



Creating a video wall using 3D Invigorator and Shine

It's important that you don't change or animate the position or rotation of the various Front Panel comps and their layers or the Wall and Wall Reflection Invigorator layers. If you do the effect of having the front panel perfectly registered with the video wall will be lost.

This project uses Zaxwerks 3D Invigorator and Trapcode's Shine to create a simple yet effective video wall useful for opening sequences, promos, idents etc.

Play the file Video Wall.mov and note that there are nine "monitors" which make up the wall. The monitors are not just flat plains but have thickness. Also note the reflection of the wall on the ground and the light rays. At the end of the zoom the video wall fits exactly into the full frame position, enabling you to smoothly transition to other full frame footage.

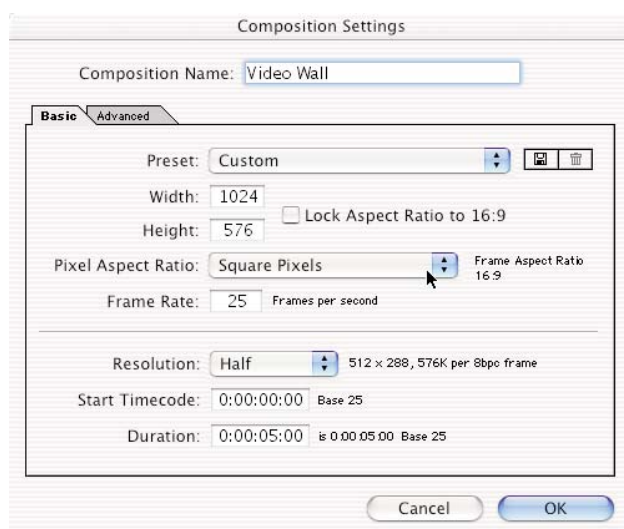
It was designed in widescreen PAL format (square pixels) but can easily be recreated at 4:3 in either PAL or NTSC format. Just substitute all the 1024x576 values with new values but remember to use square pixel aspect ratio in all compositions.

Step One: Create Illustrator Template

1. In Illustrator create a rectangle for the wall at 1024 x 576 pixels and fill it with black. Call it "Wall Template".

Step Two: Create Main Composition with Camera and Null Object

1. In After Effects create a new composition using the following settings: 1024 x 576, Square Pixels, 25 fps, 5 seconds duration. Call this comp "Video Wall".

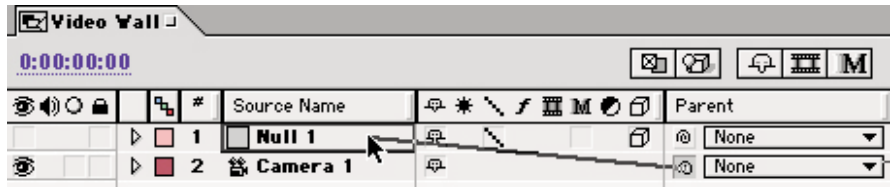


2. Create a new camera (Layer > New > Camera) and from the Preset pull-down menu choose **28mm** for a wide angle lens.



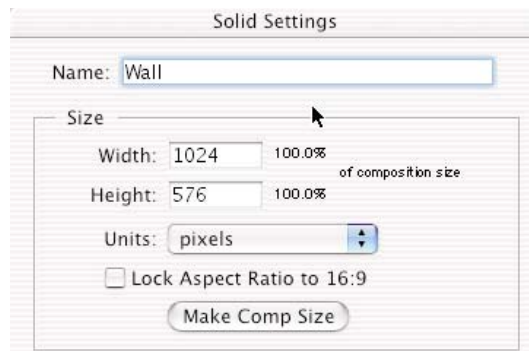
When animating the camera it can be tricky to get smooth results. Null objects are great for creating smooth camera moves that would be difficult if animating the camera alone.

3. We'll use a null object to control the rotation and X and Y positioning of the camera. The Z position of the camera will be controlled by the camera itself.
4. Create a new null object (Layer > New > Null Object). In the Switches panel, deactivate its Video switch and activate its 3D Layer switch, then use the pick-whip to parent the camera to the null object. We'll animate these layers later on.

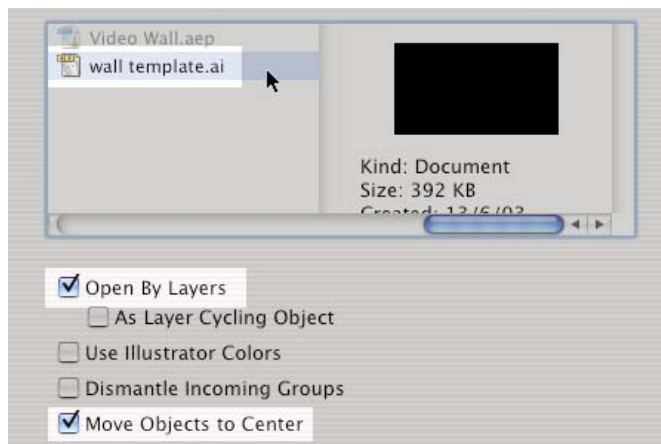


Step Three: Create Video Wall Base

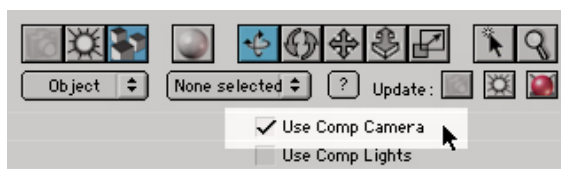
1. Create a new solid (Layer > New > Solid) at comp size and call it “Wall”.



