

COLORBLAZE 48,
COLORBLAZE 72

INSTALLATION GUIDE



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ITEM# 116-000007-00 (ColorBlaze 72, Black)
116-000007-01 (ColorBlaze 72, White)
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116-000008-01 (ColorBlaze 48, White)

U.S. PATENTS 6,016,038, 6,150,774 AND 6,340,868
EUROPEAN PATENT 1,016,062
OTHER PATENTS PENDING

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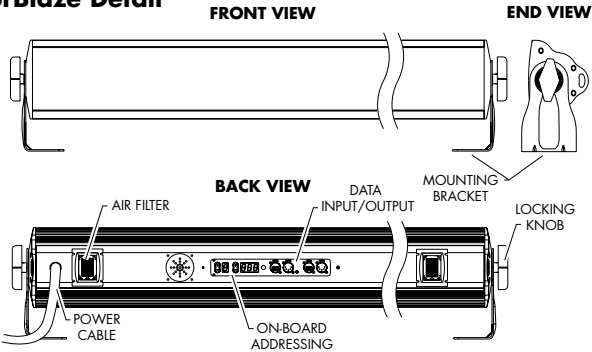
Specifications subject to change without notice.



Introduction

Welcome to a more colorful world brought to you by Color Kinetics and Chromacore®, our patented core technologies that generate and control millions of colors and a variety of lighting effects using a microprocessor to control LEDs. This guide contains important information about installing and operating your new ColorBlaze™ safely.

ColorBlaze Detail



Included in this box:

- ColorBlaze
- (2) Mounting brackets and knobs
- Warranty and Registration cards
- Installation Guide

Additional items needed:

- Mounting base hardware
- Data cables: RJ45 or XLR-5
- Power plug
- Controller - Color Kinetics or DMX compatible

Scope of This User Guide

The goal of this user guide is to explain in easily understood language the necessary steps to install ColorBlaze and assure peak performance. Its intended use is for reference only, by fully qualified professionals. This document should never be considered a substitute for any provisions of a regulation or state and/or local code.

Identification and Warnings of Safety Hazards

In accordance with ANSI Z535.4 the following system of identifying the severity of the hazards associated with the products is used:

- “DANGER” Imminently hazardous situation which, if not avoided, will result in death or serious injury.
- “WARNING” Potentially hazardous situation that, if not avoided, could result in death or serious injury.
- “CAUTION” Potentially hazardous situation that, if not avoided, may result in minor or moderate injury or property damage.

WARNING: The ColorBlaze power plug must be installed by a qualified professional in accordance with NEC and relevant local codes. Failure to comply can result in death, serious injury, or property damage.

WARNING: Do not attempt to install or use ColorBlaze until you read and understand the installation instructions and safety labels. Failure to adhere to these instructions could result in serious injury or property damage.

WARNING: As dictated by a Structural Engineer and/or local code, install safety cables to ColorBlaze fixtures. Failure to do so can result in injuries or property damage.

WARNING: When using safety cables, ensure that they comply to the specifications given in this user guide. Failure to comply can result in injuries or property damage.

WARNING: Do not use ColorBlaze if the power cable is damaged. Doing so can result in death, serious injury, and property damage.

CAUTION: ColorBlaze is on indoor only rated product, do not operate outdoors. Doing so can result in property damage.

CAUTION: Use ColorBlaze in ventilated area with at least 3-inches of open air on all sides. Failure to do so can result in property damage.

CAUTION: ColorBlaze has no serviceable parts. Do not attempt to open the fixture. Doing so will result in property damage and void the warranty.

CAUTION: Do not use sharp tools near or on the fixture lens. Doing so will result in property damage and void the warranty.

NOTE: The instructions and precautions set forth in this user guide are not necessarily all-inclusive, all conceivable, or relevant to all applications as Color Kinetics cannot anticipate all conceivable or unique situations.

Owner/User Responsibilities

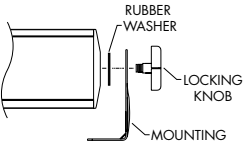
It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate ColorBlaze in such a manner as to comply with all state and local laws, ordinances, regulations, and the American Standard Institution Safety Code.

