

Special Effects

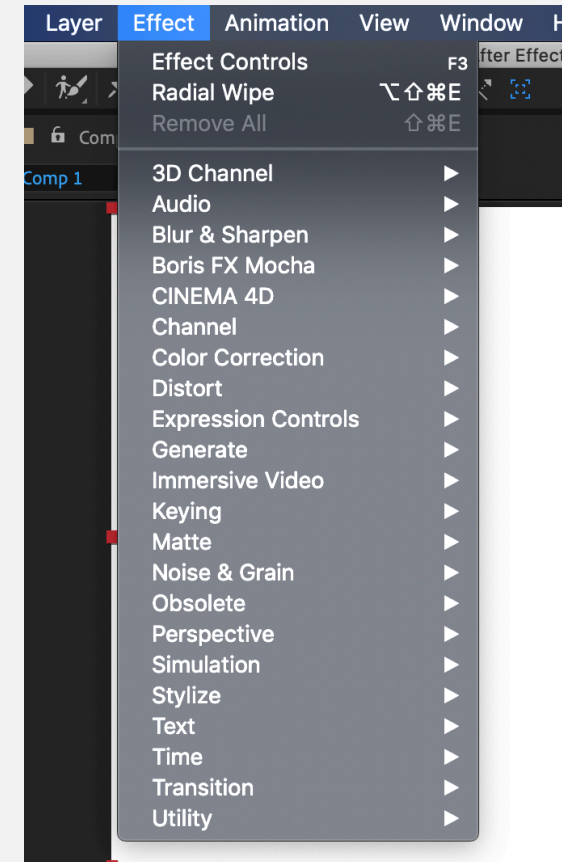
- The Effects of After Effects
- Applying Textures

Effect Types

After Effects, as the name implies, hosts the largest collection of effects for 2D and 3D visual and audial data.

The program ships with nearly a hundred different plugins, hundreds of presets, and thousands of different plugins ranging from free,

Effects are meant for either **audio** or **video** tracks. Audio effects can be applied to layers with audio such as mp3 and mp4 footage, while video effects can be applied to shape, solid, adjustment, image, and video layers.



Effects Drop-Down

Effect Types

3D Channel holds all 3D identification & generation effects.

Audio holds all audio-based effects.

Blur & Sharpen holds all blur and de-blur effects.

Channel holds all blend-property effects.

Color Correction holds all color manipulation effects.

Distort holds all visual warp and distortion effects.

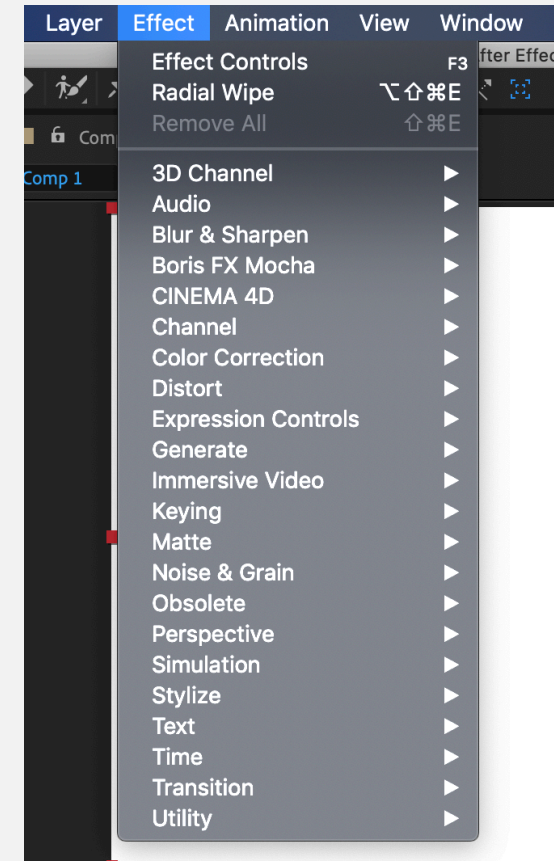
Expression Controls create new parameters for mapping to. Used mostly with scripting.

