

BURJ KHALIFA

MEDIA FAÇADE SCREEN

CONTENT CREATION MANUAL

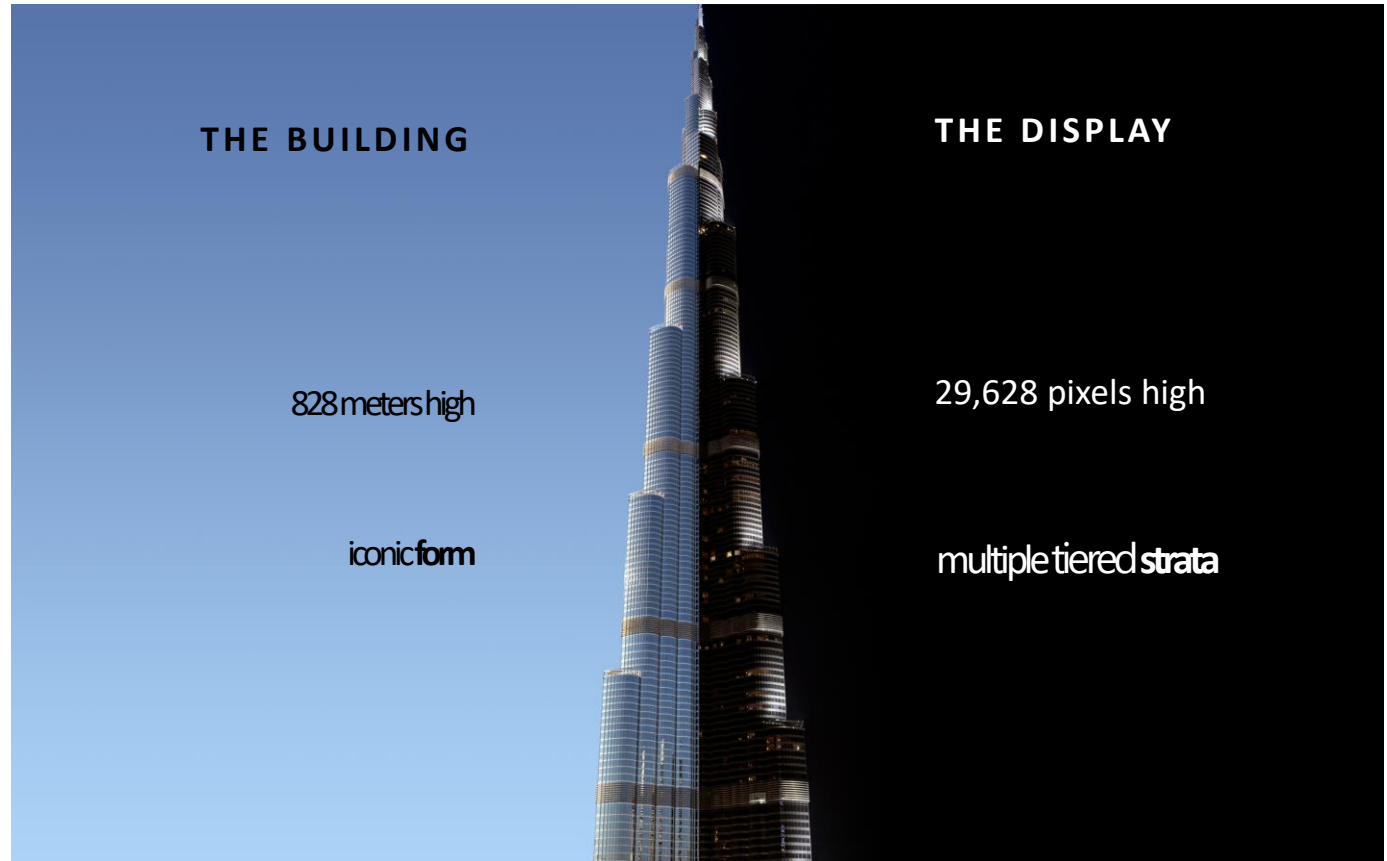


INTRODUCTION



THE CANVAS

The Burj Khalifa is both the world's tallest building and the largest single display surface on Earth.



