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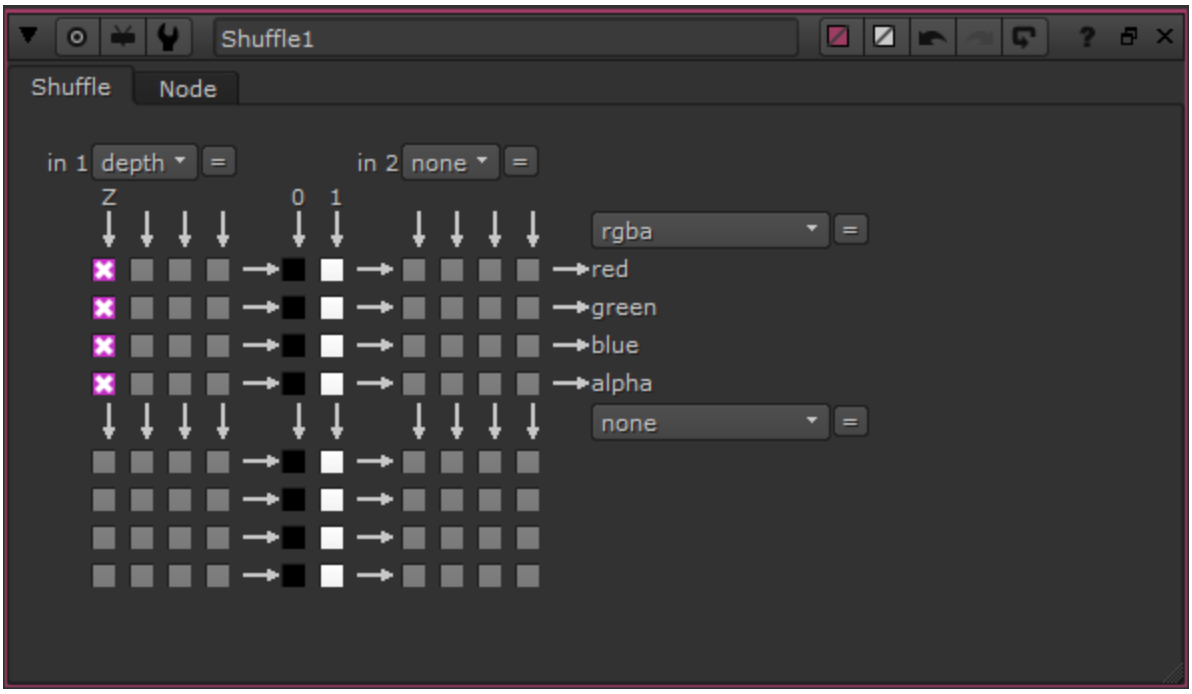
DIG4434 Narrative Techniques in the Moving Image

Using a Depth Pass as a Mask in Nuke

Although Nuke's zDefocus node allows for easy depth blur, the depth blur alone was not always enough to portray the amount of depth we needed. In some cases, we needed to use atmospheric perspective to achieve a greater level of depth. This required a way to mask our renders based on the depth in order to lighten and desaturate objects based on their distance.

God rays posed a similar problem. As an object or character moved through the god rays in a scene, a way to mask objects in the foreground was needed to create the illusion that they were in front of or moving through the light.

