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# Technical Bulletin

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## Screen file cropping when playing HFR content on 4K Series 3 projectors

This bulletin provides information about an issue with screen file cropping when playing HFR content on 4K Series 3 projectors and how to resolve the issue.

### Affected products

This bulletin applies to the following products.

- All Christie 4K CineLife™ Series 3 Cinema projectors

### Description of issue

When playing HFR content (4K48fps or greater or 2K60fps or greater) on 4K Series 3 projectors, you will experience excessive cropping. For scope images, they appear more cropped on the top and for flat images they appear more cropped from the left side.

This issue occurs with both 2K and 4K HFR content. For HFR content, the screen file coordinates are being applied at twice the values they should be, resulting in the excessive cropping.

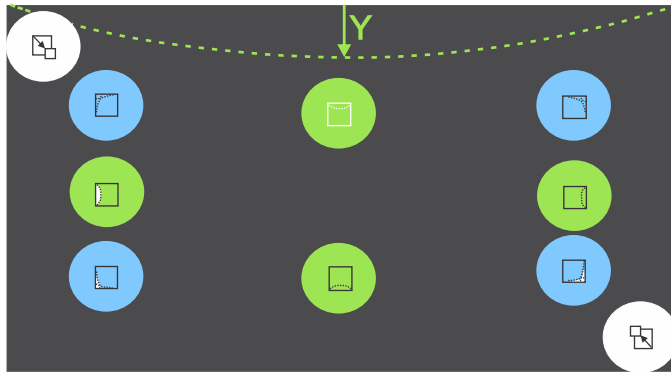
This issue does not impact the E3LH in the same way as it does the rest of the Cinelife line as the E3LH processes 4K@48 content and 3D differently. However, the E3LH is affected by same issue when the frame rate of content exceeds 60fps. Dolby has been tracking the issue since 2019 (as VDRP-1315). To support the Gemini man release, Dolby published the *Dolby Cinema Dual DCP 3D HFR* document and this issue is covered in sections 2.10 and 2.11.

### Resolution

To resolve the issue, create an HFR screen file that has modified coordinates.

Create a channel which uses this HFR screen file and then use it when playing HFR content. Do not use this HFR screen file when playing non-HFR content or you will experience the opposite problem where non-HFR content is not sufficiently cropped.

Creating an HFR screen file where the coordinates are half what they should be for a 4K screen, resolves the issue. The following image shows the corner and curve cropping points:



 Corners

 Curves



The HFR screen file corner values must be in the ranges of X=0 to 2047 and Y=0 to 1079. If the values are outside of these ranges on any corner, the curve value will behave erratically when used.

The following example shows example coordinates of a 4K screen file for regular content and then the coordinates of an adjusted screen file to be used for HFR content:

Corner	Original screen file coordinates		Modified HFR coordinates	
	X	Y	X	Y
Top-right	4044	55	2022	27
Bottom-right	4040	2155	2020	1078
Top-left	56	22	28	11
Bottom-left	64	2159	32	1079

The following example shows the curve coordinates of the 4K screen file for regular content and then the coordinates of an adjusted screen file to be used for HFR content:

Curve	Original screen file coordinates		Modified HFR coordinates	
	X	Y	X	Y
Top center curve	N/A	4	N/A	2
Bottom center curve	N/A	-58	N/A	-29
Left center curve	15	N/A	7	N/A
Right center curve	7	N/A	4	N/A

## Technical support

Technical support for Christie Cinema products is available at:

- [Support.cinema@christiedigital.com](mailto:Support.cinema@christiedigital.com)
- +1-877-334-4267

- Christie Professional Services: +1-800-550-3061 or [NOC@christiedigital.com](mailto:NOC@christiedigital.com)