DMX REFERENCE

ChromaWorx Chroma Control

ChromaWorx

Manufacturer	ChromaWorx
GDTF file	ChromaWorx_Chromaworx_Chroma_Control_121303.gdtf
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1 About this manual

This document describes the ChromaWorx Chroma Control by ChromaWorx. It was compiled from the GDTF file ChromaWorx_Chromaworx_Chroma_Control_121303.gdtf from the GDTF-Share library.

File revision: “V1-1”.

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 ChromaWorx; 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
Chroma Control V1-1 85ch	85	6	1, 86, 171, 256, ...

No light? Check these channels

- Chroma Control V1-1 85ch: CH 2 Dimmer 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 fixture profile controls the individual Chromas in the ChromaWorx software.”

5 Installation

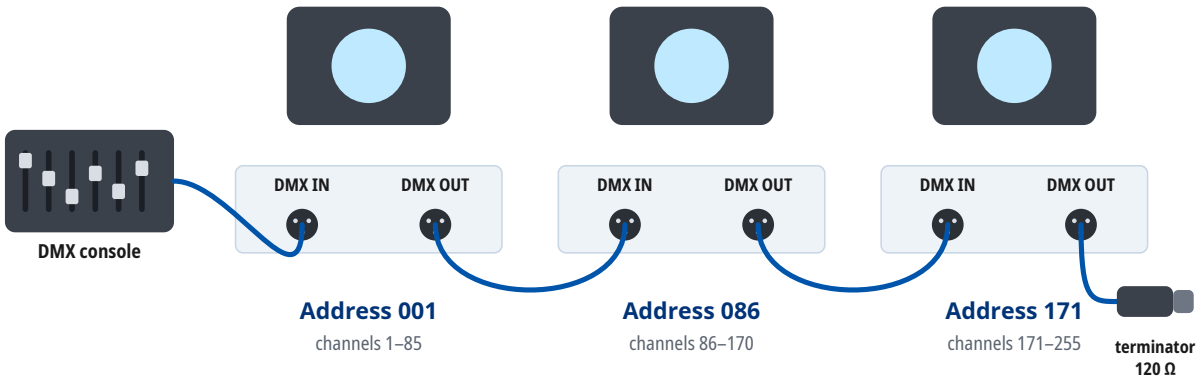
⚠ WARNING

- 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 Chroma Control V1-1 85ch: every unit occupies 85 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 “Chroma Control V1-1 85ch”: 85.
- 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 “Chroma Control V1-1 85ch”, you can use, for example, the start addresses 1, 86, 171, 256.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

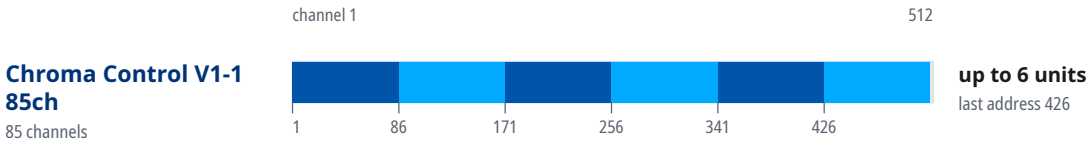
8 Functions at a glance

Functions in each DMX mode

	Chroma Control V1-1 85ch 85 channels
Dimmer	2
Color mixing	14, 16, 18

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Chroma Control V1-1 85ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	426	11	U2 · 341	16	U3 · 256
2	86	7	U2 · 1	12	U2 · 426	17	U3 · 341
3	171	8	U2 · 86	13	U3 · 1	18	U3 · 426
4	256	9	U2 · 171	14	U3 · 86	19	U4 · 1
5	341	10	U2 · 256	15	U3 · 171	20	U4 · 86

