



# BOLLARD LSB64



INSTALLATION MANUAL



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## 1. INTRODUCTION

Congratulations on selecting one of the finest outdoor speaker systems ever produced. The Origin Acoustics Bollard is a single unit that houses both a subwoofer and a mid/high frequency satellite in the same enclosure. The speaker is designed to allow the subwoofer section to be buried in the ground leaving only the pillar section exposed. The sound from both the sub and satellite emanate from the slots in the upper portion of the pillar section creating a uniform, full frequency sonic experience.

At Origin Acoustics, we take pride in providing you with a high quality product. All of Origin Acoustics' speakers are designed to have excellent sound quality, longevity, and a simple installation process.

This instruction booklet covers the necessary information for a smooth installation, including: the tools you will need, step-by-step instructions for installation, troubleshooting tips for any errors that may occur, and all warranty information.

If for any reason you experience problems or if you have installation questions please call us at (844) 674-4461. Hours of operation are 8:00am to 5:00pm (PacificTime), Monday through Friday.

## 2. MODELS & SPECIFICATIONS

| Bollard SKU   | Shell Shape | Shell Color | Sound Dispersion |
|---------------|-------------|-------------|------------------|
| LSB64RDS360K  | Round ●     | Silver      | 360°             |
| LSB64RDS180K  | Round ●     | Silver      | 180°             |
| LSB64RDBL360K | Round ●     | Black       | 360°             |
| LSB64RDBL180K | Round ●     | Black       | 180°             |
| LSB64RDBR360K | Round ●     | Bronze      | 360°             |
| LSB64RDBR180K | Round ●     | Bronze      | 180°             |
| LSB64SQS360K  | Square ■    | Silver      | 360°             |
| LSB64SQS180K  | Square ■    | Silver      | 180°             |
| LSB64SQBL360K | Square ■    | Black       | 360°             |
| LSB64SQBL180K | Square ■    | Black       | 180°             |
| LSB64SQBR360K | Square ■    | Bronze      | 360°             |
| LSB64SQBR180K | Square ■    | Bronze      | 180°             |

### LSB64 Available In:

- Round or Square Shell
- 360° or 180° Sound Dispersion

| MODEL              | LSB64                     |
|--------------------|---------------------------|
| Woofer             | 6 ½" Poly Woofer          |
| Midrange           | 4 ½" Aluminum             |
| Tweeter            | 1" PEI                    |
| Frequency Response | 48HZ - 20KHZ              |
| Subwoofer Diameter | 12 ½" (315mm)             |
| SAT Diameter       | 5 ½" (140mm)              |
| Power RMS          | 60W                       |
| Power Peak         | 100W                      |
| Impedance          | 6 Ohm (Sub) / 4 Ohm (Sat) |
| Transformer Taps   | 70V-50W/25W               |
| Mounting Depth     | 8 ½" (212mm)              |

## 3. ITEMS INCLUDED



Speaker



Wire Nuts (4)



Installation Manual

\*All product specifications are subject to change. Please refer to the dealer portal for the latest information.

## **4. SYSTEM LAYOUT**

Placement of the speakers throughout the home's exterior will depend on a couple of factors. The first is how uniform of a sound field is required. The laws of physics dictate that the further the listener is from the sound source the lower the apparent sound pressure level or "volume." Because of this there will always be areas with less sound and others with more. A greater number of speakers in the system will always make for more even coverage. The second factor is the desired maximum sound pressure required. Some systems are designed for background or ambient music only, while others are designed to rock the house or provide dance music. Again, the number of speakers will affect the maximum output. Consider creating different zones where louder music is required in one area and softer music in others.

The Bollard also has two dispersion options. One is omnidirectional allowing sound to be projected 360 degrees from the enclosure. The second is accomplished with an insert to limit the sound to half if the dispersion or 180 degrees from the enclosure. This is perfect for border areas where you are concerned about unwanted sound spilling into a neighbor's yard or an area where the music is simply unwanted. The Bollard must be ordered in one of the two configurations as the insert must be installed at the factory. Changing the insert in the field is not an option as doing so would likely damage the unit.

