DMX REFERENCE

CS-1000RGB

Laserworld

Manufacturer	Laserworld
GDTF file	Laserworld_CS-1000RGB_150973.gdtf
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1 About this manual

This document describes the CS-1000RGB by Laserworld. It was compiled from the GDTF file Laserworld_CS-1000RGB_150973.gdtf from the GDTF-Share library.

File revision: “03_2022”.

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 Laserworld; 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	3.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
13ch	13	39	1, 14, 27, 40, ...



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 Installation

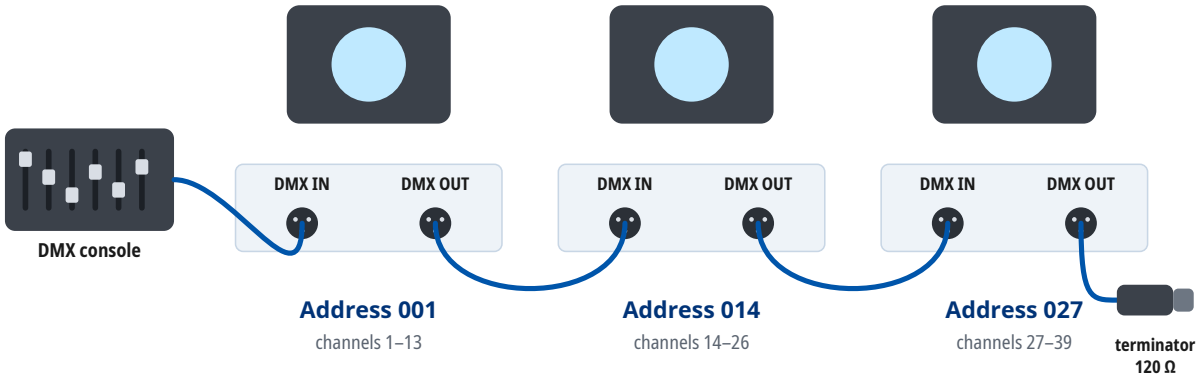
⚠ **WARNING**

- 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: 3.8 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.

5 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 13ch: every unit occupies 13 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.

6 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 “13ch”: 13.
- 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 “13ch”, you can use, for example, the start addresses 1, 14, 27, 40.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

7 Functions at a glance

Functions in each DMX mode

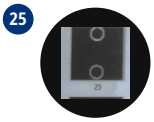
	13ch 13 channels
Color wheel	12, 13
Gobo wheel	2

Color wheel

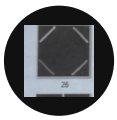
1. Original Color
   DMX 0–24
2. Purple
   DMX 25–49
3. Red
   DMX 50–74
4. Yellow
   DMX 75–99
5. Green
   DMX 100–124
6. Cyan
   DMX 125–149
7. Blue
   DMX 150–174
8. White
   DMX 175–199
9. Automatic color change effect
   DMX 200–224
10. Multicolor step through
    DMX 225–255

Gobo wheel

1. 1
   DMX 1–2
2. 2
   DMX 3–4
3. 3
   DMX 5–6
4. 4
   DMX 7–8
5. 5
   DMX 9–10
6. 6
7. 6
   DMX 11–12
8. 7
   DMX 13–14
9. 8
   DMX 15–16
10. 9
    DMX 17–18
11. 10
    DMX 19–20
12. 11
    DMX 21–22
13. 12
    DMX 23–24
14. 13
    DMX 25–26
15. 14
    DMX 27–28
16. 15
    DMX 29–30
17. 16
    DMX 31–32
18. 17
    DMX 33–34
19. 18
    DMX 35–36
20. 19
    DMX 37–38
21. 20
    DMX 39–40
22. 21
    DMX 41–42
23. 22
    DMX 43–44
24. 23
    DMX 45–46



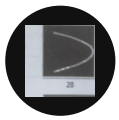
24
DMX 47–48



25
DMX 49–50



26
DMX 51–52



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DMX 53–54



29



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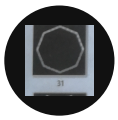

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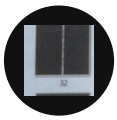

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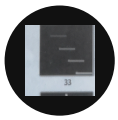

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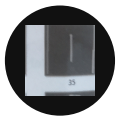

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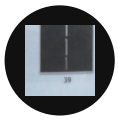

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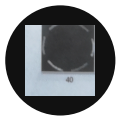

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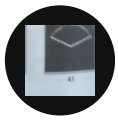


