



SOFTWARE VERSION 2.0

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# **FOLLOWSPOT CONTROLLER™**

## **USER MANUAL**

AutoPar<sup>®</sup>, Bad Boy<sup>®</sup>, Best Boy<sup>®</sup>, Followspot Controller<sup>™</sup>, Mbox<sup>®</sup>, Mini Node<sup>™</sup>, Nocturne<sup>®</sup>, Series 400<sup>®</sup>, ReNEW<sup>®</sup>, Super Node<sup>™</sup>, V476<sup>®</sup>, V676<sup>®</sup>, and Virtuoso<sup>®</sup> are trademarks of Production Resource Group, LLC, registered in the U.S. and other countries.

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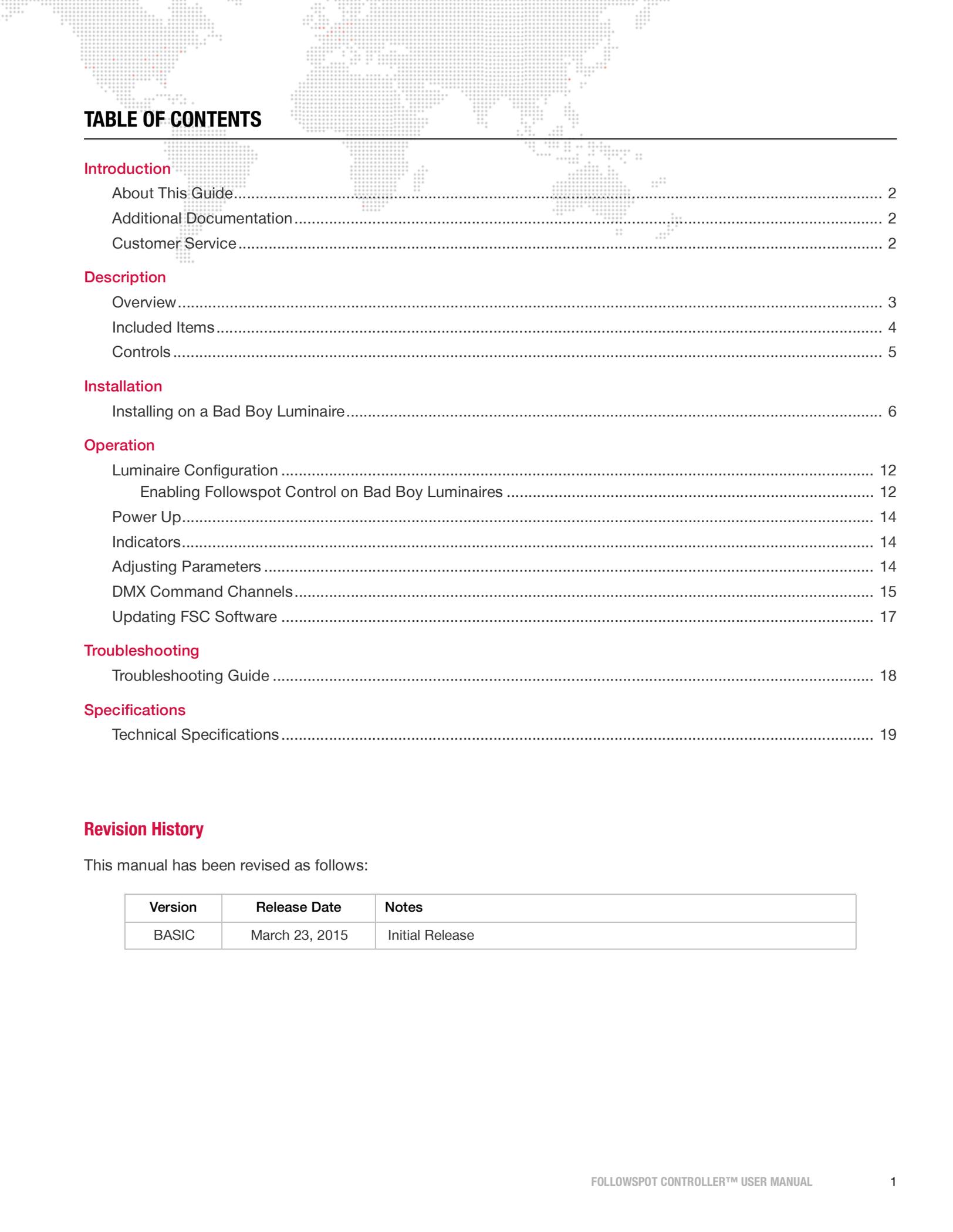
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Followspot Controller<sup>™</sup> User Manual

Version as of: March 23, 2015

PRG part number: 02.9812.0060

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### Revision History

This manual has been revised as follows:

Version	Release Date	Notes
BASIC	March 23, 2015	Initial Release



## INTRODUCTION

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### About This Guide

This guide provides necessary information regarding product safety, installation, and operation for the following PRG equipment:

- + Followspot Controller™ (28.9812.0060)

Familiarizing yourself with this information will help you get the most out of your PRG product.

### Additional Documentation

For more information, refer to the following manuals:

- + Bad Boy® Spot Luminaire User Manual (02.9812.0001.xx)

### Customer Service

For technical assistance, contact the PRG International Service Center or contact your nearest PRG office. Contact information for all PRG office locations can be found on our website at: [www.prg.com](http://www.prg.com)

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For additional resources and documentation, please visit our website at: [www.prg.com](http://www.prg.com)

## DESCRIPTION

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### Overview

The Followspot Controller™ (FSC) is an accessory for the PRG Bad Boy® Spot luminaire that allows a followspot operator to have manual control over the fixture's pan and tilt functions, as well as local control over Intensity, Iris, Zoom, and Edge. The lighting console operator still maintains control of all other internal functions (such as Color and Gobo) and can take over and/or override some of the functions that may be assigned to the local followspot operator.

The Followspot Controller, which mounts to the right side of the luminaire near the front lens, allows local control of intensity via the fader, the beam-size iris via the side dial, as well as the full 8:1 zoom range and edge via the top dials. The FSC includes a handle which allows the operator full control over pan and tilt of the luminaire. The handle is complete with a hard-wired safety cable for operation at heights above an audience.

The Followspot Controller includes a high visibility LCD screen to provide the followspot operator precise feedback levels for Intensity, Iris, Zoom, and Edge. A dial provides the operator output-level control for the LCD screen to minimize light pollution in sensitive applications. Power for the FSC is supplied by a power cable tied to the low-voltage bus located in the luminaire's side arm. Control data is supplied by a CAT5e cable that plugs into the controller and into one of the Ethernet ports on the front of the luminaire.

The Followspot Controller will work on any Bad Boy luminaire running Bad Boy software version 1.9.3 FSC or higher.