If you are concerned about determining speaker placement, Origin Acoustics offers a free design service to help you map the optimal speaker placements as well as recommended amplifier power and project scale.

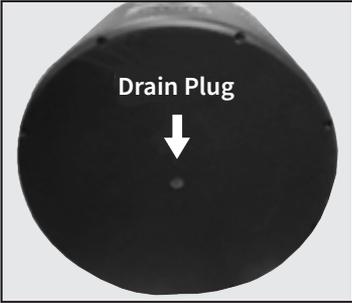
Email [sales@originacoustics.com](mailto:sales@originacoustics.com) for more information.

## **5. INSTALLATION GUIDANCE**

Once coverage and sound pressure requirements have been determined the Bollard locations can be selected. Before digging, confirm there are no subterranean obstructions such as water or gas lines, sprinkler pipes or electrical conduits. Holes for the subs should be deep enough to cover the entire lower section of the enclosure with approximately 1-inch of dirt on top of that section. This will allow the pillar (shell) to protrude about 18-inches above the surface.

## 5A. DRAIN PLUG

The Bollard loudspeaker comes with a drain plug inserted at the bottom of its subwoofer enclosure. If there is water ingress for any unavoidable reason, removing the drain plug will allow for water to drain out. The drain plug is easily removable with a utility knife.



### OPTION A – DRAIN PLUG REMAINS IN THE SUB ENCLOSURE

This option is recommended:

- In applications where ground water is at shallow depths and expected to rise easily above ground level or areas with overall very wet soil.  
e.g. Areas of Houston, Louisiana

#### ***Follow the below instructions:***

For Bollard with drain plug inserted

- Dig a hole for the subwoofer, about 15” deep and 15” in diameter.
- Place the subwoofer as level as possible and not tilted.
- Take care to fill empty spaces around drain hole where water might accumulate.
- The subwoofer shouldn’t be in contact with large rocks or large empty holes below the drain hole.
- Use 2” of loose dirt to cover the top of subwoofer enclosure.

## OPTION B – REMOVE THE DRAIN PLUG

This option is recommended:

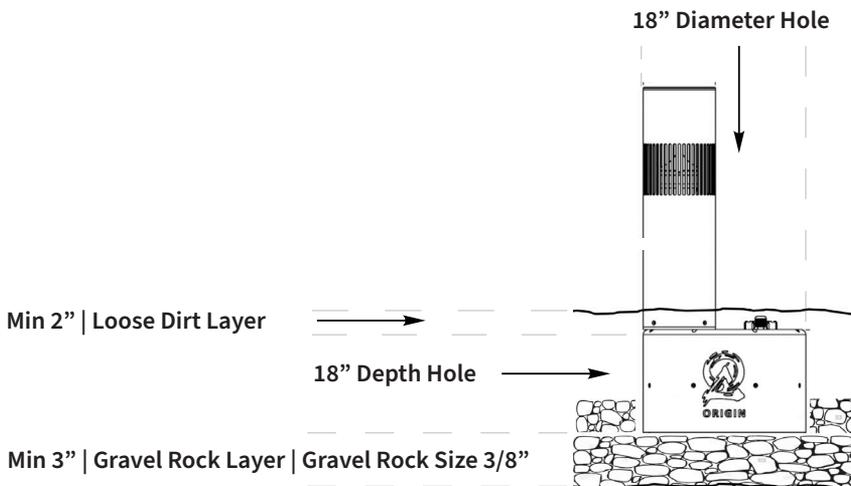
- In applications with dry soil where occasional water may accidentally enter the enclosure. Use of gravel and sand will allow any water that gets into the sub enclosure to properly escape.

e.g. Las Vegas, Inland Southern California, Southwest desert

### ***Follow the below instructions:***

For bollard with drain plug removed.