2. Select the “Wall” layer and apply **3D Invigorator** (Effects > Zaxwerks > 3D Invigorator).
3. Choose the “Wall Template.ai” file created earlier. Be sure to select **Open by Layers** and **Move Objects to Center**.



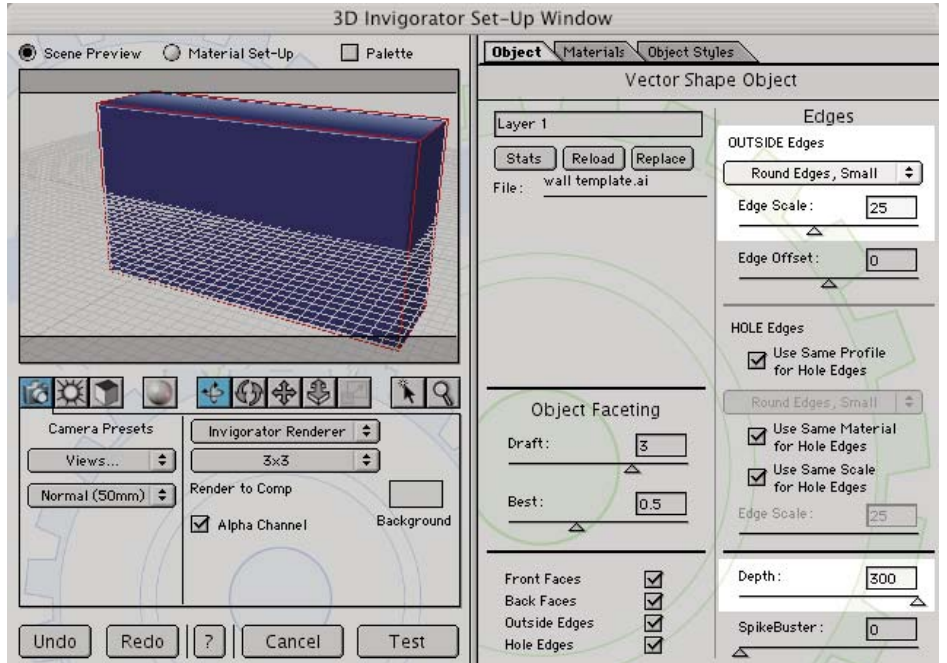
4. In the Effect Controls window click **Use Comp Camera**.



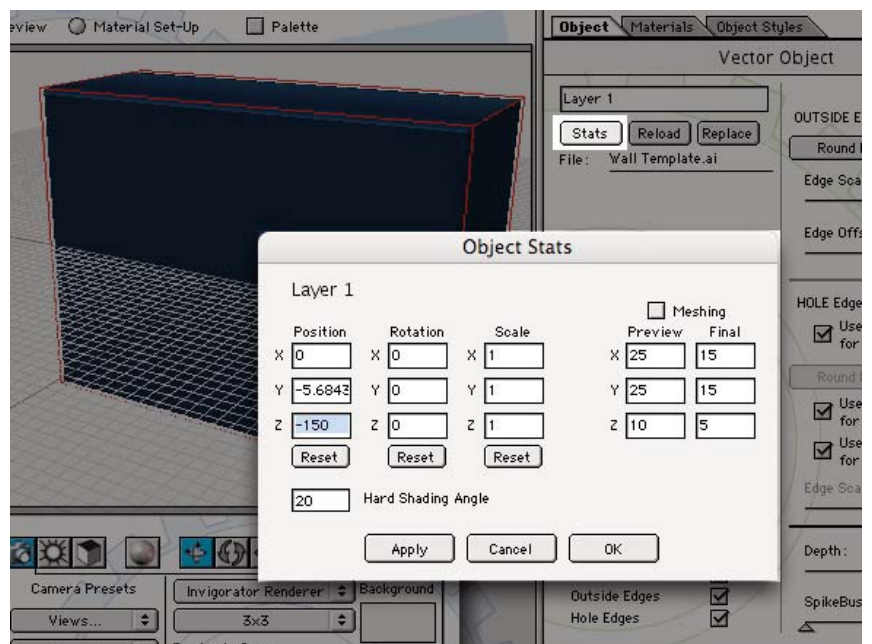
5. Click **Options** to open the Setup window.