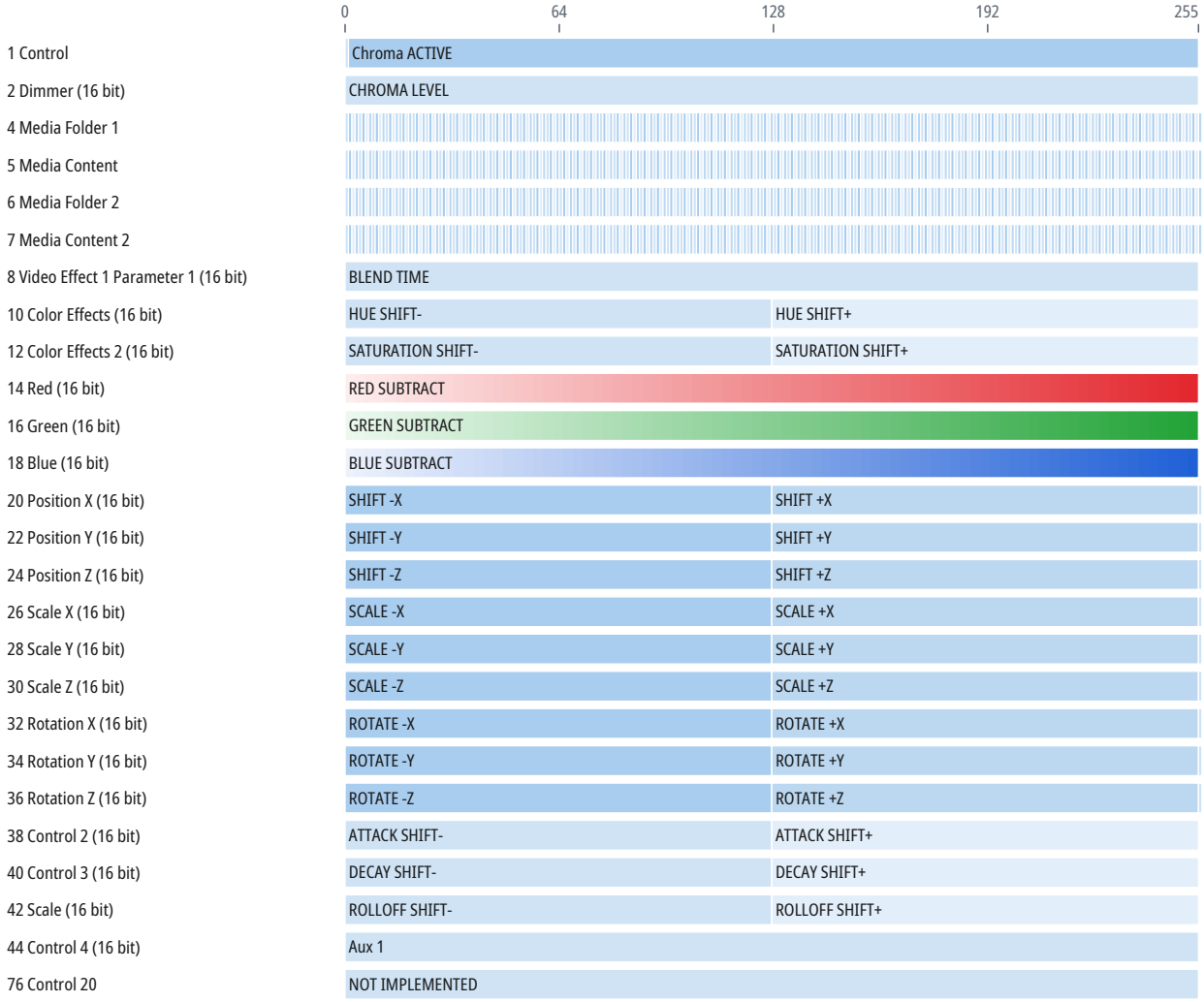
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Chroma Control V1-1 85ch

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 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 2 Dimmer 255, CH 14 Red 255, CH 16 Green 255, CH 18 Blue 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Control		Chroma TOGGLE
		0	Chroma OFF
		1–255	Chroma ACTIVE
2	Dimmer	0–255	CHROMA LEVEL
3	Dimmer Fine	0–255	Fine adjustment of CH 2
4	Media Folder 1		Group BANK
		0–190	GROUP BANK 0...190
		191	GROUP BANK 192
		192	GROUP BANK 192 ... GROUP BANK 193
		193–255	GROUP BANK 193...255

CH	Function	DMX	Description
5	Media Content		Group SLOT
		0–86	GROUP SLOT 0...86
		87	GROUP SLOT
		88–161	GROUP SLOT 88...161
		162	GROUP SLOT 612
		163–200	GROUP SLOT 163...200
		201–202	GROUP SLOT 201
		203–255	GROUP SLOT 203...255
6	Media Folder 2		STATE BANK
		0–56	STATE BANK 0...56
		57	ST ATEBANK 57
		58–87	STATE BANK 58...87
		88	ST ATEBANK 88
		89	STATE BANK 89
		90	STATE BANK 90
		91	STATE BANK 91
		92	ST ATEBANK 92
		93–255	STATE BANK 93...255
7	Media Content 2		STATE SLOT
		0	STATE OFF
		1–20	STATE SLOT 1...20
		21	ST ATESLOT 21
		22	STATE SLOT 22
		23–24	STATE SLOT 23
		25–56	STATE SLOT 25...56
		57	STATESLOT 57
		58–90	STATE SLOT 58...90
		91	ST ATESLOT 91
		92–255	STATE SLOT 92...255
8	Video Effect 1 Parameter 1		BLEND TIME
		0–255	BLEND TIME
9	Video Effect 1 Parameter 1 Fine	0–255	Fine adjustment of CH 8
10	Color Effects		HUE SHIFT
		0–127	HUE SHIFT-
		128	HUE *SHIFT*
		128–255	HUE SHIFT+
11	Color Effects Fine	0–255	Fine adjustment of CH 10
12	Color Effects 2		SAT SHIFT
		0–127	SATURATION SHIFT-
		128	SATURATION *SHIFT*
		128–255	SATURATION SHIFT+
13	Color Effects 2 Fine	0–255	Fine adjustment of CH 12