Generate holds all light, shape, and solid generation effects.

Immersive Video holds all VR effects.

Keying holds all key and extraction effects.

Noise & Grain holds all pseudorandom noise generators.



Effects Drop-Down

Effect Types

Obsolete holds all legacy effects.

Perspective holds all 3D perspective effects for 2D layers.

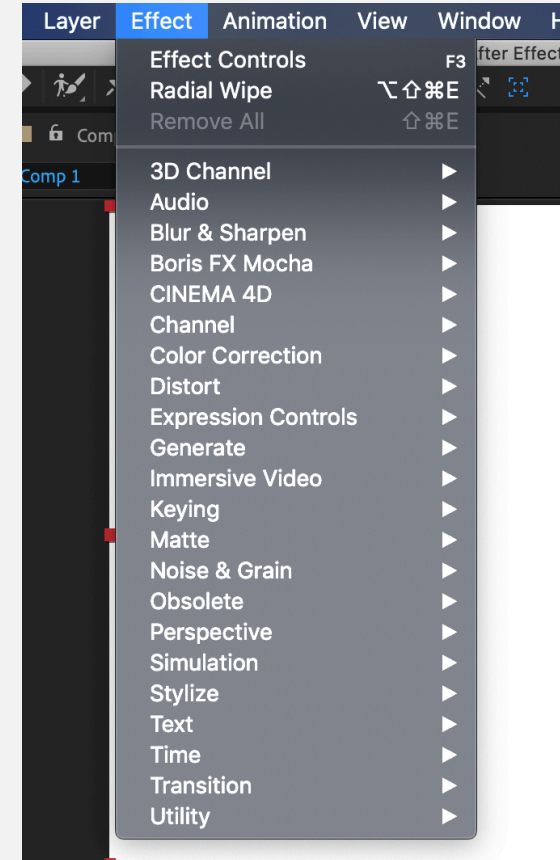
Simulation holds all weather and particle simulation generating effects.

Stylize holds all visual enhancing effects.

Text holds all typography effects.

Time holds all advanced time remapping and motion blur effects.

Transition holds all visual transition effects.



Effects Drop-Down

Modifying Effects

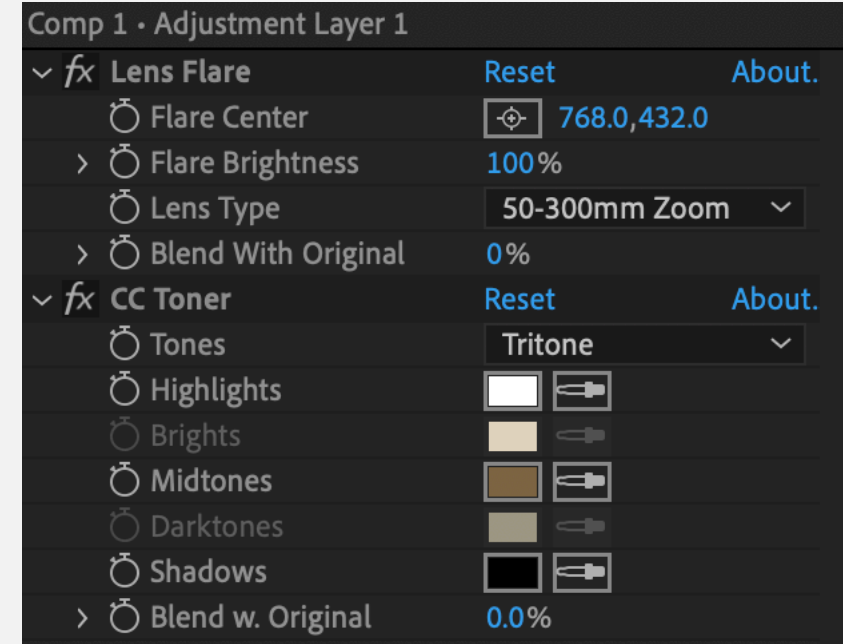
Effects have parameters that are **keyframe-able**. These parameters appear in the Effects Control panel, and their keyframes can be edited in the timeline.