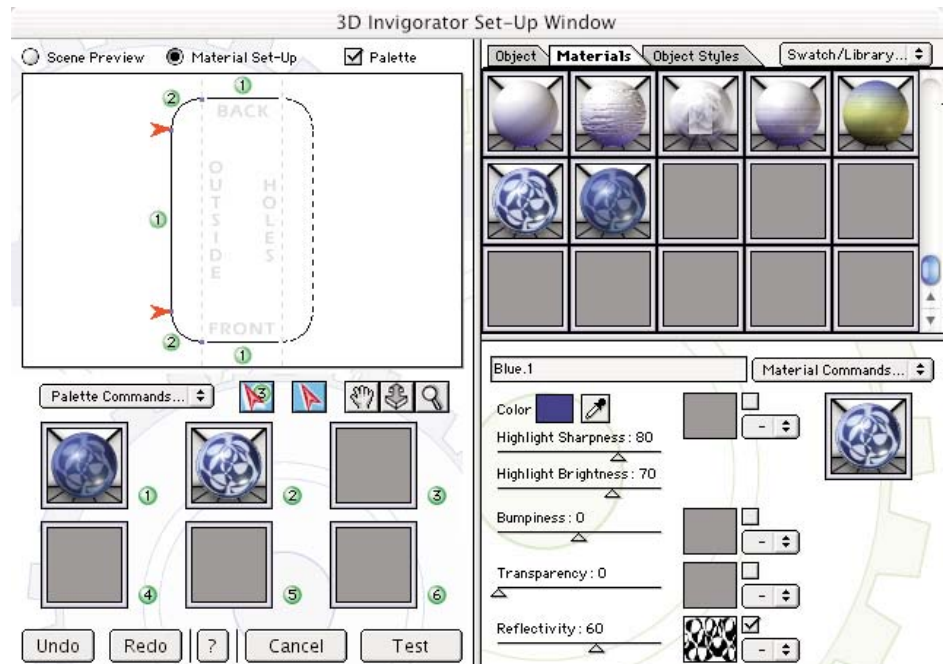
6. Select the wall and choose **Outside Edges > Bevel > Round Edges – Small**. Change the **Edge Scale** value to 25. For **Depth** type in a value of 300.



7. This step is necessary only if you are using Version 4 or later. With the wall still selected, click the Object tab and then the Stats button and change the Z-Position value to -150. As of Version 4 Zaxwerks changed the default position of the pivot point to be the center of an object rather than the front. This means we now have to move the object back in z-space half the value of the depth of the object (in this case 300) to compensate and keep the Front Panel we are about to make in register with the wall.



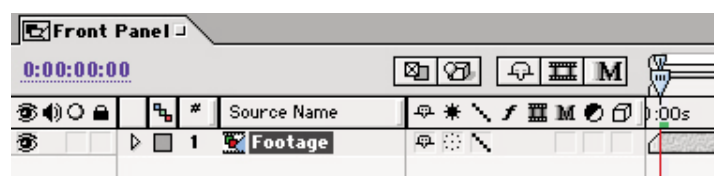
- As for material settings I applied a navy blue (one of the client’s corporate colours) with 20% reflectivity and the **punchy reflections** environment map to the sides, and the same blue with a reflectivity of 60% to the bevel.



Step Four: Create Front Panel

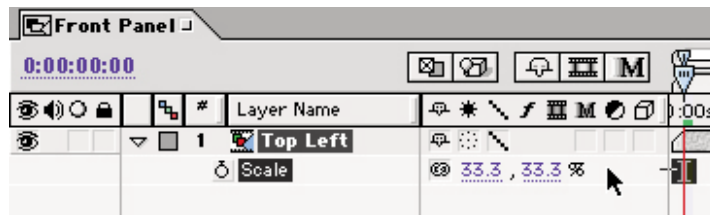
Now we’ll create the composition that will become the front of our video wall.

- Create a new composition with the same attributes as the “Video Wall” comp and call this comp “Front Panel”. This comp will contain all the elements that will feature on the front of the video wall.
- Import the file “Footage” from the Source folder.
- Create a new comp for the “Footage” file by dragging it to the new composition icon at the bottom of the Project window.
- Call this comp “Footage”. I’ve used a still image but this can be replaced with a movie.
- Place the “Footage” comp into the “Front Panel” comp starting at the 0 seconds.

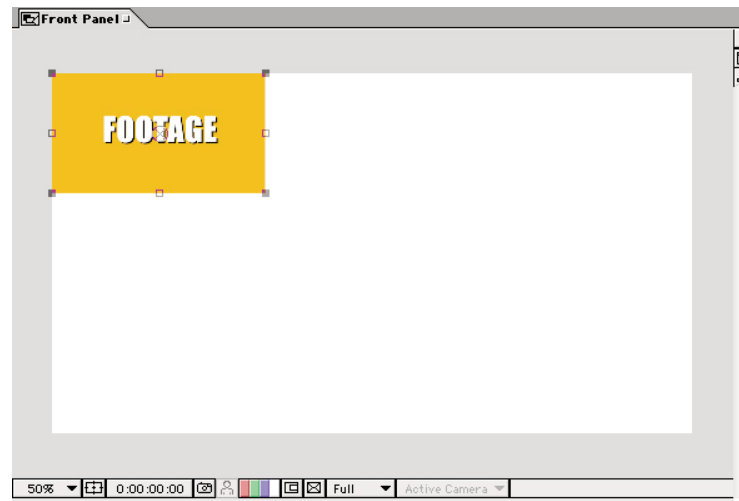


We’ll now scale and position this layer, duplicate it eight times then reposition the duplicates to create the nine individual panels that make up the front panel.