### Features:

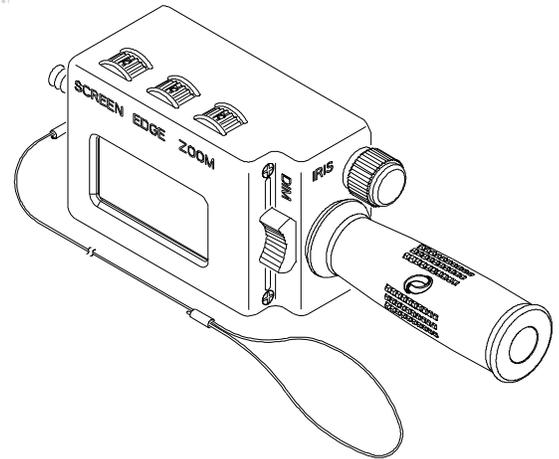
- + Manual control over Pan and Tilt
- + Local control for Intensity, Iris, Zoom, and Edge
- + High-visibility LCD screen for attribute status
- + Easy grip handle for manual control of Pan and Tilt
- + Hard-wired safety cable
- + Dimming control over LCD screen
- + Easily attaches to any Bad Boy or Best Boy Spot luminaire

### Requirements:

In order for the Followspot Controller to function properly, the following luminaire software version is required:

- + Bad Boy Spot Luminaire: v1.9FSC or greater

For compatibility with all current functionality listed in this manual, v2.13 is required.



## Included Items

The following illustration shows all items included with the Followspot Controller.

- 1 Front Mount (10.9812.0688)
- 2 Two 8-32 x 5/8" SHCS Screws (53.6696.0625.0)
- 3 Controller Assembly (20.9812.0060 / 37498-10)
- 4 Rotating Handle (22.9812.0069)
- 5 Handle w/ Lanyard (22.9812.0067 / 37498-20)
- 6 Rear Mount (10.9812.0689)
- 7 10-32 x 5/8" SCB Screw (53.6515.0625.0)
- 8 Rubber Grommet (55.6541.0008)
- 9 6' Ethernet RJ-45 CAT5e Cable (25.9801.8006 / 37498-1C)
- 10 DC Power Cable (25.9812.1903 / 37498-18)
- 11 Carrying Case (21.9812.1202)

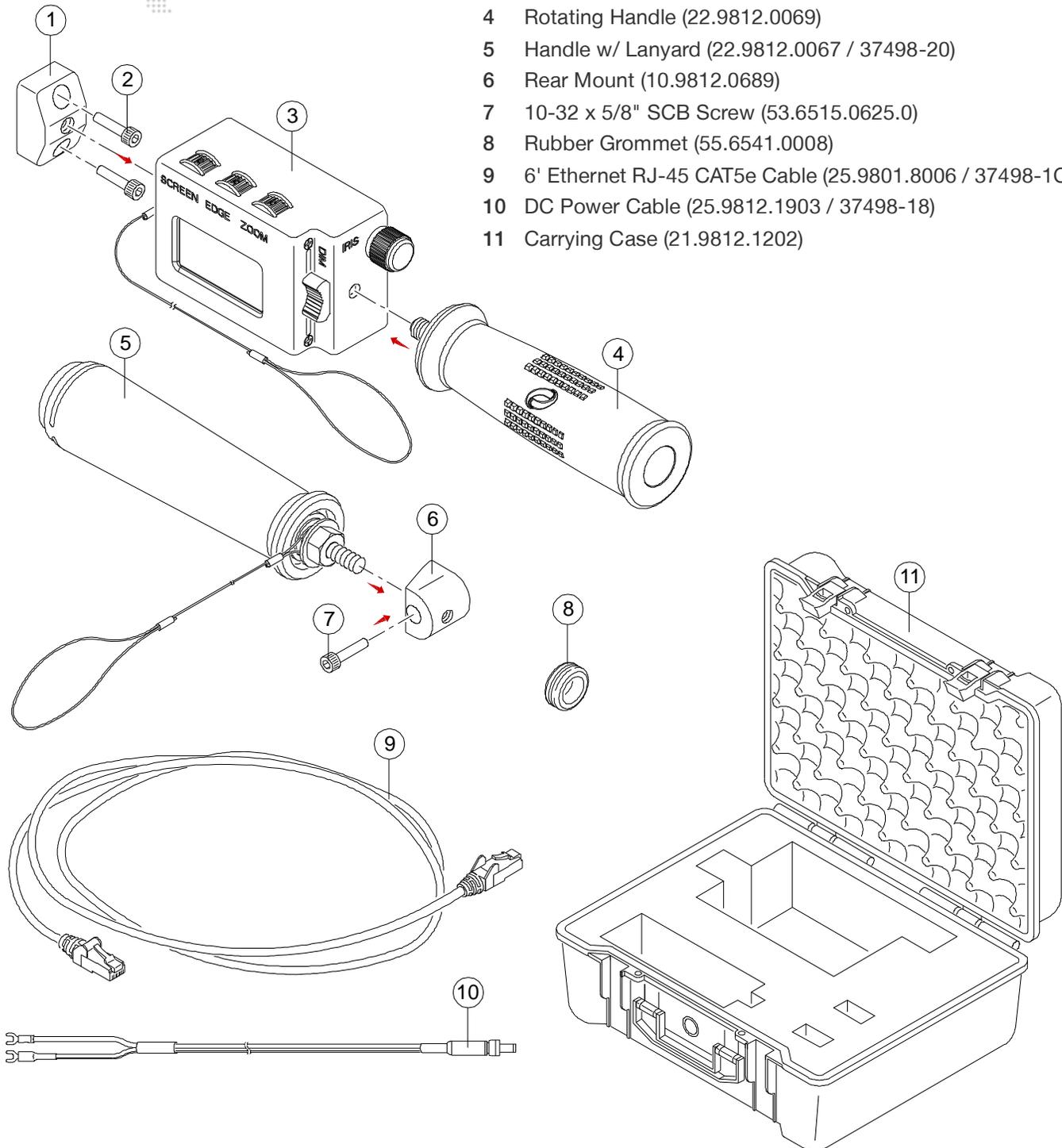


Figure 1: Included Items

## Controls

The Followspot Controller contains the following components:

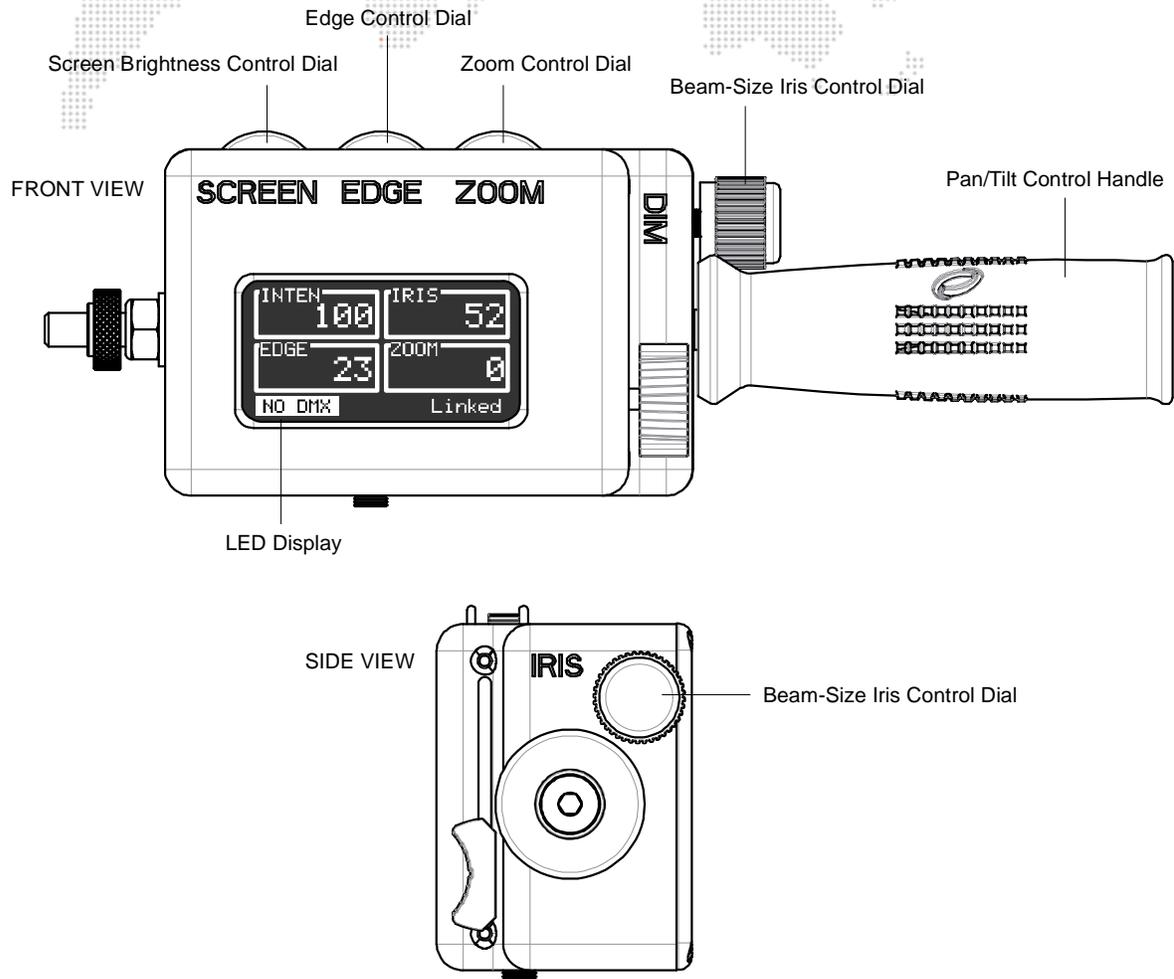


Figure 2: Controls

# INSTALLATION

## Installing on a Bad Boy Luminaire

Use the following procedure to attach the Followspot Controller to a Bad Boy Spot luminaire.



**WARNING:** Disconnect power from luminaire before installation.

- Step 1. Disconnect power from luminaire.
- Step 2. Remove Top Head Cover by removing two 8-32 x 3/8" PPB screws (**Figure 3**).
- Step 3. Remove Enclosure Intake Cover by loosening two captive screws.
- Step 4. Remove Pan-Side Yoke Cover by loosening four captive screws.



**CAUTION:** Hand tighten only. DO NOT use a power tool on Head Cover screws.

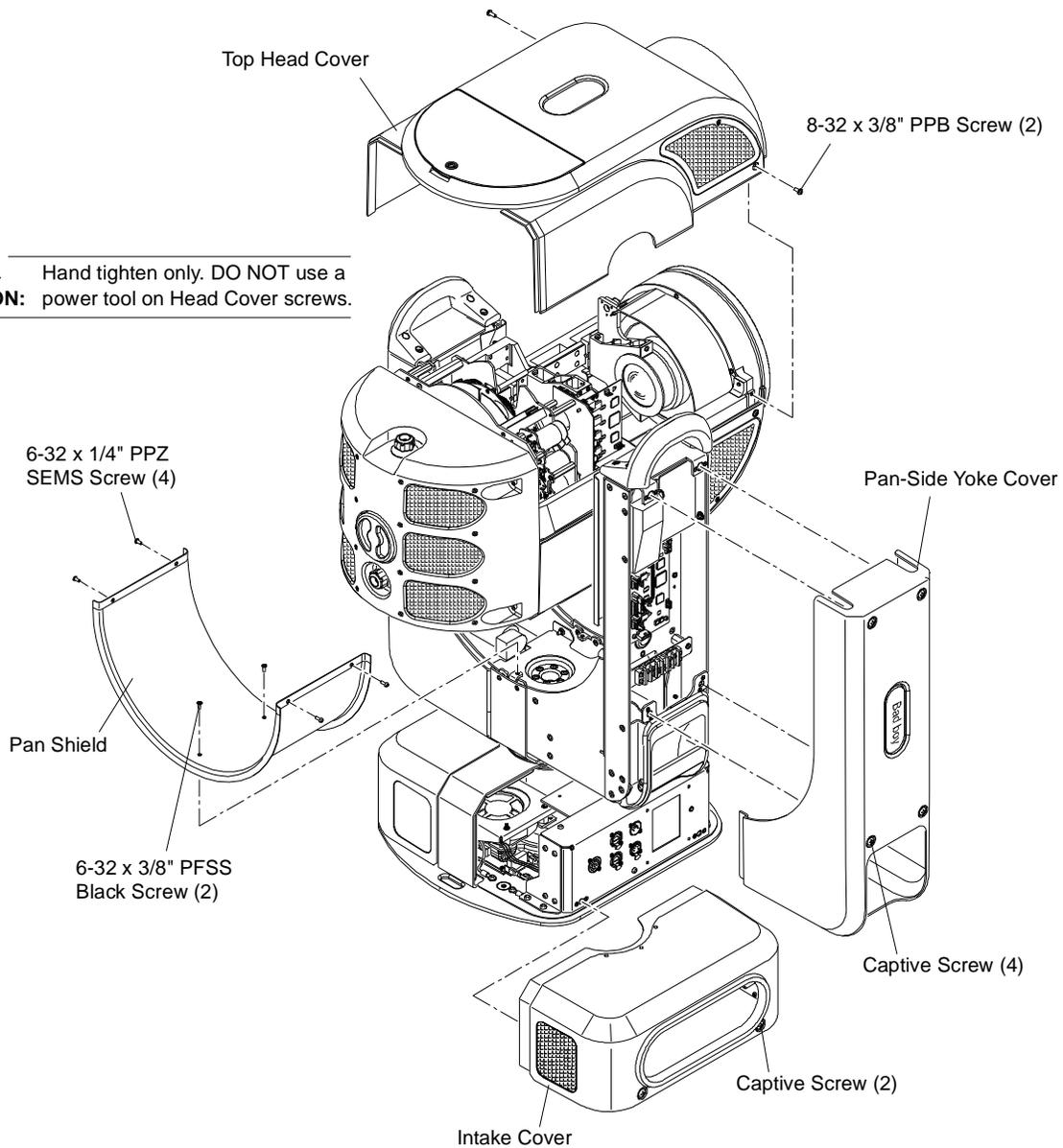


Figure 3: Removing Covers

- Step 5. Remove Pan Shield by removing two 6-32 x 3/8" PFSS black screws and four 6-32 x 1/4" PPZ SEMS screws.
- Step 6. Feed Ethernet RJ-45 CAT5e Cable (25.9801.8006 / 37498-1C) into yoke and through enclosure as shown in **Figure 4**.
- Step 7. At Interface panel, connect end of cable to ETHERNET INPUT.
- Step 8. Feed DC Power Cable (25.9812.1903 / 37498-18) into yoke as shown in **Figure 4**.
- Step 9. Attach red and black wires to terminal block as shown.