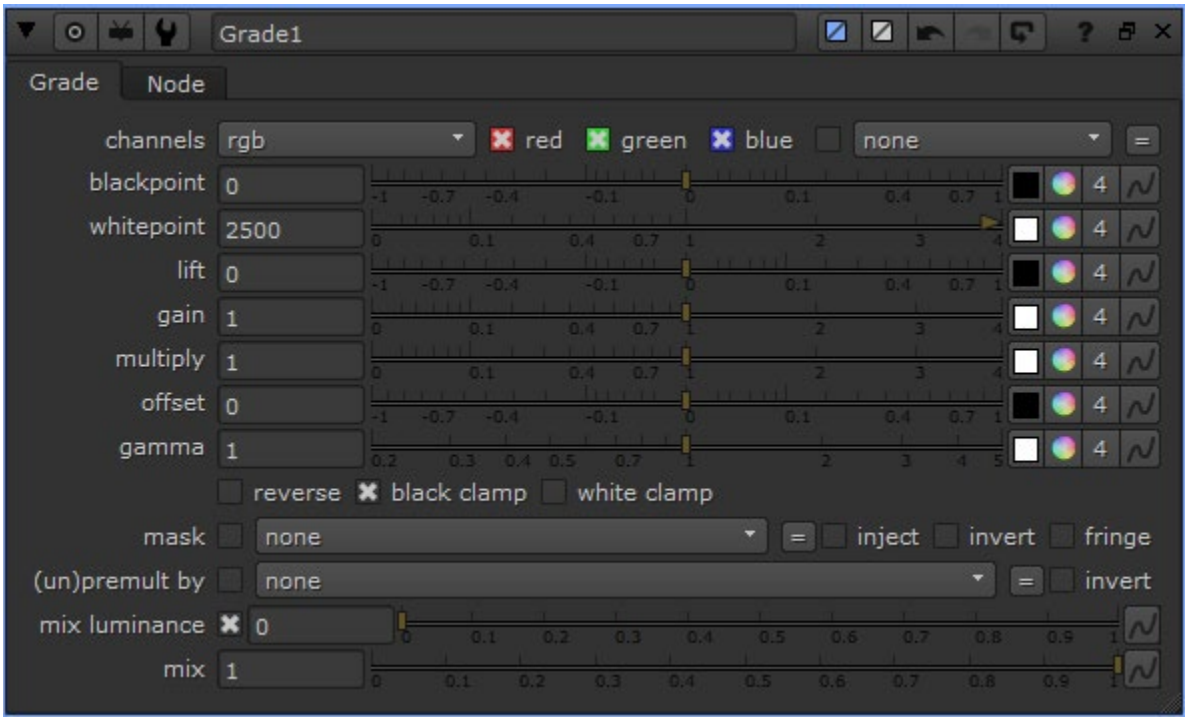
Both of these problems are easily solved with the same solution: using a render's depth pass as a mask. By doing this, we were able to make changes to objects in the scene based on their distance from the camera.