Effects in the Effects Control Panel obey a **stack-like** execution: Effects closer to the top are rendered first.

In the example shown, the lens flare generated will have a brown base color with white highlights and black shadows. The lens flare is generated first, and its color scheme is mapped to the tritone defined below it.

Effects also feature a **toggle switch** in the form of a "fx" checkbox. Toggling can help isolate effects for debugging.

The best way to get acquainted with all these effects is to try them out!



Effects Control

Third-Party Effects

Many independent companies and studios produce their own effects. These range from personal projects to high-budget graphics research implementations that are must-haves to any professional editor.

Redgiant's Trapcode is one of the most powerful vfx plugins in After Effects used to create dynamic particle simulations for any environment. Be careful, the only thing more powerful than the effect is the price!

Video Copilot's Optical Flare is an extension to the single lens flare effect where you can build thousands of different lens flares from flare elements.

Rowbyte's Plexus allows you to create mesh-like dynamics and particle systems.

Motion Boutique's Newton 2D physics engine lets you create quick and easy animations for your primitives.



Trapcode Particular, one of the most powerful vfx

Creating Plugins

After Effects provides its own **SDK** (C++) for creating custom plugins.

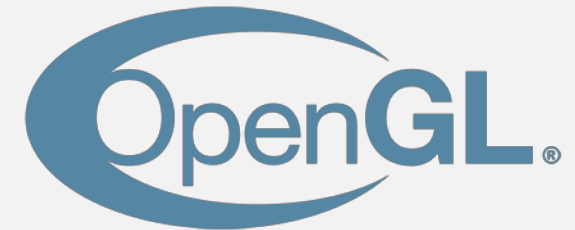
C++ has historically been the go-to language for computer graphics. Many popular frameworks (OpenGL, Vulkan) are built in C++.

The AE SDK is **built on OpenGL** and requires programming knowledge of the framework. The benefit is that it gives you closer access to hardware such as memory management. The downside is that OpenGL has a steep learning curve.

More about this during the Expressions and Scripting Lecture.

Learn more about the After Effects SDK:

<https://www.adobe.io/apis/creativecloud/aftereffects.html>



• ~~The Effects of After Effects~~

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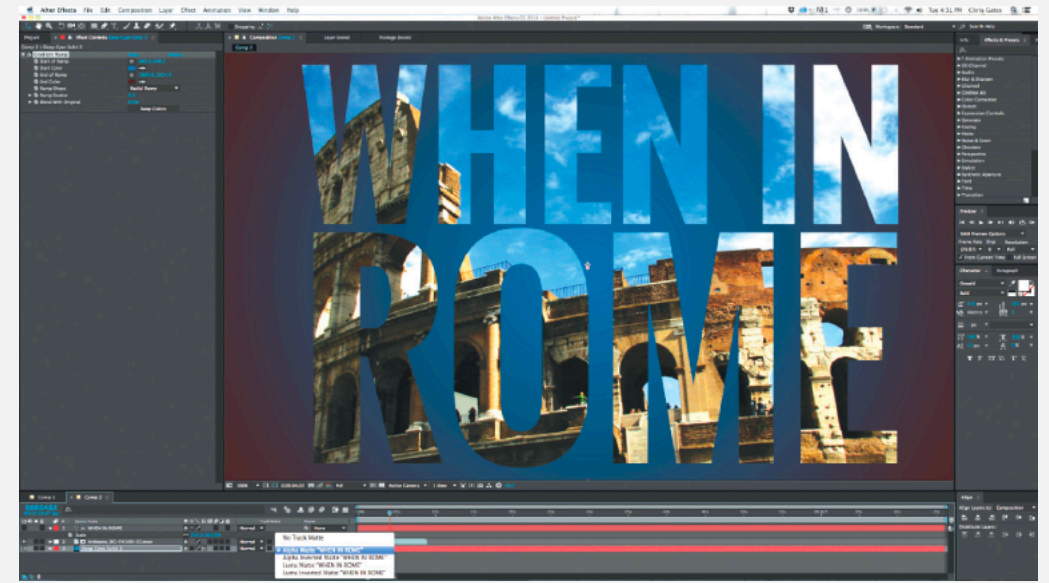
Mattes

A **matte** is an image used to program the transparency of another image, often acting as a static or dynamic mask for another layer depending on if the matte layer is an image or video.