- Dig a hole for the subwoofer, about 18" and 18" in diameter.
- Lay gravel rock (3/8" size recommended) for a depth of min. 3" below the bottom of subwoofer enclosure.
- Place the subwoofer as level as possible and not tilted.
- Take care to not block the drain hole by direct contact with gravel rock.
- Use 2" depth of loose dirt to cover the top of subwoofer enclosure.



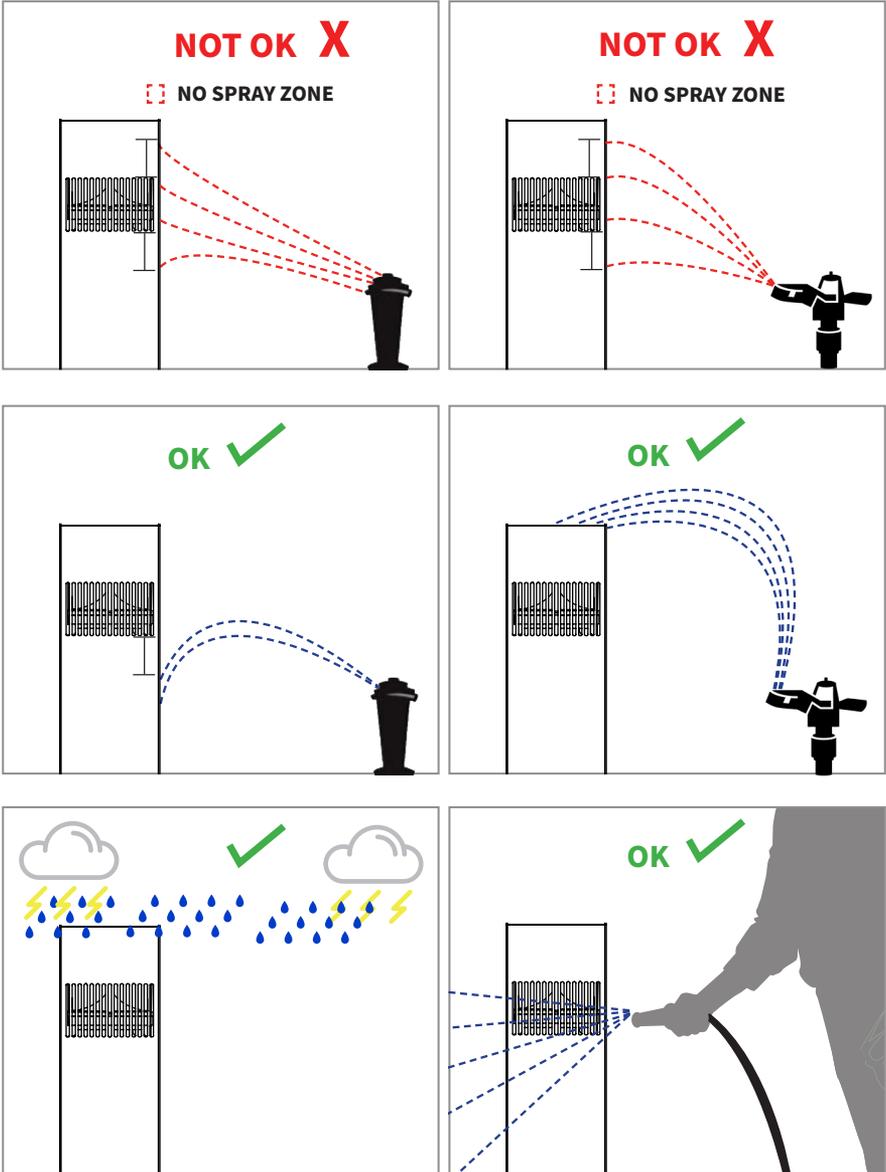
## 5B. BURIAL DEPTH

The subwoofer enclosure should be buried to a level where the dirt covers the wire nut and protruding wire at the top of enclosure. Do not bury excessively deep. Care should be taken to ensure that all bollards extend to the same height above ground.

