C-SPLASH 2
INSTALLATION GUIDE

COLOR KINETICS®

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 C-Splash 2 safely.

C-Splash 2 is a completely submersible fixture primarily designed for use in fresh or salt water, up to three feet deep; but can be used in partially submerged or dry locations.

BACK VIEW | **SIDE VIEW**

POWER/DATA CABLE

LOCKING PIVOTS

FRONT VIEW
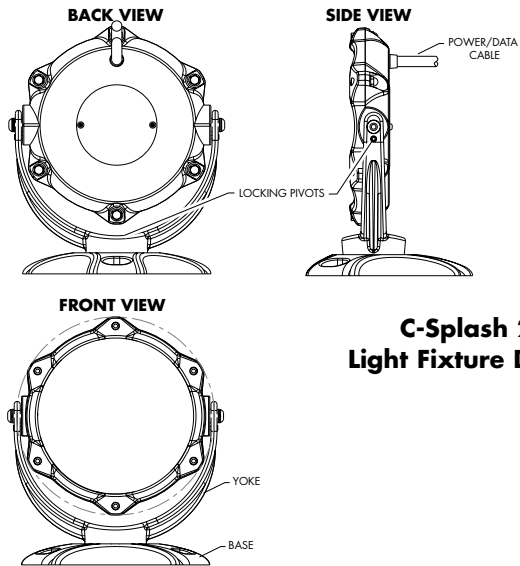
C-Splash 2 Light Fixture Detail

YOKE

BASE

Included in this box:
- C-Splash 2 with 60 foot cable
- Warranty and Registration cards
- Installation Guide

Additional items needed:
- Mounting base hardware: 3 each: 3/8"-16 Silicon Bronze cap screw, 3/8" Silicone Bronze, round, flat washer, plus appropriate anchoring hardware
- 5/16", 3/16", and 1/8" hex key
- 18 AWG (minimum) ground wire
- 24VDC power supply - PDS-150e (Item# 109-000008-01) or sMOPS-150 (Item# 109-000007-00)
- Controller - Color Kinetics or DMX compatible
- Color Kinetics Zapi (Item# 103-000005-00, US/103-000005-01, EU) or Serial Addressing Software (SAS)

Scope of This User Guide

The goal of this user guide is to explain in an easily understood language the necessary steps to install C-Splash 2 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 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.

DANGER: Ensure that the main power supply is off before installing or wiring C-Splash 2 and PDS-150e/sMOPS power supply. Failure to adhere to these instructions will result in death or serious injury.

WARNING: Do not install in human-occupied underwater locations, such as pools and spas. Doing so could result death or serious injury.

WARNING: C-Splash 2 and PDS-150e/sMOPS power supply 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 C-Splash 2 or PDS-150e/sMOPS 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: Do not use C-Splash 2 if the power cables are damaged. Doing so can result in death, serious injury, and property damage.

CAUTION: C-Splash 2 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.

CAUTION: Do not hot swap. Ensure the power supply is off before connecting or disconnecting fixtures. Hot swapping will result in property damage and void the warranty.

CAUTION: Do not remove or loosen sealing bolts. Doing so will destroy the water tight seal, result in property damage, and void the warranty.

SEALING BOLTS

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 C-Splash 2 in such a manner as to comply with all state and local laws, ordinances, regulations, and the American Standard Institution Safety Code.

Plan the Installation

The nature of the C-Splash 2 installation requires planning to ensure a timely, successful installation with minimal complications and down time.

Planning suggestions

When planning the C-Splash 2 installation, Color Kinetics suggests doing the following:
- Consult an Electrical Inspector to approve all wiring plans.
- Refer to local and state codes for installation compliance.
- Create a Mapping Grid. Use this grid to record serial numbers for easy reference and addressing.
- Create a Layout Plan drawing, per Lighting Designer or Architect.
- Employ Color Kinetics Application Engineering Services.
- Get detailed wiring diagrams and additional support from http://support.colorkinetics.com.

Installation considerations

When creating your installation plan, consider the following:
- Location of the power/data supply in relationship to lights. The maximum cable length for a C-Splash 2 fixture is 60 feet. Therefore, the power/data supply must be located within 60 feet of the furthermost supported fixture.
- Location of fixture. C-Splash 2 can be installed fully submerged, partially submerged, or in dry locations; horizontal, vertical, or inverted.
- Record the serial numbers and identify lights as you unpack the fixtures.
- Install and wire power/data supply before installing C-Splash 2 fixtures. Refer to the PDS-150e/sMOPS Installation Guide.

