



## 5. ADOBE® AFTER EFFECTS MANUAL

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Introduction to Adobe® After Effects

Version 1.0-0913



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General Notice: Product names used in this manual are ascribed to their respective owners and acknowledged.

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## I. INTRO TO AFTER EFFECTS - BASIC OVERVIEW

Adobe® After Effects is a powerful post-production tool used to create animation and video elements. It can be used to create and manipulate stand-alone videos, animations and produce realistic special effects. For our purposes, we will use After Effects to edit and key green screen footage to use in VirTra's V-Author™ software tool.

The first step involves removing the background from video which is referred to as **“Keying.”** This allows remaining elements and characters to be placed in multiple environments while building scenarios.

The next step is to output each character behavior separately in a process called **“rendering”**. This involves locating a character's behavior and rendering out each to a specific file location for later use.

Before we dive further into details, let's become familiar with the Adobe® After Effects general user interface.

## II. WORKSPACE AND PANELS

There are several panels which make up the general user's interface. For this purpose, I will only cover the panels necessary to successfully create characters for use in the V-Author™ software.

There are **SIX** main panels to remember. It's important that the user is familiar with these panels.

- |                  |                              |
|------------------|------------------------------|
| 1. Menu Bar      | 4. Composition Panel         |
| 2. Tool Bar      | 5. Layers and Timeline Panel |
| 3. Project Panel | 6. Preview Panel             |

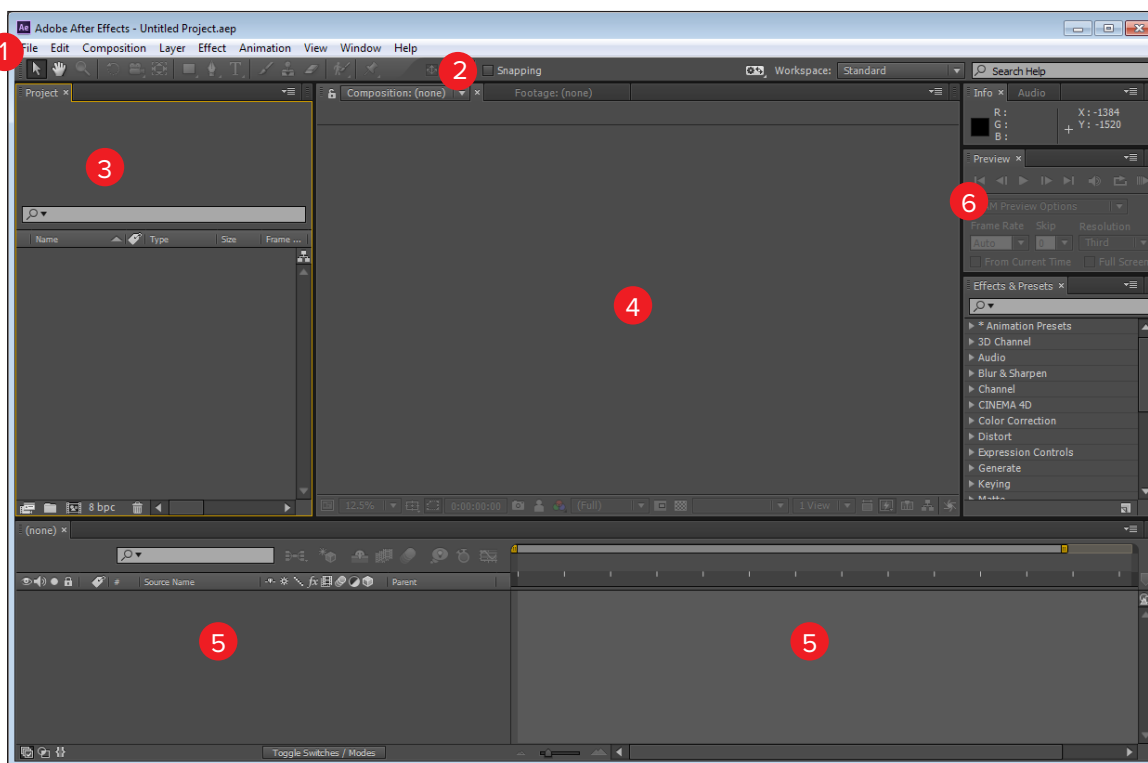


Fig. 01: Adobe® After Effects User Interface

## 1. MENU BAR

The **Menu Bar** is located at the very top and is similar to all other menu bars in other programs. Some features are stored in the same menu items as in other Adobe® products.

