

About compositions

A composition is the framework for a movie. A typical composition includes multiple layers that represent components such as video and audio footage items, animated text and vector graphics, still images, and lights. You add a footage item to a composition by creating a layer for which the footage item is the source. You then arrange layers within a composition in space and time, and composite using transparency features to determine which parts of underlying layers show through the layers stacked on top of them. You render a composition to create the frames of a final output movie, which is encoded and exported to any number of formats.


Simple projects may include only one composition; complex projects may include hundreds of compositions to organize large amounts of footage or many effects.

In some places in the After Effects user interface, composition is abbreviated as comp.

Use the Composition panel to preview a composition and modify its contents manually. The Composition panel contains the composition frame and a pasteboard area outside the frame that you can use to move layers into and out of the composition frame. The offstage extents of layers—the portions not in the composition frame—are shown as rectangular outlines. Only the area inside the composition frame is rendered for previews and final output.

Each composition has an entry in the Project panel. Double-click a composition entry in the Project panel to open the composition in its own Timeline panel. To select a composition in the Project panel, right-click (Windows) or Control-click (Mac OS) in the Composition panel or Timeline panel for the composition and choose Reveal Composition In Project from the context menu.

About Animation

1. Move the current-time indicator to the time where you want to begin the animation.
2. Set the layer property to the value you want at that point in time; for example, move the layer to a new position.
3. Do one of the following:
 - Click the Stopwatch icon  next to the property name to activate it. After Effects creates a keyframe at the current time for that property value.
4. Move the current-time indicator to the time where you want to add an additional keyframe.
5. Change the value for the property in the layer outline.
6. Repeat steps 4 and 5 as many times as you want to add more keyframes.

About rendering and exporting

7. *Rendering* is the creation of the frames of a movie from a composition. The rendering of a frame is the creation of a composited two-dimensional image from all of the layers, settings, and other information in a composition that make up the model for that image.

The rendering of a movie is the frame-by-frame rendering of each of the frames that make up the movie. For more information on how each frame is rendered,

8. Though it is common to speak of *rendering* as if this term only applies to final output, the processes of creating previews to show in the Footage, Layer, and Composition panels are also kinds of rendering.
9. After a composition is rendered for final output, it is processed by one or more output modules that encode the rendered frames into one or more output files. This process of encoding rendered frames into files for output is one kind of *exporting*.

The Render Queue panel

In the Render Queue panel, you can manage several render items at once, each with its own render settings and output module settings. Render settings determine such characteristics as output frame rate, duration, resolution, and layer quality. Output module settings—which are applied after render settings—determine such post-rendering characteristics as output format, compression options, cropping, and whether to embed a link to the project in the output file. You can create templates that contain commonly used render settings and output module settings.

Using the Render Queue panel, you can render the same composition to different formats or with different settings, all with one click of the Render button:

- You can output to a sequence of still images, such as a Cineon sequence, which you can then transfer to film for cinema projection.
- You can output using lossless compression (or no compression) to a QuickTime container for transfer to a non-linear editing (NLE) system for video editing.
- You can output to H.264 or another highly compressed format for playback on mobile devices such as cellular phones or the Apple iPod.
- You can output to MPEG-2 for playback from DVD.

Clone Stamp tool

- You can use the Clone Stamp tool to copy pixel values from one place and time and apply them at another place and time. For example, you can use the Clone Stamp tool to remove wires by copying from a clear patch of sky, or you can create a herd of cows from one cow in the source footage and offset the copies in time. The Clone Stamp tool samples the pixels from a *source* layer and applies the sampled pixel values to a *target* layer; the target layer can be the same layer or a different layer in the same composition. If the source layer and target layer are the same, the Clone Stamp tool samples paint strokes and effects in the source layer, in addition to the layer source image. As with all paint tools, you use the Clone Stamp tool in the Layer panel.

Color correction and adjustment

When you assemble a composition, you often need to adjust or correct the colors of one or more of the layers. Such adjustments can be for any of several reasons. Some examples:

- You need to make it seem as if multiple footage items were shot under the same conditions so that they can be composited or edited together.
- You need to adjust the colors of a shot so that it seems to have been shot at dusk instead of noon.
- You need to adjust the exposure of an image to recover detail from the over-exposed highlights.
- You need to enhance one color in a shot because you will be compositing a graphic element over it with that color.
- You need to restrict colors to a particular range, such as the broadcast-safe range.

Layer

Layers are the elements that make up a composition. Without layers, a composition is only an empty frame. Use as many layers as necessary to create your composition. Some compositions contain thousands of layers,

Layers in After Effects are similar to tracks in Adobe Premiere Pro. The primary difference is that each After Effects layer can have no more than one footage item as its source, whereas a Premiere Pro track typically contains multiple clips. Layers in After Effects are also similar to layers in Photoshop, though the interface for working with layers differs. Working with layers in the Timeline panel in After Effects is similar to working with layers in the Layers panel in Photoshop.

