Creating warp clips in After Effects CS6

Basics

UV mapping is a technique where pixels in a texture are mapped onto the surface of a 3d object. GS2 and Virtual Placement supports special GTC warp clips with this data embedded enabling video input textures (or any other available texture for that matter) to be warped in real time producing DVE like effects.

The "correct" way to produce warp clips is to go through a 3D modeling tool and export UV mapping data. However this process is quite complex and many graphic departments does not have the 3D resources to do this. Using After Effects instead is a more "simple" and quick way to achieve a similar result with some limitations.

The UV map can be visualized by a color ramp where each color in the ramp represents a source pixel in the input texture. If a UV map is treated as a normal image it can be processed and animated just like any other image but resulting in actually "moving" the pixels in the final composition. Care should be taken though; Because most AE plugins will generate lighting and blending of processed pixels the UV map will not be correct, and may result in weird offsets of the input texture.

GTC Warp clips

A warp clip is created by the Clip Convertor software from two image sequences. The first being the UV map including alpha channel and the second the graphic fill. This fill will be multiplied with the result from the first UV mapping step and it can be used to create an intensity map for the warp input as well as other graphic elements for the final composition.

Project color depth

Warp clip creation requires After Effects to work in 32bits/channel color depth. Make sure this is set in "File->Project settings" under the Color depth section.
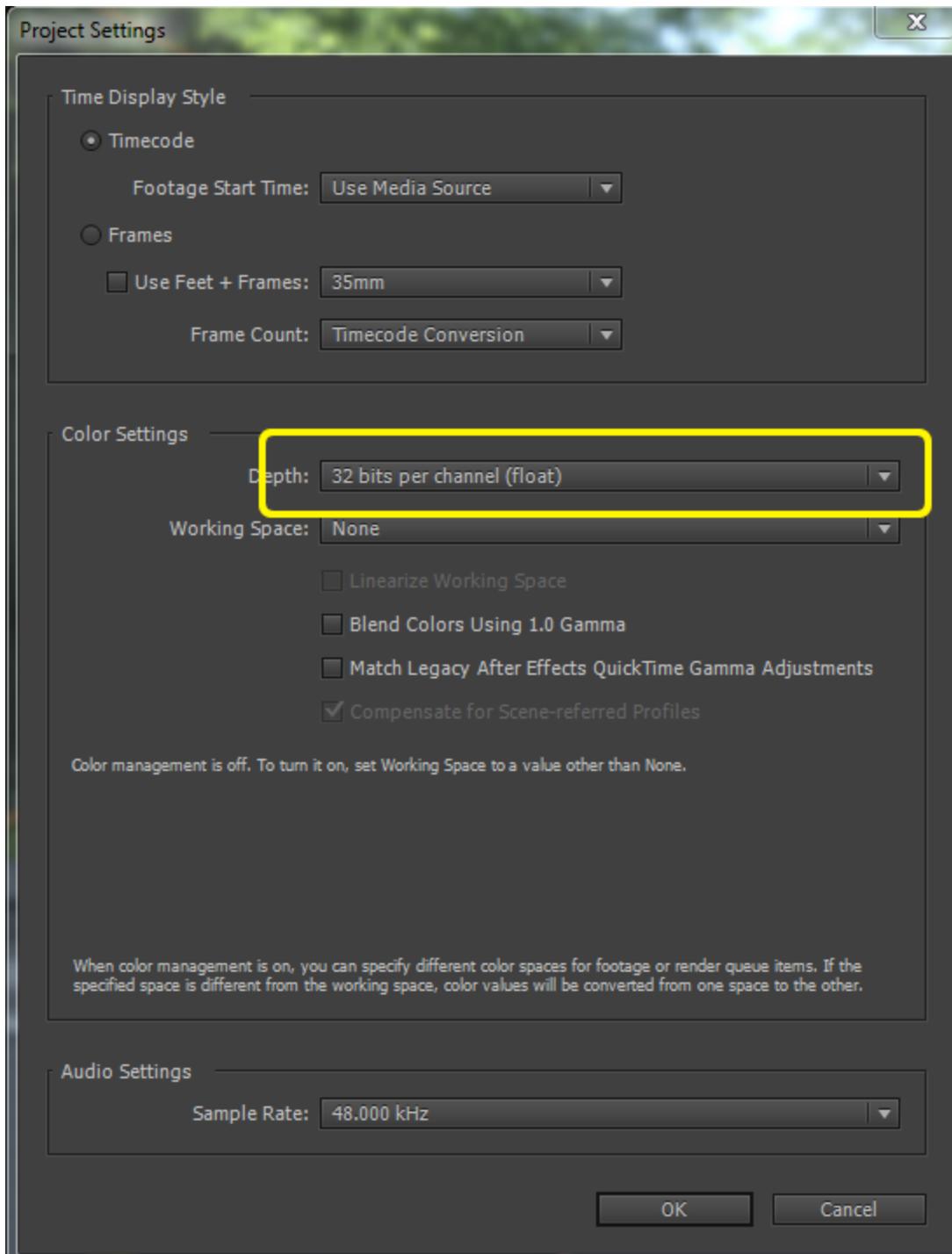
Project layout