**NOTE: DO NOT BURY THE ENCLOSURE UNTIL ALL WIRING HAS BEEN COMPLETED.**

### 5C. BOLLARD INSTALLATION & SPRINKLER LOCATION

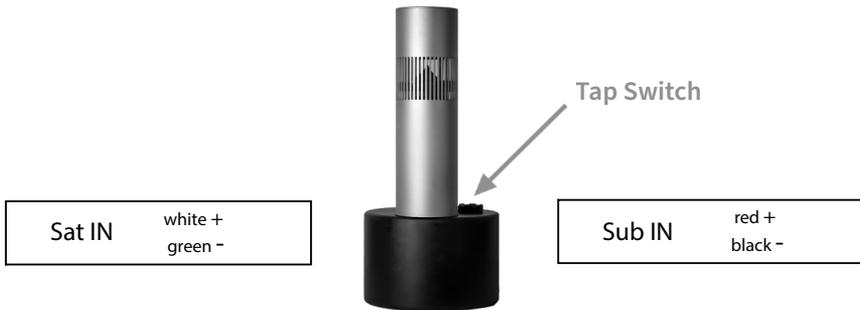
It is highly recommended that the Bollard speaker be installed at a location such that the water sprinkler nearby (if any) does not spray the water jet into or +/- 2 inches from vertical slots of the bollard shell. *Follow Illustration below:*



## 6. TAP SETTINGS

Each pair of wires connecting into the subwoofer and satellite portions of Bollard speaker is labeled as SUB IN and SAT IN respectively.

To change the power tap setting, use the tap switch under the cap on the subwoofer.



## 7. 70V VS 8 Ω WIRING OPTIONS

*If you are looking to use more than 2 Bollard speakers, 70V is the proper solution.*

RECOMMENDED AMP FOR 70V SYSTEM:

1 x DSP3-700 Amp

RECOMMENDED AMPS FOR 8Ω SYSTEM:

OPTION A: 1 x DSP3-150 Amp

OPTION B: 2 x DSP2-200 Amp

(Bollard Version)

In the Ohm ( $\Omega$ ) tap switch position, the transformers are bypassed. Due to the impedance in the 6  $\Omega$  (Sub) / 4  $\Omega$  (Sat) setting, **ONLY A SINGLE PAIR OF BOLLARDS CAN BE USED.**

| TAP SWITCH SETTING  | RECOMMENDED AMP | MAX. NUMBER OF BOLLARD SPEAKERS               |
|---------------------|-----------------|---|
| 25 W (70V)          | 1 x DSP3-700    | TOTAL 24 PER DSP3-700 AMP<br>(12 per Channel) |
| 50 W (70V)          | 1 x DSP3-700    | TOTAL 12 PER DSP3-700 AMP<br>(6 per Channel)  |
| 8 $\Omega$ (bypass) | 1 x DSP3-150 *  | TOTAL 2 PER DSP3-150 AMP*                     |
| 8 $\Omega$ (bypass) | 2 x DSP2-200 *  | TOTAL 2 PER PAIR OF DSP2-200 AMPS*            |

\* WARNING: ONLY RUN A MAXIMUM OF 2 (TWO) BOLLARD SPEAKERS PER DSP3-150 IN 8 $\Omega$  TAP SWITCH SETTING.

## 8. 70V WIRING SETUP

- Use 1 separate wire run for:

Subwoofer portions of Bollards

- Use another separate wire run for:

Satellite portions of Bollards



The DSP3-700 amplifier from Origin Acoustics was specifically designed to drive Origin’s outdoor speaker systems. In 70V, it is the recommended amp for Sub control and DSP for best performance.

It is not required, and you can select the amplifier of your choice, but the DSP3-700 offers EQ and crossover presets specifically for the Bollard. These presets have active crossovers that remove the bass from the satellites and send that bass only to the subwoofers. This more effectively controls how the subwoofer interfaces with the satellites and permits you to control the subwoofer-to-satellite balance. The digital signal processing or “DSP” also shapes the sound for both subs and satellites to create optimum performance.