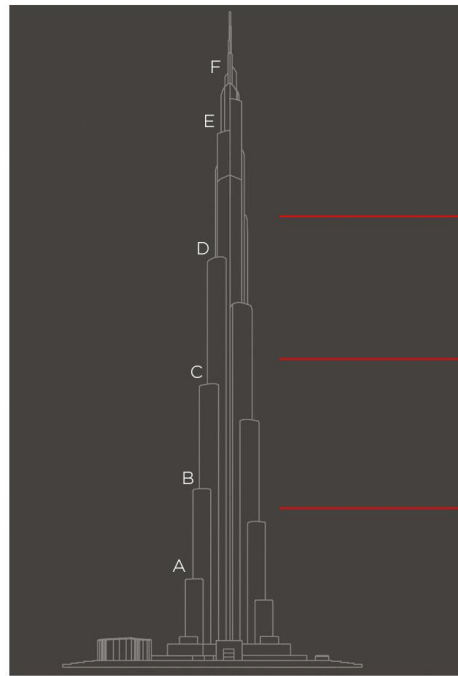
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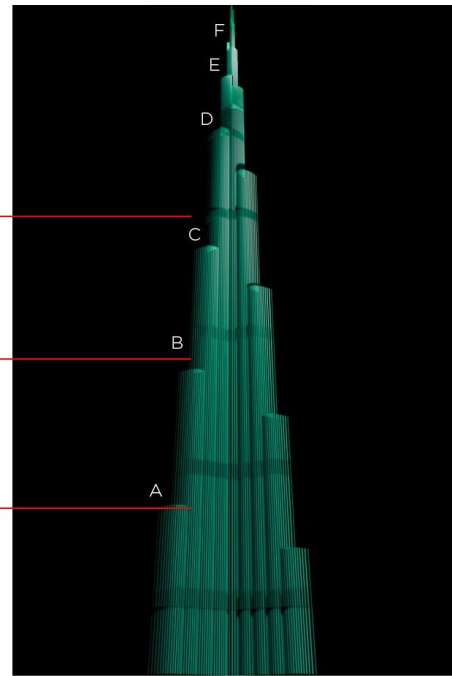
THE VIEWING EXPERIENCE

Perspective is everything when making content for the world's tallest building. Most viewers will view the Burj Khalifa from near the base. This dictates the area of interest - pixels near the base are much more visible and present. The flat view is quite deceptive in terms of real experience.

FLAT VIEW
(only ever seen from far distance and by helicopters)



FLAT VIEW



PERSPECTIVE VIEW

**TYPICAL
REAL-WORLD
VIEW**



WHAT YOU'LL NEED

To use the tools provided , you'll need a few things:

After Effects. AE CC version 18 or later is required.

AE plugin. You'll need the native AE plugin ft-UVPass, downloadable from

<https://aescripts.com/ft-uvpass/>

HAP codec. Your output will be in QuickTime format using the open source HAP codec

<https://github.com/Vidvox/hap-qt-codec/releases/tag/version-12>

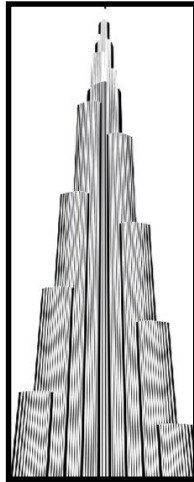
Once you have those installed you can use the templates and After Effect project.

TEMPLATES AND TOOLS

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PERSPECTIVE

1576 x 6240



This template is optimized to simplify content creation. Not pixel-perfect accuracy, but much easier to work with. Easy previews and WYSIWYG workflow.

There are two ways to work. The perspective workflow is the preferred method for almost all situations.