Below is a breakdown list of the **Menu Bar** items and its many different functions.

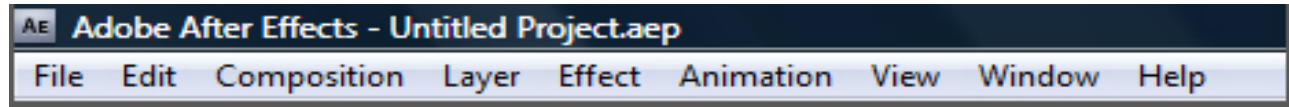


Fig. 02: Menu Bar

<b>FILE</b>	The <b>File</b> menu contains a list of options to choose from. Options such as: open an existing project, save a current project, create a new project, import video and art elements, and also export character information to use within the V-Author™ software. <b>Always remember to save your project frequently!</b>
<b>EDIT</b>	The <b>Edit</b> option contains a list of preferences and of course all the undo, redo and editable features.
<b>COMPOSITION</b>	The <b>Composition</b> option is used to add a project to render and also used to create a new composition. You may have multiple compositions open within one project.
<b>LAYER</b>	After Effects works with <b>Layer</b> . The Layer options is used create, edit or arrange your layers.
<b>EFFECT</b>	The <b>Effect</b> option is exactly what it states. Here you can choose options to add and edit effects.
<b>ANIMATION</b>	The <b>Animation</b> option allows you to create animations and apply them to layers in your project.
<b>VIEW</b>	The <b>View</b> option allows you to show and hide elements such as rulers, grids and guides.
<b>WINDOW</b>	The <b>Window</b> option allows you to arrange the workspace enabling and disabling panels.
<b>HELP</b>	For issues/problems not covered in this manual, you may use the <b>Help</b> option for additional support.

## 2. TOOL BAR

The **Tool Bar** is located underneath the **Menu Bar** at the top. It contains a list of edit and selection tools which can be used in After Effects. By clicking and holding the little triangle on the bottom-right-side you can reveal other related tools.

For training purposes, we'll only focus on the tools necessary to achieve the objective. There are **TWO** main tools to become familiar with.



Fig. 03: Tool Bar

1. **SELECTION** The only tool used for the first part of training. It acts as a mouse pointer, allowing you to select elements within the After Effects workspace.
2. **PEN TOOL** The **PEN** tool allows you to create points that connect to create shapes. For our purpose, we use this tool to create masks which is explained in detail later.

## 3. PROJECT PANEL

Once you have imported assets into an After Effects project, they will appear in the **Project Panel**. Assets here are used to create a new composition or added to a current working composition. This panel also allows you to create folders and organize your assets into categories such as video, photos, art etc. **ALL** compositions created will appear in this panel as well.

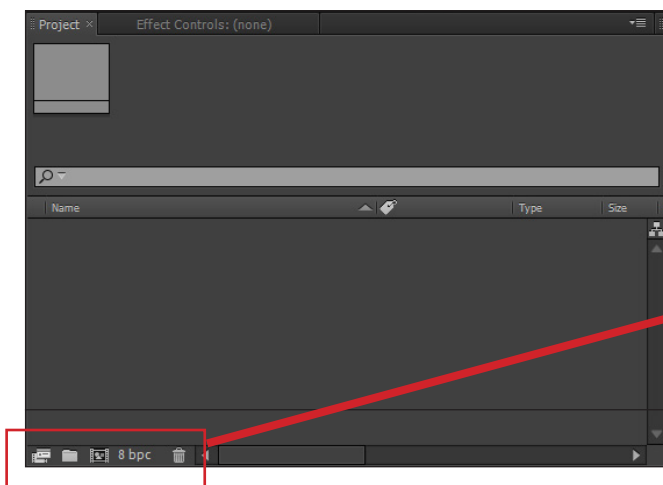


Fig. 04: Project Panel

Notice there are button selections arranged here at the bottom. These allow you to create folders to organize imported assets, create compositions with those assets and delete unwanted assets.