Installing C-Splash 2

Steps to a successful installation
1. Record serial numbers and identify fixtures as you unpack them.
2. Address the fixtures.
3. Install the power/data supplies.
4. Install C-Splash 2 fixtures.
5. Connect power and data.

Recording Serial Numbers
1. As you unpack the fixtures record the serial numbers.
   Each C-Splash 2 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.
   Serial Addressing software and instruction are located at http://pro.colorkinetics.com/products/controllers/sas/.
3. Using the Layout Plan, assign the fixture to a layout position in the installation.
4. Using a weatherproof label, identify the fixtures 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 light show programming.

Addressing the Lights

Important: Before you begin the installation, consider the scope of your lighting application and installation. Your C-Splash 2 is set to DMX address one (1) at the factory. If your application requires other addresses, set the DMX addresses before installing C-Splash 2 using one of the following addressing tools: Zapi 1.5 or Serial Addressing Software (SAS).
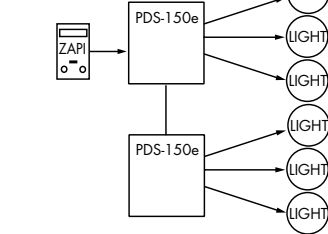
ZAPI 1.5: Use Color Kinetics Zapi 1.5 to set the DMX address for each fixture or set all fixtures to the same DMX address.
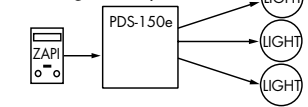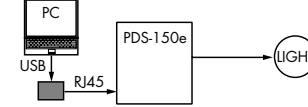
SET UP

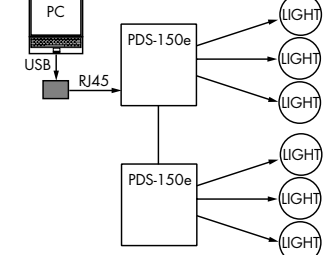Single Light Set Up | Multi-Power Supply Set Up
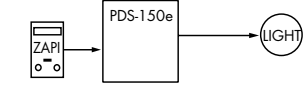
Multi-Light Setup

SAS: Use a PC with iPlayer 2, or a PC with Smart Jack 3 to address the fixtures. Download SAS and instructions from http://pro.colorkinetics.com/products/controllers/sas/.
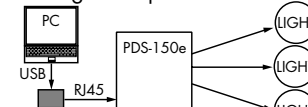
SET UP

Single Light Set Up | Multi-Power Supply Set Up

Multi-Light Setup

■ CONTROLLER (iPlayer 2 or Smart Jack 3)

NOTE: Multi-power supply setups are ideal for pre- and post-installation. For post-installation addressing, record all serial numbers and layout positions prior to installation.

Setting Individual Addresses:

Using the Serial Number mode of Zapi 1.5 or the SAS (Serial Addressing Software), address each fixture attached to a power supply or a series of connected power supplies individually.

1. Connect up to six C-Splash 2 fixtures to each PDS-150e (four fixtures per sMOPS).
2. Attach the DMX interface (Zapi 1.5, iPlayer 2, or Smart Jack 3) to the *DMX IN* port on the PDS-150e, or the first PDS-150e in a series.
3. Use Serial Number mode of Zapi 1.5 or SAS to set the light address for each C-Splash 2.
4. After all fixtures are addressed, disconnect the DMX interface.

NOTE: Refer to the Zapi 1.5 User Guide for step-by-step addressing instructions.

Setting the Same DMX Address to Multiple Lights:

Using Zapi 1.5, address all fixtures attached to a power supply, or multiple, daisy-chained power supplies.

1. Connect up to six C-Splash 2 fixtures to each PDS-150e (four fixtures per sMOPS).
2. Attach the Zapi 1.5 to the *DMX IN* port on the PDS-150e, or first PDS-150e in a power supply series.
4. Use All Same DMX mode of Zapi 1.5 to set the light addresses. All C-Splash 2 fixtures connected to the power/data supply are addressed simultaneously.
5. Disconnect the DMX interface.

Install the PDS-150e Supply

NOTE: If using the sMOPS-150 power supply, refer to the sMOPS-150 user guide for complete installation instructions.

Following the Layout Plan, install the PDS-150e supplies according to state and local codes. Refer to the PDS-150e Installation Guide for complete instructions.

Things to remember:

- C-Splash 2 requires 24VDC provided by the PDS-150e.
- The PDS-150e must be located within 60-feet of the C-Splash 2 fixtures.
- Each PDS-150e supports six C-Splash 2 fixtures (four per sMOPS).
- Consult an Electrical Inspector to approve all wiring plans.

