IceLed ™
Electro Styling
DMX 512 Bridge User Guide

ATTENTION

This product has been designed to form part of a **safety extra-low voltage** (SELV) circuit. SELV circuits should only ever be connected to other SELV circuits.

Use of any power supply other than an approved selv transformer is not permitted under the above conditions.

The DMX Bridge is only suitable for indoor locations however certain IceLed light sources may also be suitable for use outdoors. Refer to individual product guides for details.

This product is capable of producing stroboscopic lighting effects when connected to IceLed light sources.

Features

The ICELED DMX512 Bridge can be used to address a number of ICELED light sources (or LED drivers) via the industry standard DMX512 lighting protocol. It serves as a distribution point for both power and data – greatly simplifying the task of installing and addressing multiple ICELED light sources.

Each DMX512 Bridge occupies twelve sequential DMX channel addresses. These are sub-divided into four independent zones of lighting control. Three of the twelve DMX channels are assigned to each zone providing separate control over the individual colour components.

For maximum programming flexibility one of two different *colour models* can be selected using a DIP switch: "Red, Green, Blue" or "Hue, Saturation, Brightness".

By using the slightly more intuitive HSB model, each of the three DMX channels provides control over a discrete quality of the light produced: The H channel selects a colour from the visible spectrum, the S channel selects its saturation (how "white" it appears) and B controls its overall brightness.

IceLed Light sources

DMX512
Bridge

Power

DMX512 Data
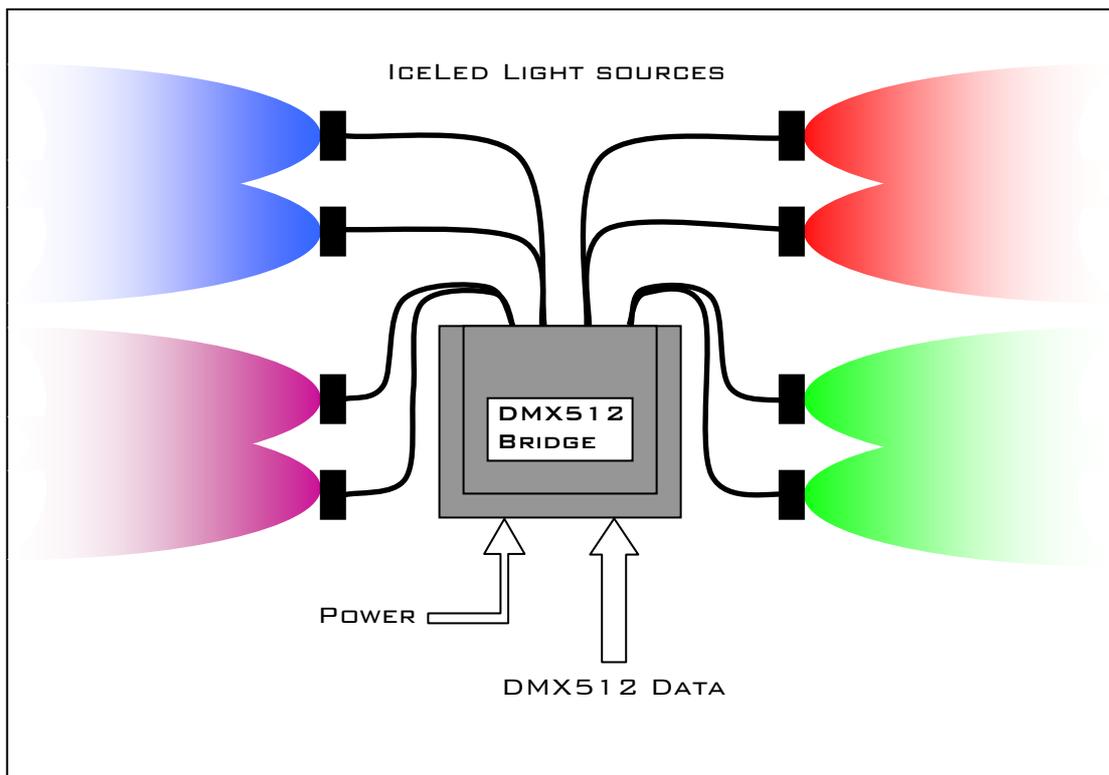
Several ICELED light sources may be connected to each zone in parallel but care must be taken not to exceed the maximum combined current loading of 10 Amps (using a suitably rated power supply). So, for example, if only one zone is to be used then it may be used to supply all 10 Amps. See the user guides for each individual type of light source to be used to find their maximum current ratings.

