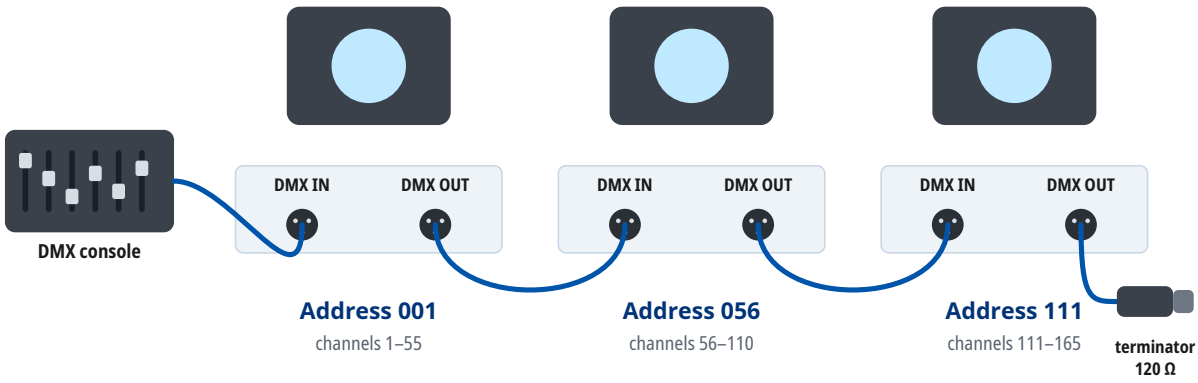
⚠ WARNING

- 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.
- 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 LFX Fixture Full: every unit occupies 55 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 “LFX Fixture Full”: 55.
- 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 “LFX Fixture Full”, you can use, for example, the start addresses 1, 56, 111, 166.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

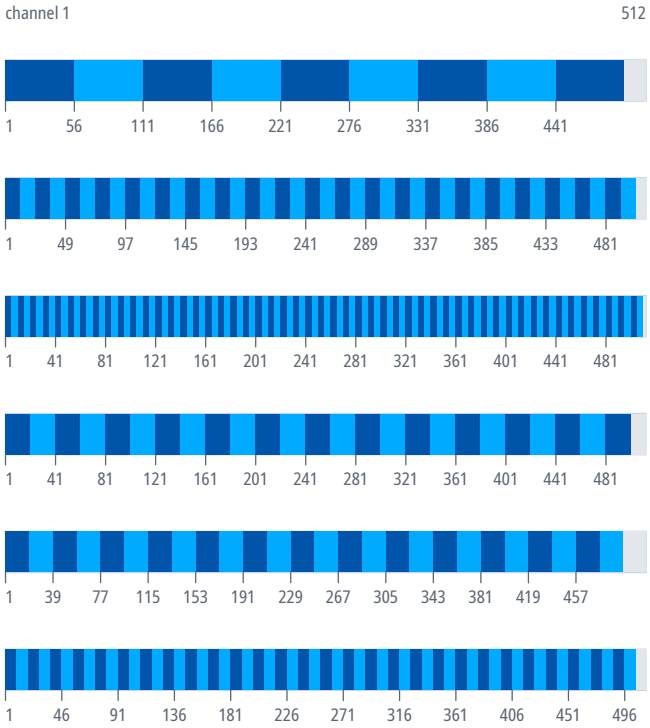
8 Functions at a glance

Functions in each DMX mode

	LFX Fixture Full 55 channels	LFX Fixture Sampler 12 channels	LFX Player Control 5 channels	LFX CDL Grade 20 channels	LFX Light Cards 19 channels	LFX Switcher Input 9 channels
Dimmer	1					
Color mixing					2, 4, 6	

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “LFX Fixture Full”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	276	11	U2 · 56	16	U2 · 331
2	56	7	331	12	U2 · 111	17	U2 · 386
3	111	8	386	13	U2 · 166	18	U2 · 441
4	166	9	441	14	U2 · 221	19	U3 · 1
5	221	10	U2 · 1	15	U2 · 276	20	U3 · 56

