

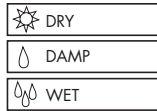
# COLORBLAST 12

USER GUIDE



CHROMACORE<sup>®</sup>  
BY COLOR KINETICS

OPTIBIN<sup>®</sup>  
BY COLOR KINETICS



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ITEM# 116-000012-00 (White, Frosted Lens)  
116-000012-01 (Black, Frosted Lens)  
116-000012-02 (White, Clear Lens)  
116-000012-03 (Black, Clear Lens)

This product is protected by one or more of the following patents: U.S. Patent Nos. 6,016,038, 6,150,774 and other patents listed at <http://colorkinetics.com/patents/>. Other patents pending.

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Specifications subject to change without notice.

## INTRODUCTION

Color Kinetics® ColorBlast® 12 offers wall-washing, wall-grazing, spot lighting and large alcove lighting in an easy-to-install fixture. This user guide contains important information about proper installation and safe operation of your new ColorBlast 12 light fixture.

### Included in This Box

- ColorBlast 12 and preassembled base with 60 ft (18.3m) 3C 18AWG SJTW Cable.
- (2) #8-32 UNC x 1.25" (31.75mm) LG pan head drive screws for indoor installation.
- (4) #10-24 UNC x .75" (19mm) LG pan head drive screws for outdoor installation.
- User Guide.
- Outdoor JBox Gasket.
- Hex key.

### Additional Items Needed

- 4" (10.2cm) Electrical junction box (rated for your application) with 3.5" (8.9cm) center to center distance for mounting locations.
- 24VDC power/data supply—PDS-150e (Item # 109-000008-01) or PDS-60 24V (Item # 109-000017-00/01/02).
- Controller—Color Kinetics or DMX compatible.
- Light addressing tool: Color Kinetics Zapi (Item# 103-000005-00, US/103-000005-01, EU) or Serial Addressing Software (SAS) with iPlayer 2 or Smart Jack 3.
- Adjustable wrench.
- Philips-head drive screwdriver.

### Optional Items

- 3/16" OD braided safety cable and hardware, as required.

## Scope of This User Guide

The goal of this user guide is to explain the steps needed to install the ColorBlast 12 fixture, and assure peak performance. Its intended use is for reference only, by persons who are fully qualified. This document should never be considered a substitute for any provisions of a regulation or any applicable state or local code.

## Identification and Warnings of Safety Hazards

In accordance with ANSI Z535.4-2002 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 which, if not avoided, could result in death or serious injury.
- "CAUTION"** Potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage. Also used to alert against unsafe practices.

### IGNORING A HAZARD WILL VOID ANY WARRANTY.

**DANGER:** Ensure that the main power supply is off before installing or wiring the ColorBlast 12 and power/data supply.

**WARNING:** The ColorBlast 12 and power/data supply must be installed by a qualified professional in accordance with NEC and relevant local codes.

**WARNING:** Do not attempt to install or use the ColorBlast 12 or power/data supply until you read and understand the installation instructions and safety labels.

**CAUTION:** The ColorBlast 12 has no serviceable parts. Do not attempt to open the fixture.

**CAUTION:** Do not modify, alter, or attempt to service the ColorBlast 12.

**CAUTION:** Never lengthen the ColorBlast 12 cable.

**CAUTION:** You must use the cable provided with the unit.

**CAUTION:** Do not use sharp tools near or on the fixture lens.

**CAUTION:** Do not hot swap. Ensure the power supply is off before connecting or disconnecting fixtures.

**CAUTION:** Do not overload the power/data supply.

**NOTE:** The instructions and precautions set forth in this installation 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 the ColorBlast 12 in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standard Institute (ANSI) Safety Code.

## PLANNING THE INSTALLATION

The ColorBlast 12 installation requires planning to ensure a timely, successful installation with minimal complications and down time.

### Planning Suggestions

When planning a ColorBlast 12 installation, Color Kinetics suggests doing the following:

- Consult an Electrical Inspector to review all wiring plans.
- Refer to local and state codes for installation compliance.
- Create a Layout Plan drawing.
- Create a Mapping Grid. Use this grid to record serial numbers for easy reference and addressing.

- Consult Color Kinetics Application Engineering Services as needed at [www.colorkinetics.com/support](http://www.colorkinetics.com/support).
- Get detailed wiring diagrams and additional support from [www.colorkinetics.com/support](http://www.colorkinetics.com/support).