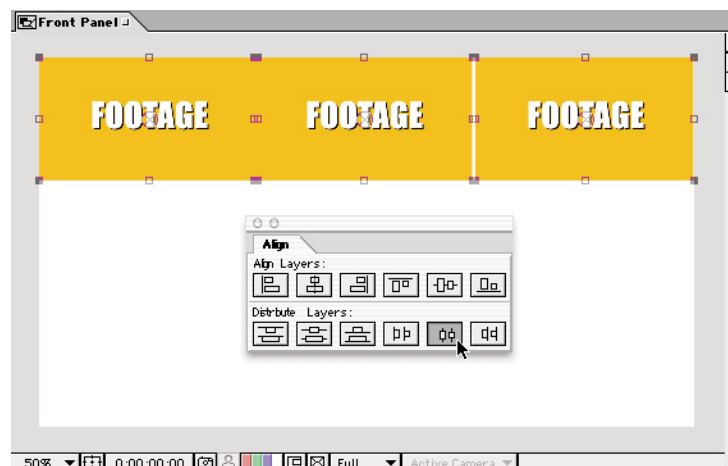
- Rename the layer “Top Left” and scale it to 33.3%.



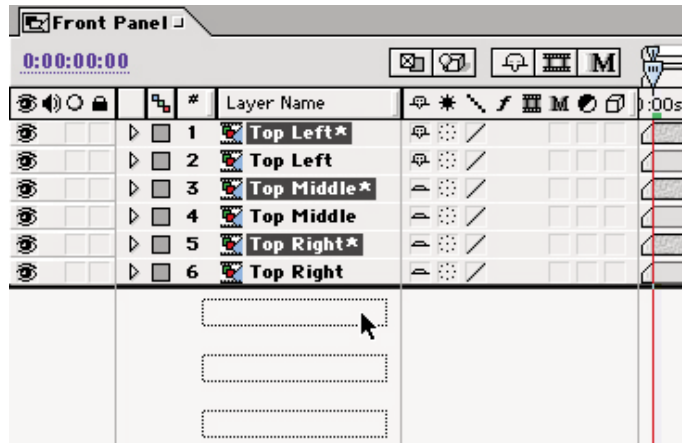
- Place it at the top left of the comp (position 171, 96).



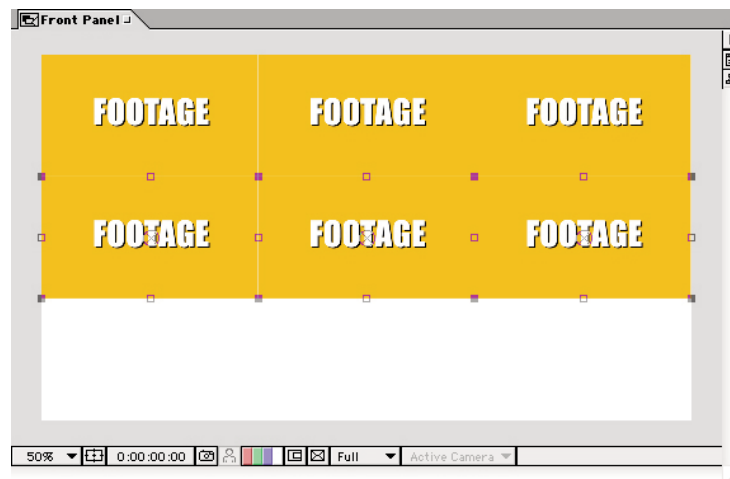
- Duplicate “Top Left” and call it “Top Right”.
- Place “Top Right” at the top right of the comp (position 853, 96).
- Duplicate “Top Right” and call it “Top Middle”.
- Move “Top Middle” between “Top Left” and “Top Right” and use the **Align & Distribute** window (Window >Align & Distribute) to move “Top Middle” into correct position (position 512, 96).



- Select Top Left, Top Middle and Top Right and duplicate.
- While the duplicate layers are still selected move them down in the timeline stacking order so they are below the original layers.

