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## Revision History
This manual has been revised as follows:

<table>
<thead>
<tr>
<th>Version</th>
<th>Release Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIC</td>
<td>March 23, 2015</td>
<td>Initial Release</td>
</tr>
</tbody>
</table>
INTRODUCTION

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

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For additional resources and documentation, please visit our website at: www.prg.com
DESCRIPTION

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:

- LED Display
- Edge Control Dial
- Screen Brightness Control Dial
- Zoom Control Dial
- Beam-Size Iris Control Dial
- Pan/Tilt Control Handle

Figure 2: Controls
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.

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**).

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 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.

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

Figure 7: Installing Controller Assembly and Handles.
Step 20. Connect Ethernet Cable and DC Power Cable to Controller Assembly (Figure 8).
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.

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

![Control Screen](image)

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

![Linked Screen](image)

**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

<table>
<thead>
<tr>
<th>DMX Values (0-255)</th>
<th>Function</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Recalibrate: All</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Recalibrate: Erred Mechanisms</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Recalibrate: Zoom/Edge</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Recalibrate: Color</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Recalibrate: Gobos</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Recalibrate: Dimmer/Strobe/Iris</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Recalibrate: Pan/Tilt</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Lamp: Douse</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Lamp: Start</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Lamp Power Limit Select: 1400W</td>
<td>default</td>
</tr>
<tr>
<td>45</td>
<td>Lamp Power Limit Select: 1200W</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Lamp Power Limit Select: 900W</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Lamp: Override Start-Up Power Limit</td>
<td>Overrides default setting: 3 minute warm-up at 1200W or less.</td>
</tr>
<tr>
<td>60</td>
<td>Zoom Table Select: 30˚ Throw</td>
<td>default</td>
</tr>
<tr>
<td>62</td>
<td>Zoom Table Select: 50˚ Throw</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Zoom Table Select: 75˚ Throw</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Zoom Table Select: 100˚ Throw</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Zoom Table Select: 300˚ Throw</td>
<td>Zoom Tables maintain sharp focus on an image throughout the zoom range.</td>
</tr>
<tr>
<td>70</td>
<td>Zoom Table Select: 15˚ Throw</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Zoom Speed Select: Maintain Focus</td>
<td>default</td>
</tr>
<tr>
<td>77</td>
<td>Zoom Speed Select: Move Fast</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Gobo: Set Zero Position</td>
<td>Allows adjustment of the gobo wheel home position.</td>
</tr>
<tr>
<td>90</td>
<td>Display: Turn Backlight ON</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>Display: Turn Backlight OFF</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>Pan: Lock</td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>Pan: Unlock</td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>Tilt: Lock</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>Tilt: Unlock</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>Pan/Tilt: Free Motion</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>Pan/Tilt: Free Lock</td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>Pan/Tilt: End Free Motion</td>
<td></td>
</tr>
</tbody>
</table>
Table 1: Bad Boy Spot DMX Control Channels  (Continued)

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

_16 FOLLOWSPOT CONTROLLER™ USER MANUAL_
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.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Solution(s)</th>
<th>Refer to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>No DMX</td>
<td>Ensure FSC Ethernet Cable is properly connected.</td>
<td>page 7</td>
</tr>
<tr>
<td></td>
<td>Ensure luminaire is receiving DMX.</td>
<td>---</td>
</tr>
<tr>
<td>No power</td>
<td>Ensure FSC Power Cable is properly connected.</td>
<td>page 7</td>
</tr>
<tr>
<td></td>
<td>Ensure luminaire is powered up.</td>
<td>---</td>
</tr>
<tr>
<td>No control</td>
<td>Ensure luminaire has the required software version.</td>
<td>page 12</td>
</tr>
<tr>
<td></td>
<td>Ensure luminaire is set to Followspot (Free) mode.</td>
<td>page 12</td>
</tr>
<tr>
<td>Intensity section of FSC display is flashing</td>
<td>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.</td>
<td>---</td>
</tr>
</tbody>
</table>
Technical Specifications

Figure 9: Followspot Controller Dimensions