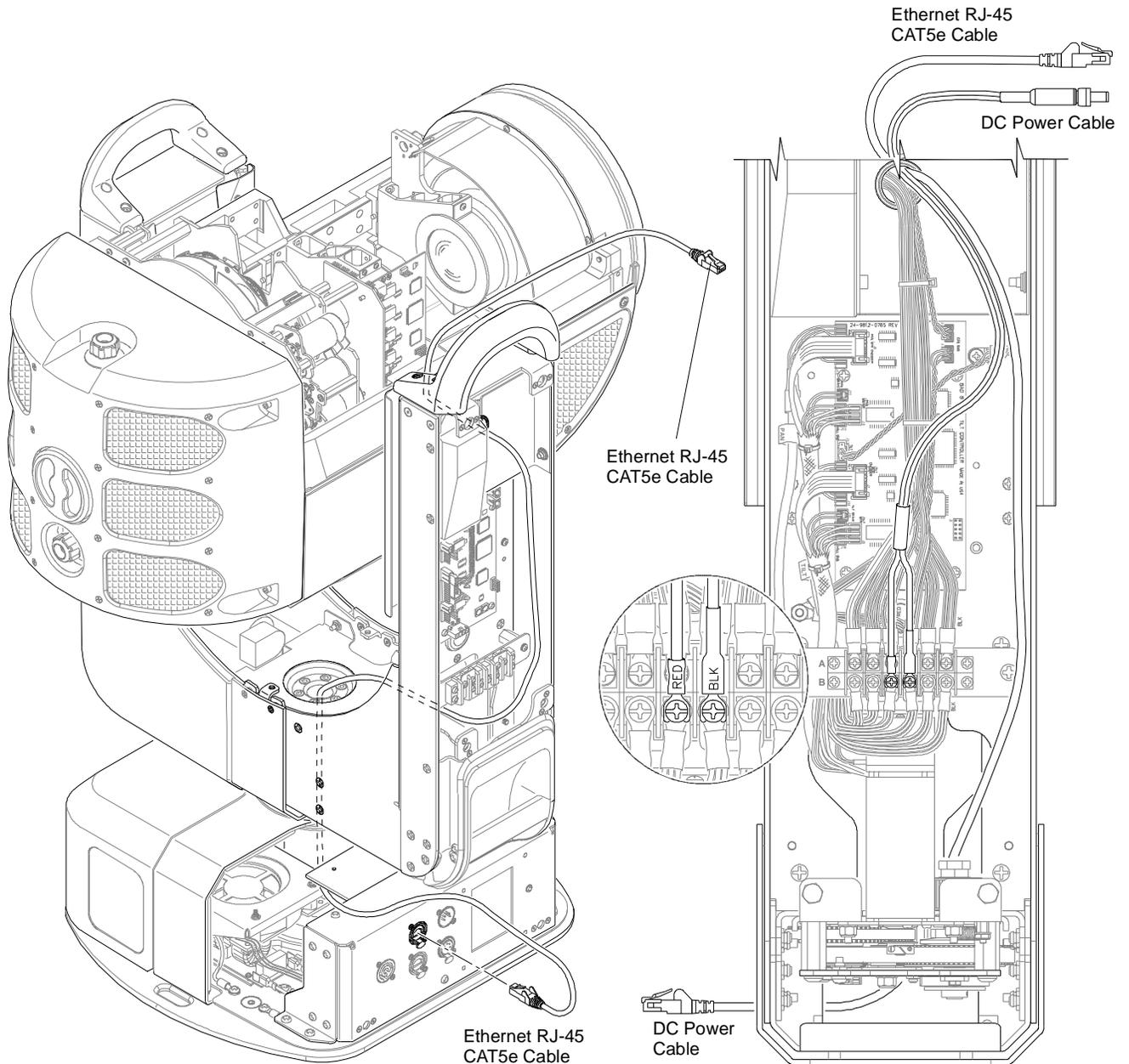
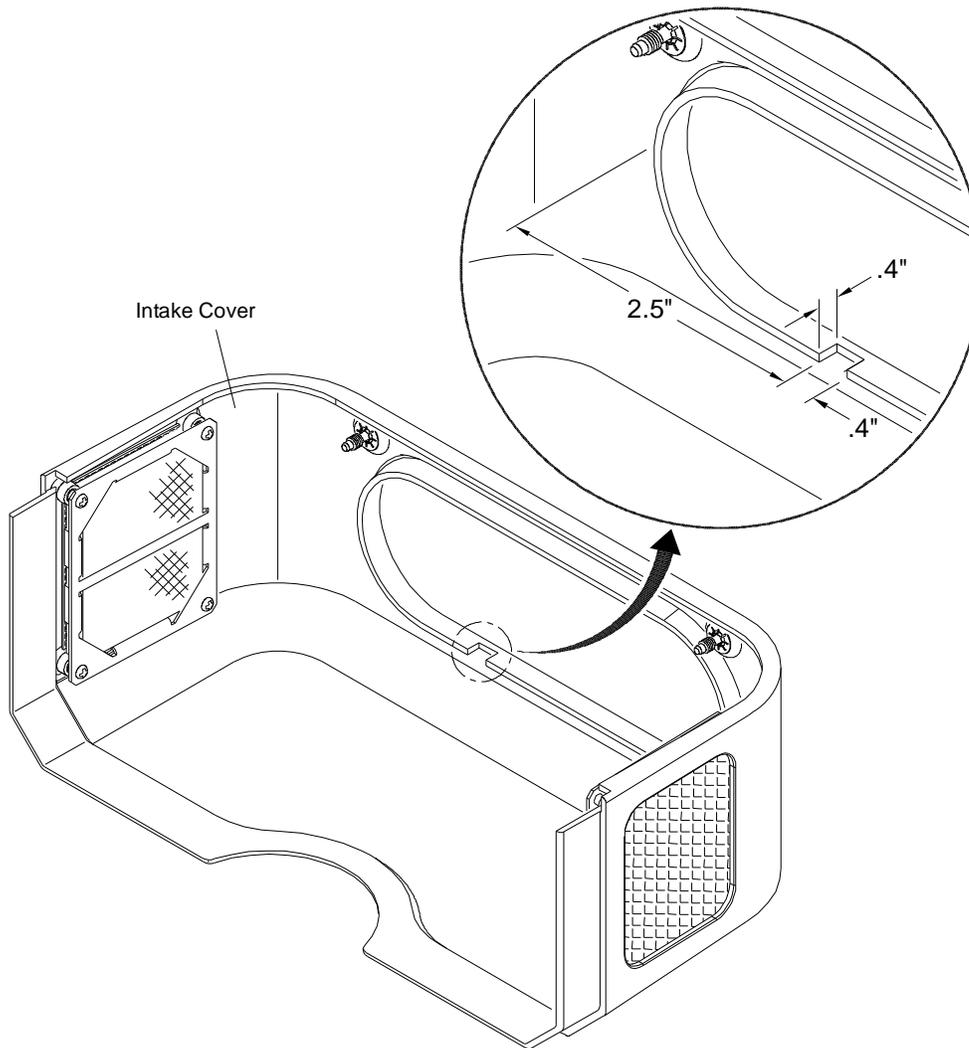


Figure 4: Installing Power and Data Cables

Step 10. At Enclosure Intake Cover, use clippers to create a notch for Ethernet Cable as shown in **Figure 5**.