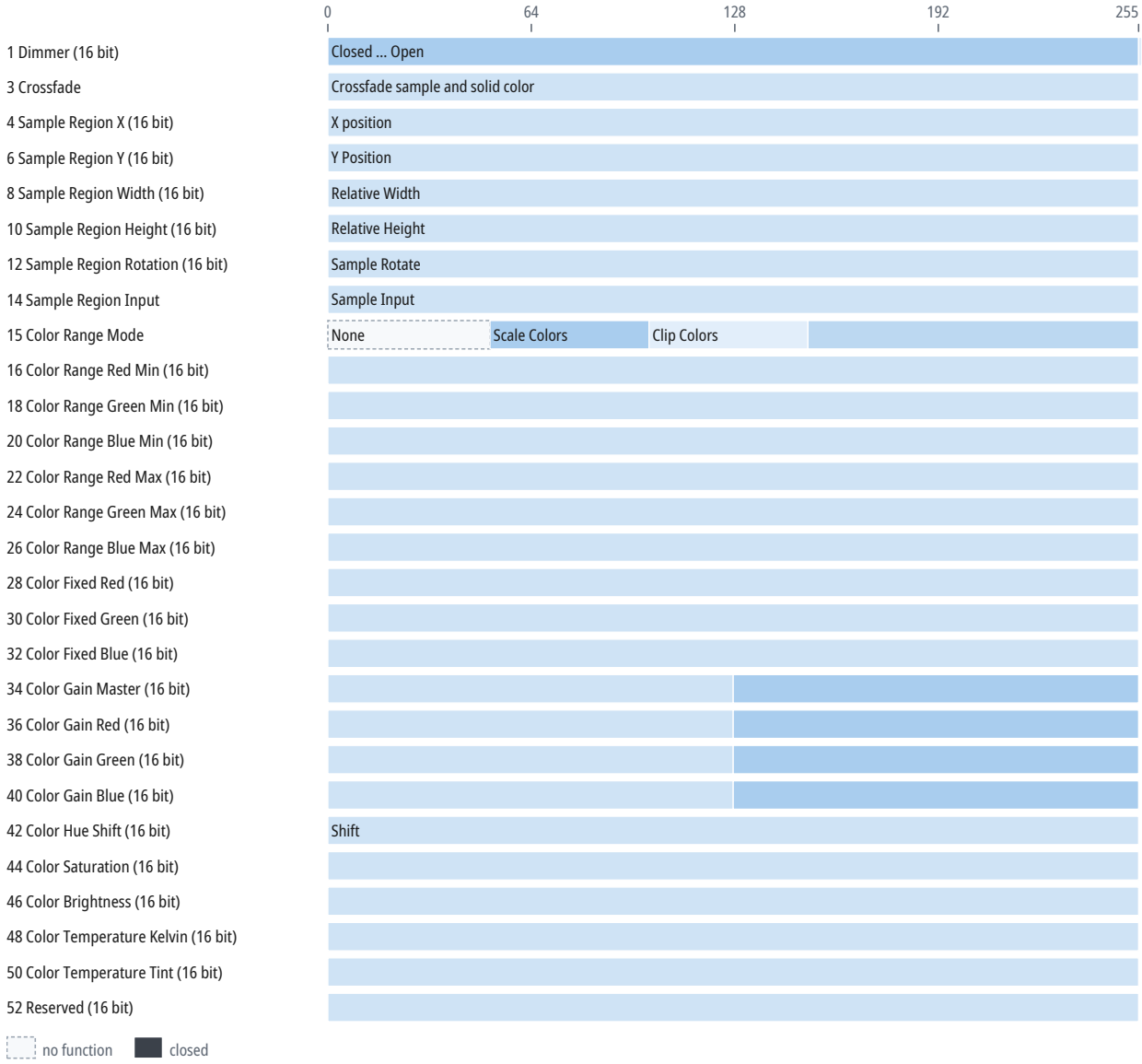
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode LFX Fixture Full