### 8A. 70V INSTALLATION NOTES:

- The subwoofers and satellites will be run in **parallel**.

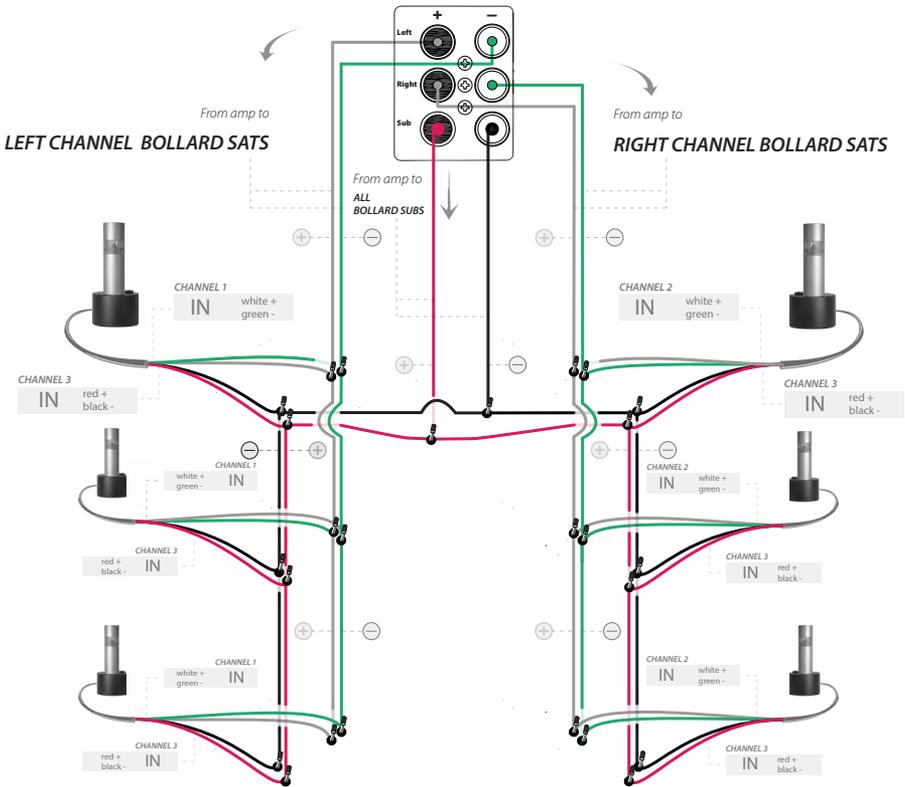
This means the positive connection on the amplifier will be connected to the positive connection on speaker 1, 2, 3, etc. The negative connection will be connected to the negative connections on the speakers as well. This can be accomplished with a single pair of wires in a “daisy chain” where the amplifier is at one end and the speakers are connected consecutively.

- If desired, you can also wire in a star pattern where each speaker is directly wired back to the amplifier.

## 8B. LSB64 BOLLARDS WIRING WITH DSP3-700 AMP



**3 CHANNEL SET UP**



**MAXIMUM NUMBER OF BOLLARDS PER DSP3-700 AMP: 24 BOLLARDS (25W TAP SETTING)**

- Consider whether you will be running the satellites in mono or stereo.

