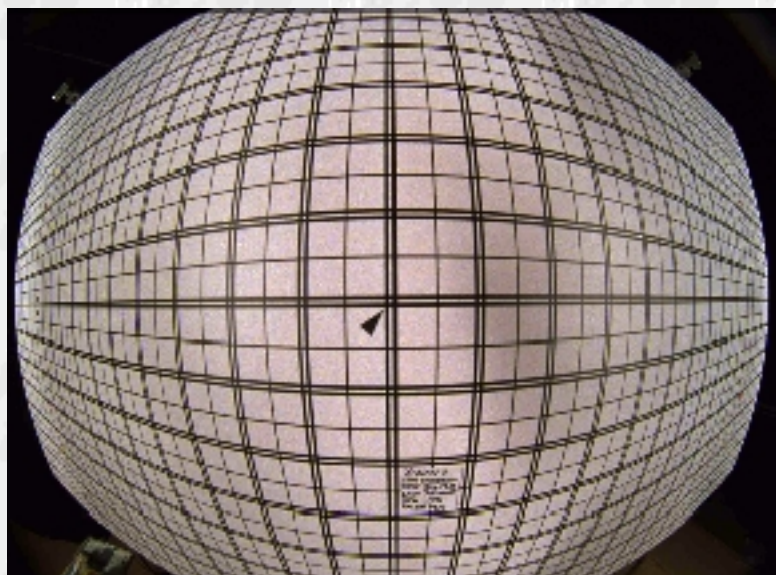


Matchmoving fisheye lenses with 3D Equalizer

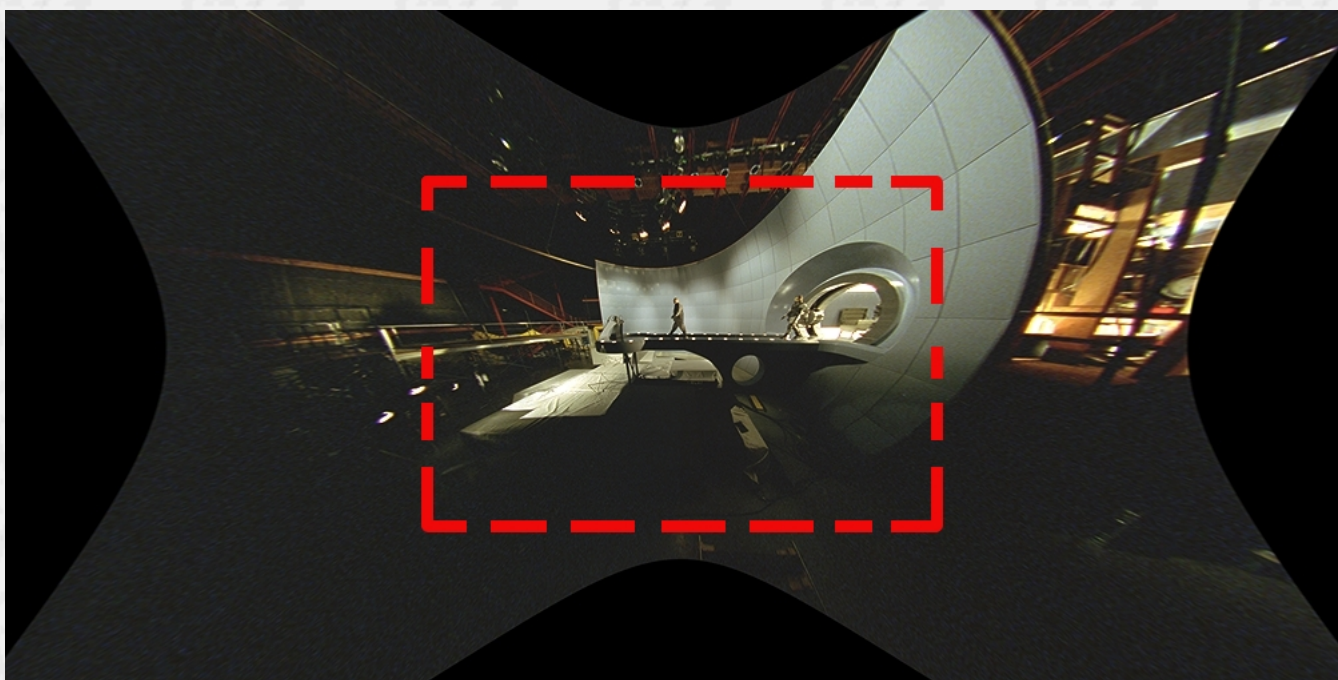
Work in progress

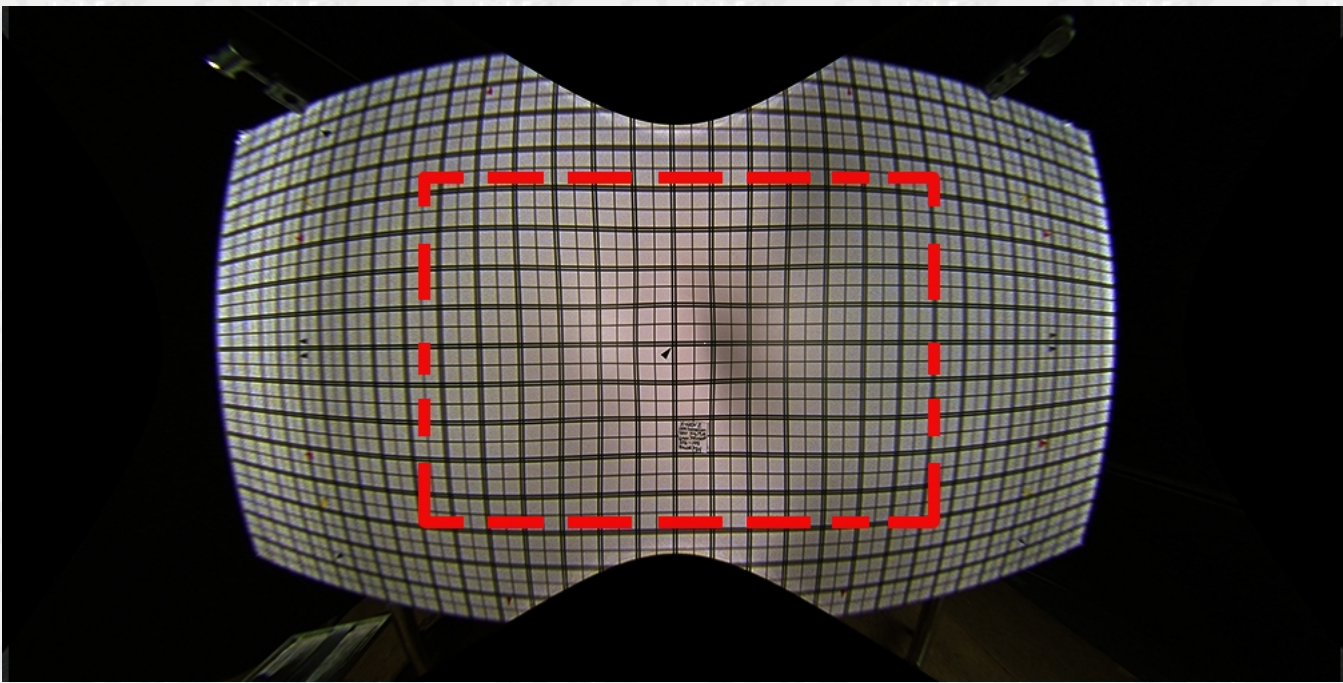
On XMen2, we were faced with having to create a camera matchmove for a super fisheye 6mm shot. The extreme lens distortion of such a wide lens makes it very difficult to track such a shot with conventional techniques. But 3D Equalizer has the tools to handle such a situation.

Here is the original plate, plus the distortion grid:



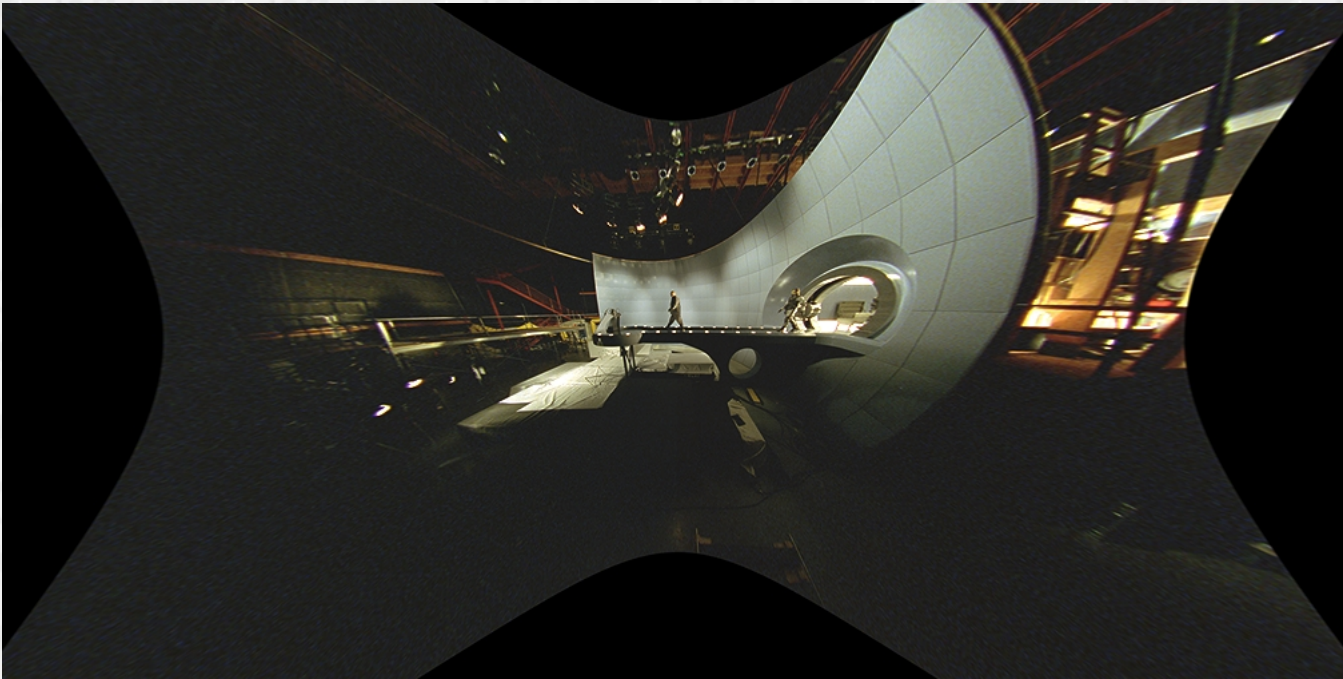
If you merely removed the distortion using 3D Equalizer Warpdistort, you will have a problem with the pixels on the edge of the frame being truncated in the unwrap process.