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

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 46 Color Brightness above 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0–255	Closed ... Open
		255	Open
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Crossfade	0–255	Crossfade sample and solid color
4	Sample Region X		Sample X
		0–255	X position
5	Sample Region X Fine	0–255	Fine adjustment of CH 4
6	Sample Region Y		Sample Y

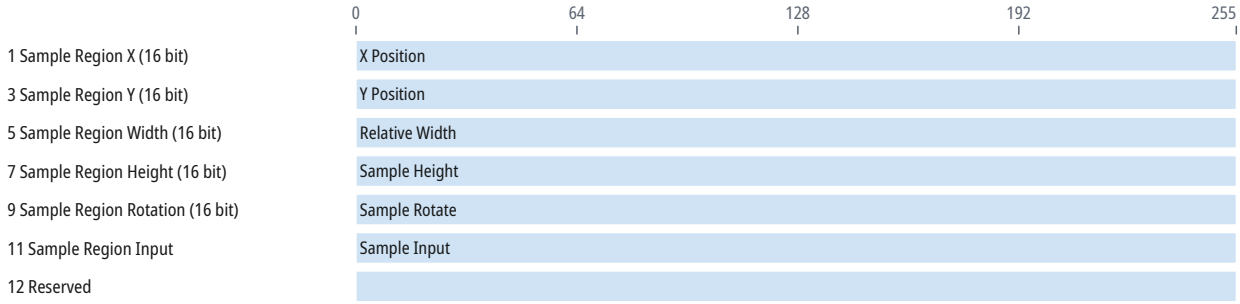
CH	Function	DMX	Description
6	Sample Region Y (continued)	0–255	Y Position
7	Sample Region Y Fine	0–255	Fine adjustment of CH 6
8	Sample Region Width		Sample Width
		0–255	Relative Width
9	Sample Region Width Fine	0–255	Fine adjustment of CH 8
10	Sample Region Height		Sample Height
		0–255	Relative Height
11	Sample Region Height Fine	0–255	Fine adjustment of CH 10
12	Sample Region Rotation		Sample Rotate
		0–255	Sample Rotate
13	Sample Region Rotation Fine	0–255	Fine adjustment of CH 12
14	Sample Region Input		Sample Input
		0–255	Sample Input
15	Color Range Mode	0–50	None
		51–100	Scale Colors
		101–150	Clip Colors
		151–255	Color Range Mode
16	Color Range Red Min	0–255	
17	Color Range Red Min Fine	0–255	Fine adjustment of CH 16
18	Color Range Green Min	0–255	
19	Color Range Green Min Fine	0–255	Fine adjustment of CH 18
20	Color Range Blue Min	0–255	
21	Color Range Blue Min Fine	0–255	Fine adjustment of CH 20
22	Color Range Red Max	0–255	
23	Color Range Red Max Fine	0–255	Fine adjustment of CH 22
24	Color Range Green Max	0–255	
25	Color Range Green Max Fine	0–255	Fine adjustment of CH 24
26	Color Range Blue Max	0–255	
27	Color Range Blue Max Fine	0–255	Fine adjustment of CH 26
28	Color Fixed Red	0–255	
29	Color Fixed Red Fine	0–255	Fine adjustment of CH 28
30	Color Fixed Green	0–255	
31	Color Fixed Green Fine	0–255	Fine adjustment of CH 30
32	Color Fixed Blue	0–255	
33	Color Fixed Blue Fine	0–255	Fine adjustment of CH 32
34	Color Gain Master	0–255	Color Gain Master
35	Color Gain Master Fine	0–255	Fine adjustment of CH 34
36	Color Gain Red	0–255	Color Gain Red
37	Color Gain Red Fine	0–255	Fine adjustment of CH 36
38	Color Gain Green	0–255	Color Gain Green
39	Color Gain Green Fine	0–255	Fine adjustment of CH 38
40	Color Gain Blue	0–255	Color Gain Blue