WARNING: Ensure that power is off before wiring the PDS-150e. Failure to do so can result in serious injuries or death.
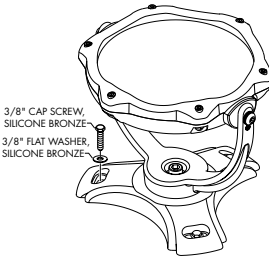
Install C-Splash 2

This fixture shall be installed by a qualified professional in accordance with NEC and relevant local codes for Class 2 power sources.

Things to remember:

- Install C-Splash 2 fully submerged, partially submerged, or in dry location.
- Install C-Splash 2 in fresh or salt water.
- The maximum submersion depth is 3 feet.
- Install C-Splash 2 horizontally, vertically, or inverted.

CAUTION: Install C-Splash 2 fixture before wiring it to the PDS-150e to minimize risk of electric shock.

Mounting C-Splash 2

1. Using the provided C-Splash 2 Template or the C-Splash 2 base, mark the installation locations.
2. Attach fixture to mounting surface, with three 3/8"-16 Silicon Bronze cap screws and washers, using method best suited for the mounting surface.

3/8" CAP SCREW, SILICONE BRONZE
3/8" FLAT WASHER, SILICONE BRONZE

Electrical Connections

After installing the PDS-150e and C-Splash 2 fixtures, you are ready to make the electrical connections.

1. Pull cable from the fixtures to the power/data supply.
2. Pull cable through knock-outs in side of power/data supply.
3. Wire the red, white, and black wires of each fixture to a provided connector, then snap connectors into the connector terminals located in the PDS-150e. Ensure that the wire colors correspond to the 3-pin terminal block notations.
4. Using wire nuts and 18 AWG ground wire, connect the green ground wire from each C-Splash 2 to the chassis ground terminal on the PDS-150e.

COM — BLACK
DATA — WHITE
24V — RED
GND
TO CHASSIS

RING TERMINAL   GND FROM LIGHTS
100-240 VAC

Connecting Power

Following the instructions in the PDS-150e Installation Guide, connect power from a 100 to 240 VAC power source.

WARNING: Ensure that power supply is off before wiring or connecting fixtures to the PDS-150e. Failure to do so can result in serious injuries or death.

CAUTION: Connect the C-Splash 2 ground wire to the PDS-150e chassis. Failure to do so can result in property damage and void the warranty.

Aiming the fixture

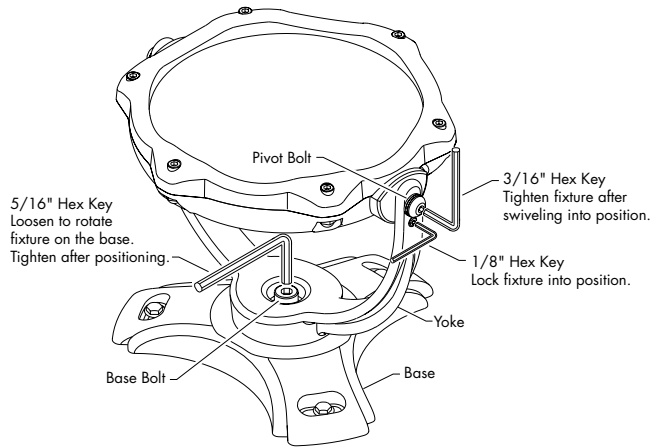Aiming the C-Splash 2 is simple with the aim-and-lock feature.

1. After installing and energizing the light, horizontally pivot the fixture in the yoke to the desired position.
2. Using a 3/16" hex key tighten the pivot bolts to hold the fixture in position.
3. Using a 1/8" hex key tighten the locking set screws to lock the fixture in place.

Rotating the fixture

- If after installation it becomes necessary to rotate the fixture, use a 5/16" hex key to loosen the base bolt. Vertically rotate the yoke then tighten the base bolt.

NOTE: The fixture allows 360° vertical and horizontal rotation.

CAUTION: Do not over tighten set screws.

Pivot Bolt

5/16" Hex Key
Loosen to rotate fixture on the base. Tighten after positioning.

3/16" Hex Key
Tighten fixture after swiveling into position.

1/8" Hex Key
Lock fixture into position.