PARALLEL VIEW

149 x 29,628



This template is pixel-perfect, with pixels associated with every LED on the façade. More challenging and technically demanding to work with. More steps required to preview content.



RENDER FORMATS

PERSPECTIVE

1576 x 6240



Content can be output directly in the perspective format for playback.

PIXEL ACCURATE

273 x 12,656



Depending on your workflow, you may render and deliver content in one of two different formats.

Because of technical limitations on file sizes, some remapping is required for pixel-accurate playback on site.

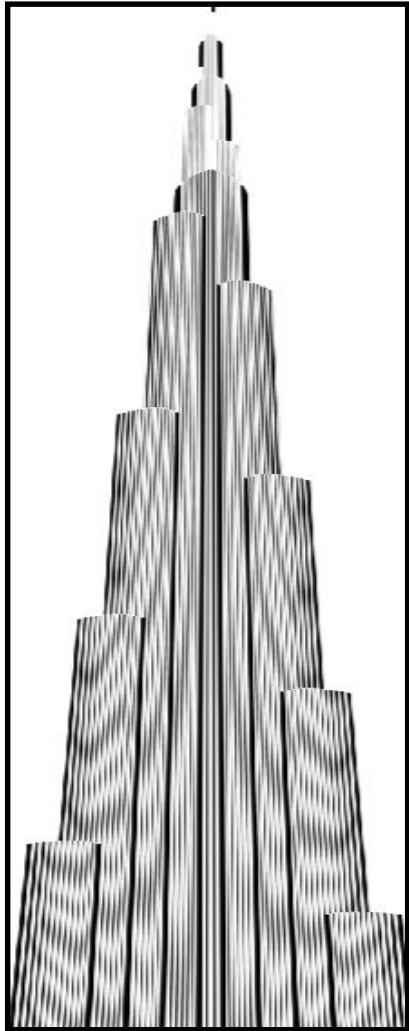
This pixel packing must be done using the After Effects template.

PERSPECTIVE TEMPLATE



PERSPECTIVE TEMPLATE

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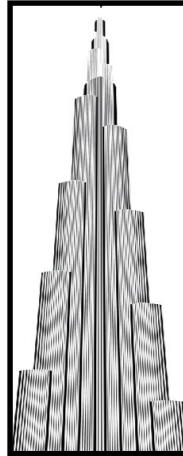


The perspective template sacrifices a small amount of accuracy in return for a greatly simplified workflow from visualization through production.

Content is made using a previsualization mask. The mask is removed for the final render.

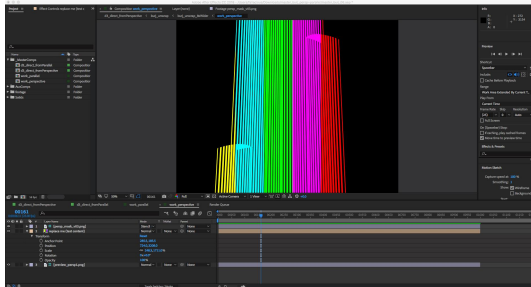


PERSPECTIVE TEMPLATE TOOLS



PNG MASK WITH ALPHA

This perspective mask can be used to quickly mock up content for preview.