CH	Function	DMX	Description
41	Color Gain Blue Fine	0–255	Fine adjustment of CH 40
42	Color Hue Shift	0–255	Shift
43	Color Hue Shift Fine	0–255	Fine adjustment of CH 42
44	Color Saturation	0–255	
45	Color Saturation Fine	0–255	Fine adjustment of CH 44
46	Color Brightness	0–255	
47	Color Brightness Fine	0–255	Fine adjustment of CH 46
48	Color Temperature Kelvin	0–255	
49	Color Temperature Kelvin Fine	0–255	Fine adjustment of CH 48
50	Color Temperature Tint	0–255	
51	Color Temperature Tint Fine	0–255	Fine adjustment of CH 50
52	Reserved	0	
53	Reserved Fine	0–255	Fine adjustment of CH 52
54	Reserved Fine 2	0–255	
55	Reserved Fine 3	0–255	

Mode LFX Fixture Sampler

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

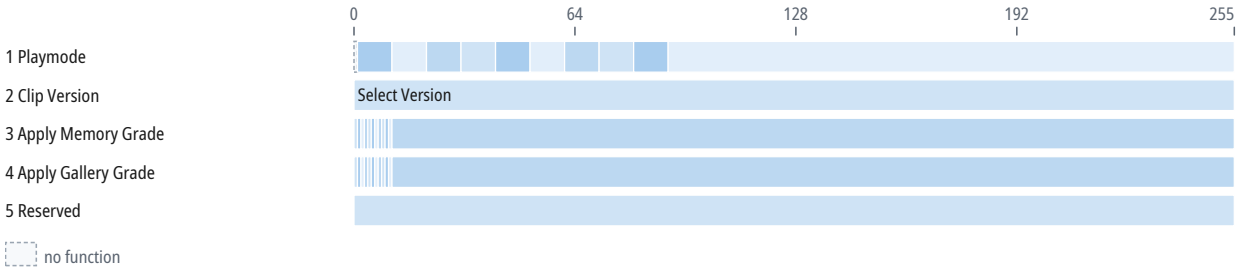
Channel functions at a glance



CH	Function	DMX	Description
1	Sample Region X		Sample X
		0–255	X Position
2	Sample Region X Fine	0–255	Fine adjustment of CH 1
3	Sample Region Y		Same as CH 6 in the mode “LFX Fixture Full” (p. 8)
4	Sample Region Y Fine	0–255	Fine adjustment of CH 3
5	Sample Region Width		Same as CH 8 in the mode “LFX Fixture Full” (p. 9)
6	Sample Region Width Fine	0–255	Fine adjustment of CH 5
7	Sample Region Height		Sample Height
		0–255	Sample Height
8	Sample Region Height Fine	0–255	Fine adjustment of CH 7
9	Sample Region Rotation		Same as CH 12 in the mode “LFX Fixture Full” (p. 9)
10	Sample Region Rotation Fine	0–255	Fine adjustment of CH 9
11	Sample Region Input		Same as CH 14 in the mode “LFX Fixture Full” (p. 9)
12	Reserved	0–255	