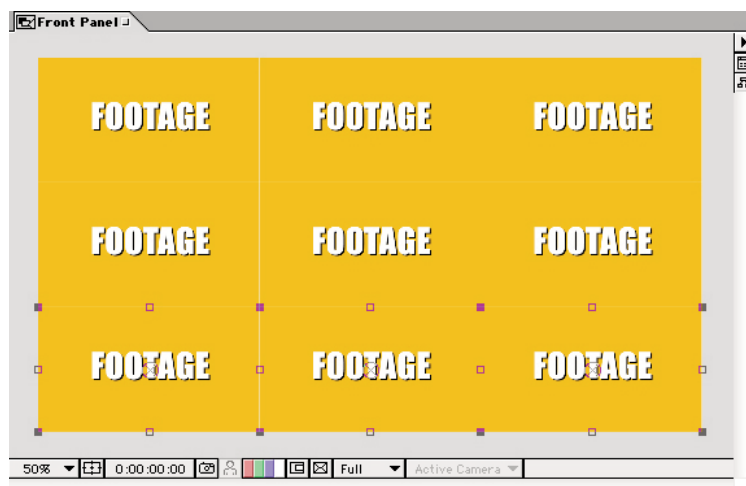


14. Leave them selected and drag them down into position in the comp window so that they are positioned directly below the top row.

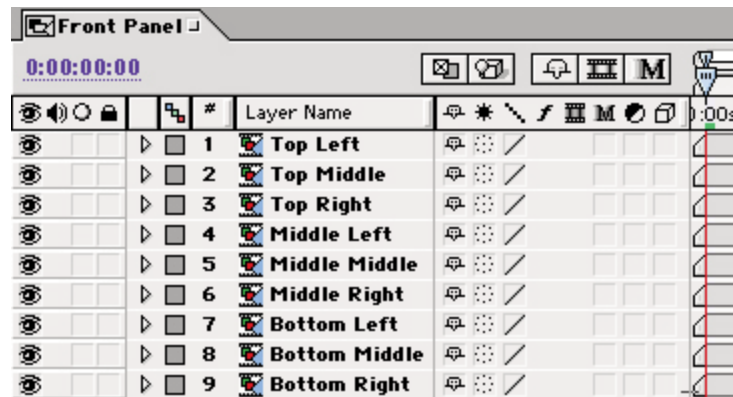


15. Rename these layers “Middle Left”, “Middle Middle” and “Middle Right”.
16. Select these middle layers and duplicate.
17. Once again, while still selected, in the timeline, move them down in the stacking order so they are below the middle layers.
18. Leave them selected and drag them down into position in the comp window so that they are positioned directly below the middle row.

You can use the arrow keys on the keyboard and/or the Align & Distribute palette to fine tune the position of the layers in the comp window.



19. Rename these layers “Bottom Left”, “Bottom Middle” and “Bottom Right”.
20. Now check that all the layers in the comp are stacked in the order they appear in the comp window i.e. from “Top Left to Bottom Right”. This is important since we will be fading these layers out sequentially from left to right and top to bottom.



Step Five: Animate Opacity of “Monitors”

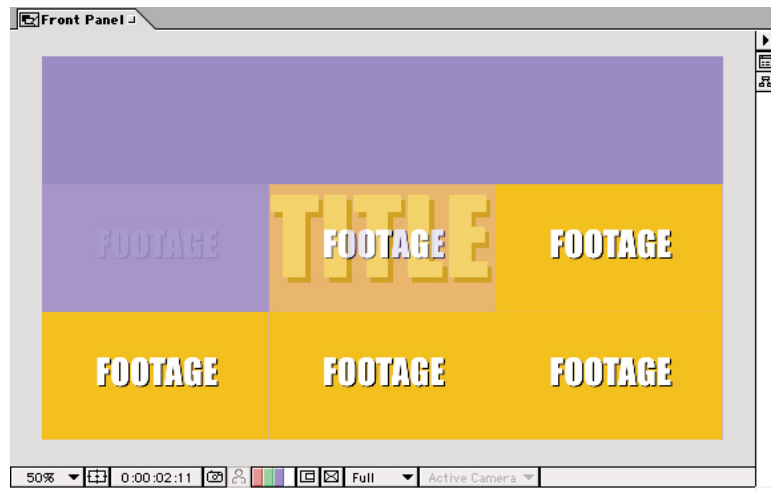
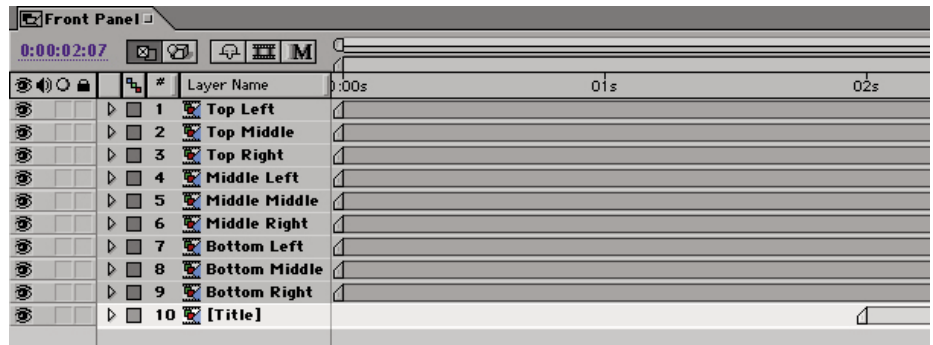
Next we’ll create Opacity keyframes for the “Top Left” layer and use an expression to have the other 8 layers fade out sequentially.