DMX512 Addressing

The DMX base address for the bridge unit is selected using a 'DIP switch' located on the underside of the case:

HSV ⇧

NOTE: Switch 1 selects between the two supported colour models RGB (OFF) and HSB (ON)

RGB=Red Green Blue
HSB=Hue Saturation Brightness

| ON								
	1	2	3	4	5	6	7	8

RGB ⇩
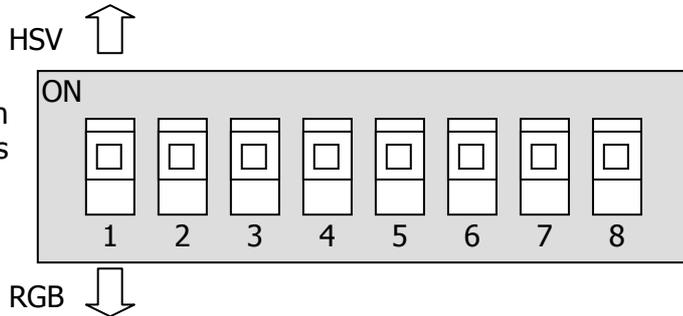
Switches 2 to 8 select between 128 different DMX base addresses in multiples of 4. To calculate the appropriate switch settings for a given channel note that each switch provides the following weightings **when moved to the ON position**:

Switch	2	3	4	5	6	7	8
Weighting	4	8	16	32	64	128	256

The resulting DMX address will be **1** plus whatever weightings are supplied by the switches. So for example, with all switches set to the OFF position the DMX base address will be just **1** resulting in the following table of DMX channel mappings:

Zone 1	DMX	Zone 2	DMX	Zone 3	DMX	Zone 4	DMX
R/H	**1**	R/H	4	R/H	7	R/H	10
G/S	2	G/S	5	G/S	8	G/S	11
B/B	3	B/B	6	B/B	9	B/B	12

As a second example, to start addressing another bridge unit from the next available DMX address (channel 13) would require the following switch settings:
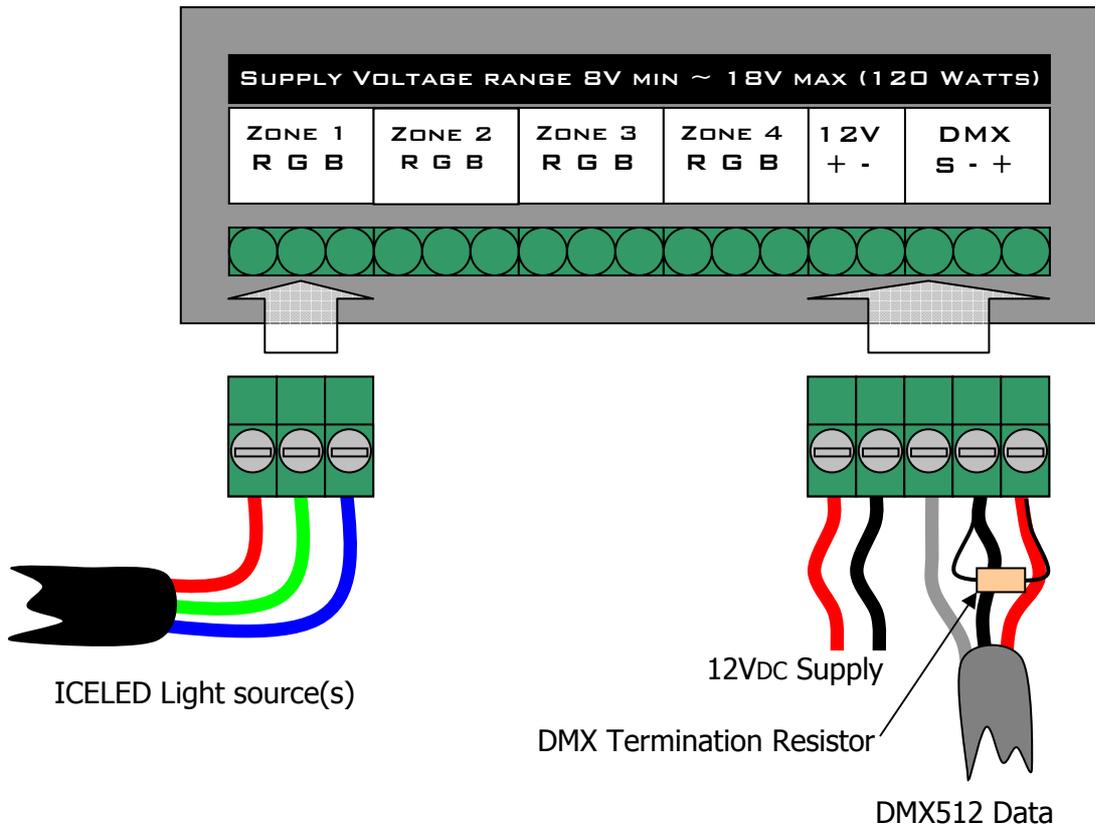
ON	4	8	16	32	64	128	256
1	2	3	4	5	6	7	8
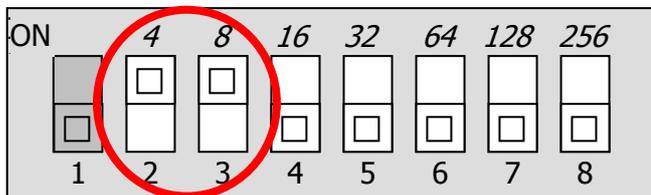
1 plus:
Switch 2 adding a weighting of **4**
Switch 3 adding a weighting of **8**
equals **13**