Mode LFX Player Control

Channel functions at a glance

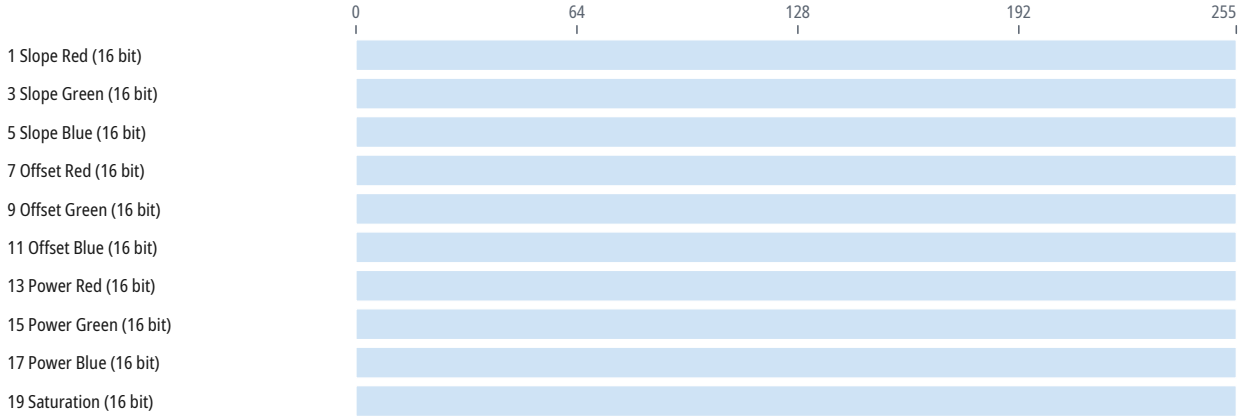


CH	Function	DMX	Description
1	Playmode	0	None
		1–10	Pause
		11–20	Play Frw
		21–30	Play Rev
		31–40	Goto Start
		41–50	Goto End
		51–60	Frame Frw
		61–70	Frame Rev
		71–80	Keyframe Frw
		81–90	Keyframe Rev
		91–255	Playmode
2	Clip Version		Select Version
		0–255	Select Version
3	Apply Memory Grade	0	Apply Memory Grade
		1–10	Grade 1...10
		11–255	Apply Memory Grade
4	Apply Gallery Grade	0	Apply Gallery Grade
		1–10	Grade 1...10
		11–255	Apply Gallery Grade
5	Reserved	0–255	