## Installation Considerations

- **Location of the power/data supplies in relationship to lights.** Each ColorBlast 12 comes with a 60 ft (18.3m) power/data cable. Therefore, the power/data supply must be located within 60 feet (18.3m) of the supported fixtures.
- **Location of the fixture and method of mounting.** The ColorBlast 12 can be installed indoors or outdoors on a wall, ceiling, or floor. Junction boxes and mounting methods vary according to location.

## STEPS TO A SUCCESSFUL INSTALLATION

1. Record the serial numbers and identify fixtures as you unpack them.
2. Install the power/data supplies.
3. Address the lights.
4. Install the fixtures.
5. Make electrical connections.

## Recording Serial Numbers

1. Record the serial numbers as you unpack the fixtures. Each ColorBlast 12 has a unique serial number programmed at the time of manufacture.
2. Write the serial numbers onto a Mapping Grid or use a bar code scanner along with Color Kinetics Serial Addressing Software to record each serial number. Color Kinetics Serial Addressing Software and instructions are located at [www.colorkinetics.com/support](http://www.colorkinetics.com/support).
3. Using the Layout Plan, assign the fixture to a layout position in the installation.
4. Using a weatherproof label, identify the fixture's installation position based on the Layout Plan. Place the identifying label in an inconspicuous location noting the order or placement in the installation. This step not only minimizes installation mistakes, but aids in post-installation programming of your lightshows.

## Installing Power/Data Supplies

Following the Layout Plan, install the PDS-150e or PDS-60 24V power/data supplies according to state and local codes. Refer to the product's Installation Guide for complete instructions.

### Remember:

- Consult an Electrical Inspector to review all wiring plans.
- PDS-150e or PDS-60 24V must be located within 60 feet (18.3m) of the ColorBlast 12 fixtures.

## Addressing the Lights

**Important:** Before you begin the installation, consider the scope of your lighting application and installation. Your ColorBlast 12 is set to light number one at the factory.

### Setting the DMX Address

#### POST-INSTALLATION: ZAPI, SAS, OR LIGHT SYSTEM COMPOSER

1. After installing the ColorBlast 12, connect power to the power/data supply.
2. Attach the DMX interface (Zapi, iPlayer 2, or Smart Jack 3) to the DMX/Ethernet IN port on the power/data supply; or attach the Light System Manager Ethernet system to the Ethernet network.

3. Using Zapi or Serial Addressing Software (SAS) set the light address for each fixture by entering the serial number.
4. Using Light System Composer software, discover and address all lights attached to the Ethernet system.

#### PRE-INSTALLATION USING ZAPI OR SAS

1. With power disconnected, connect a single ColorBlast 12 fixture or a series of fixtures to a power/data supply.
2. Attach the DMX interface (Zapi, iPlayer 2, or Smart Jack 3) to the DMX IN port on the power/data supply.
3. Connect power to the power/data supply.
4. Use Zapi or Serial Addressing Software (SAS) to set the light address for each serial number.
5. If addressing individual fixtures, disconnect power and then disconnect the addressed fixture(s). Repeat steps 1 through 5.

**NOTE:** Serial addressing gives you the option of post-installation addressing multiple fixtures through a single power/data supply or multiple power/data supplies using the recorded serial numbers. Refer to the Zapi User Guide or SAS Instruction Guide for details.

## Installing the Fixtures

**DANGER:** Ensure that main power supply is off before installing or wiring the ColorBlast 12 and power data supply. Failure to adhere to these instructions will result in death or serious injury, and will void the warranty.

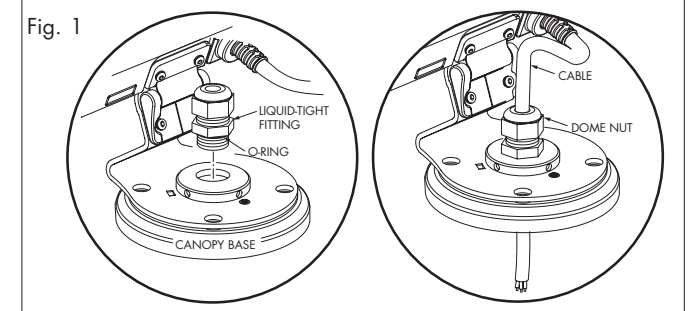
**WARNING:** The ColorBlast 12 and the power/data supply must be installed by a qualified professional in accordance with NEC and relevant local codes. Failure to comply could result in death or serious injury, and will void the warranty.

This fixture must be installed by a qualified electrician in accordance with NEC and relevant local codes for Class 2 power sources. The ColorBlast 12 can be installed indoors or outdoors. When mounting on walls and ceilings, use an electrical junction box rated for your application.