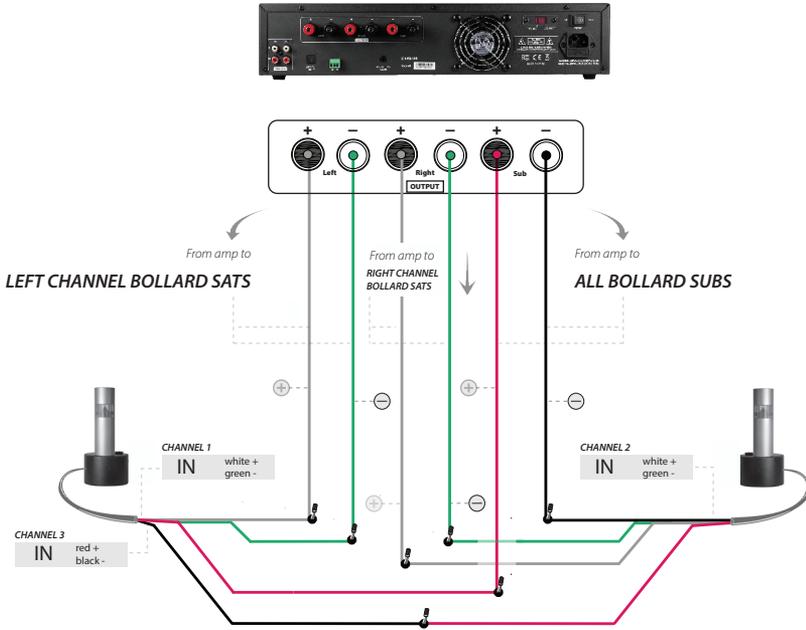
In many applications the listener will never be equidistant from a left and right speaker, so mono may be the best option. Regardless, the DSP3-700 offers three independent channels so either option is viable. Remember, if you will be running in stereo you will need to run four wires to each speaker, (+) and (-) for left or right, and sub.

## 9. 8 Ω WIRING SETUP

This configuration is run **IN-SERIES**:

### 9A. LSB64 BOLLARDS WIRING WITH DSP3-150 AMP

**3 CHANNEL SET UP**

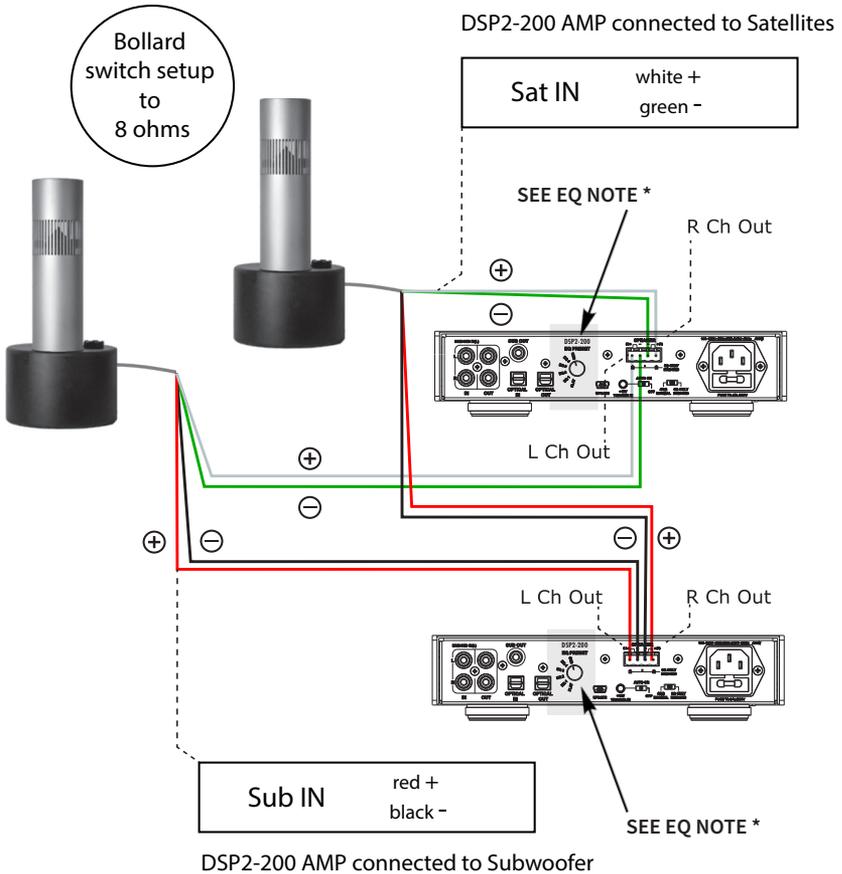


*MAXIMUM NUMBER OF BOLLARDS PER DSP3-150 AMP: 2*

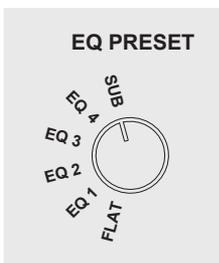
**\* WARNING: Run maximum 2 (TWO) Bollard speakers ONLY per Amplifier in 8 Ω Tap switch setting.**