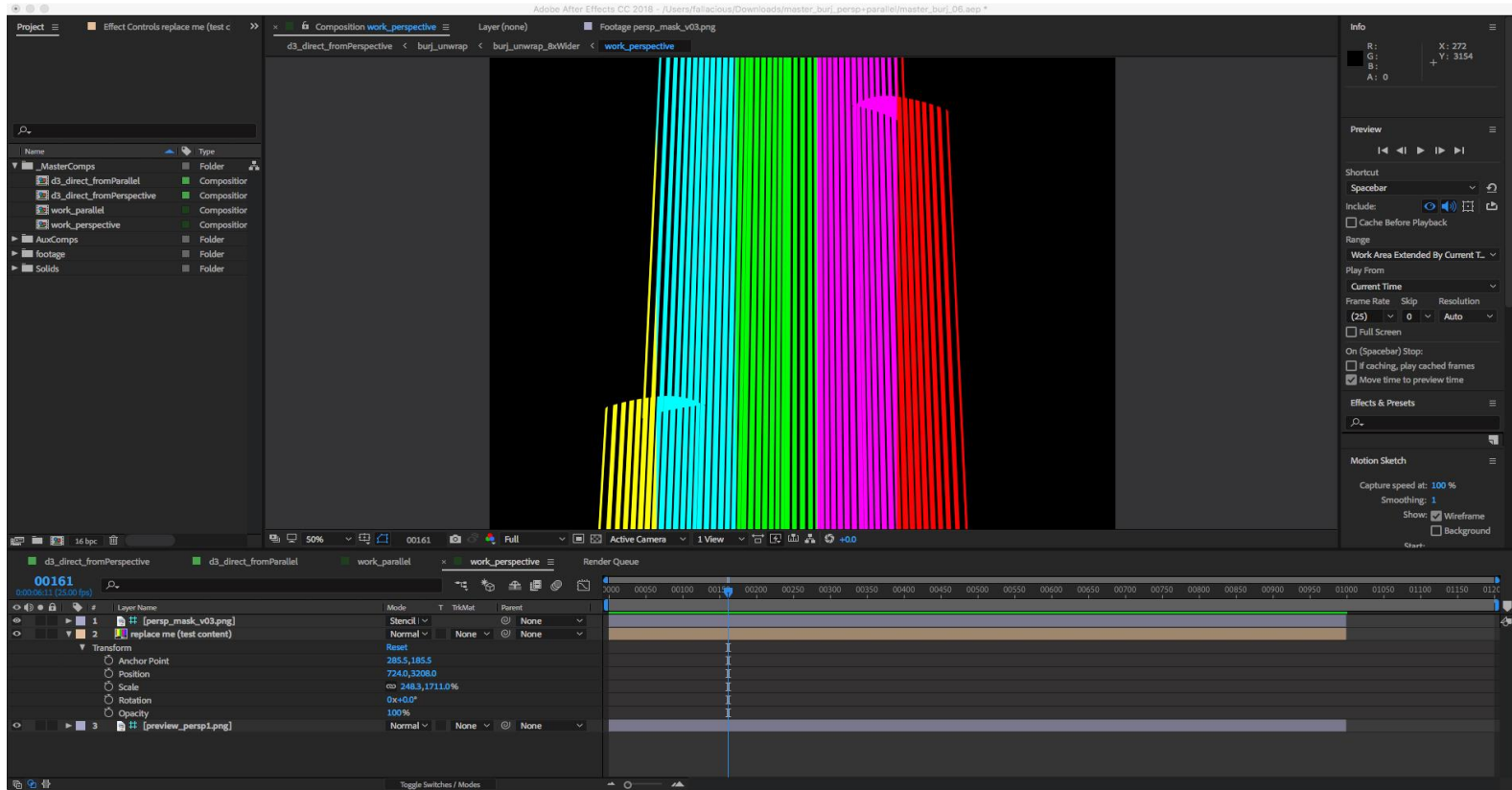
AFTER EFFECTS COMPOSITION

A preconfigured After Effects project is set up with compositions to support content creation.

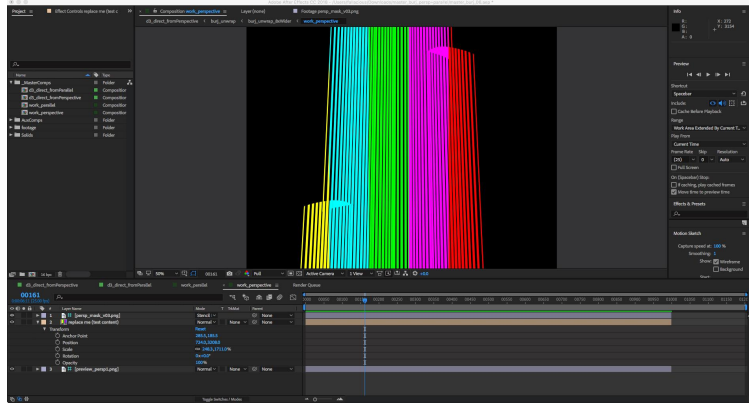
PERSPECTIVE TEMPLATE - AE COMP

The Perspective template uses the “work_perspective” composition.