Create three new compositions. One for the UV map and one for the Fill and Intensity. The warp texture will be multiplied with the intensity to simulate lighting. Import an UV map color ramp and place it in the UV composition.

A 16bit/channel UV Map images can be found on ChyronHego Download Area by Clip Convertor product. For example `UV_template_1080.png`
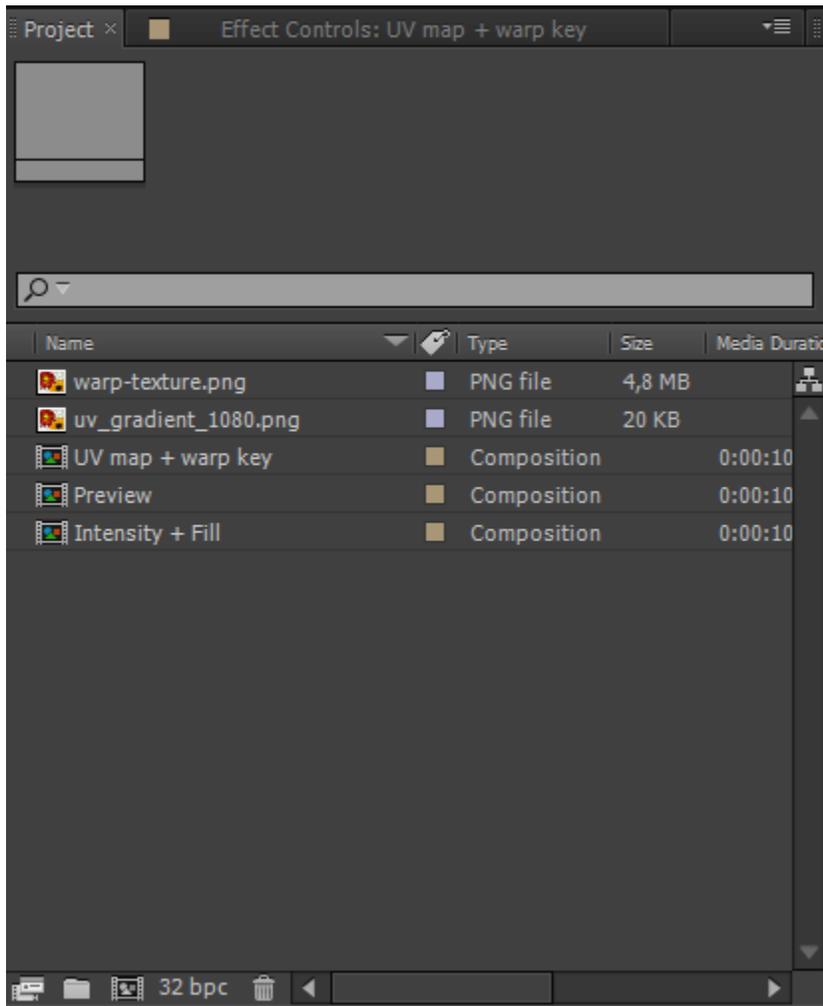
Project layout for this warping example. "warp-texture.png" can be any image or footage that will be used as a placeholder for the video texture.
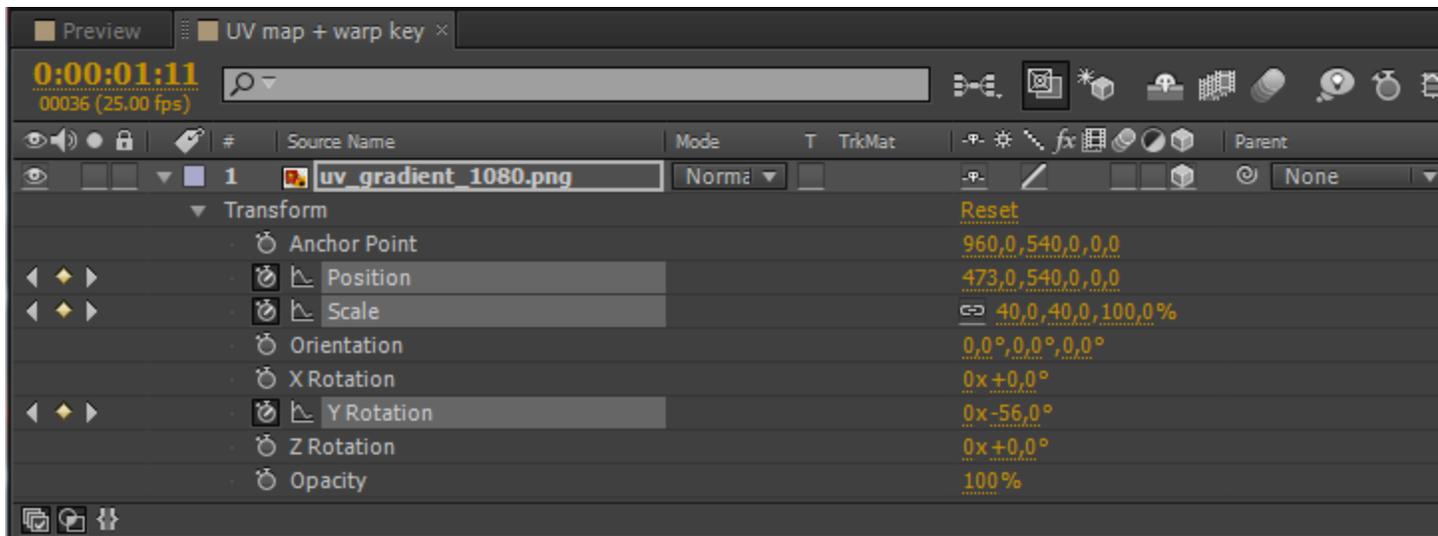
Previewing UV mapping in AE

To be able to preview the resulting composition inside After Effects a 3rd party UV mapping plugin is required. Is this example we are using RE:Map from RE:Vision Effects Inc.

RE:Map evaluation is available here:
http://www.revisionfx.com/products/remap/downloads/

In the Preview composition drop in the two other comps + the warp texture placeholder. Arrange the layers with the UV comp on top followed by the Intensity comp and finally the texture placeholder. Add the RE:Map UV plugin to the UV map comp and set the "Texture" property to point to your test texture. Also set the UV comp to mode "Multiply" and make the texture placeholder invisible by clicking the eye icon to the far left. If the UV color ramp image is placed in the UV comp you should see the placeholder image in the preview window. All pixels from the

placeholder image is now remapped according to the output of the UV composition. Try spinning the UV map and look at the result in the Preview comp.

Layout of the Preview comp for previewing the final composition

The UV and Intensity+Fill compositions

When creating your final animation you will need to animate both the UV map and the Intensity map accordingly. So first - keyframe everything in the UV comp and then copy all keyframes/effects over to the Intensity+Fill comp when you are done.