CH	Function	DMX	Description
14	Red		RED SUBRACT
		0–255	RED SUBTRACT
15	Red Fine	0–255	Fine adjustment of CH 14
16	Green		GREEN SUBTRACT
		0–255	GREEN SUBTRACT
17	Green Fine	0–255	Fine adjustment of CH 16
18	Blue		BLUE SUBTRACT
		0–255	BLUE SUBTRACT
19	Blue Fine	0–255	Fine adjustment of CH 18
20	Position X		POS X SHIFT
		0	SHIFT -X LIMIT
		0–127	SHIFT -X
		128	SHIFT X CENTER
		128–255	SHIFT +X
		255	SHIFT +X LIMIT
21	Position X Fine	0–255	Fine adjustment of CH 20
22	Position Y		POS Y SHIFT
		0	SHIFT -Y LIMIT
		0–127	SHIFT -Y
		128	SHIFT Y CENTER
		128–255	SHIFT +Y
		255	SHIFT +Y LIMIT
23	Position Y Fine	0–255	Fine adjustment of CH 22
24	Position Z		POS Z SHIFT
		0	SHIFT -Z LIMIT
		0–127	SHIFT -Z
		128	SHIFT Z CENTER
		128–255	SHIFT +Z
		255	SHIFT +Z LIMIT
25	Position Z Fine	0–255	Fine adjustment of CH 24
26	Scale X		SCALE X SHIFT
		0	SCALE -X LIMIT
		0–127	SCALE -X
		128	SCALE X CENTER
		128–255	SCALE +X
		255	SCALE +X LIMIT
27	Scale X Fine	0–255	Fine adjustment of CH 26
28	Scale Y		SCALE Y SHIFT
		0	SCALE -Y LIMIT
		0–127	SCALE -Y
		128	SCALE Y CENTER
		128–255	SCALE +Y

CH	Function	DMX	Description
28	Scale Y (continued)	255	SCALE +Y LIMIT
29	Scale Y Fine	0–255	Fine adjustment of CH 28
30	Scale Z		SCALE Z SHIFT
		0	SCALE -Z LIMIT
		0–127	SCALE -Z
		128	SCALE Z CENTER
		128–255	SCALE +Z
		255	SCALE +Z LIMIT
31	Scale Z Fine	0–255	Fine adjustment of CH 30
32	Rotation X		ROT X SHIFT
		0	ROTATE -X LIMIT
		0–127	ROTATE -X
		128	ROTATE X CENTER
		128–255	ROTATE +X
		255	ROTATE +X LIMIT
33	Rotation X Fine	0–255	Fine adjustment of CH 32
34	Rotation Y		ROT Y SHIFT
		0	ROTATE -Y LIMIT
		0–127	ROTATE -Y
		128	ROTATE Y CENTER
		128–255	ROTATE +Y
		255	ROTATE +Y LIMIT
35	Rotation Y Fine	0–255	Fine adjustment of CH 34
36	Rotation Z		ROT Z SHIFT
		0	ROTATE -Z LIMIT
		0–127	ROTATE -Z
		128	ROTATE Z CENTER
		128–255	ROTATE +Z
		255	ROTATE +Z LIMIT
37	Rotation Z Fine	0–255	Fine adjustment of CH 36
38	Control 2		ATTACK SHIFT
		0–127	ATTACK SHIFT-
		128	ATTACK *SHIFT*
		128–255	ATTACK SHIFT+
39	Control 2 Fine	0–255	Fine adjustment of CH 38
40	Control 3		DECAY SHIFT
		0–127	DECAY SHIFT-
		128	DECAY *SHIFT*
		128–255	DECAY SHIFT+
41	Control 3 Fine	0–255	Fine adjustment of CH 40
42	Scale		ROLLOFF SHIFT
		0–127	ROLLOFF SHIFT-

CH	Function	DMX	Description
42	Scale (continued)	128	ROLLOFF *SHIFT*
		128–255	ROLLOFF SHIFT+
43	Scale Fine	0–255	Fine adjustment of CH 42
44	Control 4		Aux 1
		0–255	Aux 1
75	Control 19 Fine	0–255	Fine adjustment of CH 74
76	Control 20		NOT IMPLEMENTED
		0–255	NOT IMPLEMENTED

CH 43–74: 16 cells of 2 channels each. Every cell works as cell 1 in the table above (CH 43–44); the table below gives each cell's channel numbers.

Cell	Scale Fine	Control	Cell	Scale Fine	Control	Cell	Scale Fine	Control	Cell	Scale Fine	Control
1	43	44	2	45	46	3	47	48	4	49	50
5	51	52	6	53	54	7	55	56	8	57	58
9	59	60	10	61	62	11	63	64	12	65	66
13	67	68	14	69	70	15	71	72	16	73	74

CH 76–85: 10 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 76); the table below gives each cell's channel numbers.

Cell	Control	Cell	Control	Cell	Control	Cell	Control	Cell	Control	Cell	Control
1	76	2	77	3	78	4	79	5	80	6	81
7	82	8	83	9	84	10	85				

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.