Some unusual workflows may also call for rendering using the optional “d3_direct_fromPerspective” composition.



PERSPECTIVE TEMPLATE - AE COMP



IMPORT



ADJUST



RENDER

Import your footage into the After Effects project and add it to the "work_perspective" timeline.

Create your content using the "persp_mask" layer to preview the effect on the building.

Disable the "persp_mask" layer for final render.

There are two output options. They are explained on the next page.

PERSPECTIVE TEMPLATE - RENDERING

PERSPECTIVE

1576 x 6240



Rendered directly from the "work_perspective" timeline.

This will be used in most circumstances.

There are two render formats. The perspective render is the preferred method for almost all situations.

PIXEL ACCURATE

273 x 12,656



Rendered using the "d3_direct_fromPerspective" timeline.

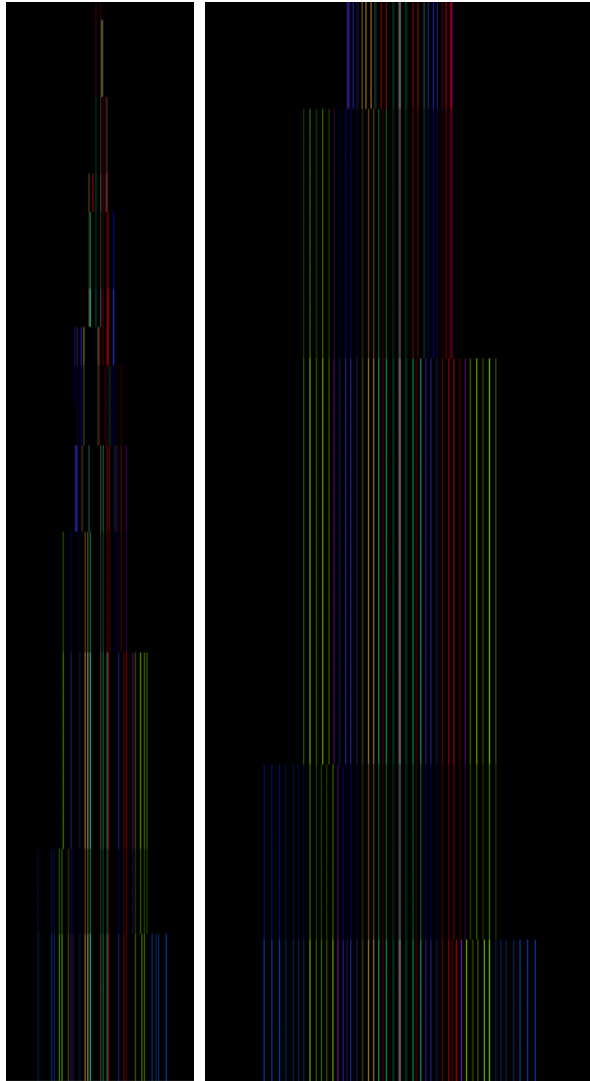
This will be used only when the goal is to combine or composite perspective content with pixel-accurate content.

PARALLEL VIEW TEMPLATE

PARALLEL VIEW TEMPLATE

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This pixel-accurate template maps individual pixels from the video content files to individual LEDs on the Burj Khalifa.

It is much more complex to use, and requires significant technical expertise to achieve visually compelling results.

It should only be used when a precise and specific effect (for example an architectural highlight) is required.