After Effects has two types of mattes: **alpha matte** and **luma matte**.

Luma Matte uses the luminosity values of a layer to mask the layer underneath it.

Alpha Matte uses the alpha values of a layer to mask the layer underneath it.



Alpha Matte Typography on Video Footage

Blend Modes

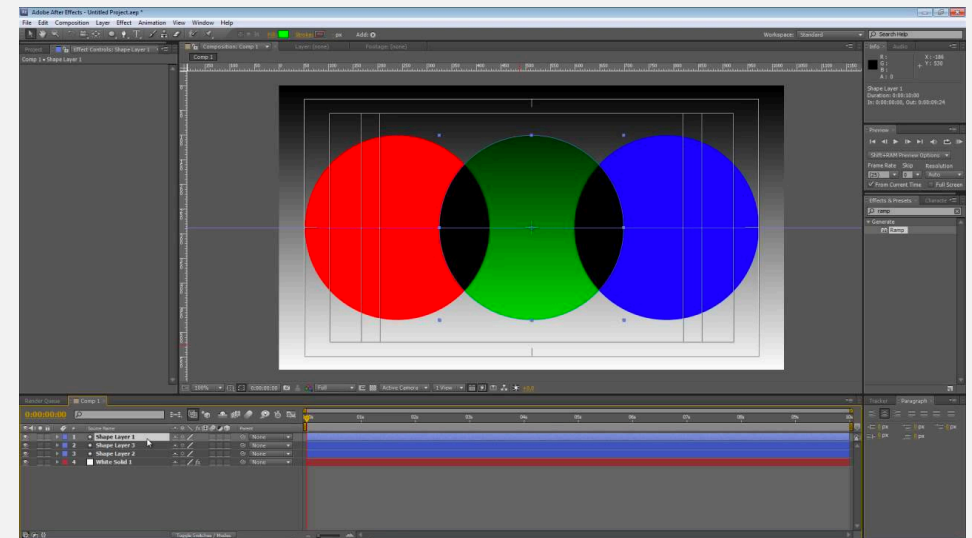
Blending Modes define the way a layer's alpha and luminosity should interact with layers below it.

Normal Category: Options are Normal, Dissolve, and Dancing Dissolve. The result color of a pixel is not affected by the color of the underlying pixel unless Opacity is less than 100% for the source layer.

Subtractive Category: Options include Darken, Multiply, Color Burn, Classic Color Burn, Linear Burn, and Darker Color. These blending modes tend to darken colors.

Additive Category: Options are Add, Lighten, Screen, Color Dodge, Classic Color Dodge, Linear Dodge, and Lighter Color. These blending modes tend to lighten colors.

Complex Category: Options include Overlay, Soft Light, Hard Light, Linear Light, Vivid Light, Pin Light, and Hard Mix. These blending modes perform different operations on the source and underlying colors depending on whether one of the colors is lighter than 50% gray.



Darken Blend Mode

Blend Modes

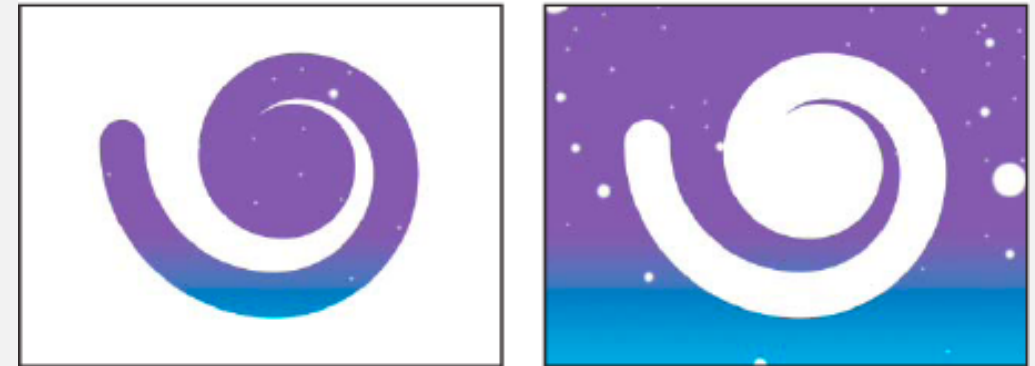
Blending Modes define the way a layer's alpha and luminosity should interact with layers below it.

