
Technical Bulletin

Inactive pixels in multi-projector setup

This document provides information about inactive pixels (usually coming from the red DMD which always appear near a corner or an edge of the image) when using multiple projectors in image blended applications or when applying tools to geometrically correct images (such as keystone correction, Mystique™, and so on). This failure does not affect the regular operations as the inactive pixels are masked out in blend zones.

The blend zones on the failing projectors are always set to output black. The following examples explain why pixels are set to black.



- The projector mounted on a ceiling is used to illuminate a section on the floor (highlighted by the blue rectangle in the image above).
- When the image is focused on the floor, the section of the image on the wall is not focused. Therefore, the media server outputs black to mask the image projected on the wall.
- The DMD micromirrors are set to the off position for extended periods of time while the lasers are on causing inactive pixels, usually on the red DMD (highlighted by the red rectangle in the image above).

The following show several use cases where some of the DMD pixels are permanently masked:

- The resolution of the content is lower than the resolution of the DMD (Letterbox and Pillarbox).
- Keystone correction is applied in large tilt angle installations.
- When using tools such as Mystique or Twist™ to improve misaligned overlay images.

Resolution

To resolve the issue, exercise the DMD micromirrors for 45 minutes daily:

1. Update the automated script to do one of the following:
 - Turn the lasers on for 45 minutes before the normal start time.
 - Leave the lasers on for 45 minutes after the normal shut down time.
2. During the 45 minute period, display the 50% Gray test pattern.

If displaying the 50% Gray test pattern through a media server, make sure to display the entire resolution of the DMDs so all the micromirrors are being exercised.

3. If the image is geometrically corrected using tools such as Mystique or Twist, disable the geometry correction during the 45 minute period.
Make sure to re-enable the geometry corrections at the end of the 45 minutes.

Affected products

The following products are affected:

- Griffyn® Series
- Sapphire® 4K40-RGBH

Technical support

Technical support for Christie Enterprise products is available at:

- North and South America: +1-800-221-8025 or *Support.Americas@christiedigital.com*
- Europe, Middle East, and Africa: +44 (0) 1189 778111 or *Support.EMEA@christiedigital.com*
- Asia Pacific (*support.apac@christiedigital.com*):
 - Australia: +61 (0)7 3624 4888 or *tech-Australia@christiedigital.com*
 - China: +86 10 6561 0240 or *tech-supportChina@christiedigital.com*
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