## 9B. LSB64 BOLLARDS WIRING WITH DSP2-200 AMP (DSP2-200 BOLLARD VERSION ONLY)

MAXIMUM NUMBER OF BOLLARDS PER PAIR OF DSP2-200 AMPS: 2



\* EQ SELECTED TO CORRESPONDING MODEL ON DSP2-200 BOLLARD VERSION:



|              |                         |
|--------------|-------------------------|
| As Indicated | Flashed Program         |
| Flat         | Satellite Round - 360°  |
| EQ1          | Satellite Round - 180°  |
| EQ2          | Satellite Square - 360° |
| EQ3          | Satellite Square - 180° |
| EQ4          | Subwoofer - 360°        |
| Sub          | Subwoofer - 180°        |

## 10. PAINTING

The outer shell (pillar) of the Bollard outdoor speaker is anodized specifically for achieving maximum durability of the pillar color. If you wish to change the color of the Bollard shell by painting or other process, it may compromise the durability and finish of the product compared to the original manufacturing process and modify the specifications.



## 11. TROUBLESHOOTING

If you have a problem, try isolating it first. For example, if you're playing a DVD and there is no sound, try replacing the DVD with an MP3 player to see if you get sound. If it does work, then the problem is with the television, DVD player, or the cables connecting them. If it doesn't work, the problem will be with the amplifier, speakers, or those cables.

| <b>Problem</b>     | <b>Possible Cause</b>  |
|--------------------|--|
| No Sound           | The volume may be turned down or muted. Check the volume settings on both the amplifier and the DVD player/television/computer/etc.  |
| No Sound           | Make sure the proper source is selected on the amplifier or receiver.  |
| No Sound           | Check the cord connecting the amplifier with the source. The cord may be damaged or plugged into the wrong input or output.  |
| No Sound           | Check the wires connecting the amplifier with the speakers. Make sure they're connected properly and not damaged in any way.   |
| Poor Sound Quality | If you hear something like static, or the sound is cutting in and out, check the audio cables. If the problem increases when a cable is being moved, then the cable is most likely faulty or not connected properly.                         |
| Poor Sound Quality | Today's audio systems may have several places to adjust the volume, for example your MP3 player may have a volume control, and your amplifier may also have one. Check to be certain that the volume isn't turned up past 80% on any device. |
| Poor Sound Quality | Try changing sources to be certain that the selection you've chosen is a good quality recording.   |

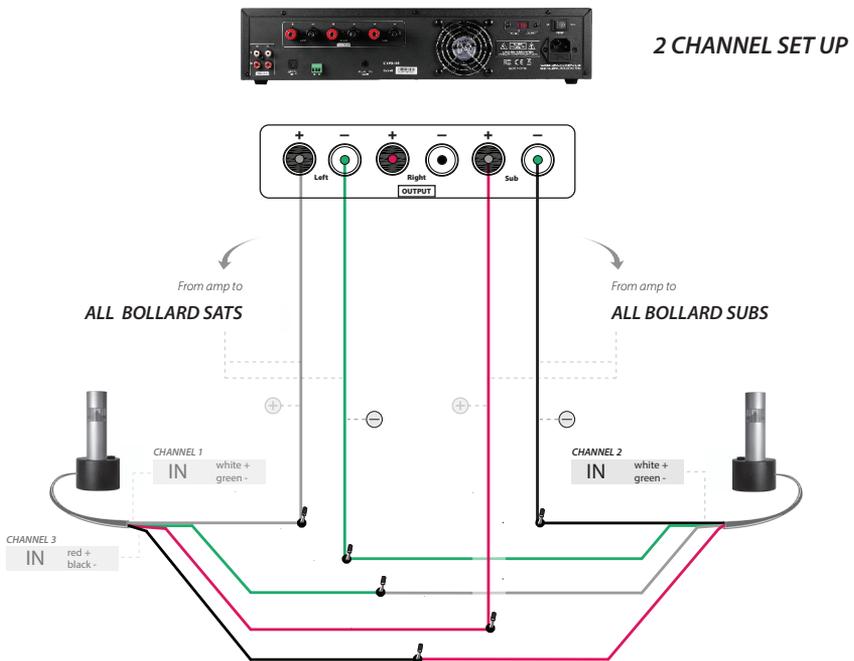
## 11A. LSB64 BOLLARDS RETROFIT WIRING SITUATION - WITH DSP3-150 AMP:

The recommended set up is a 3-Channel set up, as seen on page 12.

This 2-Channel set up below is **ONLY** recommended for :

- Retrofit Situations
- When no more than 4 conductors are available, where a maximum of 2 channels can be used.

**NOTE:** This configuration is run **IN-SERIES**.



### \* WARNING:

Run maximum 2 (TWO) Bollard speakers ONLY per Amplifier

- if used in 8  $\Omega$  Tap switch setting.

## **12. TECHNICAL ASSISTANCE**

If you have any questions or concerns about installing or using this product, you can reach us through one of the following methods:

Phone: (844) 674-4461

Hours of operation: 8:00am - 5:00pm (Pacific Time), Mon - Fri

Email: [sales@originacoustics.com](mailto:sales@originacoustics.com)

If you are having technical trouble, please include the model number and briefly explain what steps you took to resolve the problem in your email, or be prepared to answer these questions over the phone. If you are considering returning the product, it's required that you contact Origin Acoustics prior to any return attempts. This way we can determine if the issue can be resolved without returning the product, or if needed we can provide instructions and support for the return process.

### **13. LIMITED 5 YEAR WARRANTY**

Origin Acoustics warrants to the original retail purchaser only that this Origin Acoustics product will be free from defects in materials and workmanship, provided the speaker was purchased from an Origin Acoustics authorized dealer.

If the product is determined to be defective, it will be repaired or replaced at Origin Acoustics' discretion. If the product must be replaced yet it is no longer manufactured, it will be replaced with a model of equal to or greater value that is the most similar to the original. If this is the case, installing the replacement model may require mounting modifications; Origin Acoustics will not be responsible for any such related costs.

### **13A. REQUIREMENTS & WARRANTY COVERAGE**

This warranty may not be valid if the product was purchased through an unauthorized dealer. This warranty only applies to the individual that made the original purchase, and it cannot be applied to other purchases. The purchaser must be prepared to provide proof of purchase (receipt). This warranty will not be valid if the identifying number or serial number has been removed, defaced, or altered.

**\*All warranties and warranty conditions are subject to change. Please refer to [www.originacoustics.com](http://www.originacoustics.com)**

**for the latest information.**

### **13B. NOT COVERED BY WARRANTY**

- Accidental damage
- Damage caused by abuse or misuse
- Damage caused by attempted repairs/modifications by anyone other than Origin Acoustics or an authorized dealer
- Damage caused by improper installation
- Normal wear, maintenance, and environmental issues
- Damage caused by voltage inputs in excess of the rated maximum of the unit
- Damage inflicted during the return shipment

### **14. RETURN PROCESS**

Before making any return attempts, it is required that you first contact Origin Acoustics. Return product to Origin Acoustics or your dealer, either in person or by mail. It's preferable if the product is returned in the original packaging. If this isn't possible, the customer is responsible for insuring the shipment for the full value of the product.

This warranty is in lieu of all other expressed or implied warranties. Some states do not allow limitations on implied warranties, so this may not apply depending on the customer's location. (For more information, see Magnuson-Moss Warranty Act.)

# NOTES



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