### Through-Base Cable Assembly

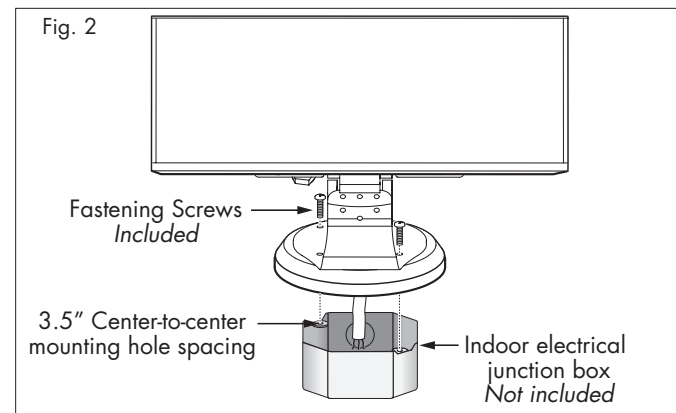
For all installations where the cable must go through the canopy base, follow the directions below to prevent cable damage and to create a water-tight seal for outdoor installations.

1. Screw the liquid-tight fitting into the canopy base. The O-ring must be seated against the canopy opening to ensure a water-tight seal.
2. Insert the fixture cable through the dome nut. Loosen the dome nut if necessary. Pull the cable through the fitting. Leave enough cable above the fitting to ensure full fixture head rotation.
3. Tighten dome nut to seal the cable. After 24 hours, tighten the dome nut again to ensure proper sealing force and water-tight seal (see Fig. 1).



### Indoor: Wall or Ceiling Mount

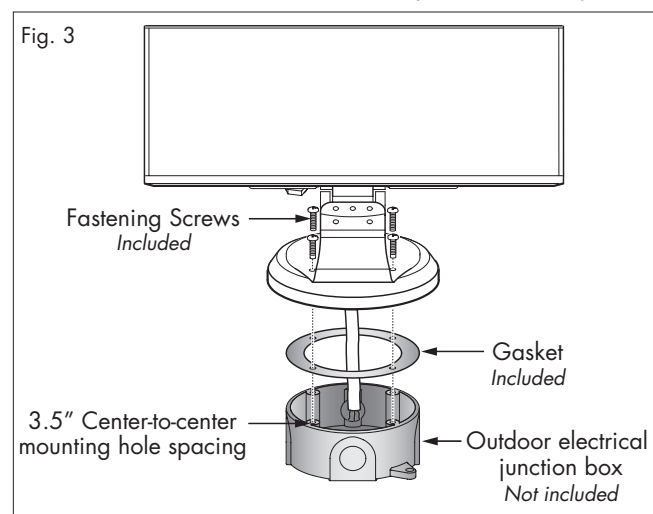
1. Ensure the junction box is located within 60 feet (18.3m) of the power/data supply. Pull the fixture leader cable through the junction box.
2. Using the provided screws, attach the mounting bracket of ColorBlast 12 to the junction box (Fig. 2)



### Outdoor: Wall or Ceiling Mount

For outdoor installations, ColorBlast 12 must be used with an outdoor-rated junction box and the gasket must be used to ensure a watertight seal.

1. Ensure that the junction box is located within 60 feet of the power/data supply. Thread the leader cable through provided gasket. Pull fixture leader cable through the junction box.
2. Using the provided screws, attach the mounting bracket of ColorBlast 12 to the outdoor rated junction box (Fig. 3).



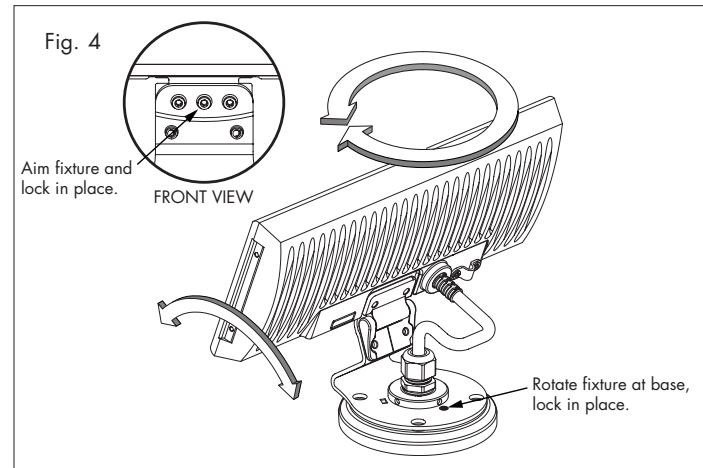
### Floor Mount

When used indoors, ColorBlast 12 can be mounted without a junction box. Ensure that the fixture sits flush to the surface and use mounting hardware suitable for the mounting surface.