You can create several kinds of layers:

- Video and audio layers that are based on footage items that you import, such as still images, movies, and audio tracks
- Layers that you create within After Effects to perform special functions, such as cameras, lights, adjustment layers, and null objects
- Solid-color layers that are based on solid-color footage items that you create within After Effects
- Synthetic layers that hold visual elements that you create within After Effects, such as shape layers and text layers
- Precomposition layers, which use compositions as their source footage items

About imported files and footage items

You import source files into a project as *footage items* and use them as sources for *layers*. The same file can be the source for multiple footage items, each with its own interpretation settings. Each footage item can be used as the source for one or more layers. You work with collections of layers in a *composition*.

You work with footage items in the Project panel.

You can import many different kinds of files, collections of files, or components of files as sources for individual footage items, including moving image files, still-image files, still-image sequences, and audio files. You can even create footage items yourself within After Effects, such as solids and precompositions. You can import footage items into a project at any time.

When you import files, After Effects does not copy the image data itself into your project but creates a reference link to the source of the footage item. This keeps project files relatively small.

Supported import formats

Audio formats

- Adobe Sound Document (ASND; multi-track files imported as merged single track)
- Advanced Audio Coding (AAC, M4A)
- Audio Interchange File Format (AIF, AIFF)
- MP3 (MP3, MPEG, MPG, MPA, MPE)
- Video for Windows (AVI, WAV; requires QuickTime on Mac OS)
- Waveform (WAV)

Still-image formats

- Adobe Illustrator (AI, AI4, AI5, EPS, PS; continuously rasterized)
- Adobe PDF (PDF; first page only; continuously rasterized)
- Adobe Photoshop (PSD)
- Bitmap (BMP, RLE, DIB)
- Camera raw (TIF, CRW, NEF, RAF, ORF, MRW, DCR, MOS, RAW, PEF, SRF, DNG, X3F, CR2, ERF)
- Cineon (CIN, DPX; converts to project color bit depth: 8, 16, or 32 bpc)
- Discreet RLA/RPF (RLA, RPF; 16 bpc, imports camera data)
- EPS
- GIF
- JPEG (JPG, JPE)
- PCX

- PICT (PCT)
- Pixar (PXR)
- Portable Network Graphics (PNG; 16 bpc)
- Radiance (HDR, RGBE, XYZE; 32 bpc)
- SGI (SGI, BW, RGB; 16 bpc)
- Softimage (PIC)
- Targa (TGA, VDA, ICB, VST)
- TIFF (TIF)

You can import files of any still-image format as a sequence. See [Preparing and importing still images](#).

Video and animation formats

- Animated GIF (GIF)
- DV (in MOV or AVI container, or as containerless DV stream)
- Electric Image (IMG, EI)
- Filmstrip (FLM)
- MPEG-1, MPEG-2, and MPEG-4 formats (MPEG, MPE, MPG, M2V, MPA, MP2, M2A, MPV, M2P, M2T, AC3, MP4, M4V, M4A)
- Open Media Framework (OMF; raw media [or essence] only; Windows only)
- PSD file with video layer (requires QuickTime)
- QuickTime (MOV; 16 bpc, requires QuickTime)

About motion tracking

With motion tracking, you can *track* the movement of an object and then apply the tracking data for that movement to another object—such as another layer or an effect control point—to create compositions in which images and effects follow the motion. You can also stabilize motion, in which case the tracking data is used to animate the tracked layer to compensate for movement of an object in that layer. You can link properties to tracking data using expressions, which opens up a wide variety of uses.

After Effects tracks motion by matching image data from a selected area in a frame to image data in each succeeding frame. You can apply the same tracking data to different layers or effects. You can also track multiple objects in the same layer.

Uses for motion tracking and stabilization

Motion tracking has many uses. Here are some examples:

- Combining elements filmed separately, such as adding video to the side of a moving city bus or a star to the end of a sweeping wand.

- Animating a still image to match the motion of action footage, such as making a cartoon bumblebee sit on a swaying flower.
- Animating effects to follow a moving element, such as making a moving ball glow.
- Linking the position of a tracked object to other properties, such as making stereo audio pan from left to right as a car races across the screen.
- Stabilizing footage to hold a moving object stationary in the frame to examine how a moving object changes over time, which can be useful in scientific imaging work.
- Stabilizing footage to remove the jostling of a handheld camera.

About effects

After Effects includes a variety of effects, which you apply to layers to add or modify characteristics of still images, video, and audio. For example, an effect can alter the exposure or color of an image, add new visual elements, manipulate sound, distort images, remove grain, enhance lighting, or create a transition.

Effects are sometimes mistakenly referred to as filters. The primary difference between a filter and an effect is that a filter permanently modifies an image or other characteristic of a layer, whereas an effect and its properties can be changed or removed at any time. In other words, filters operate destructively, and effects operate non-destructively. After Effects uses effects exclusively, so changes are non-destructive. A direct result of the ability to change the properties of effects is that the properties can be changed over time, or animated.

You browse and apply effects using the Effects & Presets panel. You modify effect properties using the Effect Controls panel or Timeline panel or by moving effect control points in the Layer panel or Composition panel.

You can apply multiple instances of the same effect to a layer, rename each instance, and set the properties for each instance separately.