1. Set Opacity keyframes for “Top Left” from 100% at 2 seconds to 0% at 2 seconds and 4 frames.
2. Create an expression for “Top Middle” Opacity by Option/Alt clicking on the Opacity stopwatch and type the following into the expression field “thisComp.layer(index-1).opacity.valueAtTime(time-1)”.

This expression instructs a layer to be at the same opacity value as the layer directly above it in the timeline but offset by .1 of a second.



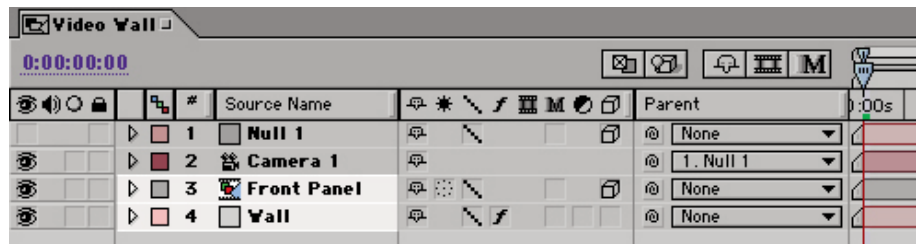
3. Copy and paste this expression to the opacity property of the seven remaining layers. Now if we need to extend the amount of time it takes each layer to fade out, all we have to do is adjust the keyframes of the “Top Left” layer.
4. Import the file “Title” from the Source folder.
5. Create a new comp for the “Title” file by dragging it to the new composition icon at the bottom of the Project window. Call this comp “Title”.
6. Next place the “Title” comp into the “Front Panel” comp at 2 seconds and move it to the bottom of the stack. This layer will be revealed as the layers above it fade out.



This comp is now ready.

Step Six: Animate Camera and Null Object

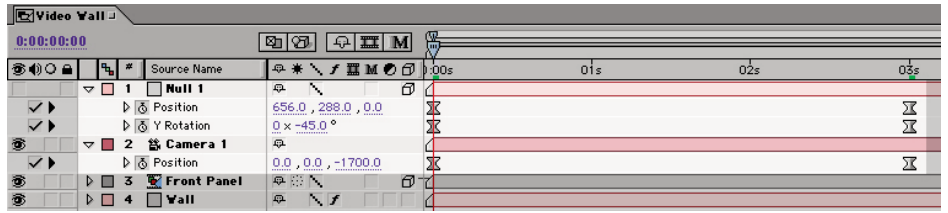
1. Open the “Video Wall” comp and place the “Front Panel” comp above the “Wall” layer starting at 0 seconds. Activate the 3D switch for the “Front Panel” layer.



Next we’ll animate the camera and null object layer.

2. At 3 seconds create a keyframe for the camera’s Position property but leave it at the present value. Move the time indicator to 0 seconds and change the position to 0, 0, -1700. This creates our zoom into the wall and ensures that the end position is full frame.
3. Now for the null object. At 0 seconds create a Position and Y Rotation keyframe. Change the Position value to 656, 288, 0 and the Y Rotation to -45. Move to 3 seconds and change the Position value to 512, 288, 0 and Y Rotation to 0.
4. Select all the keyframes for both layers and press the “F9” key on the keyboard to apply Easy Ease.

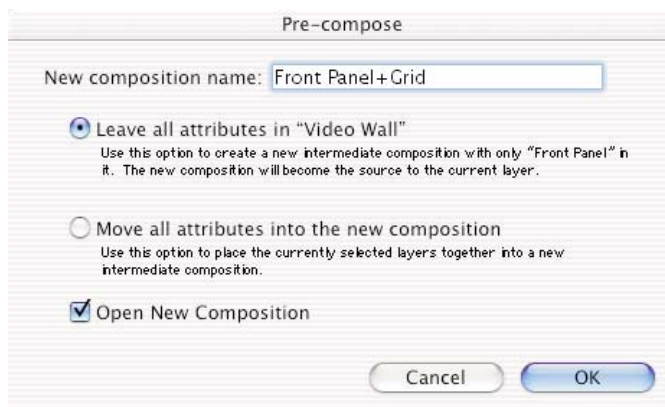
At it’s final position the video wall takes up the entire composition window.