Difference Category: Options include Difference, Classic Difference, Exclusion, Subtract, and Divide. These blending modes create colors based on the differences between the values of the source color and the underlying color.

HSL Category: Options include Hue, Saturation, Color, and Luminosity. These blending modes transfer one or more of the components of the HSL representation of color from the underlying color to the result color.

Matte Category: Options include Stencil Alpha, Stencil Luma, Silhouette Alpha, and Silhouette Luma. These blending modes essentially convert the source layer into a matte for all underlying layers.

Read More at <https://helpx.adobe.com/after-effects/using/blending-modes-layer-styles.html>



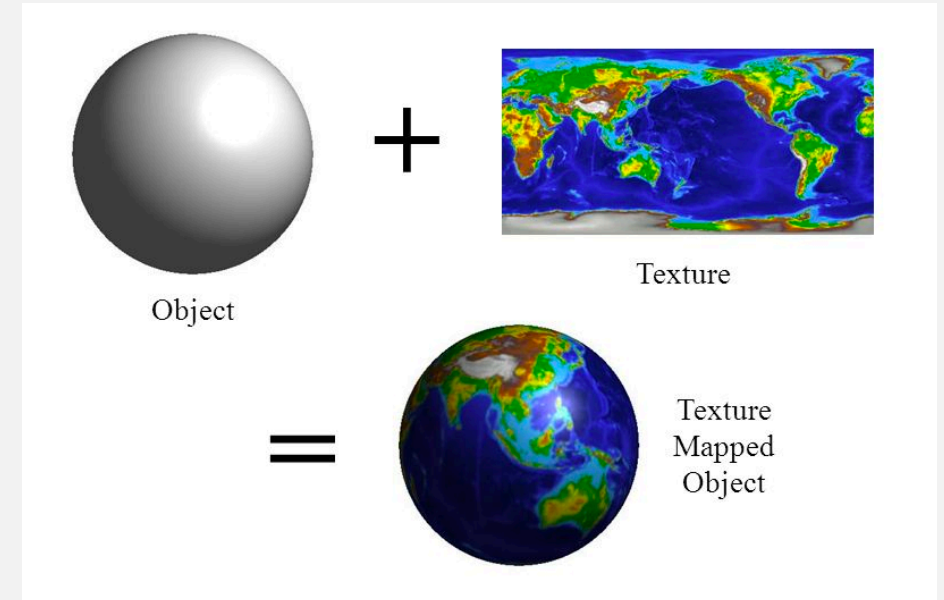
Stencil Blend Mode

Texture Mapping

Texture Mapping is the process of mapping color, depth or alpha information from a 2D image to a 2D or 3D model. The mapping is defined by binding edges from the 2D texture to locations on the model.

The texture can be interpolated using one of multiple strategies: **linear**, **bilinear**, or **trilinear**. Bilinear is the most common strategy, involving the sampling of nearby pixels of a texture and weighting them together to estimate the texture value at a particular location.

In Video Editing, most layers are 2D. Textures are rendered on top of base layers with a user-defined blend mode between the texture and base. The texture is parented to the base so that it follows the base layer as one object.



3D Texture Mapping

Homework

- ❑ Begin working on Final Course Project.
- ❑ Take one or more concepts learned from this course to create your own animation. The expectation is that you have a rough storyboard or animatic of a few panels before moving on to the actual animation.
- ❑ You are allowed to incorporate found assets and footage so long as they are credited somewhere in the animation. You are also free to use any software, although help will only be provided for the list of software covered in this course.
- ❑ You should turn in a video file (audio is optional but appreciated) onto the course Drive.

Questions?

Live Demo