**Figure 5: Modifying Intake Cover**

Step 11. Replace Yoke Cover, Intake Cover, and Pan Shield. (Refer back to **Figure 3**.) When installing Intake Cover, route Ethernet Cable so that it passes through notch (created in previous step).

Step 12. Modify and install Top Head Cover as follows:

- a. At corner of filter mesh, use clippers to create a hole for cables as shown in **Figure 6**.
- b. Punch a hole all the way through filter.
- c. Install Grommet (55.6541.0008) into new hole.
- d. Feed Ethernet Cable and DC Power Cable through grommet and out of Head Cover as shown.
- e. Set cover in place on luminaire head assembly and slide rear corners under lip of Aft Cover.
- f. At front of Head Cover, press with equal pressure on both sides until leading edge of cover snaps into place under front ring casting. (You will hear a "pop" when the cover snaps into place.)



**CAUTION:** DO NOT use a power screwdriver when re-installing the head cover screws. This may damage the hole threads. *Use a manual screwdriver only!*

g. Using manual #2 Philips screwdriver, re-install screw on left side of Head Cover (**Figure 3**).

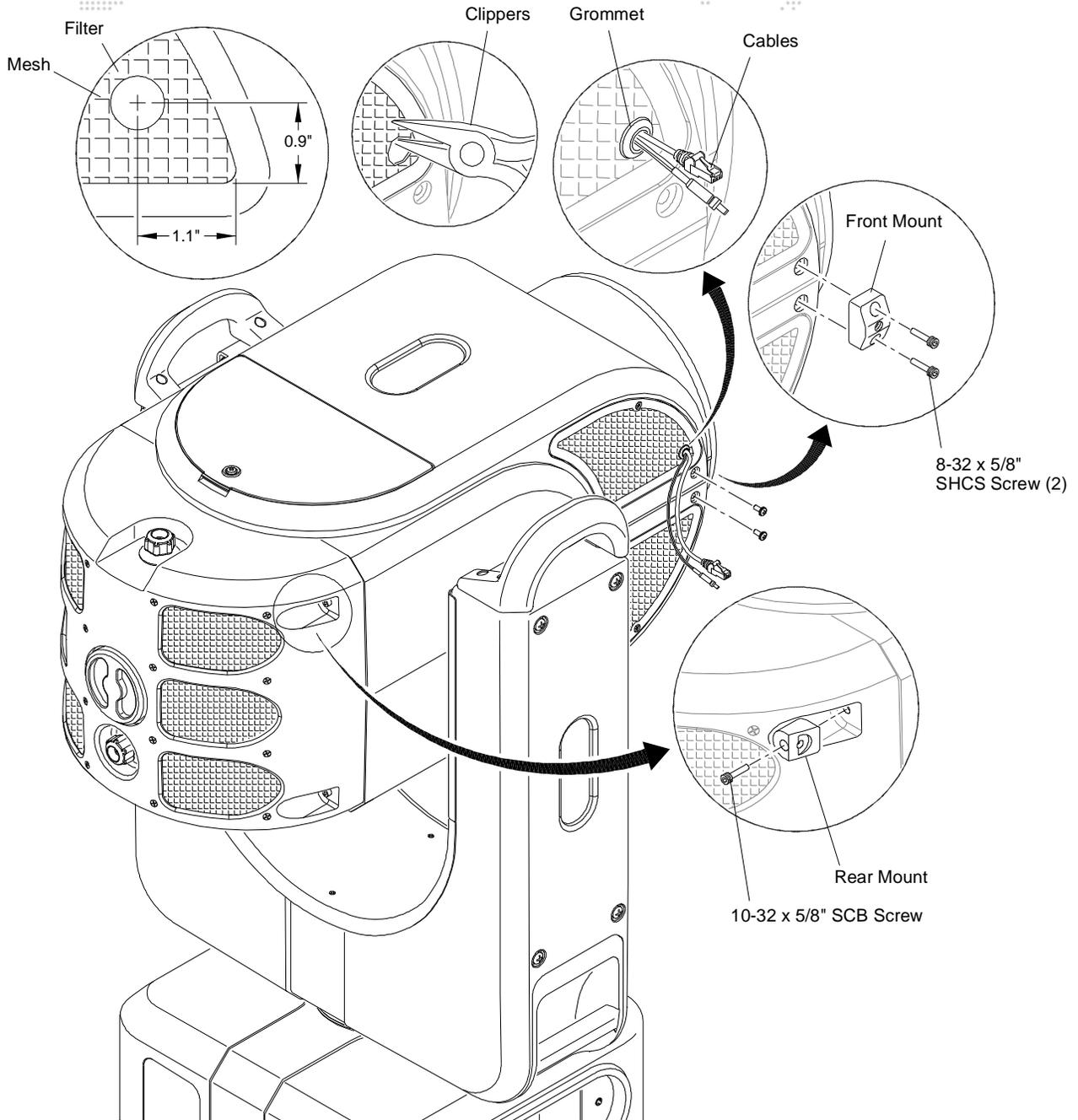


Figure 6: Installing Front and Rear Mounts

**Note:** The Rear Mount is used to connect the rear Handle. The Handle can be installed in one of two places. Refer to **Figure 7** for a view of both options.

Step 13. At Aft Cover, remove screw from one corner as shown in **Figure 6**. (This is where the Rear Handle will be installed.)

- Step 14. Install Rear Mount (10.9812.0689) with 10-32 x 5/8" SCB screw (53.6515.0625.0).
- Step 15. At Head Covers, remove two screws as shown in **Figure 6**.
- Step 16. Install Front Mount (10.9812.0688) with two 8-32 x 5/8" SHCS screws (53.6696.0625.0).
- Step 17. Install Rear Handle (22.9812.0067 / 37498-20) by first looping lanyard around yoke arm and then threading into Rear Mount (**Figure 7**).
- Step 18. Thread Rotating Handle (22.9812.0069) into Controller Assembly (20.9812.0060 / 37498-10).
- Step 19. Install Controller Assembly by first looping lanyard around yoke arm and then threading into Front Mount.