Preparing ColorBlaze for Use

1. Attach mounting brackets
2. Install the power plug.
3. Address the light segments.
4. Connect data.
5. Mount and aim the fixture.

Attach Mounting Brackets

To attach the mounting brackets, insert the locking knob through the mounting bracket and rubber washer into the housing. Tighten locking knob by hand.



Install Power Plug

The on-board, auto-switching power supplies automatically adjusts to any 50 - 60 Hz AC power source from 110 to 240 volts. Install a 2-pole, 3-wire, grounded, 15A plug to the power cable. Consult a qualified electrician if in doubt about proper plug installation. Following the plug manufacturer’s instructions, connect the green and yellow wire to ground (earth), the black wire to live, and the white wire to neutral.

Table with 3 columns: Wire, Pin, Marking. Rows: Black/Live/L, White/Neutral/N, Green/Yellow/Ground/ground symbol.

Address the Light Segments

Important: Before addressing the ColorBlaze , you must connect the power plug and supply power to the fixture.

ColorBlaze uses direct DMX data and features on-board addressing tools.

Things to Consider:

Before addressing the ColorBlaze, consider the following:

- The number of desired DMX addresses (address groups) per fixture.
- Each light group uses three DMX channels
- The DMX Start Channel for the fixture. The defined light groups auto-address sequentially beginning with the DMX Start Channel. To use multiple ColorBlaze fixtures in a sequential application, it is necessary to calculate the last channel used on the previous fixture to determine the DMX Start Channel for the next fixture.

Setting the Address Groups:

The first step in addressing the fixture is to set the number of groups. Using the “NUMBER OF GROUPS” selection button, press + or - to scroll to the number of groups for the fixture. Refer to the table below.



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1 = All segments set to the same DMX address

Table with 1 row: GROUP 1 001

2 = Two DMX addresses set to two groups of four segments

Table with 2 rows: GROUP 1 001, GROUP 2 004

4 = Four DMX addresses set to four groups of two segments

Table with 4 rows: GROUP 1 001, GROUP 2 004, GROUP 3 007, GROUP 4 010

A = Eight individual DMX addresses

Table with 8 rows: GROUP 1 001, GROUP 2 004, GROUP 3 007, GROUP 4 010, GROUP 5 013, GROUP 6 016, GRP 7 019, GRP 8 022

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1 = All segments set to the same DMX address

Table with 1 row: GROUP 1 001

2 = Two DMX addresses set to two groups of six segments

Table with 2 rows: GROUP 1 001, GROUP 2 004

3 = Three DMX addresses set to three groups of four segments

Table with 3 rows: GROUP 1 001, GROUP 2 004, GROUP 3 007

4 = Four DMX addresses set to four groups of three segments

Table with 4 rows: GROUP 1 001, GROUP 2 004, GROUP 3 007, GROUP 4 010

6 = Six DMX addresses set to six groups of two segments

Table with 6 rows: GROUP 1 001, GROUP 2 004, GROUP 3 007, GROUP 4 010, GROUP 5 013, GROUP 6 016

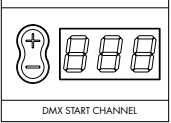
A = Twelve individual DMX addresses

Table with 12 rows: GRP 1 001, GRP 2 004, GRP 3 007, GRP 4 010, GRP 5 013, GRP 6 016, GRP 7 019, GRP 8 022, GRP 9 025, GRP 10 028, GRP 11 031, GRP 12 034

*Example assumes start channel is 001 with three DMX channels per group.

Setting the DMX Start Channel:

After setting the number of groups, set the DMX start channel. Using the “DMX START CHANNEL” selection button, press + or - to enter the DMX channel for the first, or only, light group in fixture. All



other groups auto-address sequentially beginning with the DMX address entered. See DMX table on back.

Example: “NUMBER OF GROUPS” set to 3, “DMX START CHANNEL” set to 007: The first four light segments (first group) is set to 007, the next four light light segments (second group) set to 010, and the last four light segments (third group) set to 013.