### Positioning the Fixture

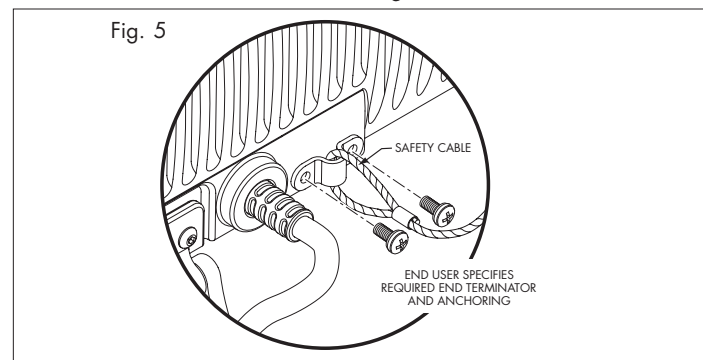
Rotate the light fixture to the desired position. Using the provided hex key, tighten the set screws located on the base to lock in place. Tilt the fixture to the desired angle and tighten the set screws located on the front of housing to lock. See Fig. 4 for location of set screws.

**NOTE:** For permanent installations, use thread locker to prevent loosening.



### Attaching the Safety Cable

Each fixture is designed for use with a safety cable. When required by local or state code, or by a Structural Engineer, attach a safety cable from the fixture to the mounting surface.



1. Locate the safety cable bracket on rear of the ColorBlast 12 (Fig. 5).
2. Remove the two screws that attach the cable bracket to the fixture. Loop the safety cable over the cable bracket and reattach to the fixture. Add thread locker for additional securement of hardware.
3. Attach the safety cable to the mounting surface. Consult a Structural Engineer and refer to applicable standards for your specific application to determine the proper method for mounting the safety cable to the installation surface.

Safety cables used in the installation must meet the following minimal requirements:

- MATERIAL:** 316 Stainless Steel
- SIZE:** 5/64-inch (0.78-inch nominal diameter) or larger, minimum break load must be greater than 400 pounds. Maximum diameter is 3/16-inch.
- CONSTRUCTION:** 7 x 7 (49 wires) preformed stranded
- END TERMINATIONS:** Determined by installer and/or owner
- MOUNTING METHOD:** Determined by installer or owner

### Making Electrical Connections

ColorBlast 12 is compatible with Color Kinetics power/data supplies.

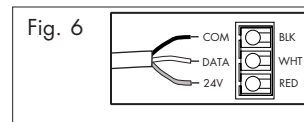
#### Connecting Power

ColorBlast 12 requires 24VDC. After installing the light fixtures, connect the power/data cable to the power/data supply. The PDS-150e supports three ColorBlast 12 fixtures. Wire one fixture per terminal group, see Fig. 7. Each PDS-60 24V supports one ColorBlast 12.

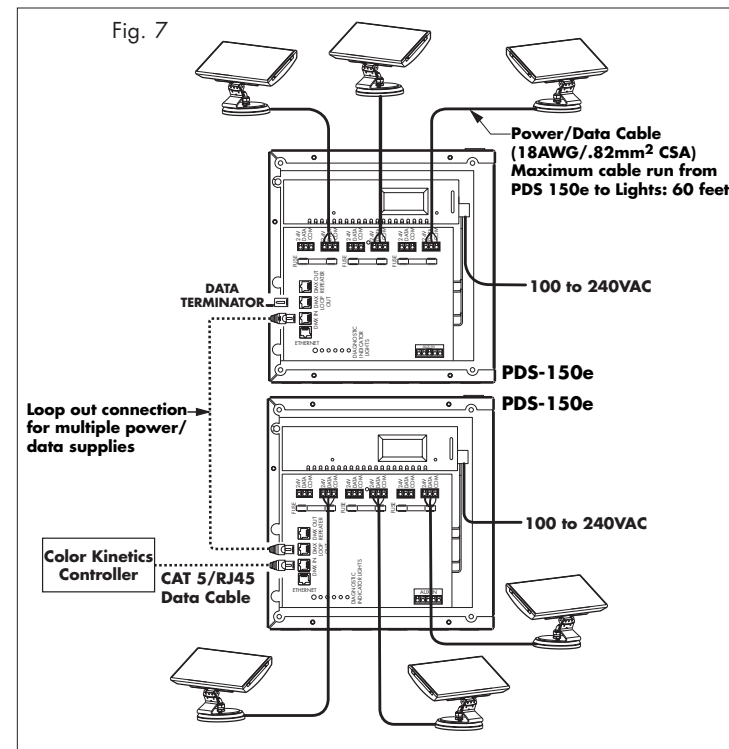
**CAUTION:** Do not overload the power/data supply. Doing so will result in product failure and void the warranty.