Yoke

Base Bolt

Base

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 agencies[1] 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 C-Splash 2 has been designed with a temperature monitoring feature. If operating temperatures rise to an unsafe level, a compensation circuit is triggered and the C-Splash 2 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 or email:
Color Kinetics Technical Support Group:
1-888-FULL RGB or 617-423-9999 or
support@colorkinetics.com
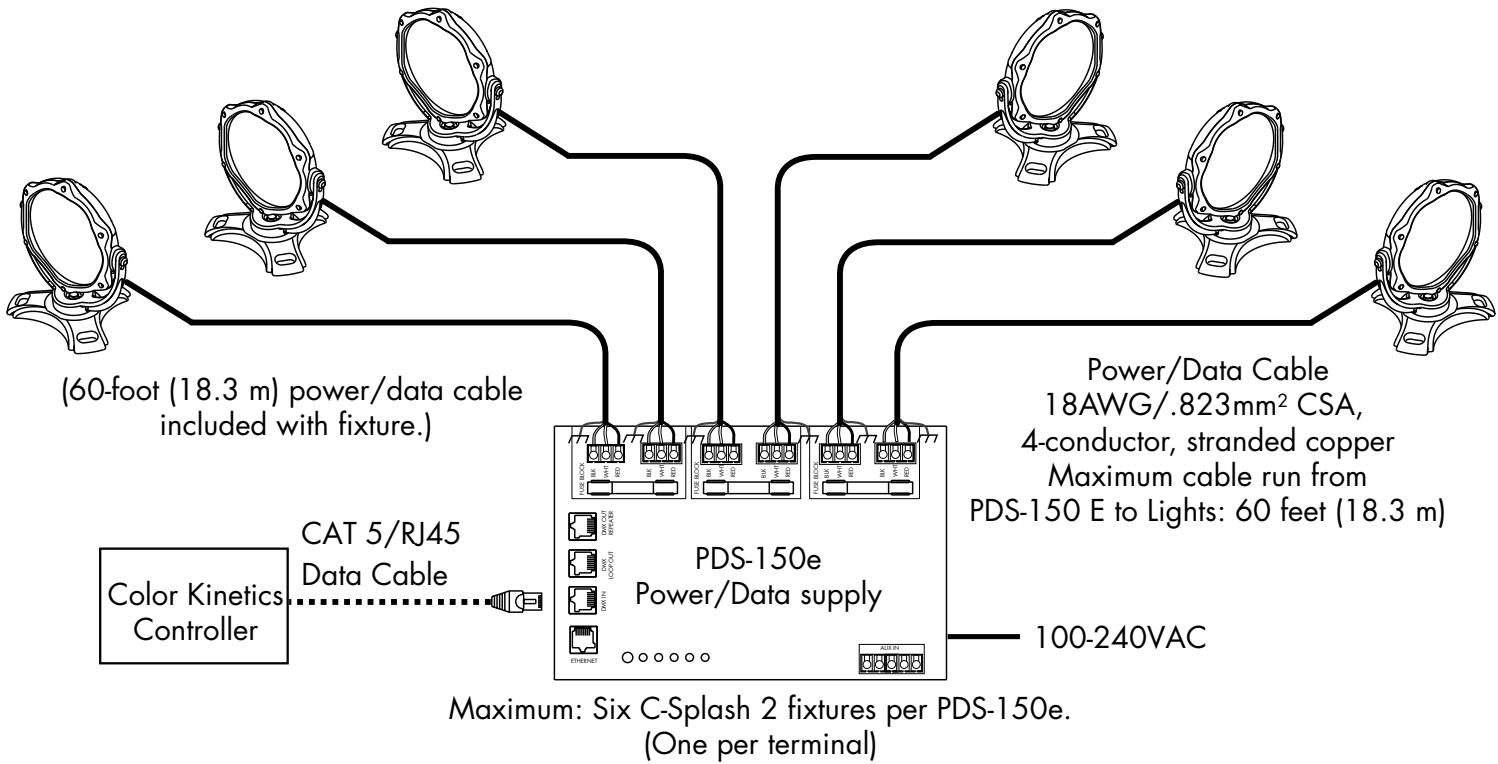
C-SPLASH 2 SPECIFICATIONS

COLOR RANGE	16.7 million (24bit) additive RGB colors Continuously variable intensity output range
SOURCE	High intensity power LEDs
BEAM ANGLE	22° beam angle
DATA INTERFACE	Color Kinetics full line of controller products
PACKAGING	Black, white, or aluminum powder coated die cast aluminum housing
CONNECTORS	Unified power and data cable
LISTINGS	c-UL US and CE listed
PROTECTION RATING	IP68
POWER REQUIREMENT	24VDC (25W)

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.

(60-foot (18.3 m) power/data cable included with fixture.)

Power/Data Cable 18AWG/.823mm² CSA, 4-conductor, stranded copper Maximum cable run from PDS-150 E to Lights: 60 feet (18.3 m)

CAT 5/RJ45 Data Cable

Color Kinetics Controller

PDS-150e Power/Data supply

100-240VAC

Maximum: Six C-Splash 2 fixtures per PDS-150e. (One per terminal)

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