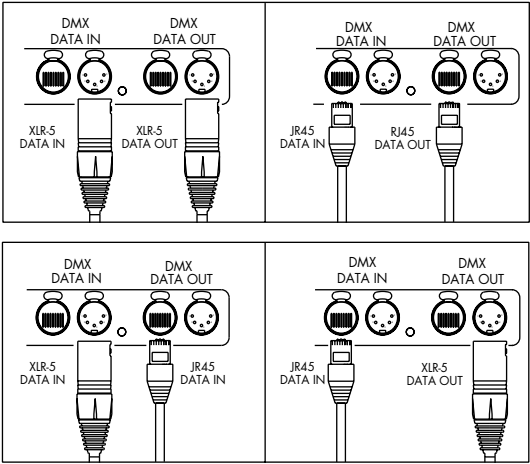
Testing the lights:

After addressing the segments, press and hold the test button. Each light segment flashes white sequentially to verify that each segment is receiving power and data, that the control boards are functioning, and that the LEDs are operational.



Connect Data

Using an RJ45 or XLR-5 data cable, connect data directly from a DMX controller to the DMX DATA IN ports on the back of the ColorBlaze . Data can be daisy chained to multiple fixtures by connecting the DMX DATA OUT port to the DMX DATA IN port of the next fixture using an RJ45 or XLR-5 data cable.



Things to remember:

- DMX data chains need not be connector specific. For example: XLR-5 input with RJ45 output and vice versa.
- Maximum DMX data run from DMX source to last fixture in chain is 1000 feet (300 m).
- Place a data terminator in the DMX data port of the last fixture in a chain.

Mount and Aim the Fixture

The ColorBlaze mounting brackets are designed for 1/2” mounting hardware and for use with pipe clamps and Cheeseborough clamps.

Mount the fixture as dictated by local or state code. Attach safety cables in suspended installations.

Attaching the safety cable

Loop the safety cable through the restraining holes located at each end of the ColorBlaze housing. Securely anchor safety cable according to local and/or state codes.

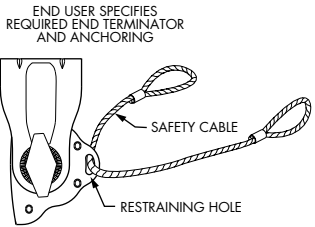
The safe cables used in the installation shall meet the following minimal requirements:

MATERIAL AND DIMENSION: Determined by installer and/or owner.

BREAK LOAD: The minimum break load for the cable and all cable anchoring construction is 600 pounds, total, minimum break strength.

CONSTRUCTION: 7 x 7 (49 wires) pre-formed stranded.

END TERMINATOR: Determined by installer and/or owner.



MOUNTING METHOD: Determined by installer and/or owner.

WARNING: To prevent mounting failure, ensure end cap screws are in place and tight, ensure mounting hardware is properly attached and tight, and use safety tether cables. Failure to do so can result in serious injury and property damage.

Aiming the fixture

Loosen the locking handles located at each end of the ColorBlaze. The fixture will rotate freely. Rotate the fixture to desired position then tighten the locking handles.

Using ColorPlay with ColorBlaze

ColorPlay™ is an excellent tool for creating beautiful light shows for ColorBlaze. The trick is in the mapping. After setting the “Number of Groups” and the DMX Channels for the ColorBlaze 72 fixture, you are ready to map the light.

1. From the **LIGHT PALETTE**, click a light icon then drag and drop it into the **MAPPING GRID**.
2. Double click the icon. The **LIGHT PROPERTIES** dialog box appears. Using the radial button, select **DMX CHANNEL NUMBER**. Set the DMX start channel for the fixture. Click **OK**.
3. Continue dragging icons to the mapping screen—one for each group on the fixture. ColorPlay will automatically assign the next available light number, comprising three DMX channels, to each mapped light icon.
4. After mapping the ColorBlaze lights, continue creating light shows using the **TIMELINE EDITOR**, then download the show using the **DOWNLOAD** screen.