Mode LFX CDL Grade

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

Channel functions at a glance

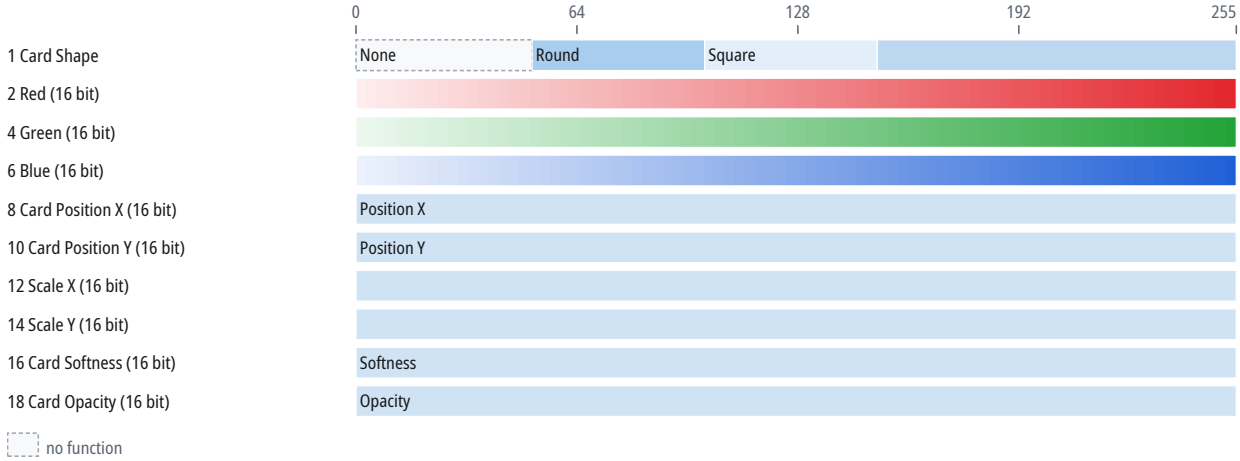


CH	Function	DMX	Description
1	Slope Red	0–255	
2	Slope Red Fine	0–255	Fine adjustment of CH 1
3	Slope Green	0–255	
4	Slope Green Fine	0–255	Fine adjustment of CH 3
5	Slope Blue	0–255	
6	Slope Blue Fine	0–255	Fine adjustment of CH 5
7	Offset Red	0–255	
8	Offset Red Fine	0–255	Fine adjustment of CH 7
9	Offset Green	0–255	
10	Offset Green Fine	0–255	Fine adjustment of CH 9
11	Offset Blue	0–255	
12	Offset Blue Fine	0–255	Fine adjustment of CH 11
13	Power Red	0–255	
14	Power Red Fine	0–255	Fine adjustment of CH 13
15	Power Green	0–255	
16	Power Green Fine	0–255	Fine adjustment of CH 15
17	Power Blue	0–255	
18	Power Blue Fine	0–255	Fine adjustment of CH 17
19	Saturation	0–255	
20	Saturation Fine	0–255	Fine adjustment of CH 19

Mode LFX Light Cards

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

Channel functions at a glance

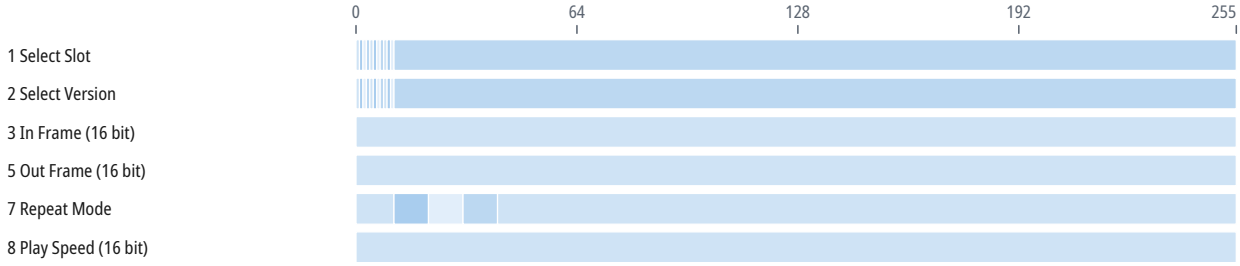


CH	Function	DMX	Description
1	Card Shape	0–50	None
		51–100	Round
		101–150	Square
		151–255	Card Shape
2	Red	0–255	
3	Red Fine	0–255	Fine adjustment of CH 2
4	Green	0–255	
5	Green Fine	0–255	Fine adjustment of CH 4
6	Blue	0–255	
7	Blue Fine	0–255	Fine adjustment of CH 6
8	Card Position X		Position X
		0–255	Position X
9	Card Position X Fine	0–255	Fine adjustment of CH 8
10	Card Position Y		Position Y
		0–255	Position Y
11	Card Position Y Fine	0–255	Fine adjustment of CH 10
12	Scale X	0–255	Scale X
13	Scale X Fine	0–255	Fine adjustment of CH 12
14	Scale Y	0–255	Scale Y
15	Scale Y Fine	0–255	Fine adjustment of CH 14
16	Card Softness	0–255	Softness
17	Card Softness Fine	0–255	Fine adjustment of CH 16
18	Card Opacity	0–255	Opacity
19	Card Opacity Fine	0–255	Fine adjustment of CH 18

Mode LFX Switcher Input

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

Channel functions at a glance



CH	Function	DMX	Description
1	Select Slot	0	Select_Slot
		1–10	Slot 1...10
		11–255	Select_Slot
2	Select Version	0	Select_Version
		1–10	Ver 1...10
		11–255	Select_Version
3	In Frame	0–255	
4	In Frame Fine	0–255	Fine adjustment of CH 3
5	Out Frame	0–255	
6	Out Frame Fine	0–255	Fine adjustment of CH 5
7	Repeat Mode	0–10	Loop
		11–20	Once
		21–30	Bounce
		31–40	Reverse
		41–255	Repeat_Mode
8	Play Speed	0–255	
9	Play Speed Fine	0–255	Fine adjustment of CH 8

10 Technical specifications

Parameter	Value
Operating temperature	0 to 40 °C

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.

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.