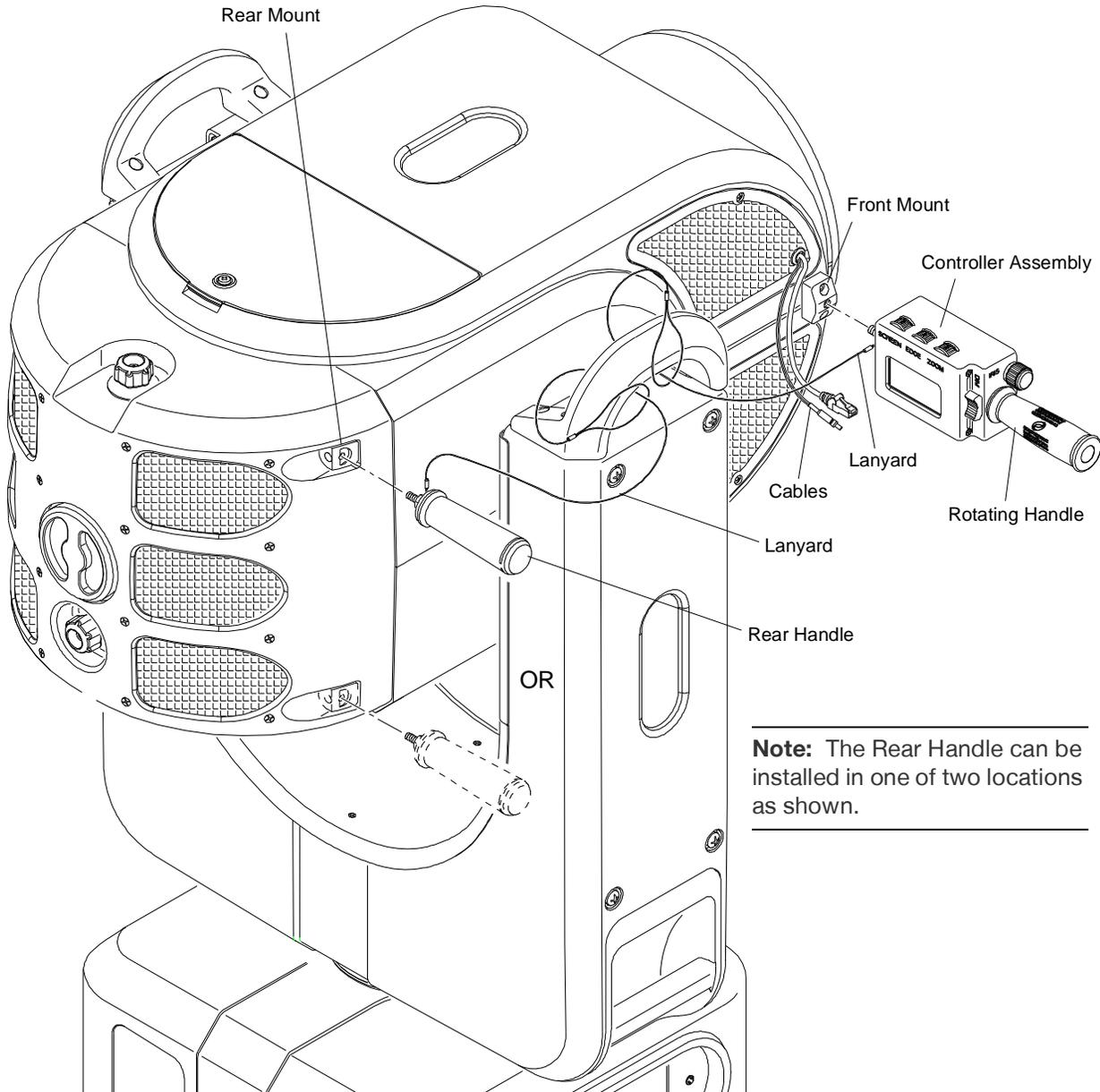
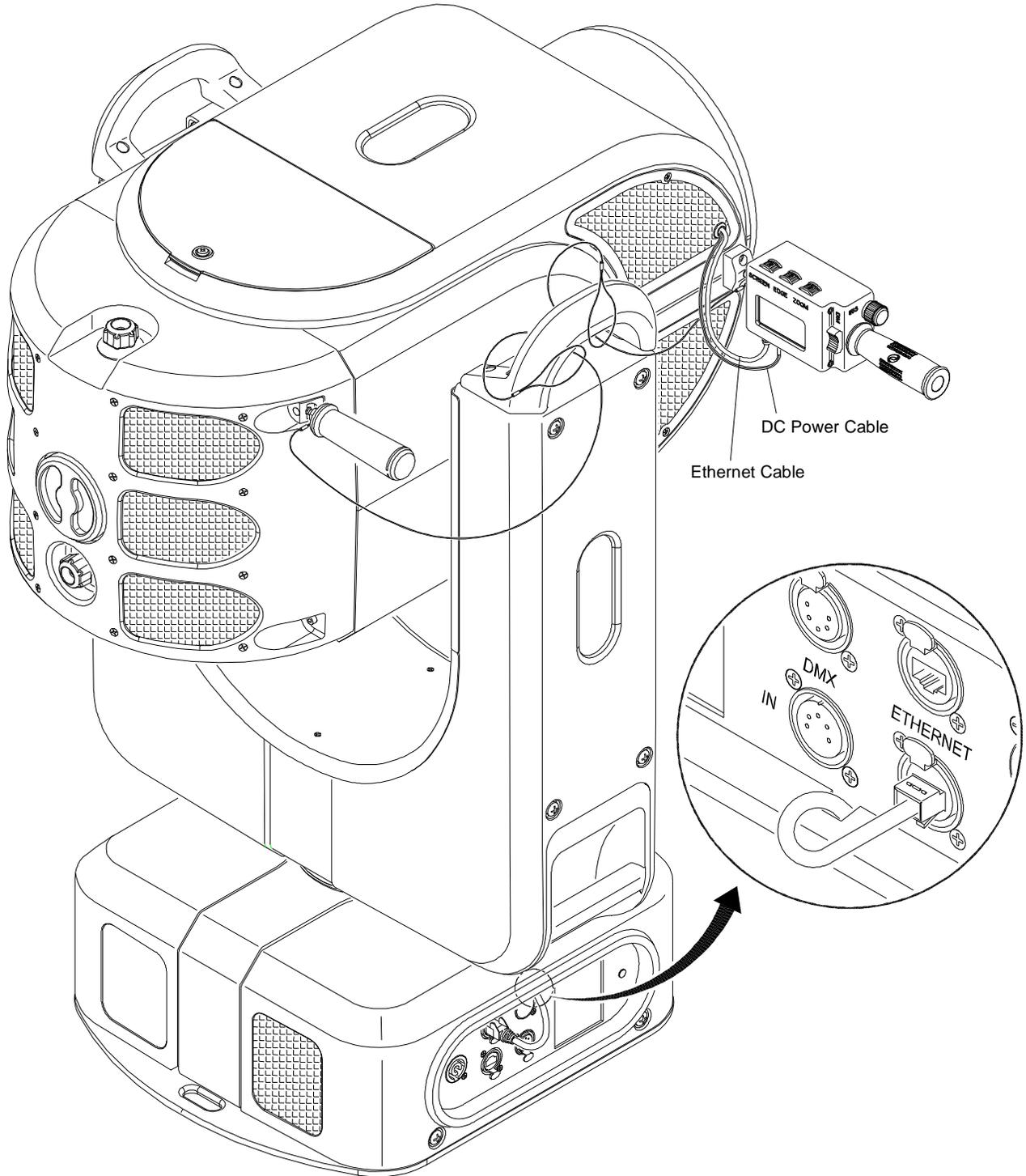


Figure 7: Installing Controller Assembly and Handles.