In this example we are creating a simple "squeeze-back" effect by animating scale, position and rotation. To be able to rotate around x,y,z you need to set the layer as a 3D layer by ticking the little 3D box icon.

Now copy the animated layer to the Intensity+Fill comp to create a lighting effect. Also create a new solid and set it to be white and 1920x1080. When its created it will be available in the project bin. Delete the solid from the composition and then select your UV gradient layer. While holding down ALT, drag the white solid down to the timeline. This action replaces the UV map image with the white solid. Try dragging the timeline back and forth to see the white solid make the same animation as the UV map. The white solid will multiply with the input texture so if a light is added to the Intensity comp you can experiment with how it affects the result in you Preview composition.

Rendering

To render out the parts needed for GTC clip convertor in order to generate the final warp clip first enable your UV composition and select Composition->Add to render queue (CTRL+M). Click the output module settings and make sure you are outputting PNG sequence with Alpha and "Trillions of colors" chosen in the Depth setting. Select output filename and start the rendering.
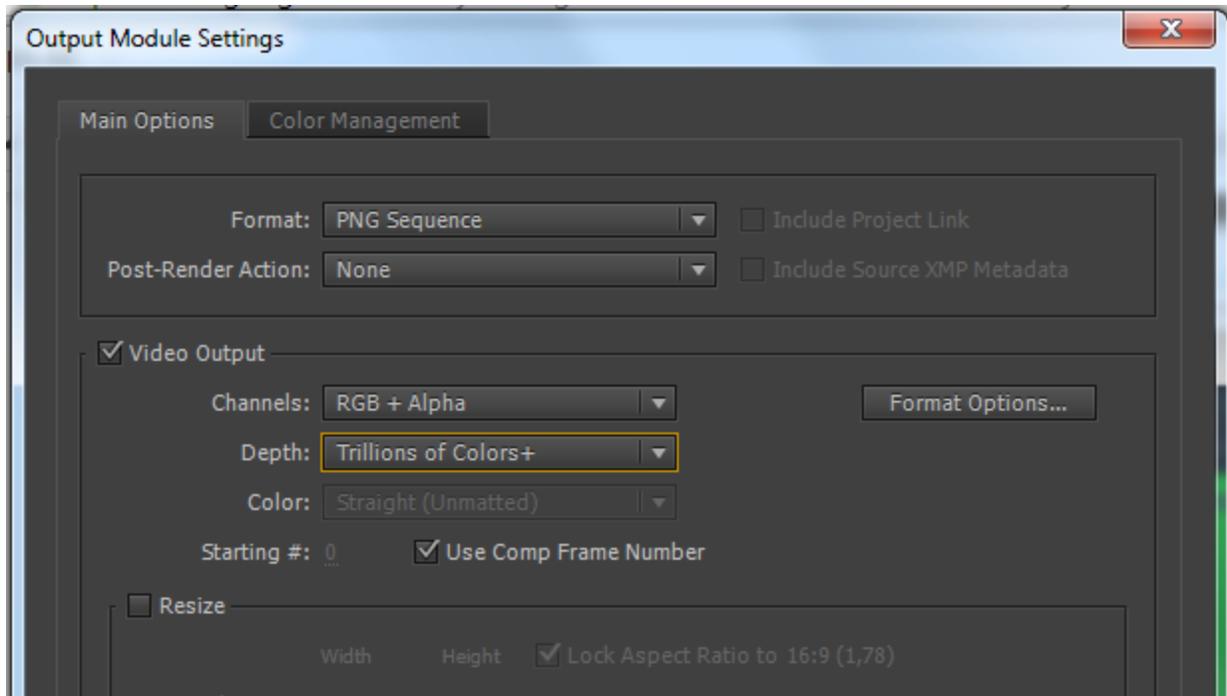
Next, render out your fill and intensity map composition as another PNG sequence set to "Millions of colors" and RGB + Alpha.

Now you have your two sequences ready to be converted into a GTC warp clip by the Clip Convertor software. Select your Intensity-Fill clip as the File Name and your UV clip as the Warp File Name.