Step Seven: Create Grid for Front Panel

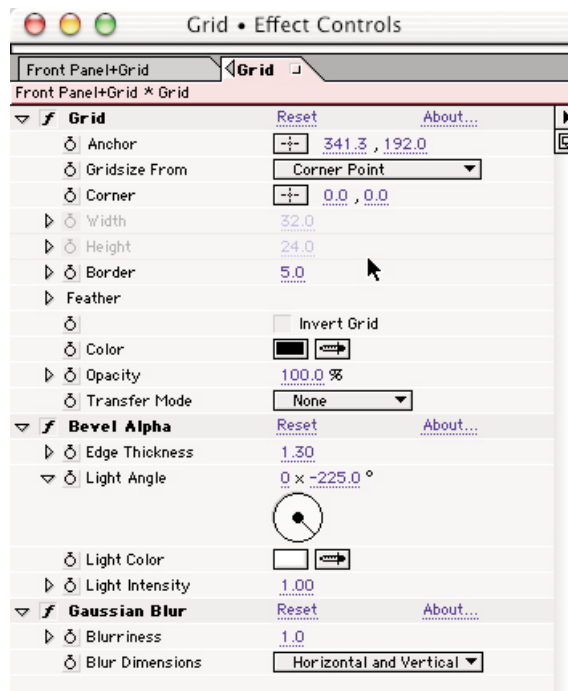
Next we'll add a grid effect to the "Front Panel" layer to divide our wall into 9 monitors.

1. Select the "Front Panel" layer and precompose (Layer > Precompose). Choose the "Leave all attributes" option, call this comp "Front Panel + Grid" and select "Open New Composition".



2. In the "Front Panel + Grid" comp create a new solid at comp size and call it "Grid".
3. Select the "Grid" layer and from the **Animation** menu choose **Apply Animation Preset** then choose "grid.ffx" from inside the "Animation Presets" folder that came with this tutorial.

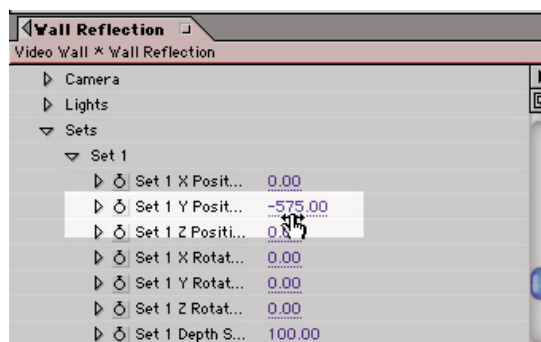
The X and Y values for the **Anchor** property of the Grid effect equal the length and width of the comp divided by 3, giving us a total of 9 partitions. Bevel Alpha works well with Grid to add a more realistic 3D feel and the Gaussian Blur is necessary to control the interlace flicker introduced by the bevel.



Step Eight: Create Reflection for Wall and Front Panel

Next we'll create a reflection for the Wall and Front Panel+Grid layers.

1. In the "Video Wall" comp duplicate the "Wall" layer and call the duplicate "Wall Reflection".
2. In the Effect Controls window for this layer twirl down the **Sets** property until you see the values for **Set 1**.
3. While watching the comp window, drag the Y Position slider to the left until the reflection sits at the base of the wall, around -575 is good.

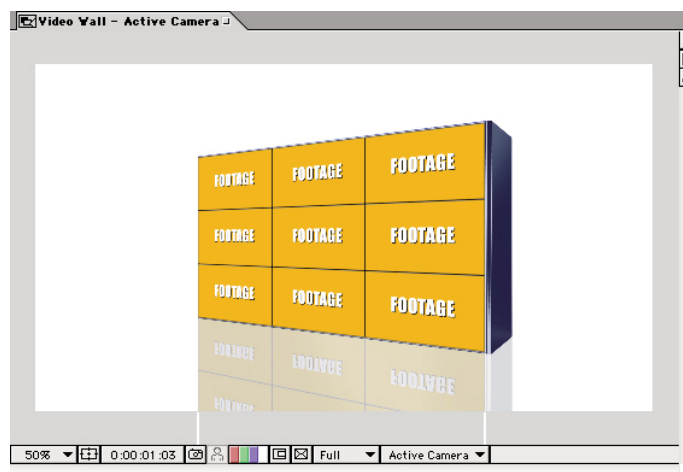
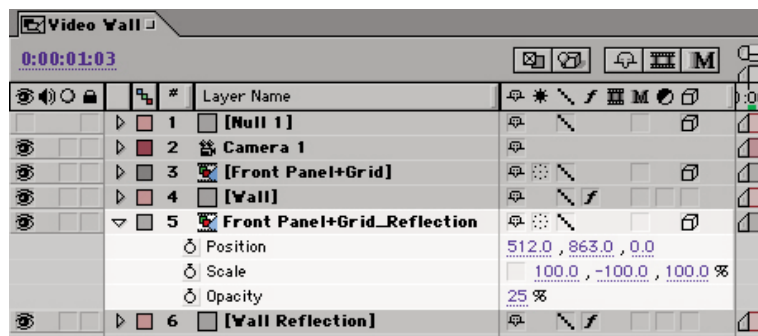


4. Change the Opacity of this layer to 25%.

Now we need to duplicate and flip a copy of the "Front Panel + Grid" layer.

5. Duplicate the "Front Panel + Grid" layer and call this layer "Front Panel + Grid_Reflection".
6. Drag it's Y Position value so that it sits at the base of the wall, around 863 is good.
7. Uncheck the **constrain values** link box for Scale and change the Y Scale value to -100 to flip the layer.