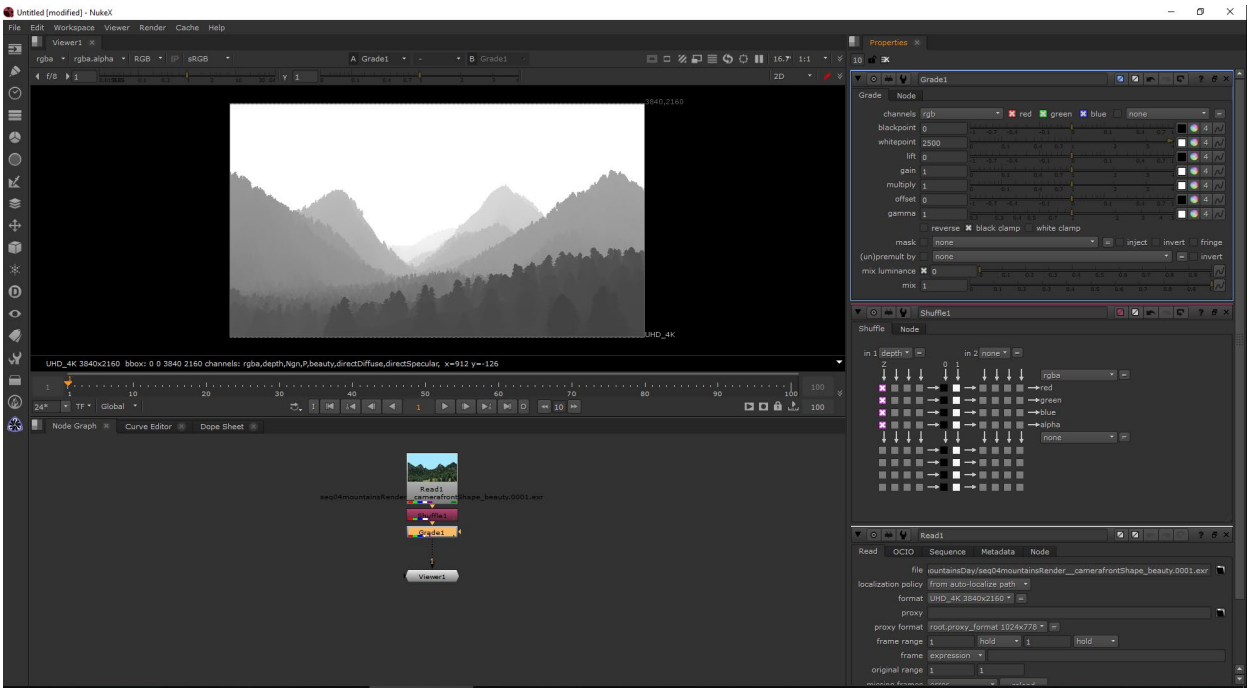


Start by creating a “shuffle” node and attaching it to the read node. Shuffle out the “depth” pass. Unfortunately, just shuffling the depth pass of the render isn’t enough to use it as a mask. If you select the depth shuffle node and press “1” to view it in your viewer, you will see why. The depth pass appears to be completely white. Some adjustments need to be made before it will function properly as a mask.

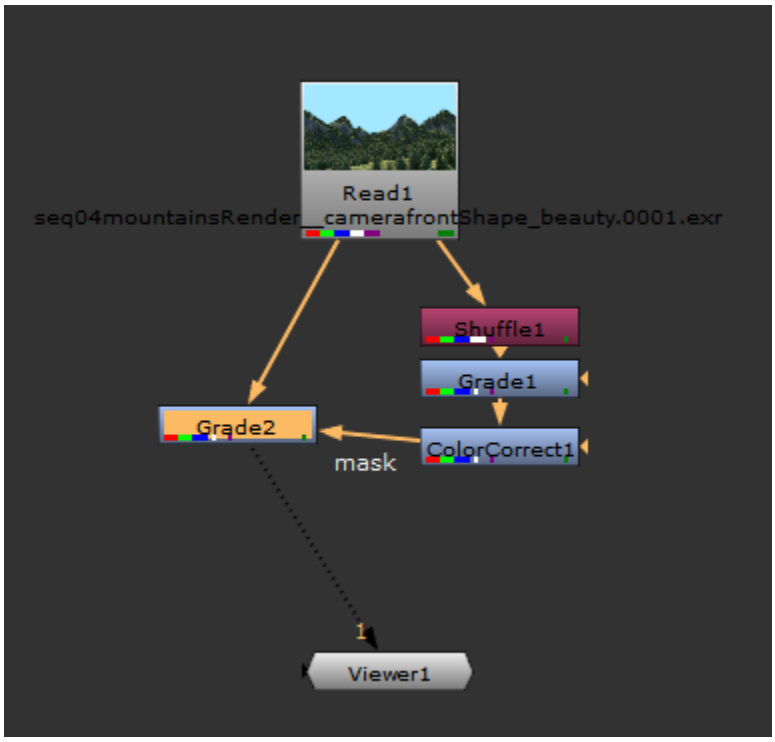
Attach a “grade” node to the depth shuffle, press “1” to view it in the viewer, and greatly increase the whitepoint. The whitepoint tells Nuke at what value a color is 100% white. The default value is 1. The exact amount you will need to increase it by will vary depending on the amount of depth in the shot. For example, the close-up render of the menu at the table only needed the whitepoint set to about 150 before showing the desired result. This is because there is not a lot of depth to that shot. In contrast, the render of the mountains, which has a lot of depth, needed the whitepoint increased to about 2500 to achieve a similar result. Choose a number between 100 and 1000 based on how much depth you believe the render has. Adjust that number

up or down until the color of the image displays a good range between black and white.