**NOTE:** Each light must receive power directly from a power/data supply. You cannot daisy chain power from one ColorBlast 12 to another. The ColorBlast 12 cable contains three color-coded wires: (Fig. 6)

- Black = Common
- White = Data
- Red = +24 VDC



**CAUTION:** You must use the cable provided with the unit. Use of other cables may result in light failure.



### ROUTINE MAINTENANCE

**Cleaning:** Use a soft cloth. Clean surface with mild soap and water or window cleaner.

**Lubrication:** As needed, apply light household oil to the hinges.

### IMPORTANT INFORMATION

#### Strobe Warning

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

If strobe lights are used, some international regulatory agencies<sup>1</sup> 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, ColorBlast 12 has been designed with a temperature monitoring feature. If operating temperatures rise to an unsafe level, a compensation circuit is triggered and the ColorBlast 12 operation 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.

If any problems occur during usage, unplug the product immediately and call Color Kinetics Technical Support Group: 1-888-FULL RGB or 617-423-9999 or email us: [technicalsupport@colorkinetics.com](mailto:technicalsupport@colorkinetics.com).

### COLORBLAST 12 SPECIFICATIONS

<b>COLOR RANGE</b>	16.7 million (24-bit) additive RGB colors; continuously variable intensity output range
<b>SOURCE</b>	High intensity power light emitting diodes (LEDs)
<b>BEAM ANGLE</b>	23° Beam angle (frosted), 10° (clear)
<b>HOUSING</b>	Die Cast Aluminum in black or white finish
<b>LENSES</b>	Soft-focus tempered glass or clear tempered glass
<b>CONNECTORS</b>	60 foot (18.3m) Unified power and data cable
<b>LISTINGS</b>	UL/cUL, CE
<b>COMMUNICATION SPECIFICATIONS</b>	
<b>DATA INTERFACE</b>	Color Kinetics data interface system
<b>CONTROL</b>	Color Kinetics controllers or other DMX512 (RS485) compatible if using Color Kinetics power/data supply

#### ELECTRICAL SPECIFICATIONS

<b>POWER REQUIREMENT</b>	24VDC
<b>POWER CONSUMPTION</b>	50W Max. at full intensity (full RGB)
<b>POWER SUPPLY</b>	PDS-150e (ITEM# 109-000008-01); PDS-60 24V (ITEM# 109-000017-00/01/02)

#### ENVIRONMENTAL SPECIFICATIONS

<b>TEMPERATURE RANGE</b>	-40°F to 122°F (-40°C to 50°C) operating temperature -4°F to 122°F (-20°C to 50°C) starting temperature
<b>PROTECTION RATING</b>	IP66

#### LED SOURCE LIFE

In traditional lamp sources, lifetime is defined as the point at which 50% of the lamps fail. This is also termed Mean Time Between Failure [MTBF]. LEDs are semiconductor devices and have a much longer MTBF than conventional sources. However, MTBF is not the only consideration in determining useful life. Color Kinetics uses the concept of useful light output for rating source lifetimes. Like traditional sources, LED output degrades over time (lumen depreciation) and this is the metric for SSL lifetime.

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. Lumen depreciation information is based on LED manufacturers' source life data as well as other third party testing. Low temperatures and controlled effects have a beneficial effect on lumen depreciation. Overall system lifetime could vary substantially based on usage and the environment in which the system is installed.

Temperature and effects will affect lifetime. Color Kinetics rates product lifetime using lumen depreciation to 50% of original light output. When the fixture is running at room temperature using a color wash effect, the range of lifetime is in the range of 80,000-100,000 hours. This is LED manufacturers' test data. High output is defined as any LED device that is 1/2 watt or above. For more detailed information on source life, please see [www.colorkinetics.com/lifetime](http://www.colorkinetics.com/lifetime).

#### WARRANTY

This product is sold pursuant to CK's Standard Terms and Conditions (the "T&Cs") which may be found at <http://colorkinetics.com/howtobuy/buy/terms> and which contain important provisions, including, among others, Limited Warranty, exclusions and limitations on CK's liability for damages, and restrictions on the remedies that are available to you.

<sup>1</sup> Guide to Health, Safety and Welfare at Pop Concerts and Similar Events, HMSO Publications (UK)