Resulting in the following DMX channel mappings:

Zone 1	DMX	Zone 2	DMX	Zone 3	DMX	Zone 4	DMX
R/H	**13**	R/H	16	R/H	19	R/H	22
G/S	14	G/S	17	G/S	20	G/S	23
B/B	15	B/B	18	B/B	21	B/B	24

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Wiring Guide

Supply Voltage range 8V min ~ 18V max (120 Watts)

| Zone 1 R G B | Zone 2 R G B | Zone 3 R G B | Zone 4 R G B | 12V + - | DMX S - + |

ICELED Light source(s)

12Vᴅᴄ Supply

DMX Termination Resistor

DMX512 Data

Wiring the zones
The three-way connectors terminating the Red Green and Blue wires from each of the ICELED light sources should be assembled so as to match-up with the lettering on the label directly above the connector. If more than one light source is to be connected to a zone then several wires may be twisted together and screwed down securely in the connector block.

Wiring the power supply
A five-way combined power and DMX data plug may be pre-wired to the transformer lead (if supplied) and must only be inserted in the position shown on the label. Only DC supplies may be used with this bridge unit. Transformers used for low-voltage lighting are generally not suitable as they nearly always produce AC.

Wiring the DMX512 Data connection
The DMX512 twisted-pair cable should be prepared and wired to the three DMX terminals as shown on the label. The cable Screen must be connected to the terminal marked S.

If the bridge unit is the last device on the DMX512 line then the 120 Ohm resistor should be left connected across the + and – data terminals to properly terminate the line. If additional DMX512 devices are to be connected to the line then remove the terminating resistor and connect the outgoing cable in parallel with the incoming cable by twisting together the conductors before clamping them in the connector.

DMX512 Bridge

Specifications

Nominal supply voltage:	12 Volts DC ([1])
Standby current drain:	0.02 Amps (all channels zero)
Maximum load current:	10 Amps
Data input:	DMX512
Dimensions:	120mm x 112mm x 45mm

([1]) Supply Voltage can range between 8 and 18 Volts. Reverse polarity and surge protection are built in.

Resources

To see the full ICELED product range visit http://www.iceled.co.uk the official ICELED website.

For more suggestions and advice visit http://iceled.co.uk/area51/ the official ICELED user forums.

ICELED DMX512 Bridge Conforms to:
EMC Directive (2004/108/EEC) C E