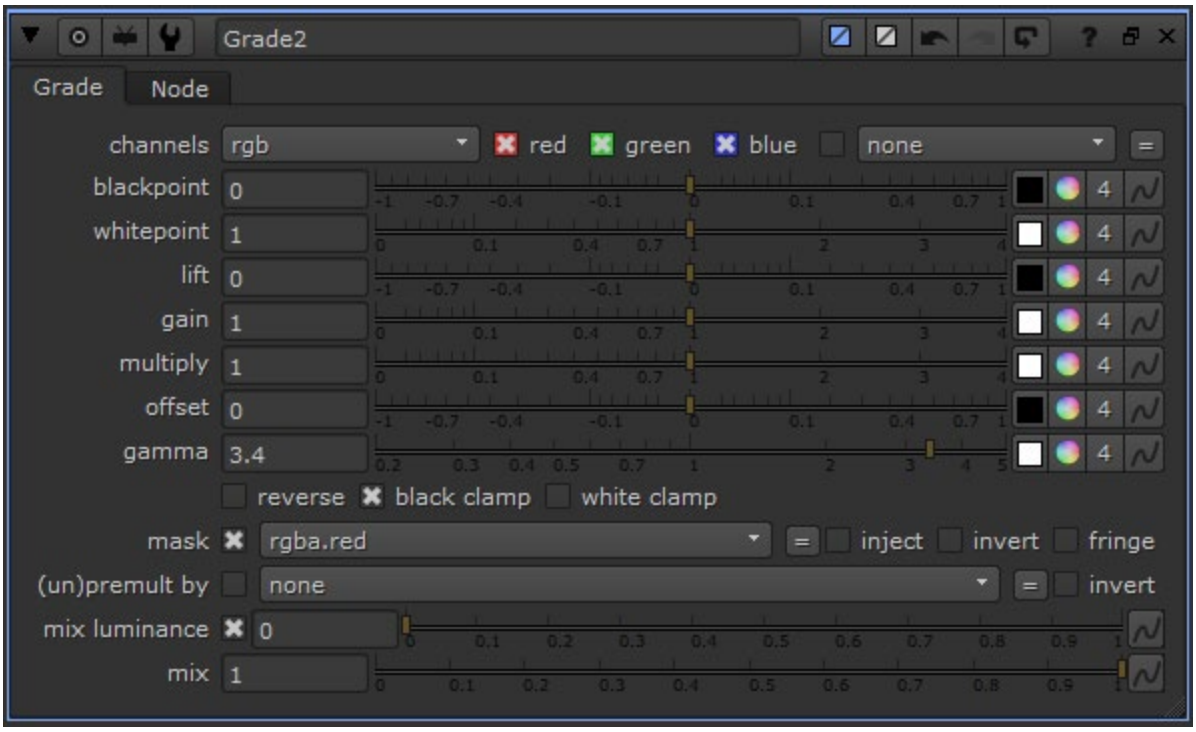




You could stop here, but this may or may not give the result you are looking for. If a character needs to move into or out of a light for example, more adjustments will be needed to ensure they are exiting or entering the light at the correct time. You will most likely want to adjust the contrast of the depth mask for greater control. Create a “color correct” node beneath the grade node. The color correct node will allow for the adjustment of the gain, gamma, and contrast of shadows, midtones, and highlights.



Attach the last adjustment node under your depth shuffle tree to the mask of the node you wish to mask with your depth pass. You may notice that the mask does not yet work. This is because Nuke nodes use the “rgba.alpha” channel as the mask by default. Find the dropdown menu for your mask channel in the node’s properties and change it to “rgba.red”, “rgba.blue”, or “rgba.green”. This tells the node to which the mask is attached to use the color channel you selected instead of the alpha.


Grade2
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green
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whitepoint
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lift
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gain
1
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offset
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gamma
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reverse
black clamp
white clamp
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