41



42

Wheel Slot 1

Wheel Slot 2

Wheel Slot 3

Wheel Slot 4

Wheel Slot 5

Wheel Slot 6

Wheel Slot 7

Wheel Slot 8

Wheel Slot 9

Wheel Slot 10

Wheel Slot 11

Wheel Slot 12

Wheel Slot 13

Wheel Slot 14

Wheel Slot 15

Wheel Slot 16

Wheel Slot 17

Wheel Slot 18

Wheel Slot 19

Wheel Slot 20

Wheel Slot 21

Wheel Slot 22

Wheel Slot 23

Wheel Slot 24

Wheel Slot 25

Wheel Slot 26

Wheel Slot 27

Wheel Slot 28

Wheel Slot 29

Wheel Slot 30

73 Wheel Slot 31

74 Wheel Slot 32

75 Wheel Slot 33

76 Wheel Slot 34

77 Wheel Slot 35

78 Wheel Slot 36

79 Wheel Slot 37

80 Wheel Slot 38

81 Wheel Slot 39

82 Wheel Slot 40

83 Wheel Slot 41

84 Wheel Slot 42

85 Wheel Slot 43

86 Wheel Slot 44

87 Wheel Slot 45

88 Wheel Slot 46

89 Wheel Slot 47

90 Wheel Slot 48

91 Wheel Slot 49

92 Wheel Slot 50

93 Wheel Slot 51

94 Wheel Slot 52

95 Wheel Slot 53

96 Wheel Slot 54

97 Wheel Slot 55

98 Wheel Slot 56

99 Wheel Slot 57

100 Wheel Slot 58

101 Wheel Slot 59

102 Wheel Slot 60

103 Wheel Slot 61

104 Wheel Slot 62

105 Wheel Slot 63

106 Wheel Slot 64

107 Wheel Slot 65

108 Wheel Slot 66

109 Wheel Slot 67

110 Wheel Slot 68

111 Wheel Slot 69

112 Wheel Slot 70

113 Wheel Slot 71

114 Wheel Slot 72

115 Wheel Slot 73

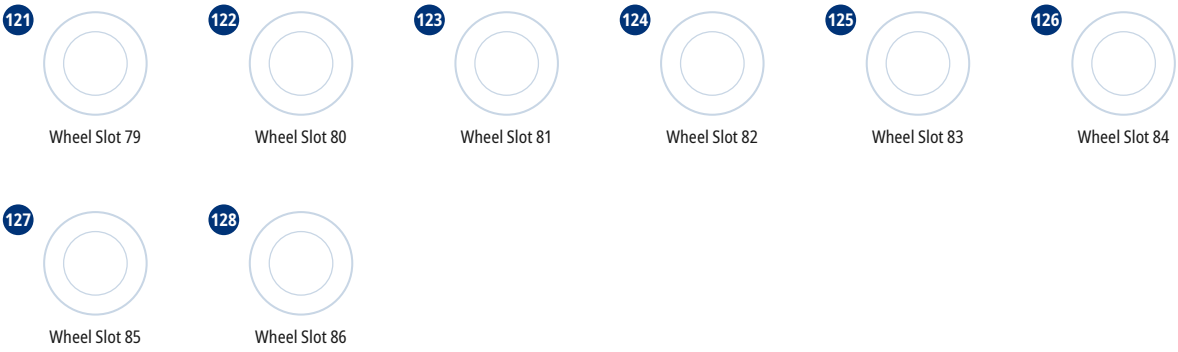
116 Wheel Slot 74

117 Wheel Slot 75

118 Wheel Slot 76

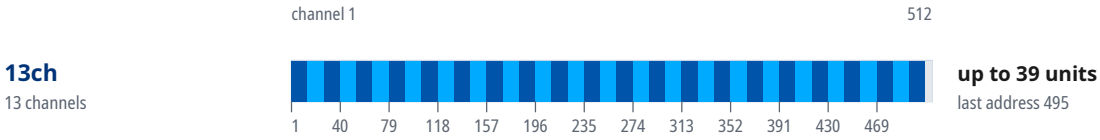
119 Wheel Slot 77

120 Wheel Slot 78



8 DMX channels

Units in one DMX universe

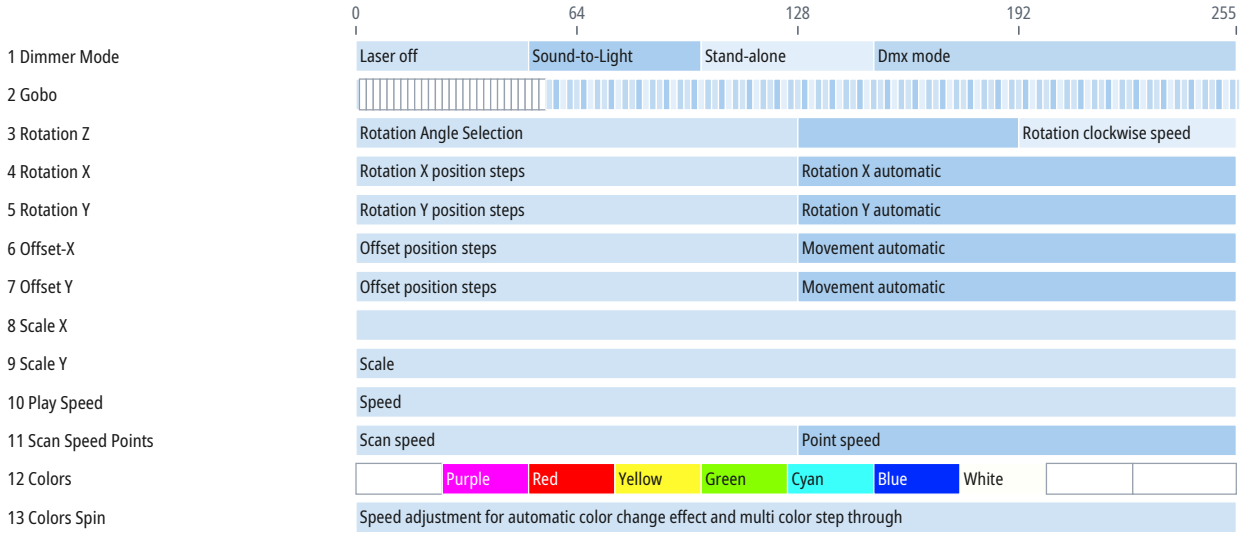


Start addresses of 20 units in the mode “13ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	66	11	131	16	196
2	14	7	79	12	144	17	209
3	27	8	92	13	157	18	222
4	40	9	105	14	170	19	235
5	53	10	118	15	183	20	248

Mode 13ch

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer Mode		Operation mode
		0–49	Laser off
		50–99	Sound-to-Light
		100–149	Stand-alone
		150–255	Dmx mode
2	Gobo		Pattern Select
		0	Pattern Select
		1–2	1
		3–4	2
		5–6	3
		7–8	4
		9–10	5
		11–12	6
		13–14	7
		15–16	8
		17–18	9
		19–20	10
		21–22	11
		23–24	12
		25–26	13
		27–28	14
		29–30	15
		31–32	16
		33–34	17
		35–36	18
		37–38	19
		39–40	20
		41–42	21
		43–44	22
		45–46	23
		47–48	24
		49–50	25
		51–52	26
		53–54	27
		55–56	28
		57–58	29
		59–60	30
		61–62	31
		63–64	32
		65–66	33
		67–68	34

CH	Function	DMX	Description
2	Gobo (continued)	69–70	35
		71–72	36
		73–74	37
		75–76	38
		77–78	39