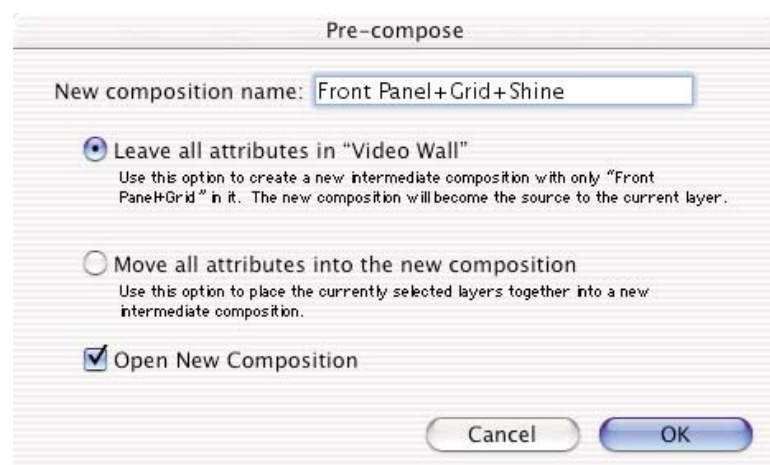
- Change the **Opacity** to 25%.



Step Nine: Add Shine to Front Panel

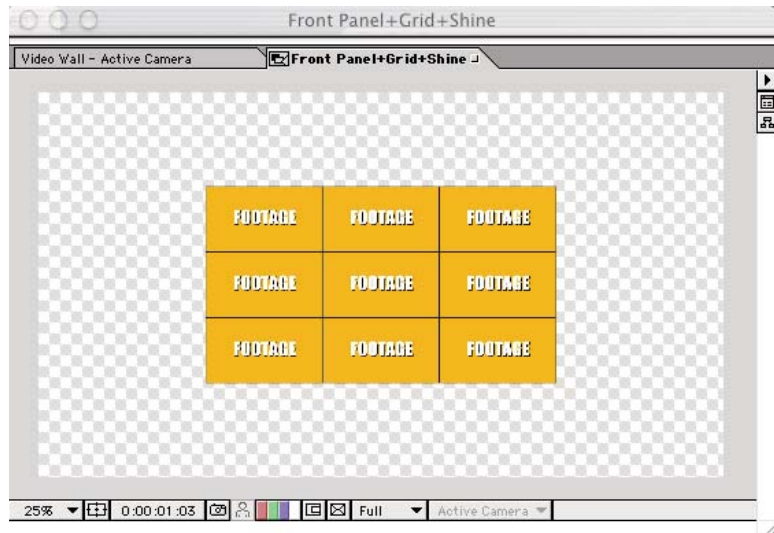
Lastly we'll use Trapcode's Shine plug-in to give our wall a bit of pizzazz.

- Duplicate the "Front Panel + Grid" layer.
- Precompose the duplicate choosing the **Leave all attributes** option. Call it "Front Panel + Grid + Shine" and select **Open New Composition**.



We need to add some space around the layer to make room for Shine's rays.

- Open **Composition Settings** (Composition > Composition Settings) and make the width 2000 and height 1125.

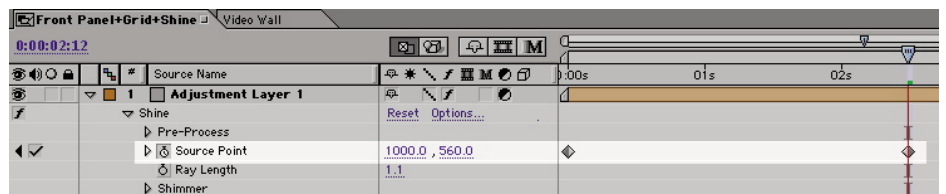


4. Create an Adjustment Layer (Layer > New > Adjustment Layer).
5. Select the Adjustment Layer and from the Animation menu choose **Apply Animation Preset** then choose "shine.ffx" from inside the "Animation Presets" folder that came with this tutorial.

Applying the Shine effect to a precomp allows us to restrict the effect to the front panel only as well as better integrate the 2D effect into the 3D scene.

We'll animate the **Source Point** of Shine slightly so that the rays are correctly oriented as we zoom into the wall.

6. Set a keyframe for **Source Point** at 0 seconds and change the X value to 1230.
7. Move to 2 seconds 12 frames and change the X value to 1000.



Finally we'll animate the **Shine Opacity** value down to zero so that there is no shine on the final resolve.

8. In the "Video Wall" comp set a keyframe at 2 seconds for **Shine Opacity** at 100% then move to 3 seconds and change the value to 0.

That's it! You can hold the final resolve for as long as needed or change the entire length of the animation with a slower or faster zoom in. You may also want to use different clips for each "monitor" or make a version with more than 9 monitors. I also faded out the grid just before the final resolve in the original version. It's up to you so have fun.

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