Refer to the ColorPlay User Guide for complete instructions and tutorials for creating light shows.

Note: Exercise caution when using the Group command in ColorPlay. Creating groups in ColorPlay can override groups settings on the ColorBlaze fixture.

DMX TABLE

DMX #	LIGHT #	DMX #	LIGHT #	DMX #	LIGHT #	DMX #	LIGHT #	DMX #	LIGHT #
1	1	103	35	205	69	307	103	409	137
4	2	106	36	208	70	310	104	412	138
7	3	109	37	211	71	313	105	415	139
10	4	112	38	214	72	316	106	418	140
13	5	115	39	217	73	319	107	421	141
16	6	118	40	220	74	322	108	424	142
19	7	121	41	223	75	325	109	427	143
22	8	124	42	226	76	328	110	430	144
25	9	127	43	229	77	331	111	433	145
28	10	130	44	232	78	334	112	436	146
31	11	133	45	235	79	337	113	439	147
34	12	136	46	238	80	340	114	442	148
37	13	139	47	241	81	343	115	445	149
40	14	142	48	244	82	346	116	448	150
43	15	145	49	247	83	349	117	451	151
46	16	148	50	250	84	352	118	454	152
49	17	151	51	253	85	355	119	457	153
52	18	154	52	256	86	358	120	460	154
55	19	157	53	259	87	361	121	463	155
58	20	160	54	262	88	364	122	466	156
61	21	163	55	265	89	367	123	469	157
64	22	166	56	268	90	370	124	472	158
67	23	169	57	271	91	373	125	475	159
70	24	172	58	274	92	376	126	478	160
73	25	175	59	277	93	379	127	481	161
76	26	178	60	280	94	382	128	484	162
79	27	181	61	283	95	385	129	487	163
82	28	184	62	286	96	388	130	490	164
85	29	187	63	289	97	391	131	493	165
88	30	190	64	292	98	394	132	496	166
91	31	193	65	295	99	397	133	499	167
94	32	196	66	298	100	400	134	502	168
97	33	199	67	301	101	403	135	505	169
100	34	202	68	304	102	406	136	508	170

Cleaning ColorBlaze

To protect the clear polycarbonate lens, use caution when cleaning the ColorBlaze . Use water and a mild detergent with a soft cleaning cloth to wipe the fixture clean.

CAUTION: Do not use paper towels, abrasive cleaning products, or window cleaners. Abrasive cleaning products will scratch the lens, and window cleaners will soften the polycarbonate allowing even soft paper towels to mar the finish.

Clean ColorBlaze housing regularly.