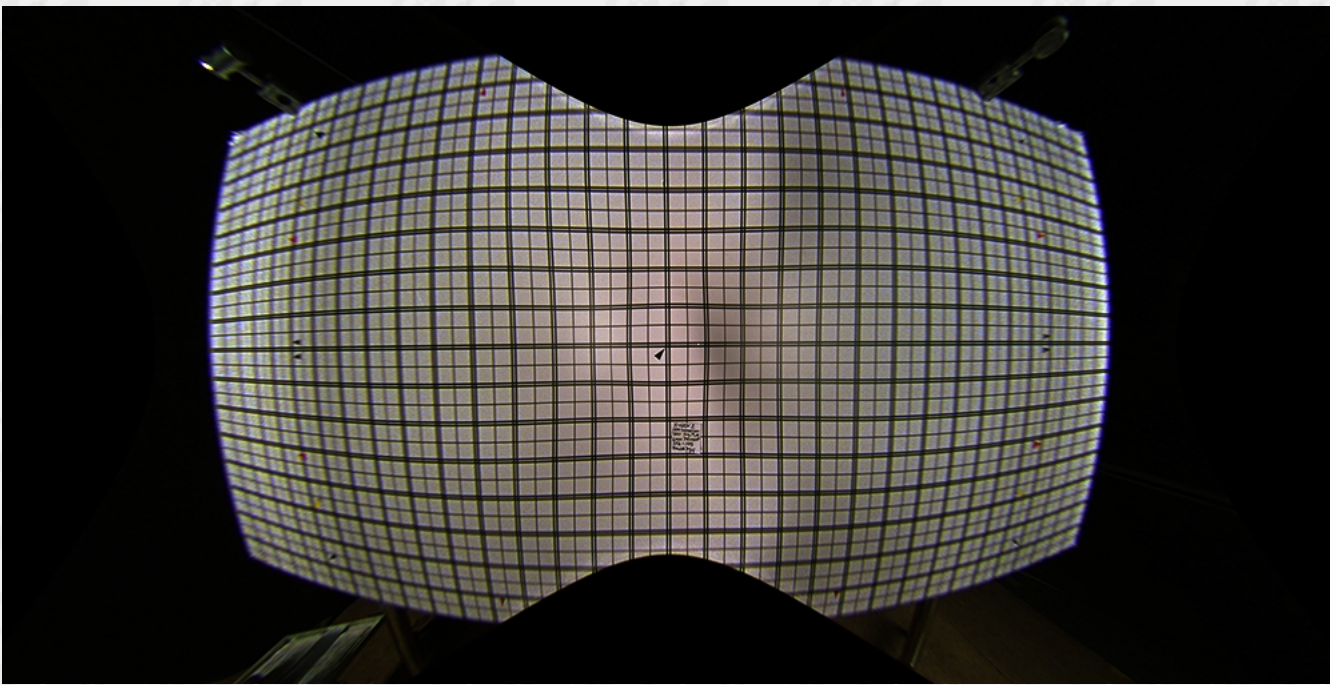




One solution to maintaining the "big pixels" of the infinite workspace is to add a large black border to the "wrapped" image before creating the .warpd distortion file in 3DE.

Note: Because of the extreme distortion of this lens, 3DE wasn't able to completely undistort.

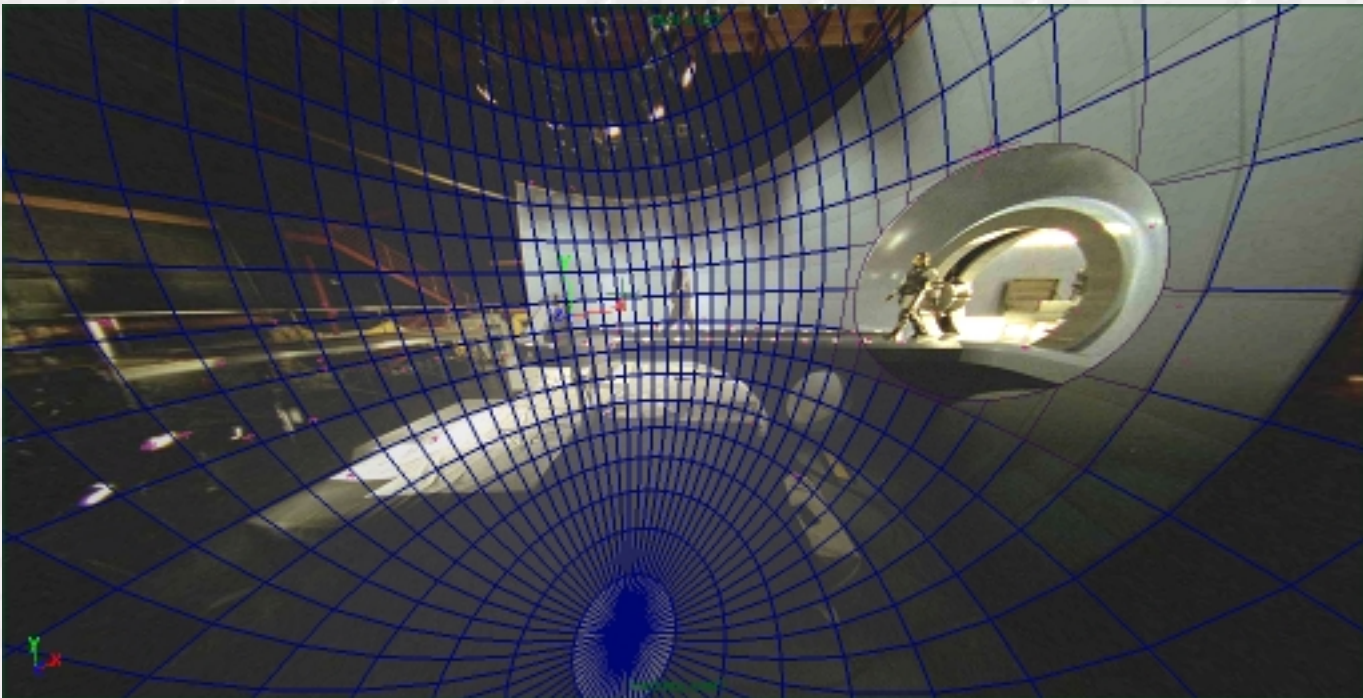




In this particular case, the 2K image was padded with black which resulted in an 8K total image size.

After the unwrap was done, a crop of just the center part of the frame was done. This technique usually won't work, but since the set extension was in the center of frame, this method was suitable for this shot.

After the matchmove was done on the unwrapped, cropped plate, the CG images were created in Renderman. Maya will not handle a lens wider than 179 degrees, so a overscanned window technique was used. Maya and Renderman will allow the image to be zoomed out to a larger *Window* size or *Overscan* setting.



This 8K render is then rewrapped using 3DE Warpdistort, and then cropped back to 2K, ready for compositing.