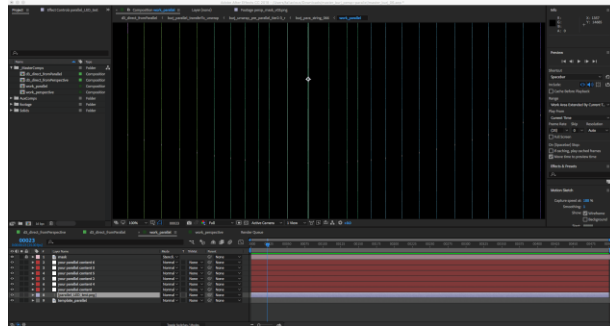


PARALLEL VIEW TEMPLATE



PNG MASK WITH ALPHA

This illustrates the required pixel mapping. No preview is possible using this file.



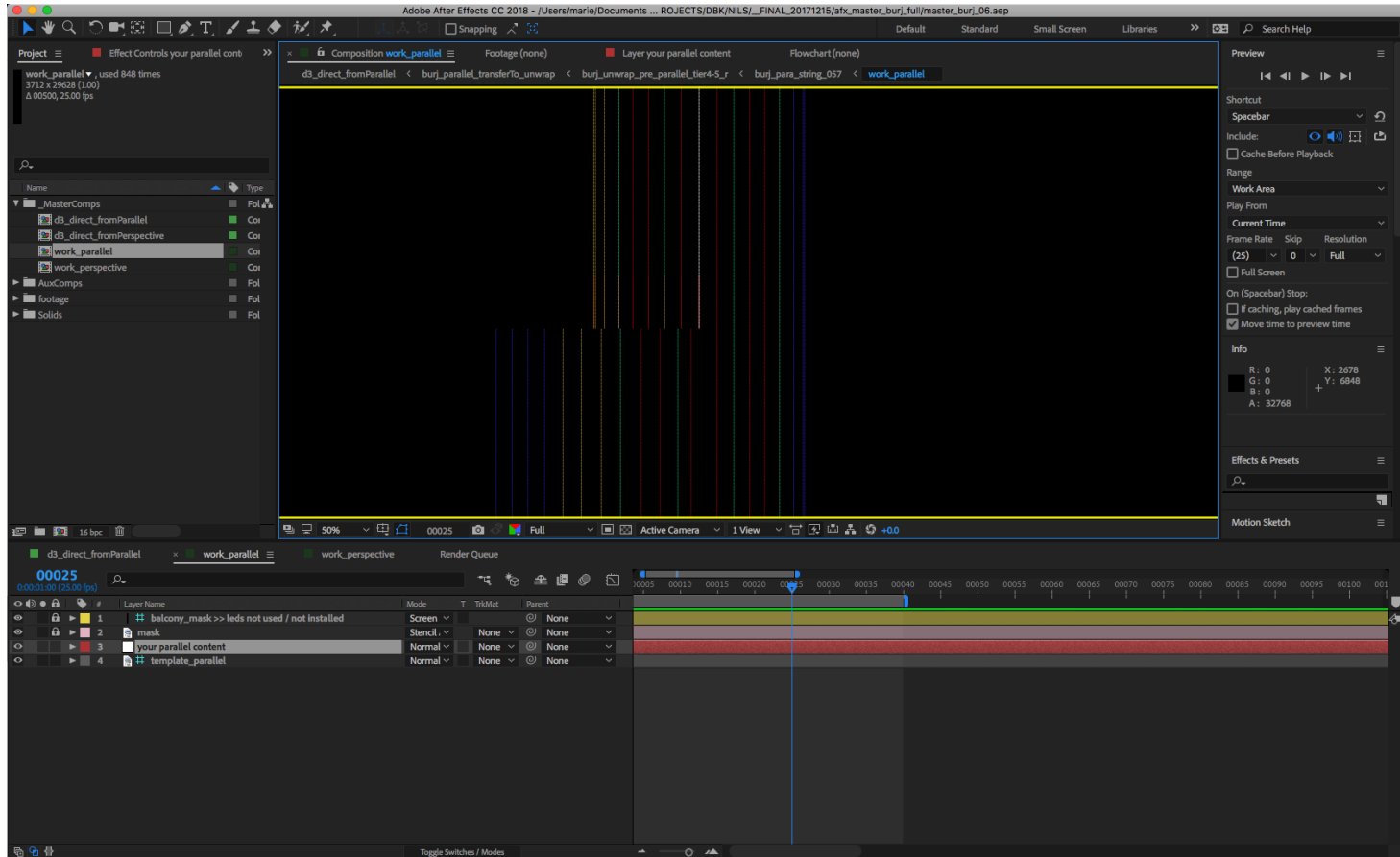
AFTER EFFECTS COMPOSITION

A preconfigured After Effects composition is set up with timelines to support content creation. This closely replicates the physical layout and spacing of the LED lights installed on the Burj Khalifa.

PARALLEL VIEW TEMPLATE - AE COMP

This template uses the “work_parallel” composition for content creation.

The “d3_direct_fromParallel” composition must be used for final output.

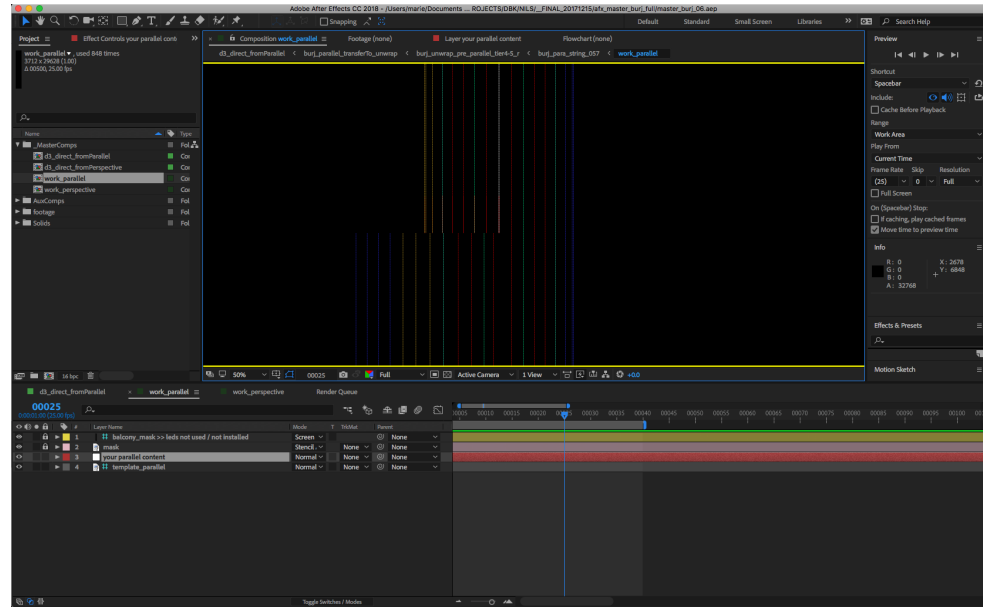


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PARALLEL VIEW TEMPLATE - AE COMP



IMPORT

Bring your footage into the After Effects project and add it to the "work_parallel" timeline.



ADJUST

Create your content in the composition.



RENDER

Renders must be made using the "d3_direct_fromParallel" composition which packs the content into the required playback format.

PARALLEL VIEW TEMPLATE - RENDERING

PIXEL ACCURATE

273 x 12,656



Rendered using the "c3_direct_fromParallel" timeline.

RENDERS - SPECIFICATIONS AND SETTINGS

FRAME RATE	30 FPS
INTERLACING	Non interlace video
FORMAT	Quicktime movie (.MOV)
CODEC	HAP HAP with audio (44.1 or 48kHz uncompressed stereo) <i>* Do not deliver assets in HAP-Q with Alpha</i>
MANAGING QUALITY	For motion graphics content with gradients we recommend to add 3% colour noise before final renders. This makes gradients and colour reproduction better in the HAP codec.