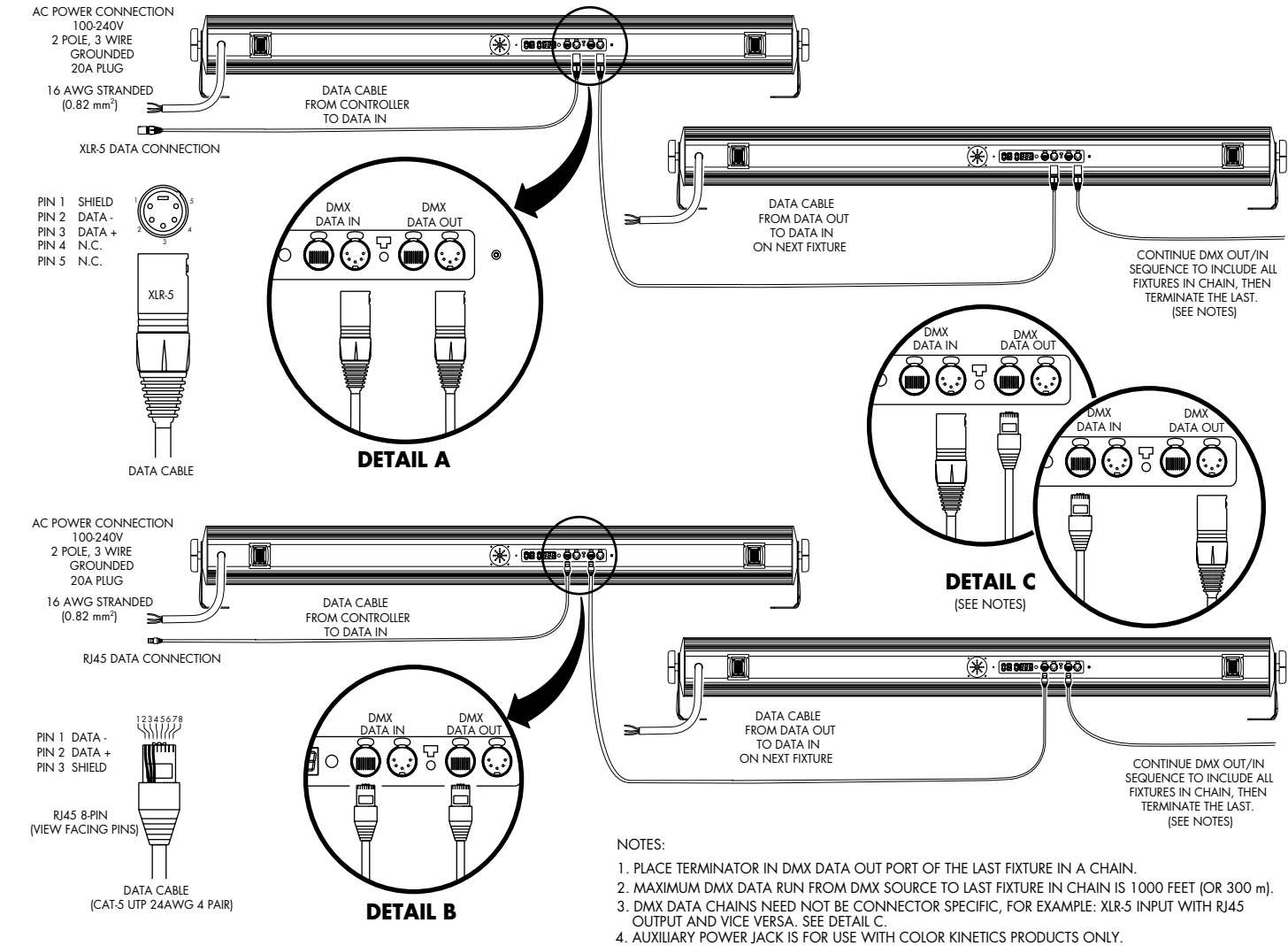
CAUTION: To prevent overheating, ensure that ColorBlaze housing heat fins are free of debris and heavy dust.

Cleaning Air Intake Filter

To prevent overheating, inspect air intake filter frequently and clean as needed. The air intake filters are located near each end, on the back of the ColorBlaze fixture.

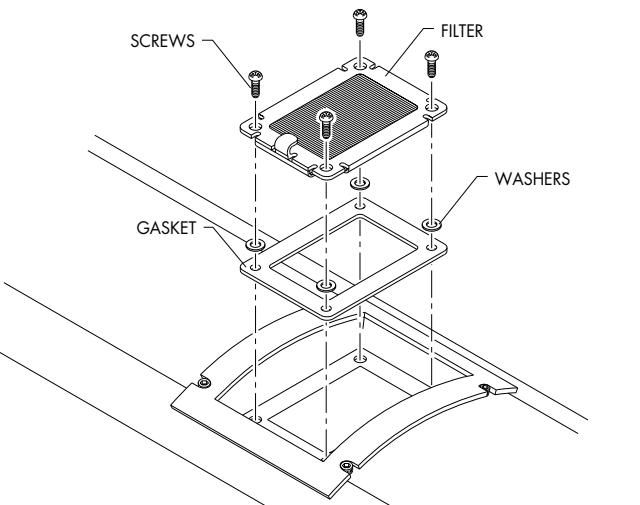
1. Disconnect power. Never attempt to service ColorBlaze with the power connected.
 2. Rotate ColorBlaze to access the air intake filters.
 3. Remove the four screws which hold the filter in place.
 4. Using the tab, lift the filter to remove it.
- Exercise caution to prevent the washers or screws from falling into the housing opening.
5. Using water, clean the filter then completely dry.