**Note:** The Rear Handle can be installed in one of two locations as shown.

Step 20. Connect Ethernet Cable and DC Power Cable to Controller Assembly (**Figure 8**).



**Figure 8: Connecting Power and Data Cables**

## OPERATION

### Luminaire Configuration

In order for the Followspot Controller to work with the luminaire, the following software version is required:

- + Bad Boy Spot Luminaire: v1.9FSC or greater

For compatibility with all current functionality listed in this manual, v2.13 is required.

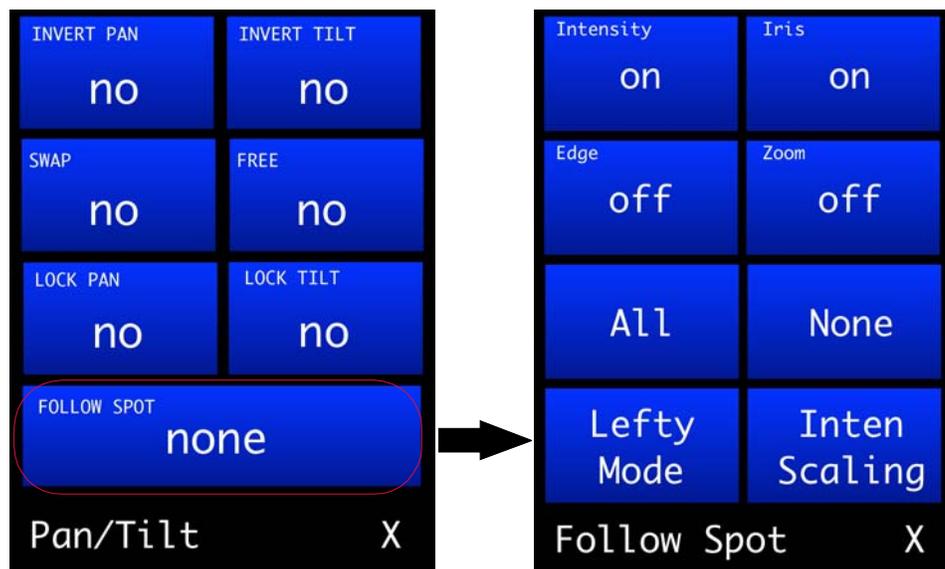
In addition, the mechanisms (i.e., intensity, iris, edge, and zoom) need to be enabled for followspot control using the luminaire menu system.

### Enabling Followspot Control on Bad Boy Luminaires

The **Pan/Tilt** menu provides a **FOLLOW SPOT** panel. This panel displays which mechanisms are currently enabled for followspot control (e.g., "intensity," "zoom/iris," "all," "none," etc.)

Pressing **FOLLOW SPOT** brings up the **Follow Spot** menu. This menu is used to specify which mechanisms (of the four available) are controlled by a Followspot Controller, which will override DMX control on those mechanisms.

- + **Intensity / Iris / Edge / Zoom** - press to bring up on/off options.
- + **ALL** - enables all four mechanisms.
- + **None** - disables all four mechanisms.
- + **Lefty Mode** - inverts the FSC display to allow it to be used upside down. It also inverts the direction of the intensity fader to work upside down.
- + **Intensity Scaling** - allows the intensity specified by the Followspot Controller to be scaled by the DMX coming into the fixture. If enabled, the intensity value shown on the FSC display will be scaled by the percentage specified in the fixture's incoming DMX intensity slot. For example, if the intensity is set to 80% on the FSC, but the incoming DMX specifies 50% intensity, the resulting output from the fixture will be 40%.



When any or all mechanisms are enabled for followspot control, "FSC Active" will be displayed in the **Comm** menu. The DMX channels associated with the active FSC mechanism(s) will be highlighted in yellow to indicate that those values come directly from the Followspot Controller and are not DMX-controlled.



When any mechanism has been enabled for followspot control, pan and tilt will automatically become free. Pan and tilt will remain free until Followspot mode is turned off (all mechanisms deselected). At that time, upon exiting the **Pan/Tilt** menu, pan and tilt will recalibrate (unless pan/tilt mode is changed to free or locked before exiting the **Pan/Tilt** menu).

When pan and tilt are in Free mode due to followspot mechanisms being activated, "Pan & Tilt follow" will be displayed in the CONFIG panel on the main menu.



Note that the Followspot Controller device does not need to be connected in order to enable followspot control on the luminaire. If there is no FSC connected while in Followspot mode, the selected mechanisms will simply ignore DMX until Followspot mode is exited.

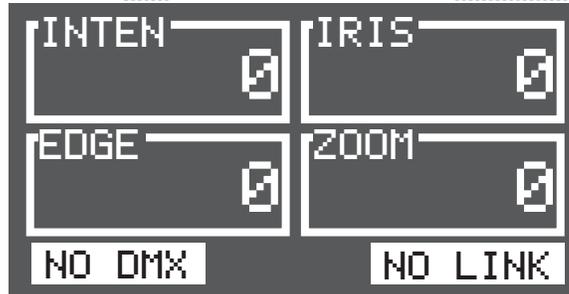
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**Note:** The FSC will control the selected mechanisms whether or not DMX is present on the attached fixture.

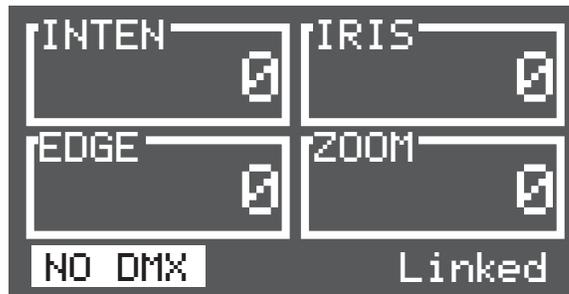
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## Power Up

The Followspot Controller will turn on when the luminaire is powered up. After briefly displaying a boot-up screen, the unit will display the control screen as shown below:



When the data comm is established between the luminaire and the Followspot Controller, the unit will display "Linked" in the bottom right corner:



## Indicators

**No DMX** - no incoming DMX512 is present on the attached luminaire.

**No Link** - the Ethernet cable is either missing or not connected to anything

**Linked** - an Ethernet link has been established between the FSC and another device.

**Intensity Flashing** - when the intensity section flashes, it is an indication that the attached luminaire's incoming DMX512 shows a non-zero value on the strobe channel (which can affect the intensity if the strobe is closed or otherwise moved into the beam by the desk operator).

## Adjusting Parameters

To adjust the intensity, edge, iris, and zoom, move the associated dial. (Refer to "**Controls**" on page 5.)

The percentage setting will be reflected in the display as a number between 0 (off) and 100 (full).



## DMX Command Channels

The luminaire's DMX control channel map includes commands for followspot functionality. These correspond to DMX values 134-149 as shown in the table below.

Note: All values must be held for a minimum of 3 seconds to take effect.

