

Radiance Tech Tip 16

Widescreen without an anamorphic lens

Introduction

The Radiance can be used to simplify aspect ratio control for a system, which uses a 16:9 projector to display an image on a 2.35 screen, without an anamorphic lens.

We will setup the input aspect ratio buttons, on the Lumagen remote, to control the aspect ratio of the projected image. The projector is left in its default 16:9 mode. The input aspect ratio buttons on the Lumagen remote are used to set the aspect ratio.

Fixed Zoom Method

The zoom setting on a 16:9 projector is adjusted so that the image fills the width of a 2.35 screen. The non-active image spills over the top and bottom of the screen. The projector zoom is fixed at this setting. If you are using a 1080p projector, 1080p 2.35 letterboxed video sources are not scaled. i.e. When you play a Bluray 2.35 movie, the Radiance scaler is turned off and the image is displayed at a 1:1 ratio. The 4:3 and 16:9 images are scaled down to fit inside the height of the screen. This is referred to as a "constant image height" system.



Figure 1, 16:9 projector with fixed zoom used on a 2.35 screen

- 4:3 The non-active image spills over the top and bottom of the screen and wide black bars are added on both sides by the Radiance.
- 16:9 The non-active image spills over the top and bottom of the screen and narrow black bars are added on both sides by the Radiance.
- 2.35 The non-active image spills over the top and bottom of the screen and wide black bars are added on both sides by the Radiance.

Procedure

This is the procedure to configure the Radiance for a system that includes a 16:9 projector and a 2.35 screen. This procedure requires software rev 011812 or higher and assumes that you are starting with factory default settings. To do a factory reset press "MENU 0999" and then press "MENU, Save, OK, OK, OK".

1. Set the output aspect ratio by pressing "MENU, Output, Styles, [Style], Aspect Ratio, OK, Single output aspect, OK, 235, OK".

2. Set the output aspect sidebars to black by pressing "MENU, Output, Styles, [Style], Graybar, Sides, 0%, OK".
3. Set the output shrink by pressing "MENU, Output, Styles, [Style], Mask/Shrink, Shrink, Top:12%, Right:0%, Bottom:12%, Left:0%, OK".

Note: If you set the projector so that the image only spills over the top of the screen, set the output shrink to "Top:24%, Right:0%, Bottom:0%, Left:0%".
4. Set scale bias off by pressing "MENU, Input, Video Setup, [resolution], Size, [aspect], Scale Bias, Off, All, A-D, OK".
5. When you are finished, save the new settings by pressing "MENU, Save, OK, OK, OK".
6. Set the projector to its default 16:9 mode.
7. Set all the video sources to widescreen 16:9 output.
8. Press the appropriate input aspect ratio button on the Lumagen remote that matches the aspect of the video input. To horizontally stretch a 16:9 image to fill the 2.35 screen, press "16:9" and then press "NLS".

Variable Zoom Method

The lens zoom setting, on a 16:9 projector, is adjusted to display a 16:9 image or a 2.35 image, on a 2.35 screen. This is referred to as a "constant image height" system.

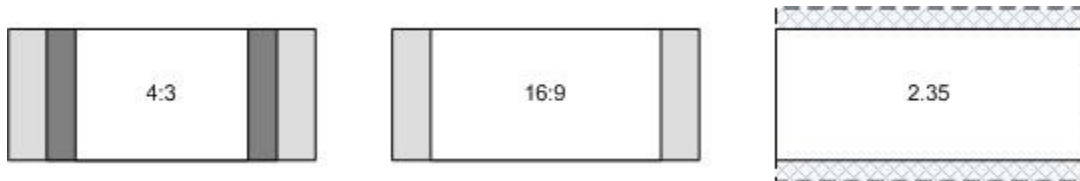


Figure 2, 16:9 projector with variable zoom on a 2.35 screen.

- 4:3 The zoom is adjusted so that the image fills the height of the screen and narrow black bars are added on both sides by the Radiance.
- 16:9 The zoom is adjusted so that the image fills the height of the screen.
- 2.35 The zoom is adjusted so that the image fills the width of the screen and the non-active image spills over the top and bottom of the screen.

Procedure

This is the procedure to configure the Radiance for a system that includes a 16:9 projector and a 2.35 screen. This procedure requires software rev 011812 or higher and assumes that you are starting with factory default settings. To do a factory reset press "Menu 0999" and then press "Menu, Save, Ok, Ok, Ok".

1. If the output aspect ratio is not at the default setting of 16:9 (1.78), set the output aspect ratio by pressing "MENU, Output, Styles, [Style], Aspect Ratio, OK, Single output aspect, OK, 178, OK".
2. Set the output aspect sidebars to black by pressing "MENU, Output, Styles, [Style], Graybar, Sides, 0%, OK".
3. Press the button for input aspect "2.35".
4. Set Letterbox Zoom off by pressing "MENU, Input, Video Setup, [resolution], Size, [aspect], Letterbox Zoom, Off, All, A-D, OK".
5. When you are finished, save the new settings by pressing "MENU, Save, OK, OK, OK".
6. Set the projector to its default 16:9 mode.
7. Set all the video sources to widescreen 16:9 output.
8. Press the appropriate input aspect ratio button on the Lumagen remote that matches the aspect of the video input. For a 4:3, Lbox, 16:9 or 1.85 image adjust the projector zoom so that a 16:9 image fills the height of the screen. For a 2.35 image adjust the projector zoom so that that a 2.35 image fills width of the screen.

Screen With Top Masking

A 16:9 projector is used with a 16:9 screen that has top masking. The aspect ratio of the screen can be adjusted from 16:9 to 2.35. This procedure requires software rev 011812 or higher and assumes that you are starting with factory default settings. To do a factory reset press "Menu 0999" and then press "Menu, Save, Ok, Ok, Ok".



Figure 3, 16:9 projector used on a screen with adjustable top masking

- 4:3 The screen masking is raised and narrow black bars are added on both sides by the Radiance.
- 16:9 The screen masking is raised and the image fills the screen.
- 2.35 The screen masking is lowered and the 2.35 letterboxed image is shifted down to the bottom of the screen.

Procedure

This is the procedure to configure the Radiance for a system that includes a 16:9 projector and a 16:9 screen with adjustable top masking.

1. If the output aspect ratio is not at the default setting of 16:9 (1.78), set the output aspect ratio by pressing "MENU, Output, Styles, [Style], Aspect Ratio, OK, Single output aspect, OK, 178, OK".
2. Set the output aspect sidebars to black by pressing "MENU, Output, Styles, [Style], Graybar, Sides, 0%, OK".
3. Press the button for input aspect "2.35".
4. Set Letterbox Zoom off by pressing "MENU, Input, Video Setup, [resolution], Size, 2.35, Letterbox Zoom, Off, All, A-D, OK".
5. Display a movie that has a letterboxed 2.35 image.
6. Adjust the vertical shift so that the 2.35 letterboxed image is at the bottom of the screen. Press "MENU, Input, Video Setup, [resolution], Size, 2.35, Vert Shift, OK, Setting:#1 of 15, Value:64, OK"
7. When you are finished, save the new settings by pressing "MENU, Save, OK, OK, OK".
8. Set the projector to its default 16:9 mode.
9. Set all the video sources to widescreen 16:9 output.
10. Press the appropriate input aspect ratio button on the Lumagen remote that matches the aspect of the video input. Adjust your screen top masking for 16:9 or 2.35.