		79–80	40
		81–82	41
		83–84	42
		85–86	43
		87–88	44
		89–90	45
		91–92	46
		93–94	47
		95–96	48
		97–98	49
		99–100	50
		101–102	51
		103–104	52
		105–106	53
		107–108	54
		109–110	55
		111–112	56
		113–114	57
		115–116	58
		117–118	59
		119–120	60
		121–122	61
		123–124	62
		125–126	63
		127–128	64
		129–130	65
		131–132	66
		133–134	67
		135–136	68
		137–138	69
		139–140	70
		141–142	71
		143–144	72
		145–146	73
		147–148	74
		149–150	75
		151–152	76

CH	Function	DMX	Description
2	Gobo (continued)	153–154	77
		155–156	78
		157–158	79
		159–160	80
		161–162	81
		163–164	82
		165–166	83
		167–168	84
		169–170	85
		171–172	86
		173–174	87
		175–176	88
		177–178	89
		179–180	90
		181–182	91
		183–184	92
		185–186	93
		187–188	94
		189–190	95
		191–192	96
		193–194	97
		195–196	98
		197–198	99
		199–200	100
		201–202	101
		203–204	102
		205–206	103
		207–208	104
		209–210	105
		211–212	106
		213–214	107
		215–216	108
		217–218	109
		219–220	110
		221–222	111
		223–224	112
		225–226	113
		227–228	114
		229–230	115
		231–232	116
		233–234	117
		235–236	118

CH	Function	DMX	Description
2	Gobo (continued)	237–238	119
		239–240	120
		241–242	121
		243–244	122
		245–246	123
		247–248	124
		249–250	125
		251–252	126
		253–254	127
		255	128
3	Rotation Z	0–127	Rotation Angle Selection
		128–191	Rotation counter-clockwise speed
		192–255	Rotation clockwise speed
4	Rotation X	0–127	Rotation X position steps
		128–255	Rotation X automatic
5	Rotation Y		Rot_X 1
		0–127	Rotation Y position steps
		128–255	Rotation Y automatic
6	Offset-X	0–127	Offset position steps
		128–255	Movement automatic
7	Offset Y		Offset-Y 1
		0–127	Offset position steps
		128–255	Movement automatic
8	Scale X	0–255	Scale X
9	Scale Y	0–255	Scale
10	Play Speed	0–255	Speed
11	Scan Speed Points	0–127	Scan speed
		128–255	Point speed
12	Colors	0–24	Original Color
		25–49	Purple
		50–74	Red
		75–99	Yellow
		100–124	Green
		125–149	Cyan
		150–174	Blue
		175–199	White
		200–224	Automatic color change effect
		225–255	Multicolor step through
13	Colors Spin	0–255	Speed adjustment for automatic color change effect and multi color step through

9 Technical specifications

Parameter	Value
Weight	3.8 kg
Operating temperature	0 to 40 °C

10 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.

11 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.

12 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.