**Table 1: Bad Boy Spot DMX Control Channels**

DMX Values (0-255)	Function	Notes
10	Recalibrate: All	
11	Recalibrate: Erred Mechanisms	
12	Recalibrate: Zoom/Edge	
14	Recalibrate: Color	
16	Recalibrate: Gobos	
18	Recalibrate: Dimmer/Strobe/Iris	
19	Recalibrate: Pan/Tilt	
20	Lamp: Douse	
30	Lamp: Start	
40	Lamp Power Limit Select: 1400W	default
45	Lamp Power Limit Select: 1200W	
50	Lamp Power Limit Select: 900W	
55	Lamp: Override Start-Up Power Limit	Overrides default setting: 3 minute warm-up at 1200W or less.
60	Zoom Table Select: 30' Throw	default
62	Zoom Table Select: 50' Throw	Zoom Tables maintain sharp focus on an image throughout the zoom range.
64	Zoom Table Select: 75' Throw	
66	Zoom Table Select: 100' Throw	
68	Zoom Table Select: 300' Throw	
70	Zoom Table Select: 15' Throw	
75	Zoom Speed Select: Maintain Focus	default
77	Zoom Speed Select: Move Fast	
80	Gobo: Set Zero Position	Allows adjustment of the gobo wheel home position.
90	Display: Turn Backlight ON	
95	Display: Turn Backlight OFF	
100	Pan: Lock	
102	Pan: Unlock	
104	Tilt: Lock	
106	Tilt: Unlock	
108	Pan/Tilt: Free Motion	
110	Pan/Tilt: Free Lock	
112	Pan/Tilt: End Free Motion	

**Table 1: Bad Boy Spot DMX Control Channels (Continued)**

DMX Values (0-255)	Function	Notes
120	Clear Logs	
122	Invert Pan	
124	Don't Invert Pan	
126	Invert Tilt	
128	Don't Invert Tilt	
130	Swap Pan/Tilt	
132	Don't Swap Pan/Tilt	
134	Followspot: Intensity/Iris	FOLLOWSPOT CONTROL
135	Followspot: Intensity/Iris/Edge	
136	Followspot: Intensity/Iris/Edge/Zoom	
137	Followspot: Intensity/Iris/Zoom	
138	End Followspot Mode	
139	Followspot: Intensity	
140	Followspot: Intensity/Edge	
141	Followspot: Intensity/Edge/Zoom	
142	Followspot: Intensity/Zoom	
143	Followspot: Iris	
144	Followspot: Iris/Edge	
145	Followspot: Iris/Zoom	
146	Followspot: Iris/Edge/Zoom	
147	Followspot: Edge	
148	Followspot: Edge/Zoom	
149	Followspot: Zoom	
150	Followspot: Turn intensity scaling ON	
152	Followspot: Turn intensity scaling OFF	

## Updating FSC Software

The Followspot Controller software can be updated as necessary. Updating the FSC software is similar to updating the software of a PRG luminaire except it can only be done over Ethernet (not DMX) and there is a specific FSC loader package.

### To update FSC software:

- Step 1. Connect Ethernet cable between computer and FSC.
- Step 2. Open FSCLoader.jar.



- Step 3. If computer has more than one Ethernet interface available, select appropriate network interface from drop-down menu.
- Step 4. Click **Start Download** button. FSC screen will change to bootloader screen and show load progress.
- Step 5. Wait for download to complete.
- Step 6. After download, FSC screen will briefly show new software version on splash screen, then revert to normal user display.

# TROUBLESHOOTING

## Troubleshooting Guide

The following table provides a list of common problems and possible solutions.

Symptom	Solution(s)	Refer to...
No DMX	Ensure FSC Ethernet Cable is properly connected.	page 7
	Ensure luminaire is receiving DMX.	---
No power	Ensure FSC Power Cable is properly connected.	page 7
	Ensure luminaire is powered up.	---
No control	Ensure luminaire has the required software version.	page 12
	Ensure luminaire is set to Followspot (Free) mode.	page 12
Intensity section of FSC display is flashing	Check the luminaire's incoming DMX commands. If it shows a non-zero value on the strobe channel, then it can affect the intensity if the strobe is closed or otherwise moved into the beam by the desk operator.	---

# SPECIFICATIONS

## Technical Specifications

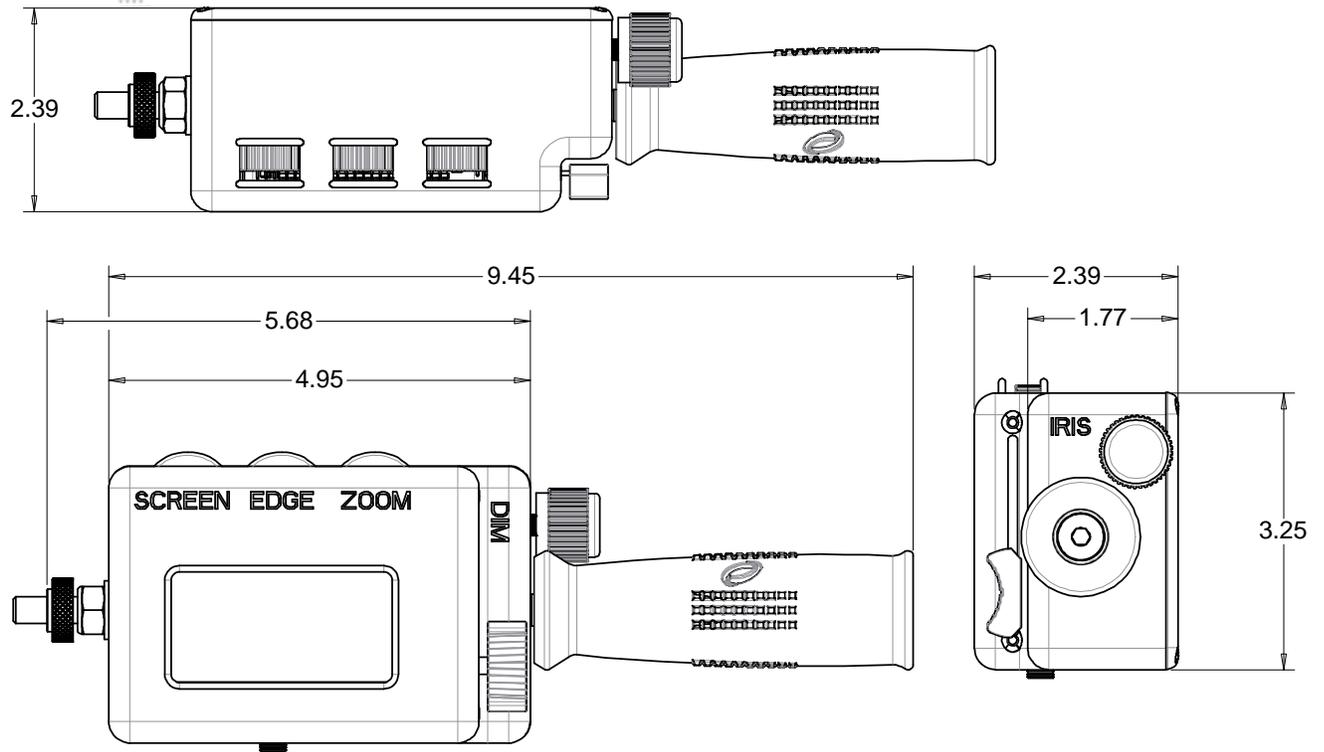


Figure 9: Followspot Controller Dimensions



**Notes**



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