Wiring Diagram



6. Replace the filter, ensuring that gasket and washers are in place. Refer to the following illustration.

WARNING: Do not operate ColorBlaze without the air intake filter in place. Doing so presents a risk of electric shock and a risk of fire.



WARNING: Disconnect power before removing air intake filters. Failure to do so can result in electrocution and property damage.

NOTE: Capacitors in ColorBlaze can hold a charge after power is disconnected. Do not insert anything into filter opening.

Important Information

Strobe Warning

There is some anecdotal evidence that strobe lighting may induce epileptic symptoms in certain susceptible individuals, although no associated product warnings have been issued by United States government according to the Food and Drug Administration.

If strobe lights are used, some international regulatory agencies¹ recommend keeping flicker rates at or below four flashes per second (as less of the flicker-sensitive population will then be at risk of an attack). This flicker rate applies only to the overall output of any group of lights in direct view. However, when more than one strobe light is used, the flashes should be synchronized. End users should also consider issuing a warning, alerting audience or viewers to the presence of strobe lighting.

Temperature Monitoring

For protection from extreme temperatures, the ColorBlaze has been designed with a temperature monitoring feature. If operating temperatures rise to an unsafe level, a compensation circuit is triggered and the operation of some or all light segments is interrupted causing the lights to turn dull red. After 30 minutes the lights will auto-cycle and return to full intensity.

To prevent additional power shut-downs, determine the cause of the overheating and correct the problem.

Fan Control

For additional heat protection the ColorBlaze is equipped with a fan control. At elevated ambient temperatures the fan engages at 1/2 RPM. If ambient temperature continues to increase, the fan will go to full speed to protect the circuitry and ensure long life of the fixture.

If any problems occur during usage, unplug the product immediately and call or email:

Color Kinetics Technical Support Group:
1-888-FULL RGB or 617-423-9999 or
support@colorkinetics.com

COLORBLAZE SPECIFICATIONS

COLOR RANGE	16.7 million (24bit) additive RGB colors Continuously variable intensity output range
SOURCE	High intensity power LEDs
BEAM ANGLE	22°
DATA INTERFACE	Color Kinetics full line of controller products
PACKAGING	Black or white extruded aluminum housing
CONNECTORS	2-pole, 3-wire, grounded, 15A (not included)
LISTINGS	UL listed to both US and CSA standards, CE certified
POWER REQUIREMENT	100-240VAC (420W)

SOURCE LIFE

Color Kinetics illumination products utilize high brightness LEDs as the illumination source. LED manufacturers predict LED life of up to 100,000 hours MTBF (mean time between failure), the standard used by conventional lamp manufacturers to measure source life. However, like all light sources, LEDs also experience lumen depreciation over time. So while LEDs can emit light for an extremely long period of time, MTBF is not the only consideration in determining useful life. LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations.

Color Kinetics systems are expertly engineered to optimize LED life when used under normal operating conditions [ambient temperature: -4°F to 104°F (-20°C to 40°C), humidity: 0-95% non-condensing humidity, adequate ventilation and air volume] and when operated using typical color-changing effects. Long-term operation outside of these ranges or conditions, or at the upper limits of these ranges or conditions, may subject the product to further degradation of the LED source life, or in extreme cases, failure of internal components. Source life information is based on LED manufacturers' data, as well as other third party testing.

U.S. AND FOREIGN PATENTS AND PATENTS PENDING

Color Kinetics Incorporated grants the purchaser of its lighting products and controllers a personal and non-transferable license to use Chromacore®, its patented technology for networkable control of LED-based color changing lighting fixtures for illumination, display and design. This license is granted only by Color Kinetics Incorporated, and may not be transferred except by the grantor. The design, duplication, manufacture, or sale of other products using networkable control of LED-based color changing lighting may be prohibited and is not licensed hereunder. Other patents pending.

¹ [Guide to Health, Safety and Welfare at Pop Concerts and Similar Events](#), HMSO Publications (UK)