1. Creates a new Folder
2. Creates a new Composition
3. Deletes assets from the Project Panel

### 3A. IMPORT ASSETS INTO THE PROJECT PANEL

Before creating a composition, which holds our media like videos, images or audio files, we need to import those files into the project first.

There are several ways to import assets to the **Project Panel**.

1. From the **Menu Bar: File > Import**
2. Keyboard shortcut: **CTRL+ I**
3. Double-click on the **Project Panel** and the import file window will appear.

### 3B. IMPORT WINDOW

Once you have used one of the possible import options, an import file window will appear. See Fig 05 to the right.

You can select single or multiple files at a time to import.

To import multiple files, hold the **Ctrl** button down while you click and select the files you wish to import. Click **Open** to import. They will appear in the **Project Panel**.

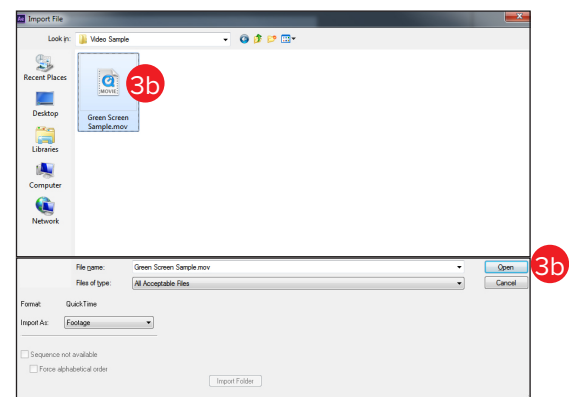


Fig. 05: Import Window

### 3C. FILES IN THE PROJECT PANEL

As you can see on Fig 06, After Effects gives us information about the file we just imported. They include many of its properties including the file name, type, size and more.

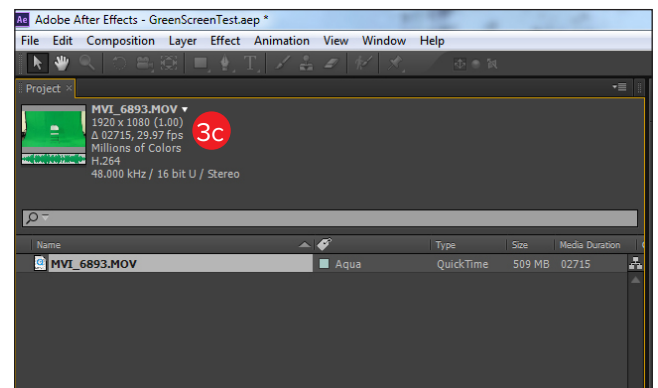


Fig. 06: File imported to Project Panel and its properties.

### 4D. RENAMING FILES IN PROJECT PANEL

You can change the name of any file listed in the **Project Panel** by clicking on the file name and pressing the **Enter** key. Changing the name in the **Project Panel** does not change the file's real name. The original files aren't imported into the project, they are just linked. We will talk about this later in the course of the tutorial.

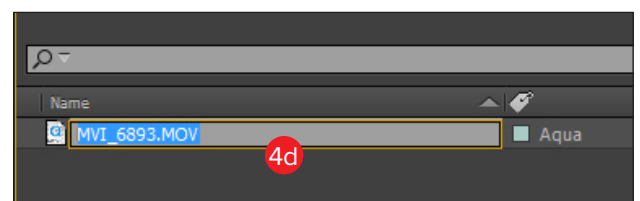


Fig. 07: Hit Enter to change the name of the file.

## 4. COMPOSITION PANEL

Once a composition is created with media from the **Project Panel**, its contents are previewed within this panel. This allows you to preview any video or animation in the composition you are working on using playback controls discussed later on **Section 6: Preview Panel**.

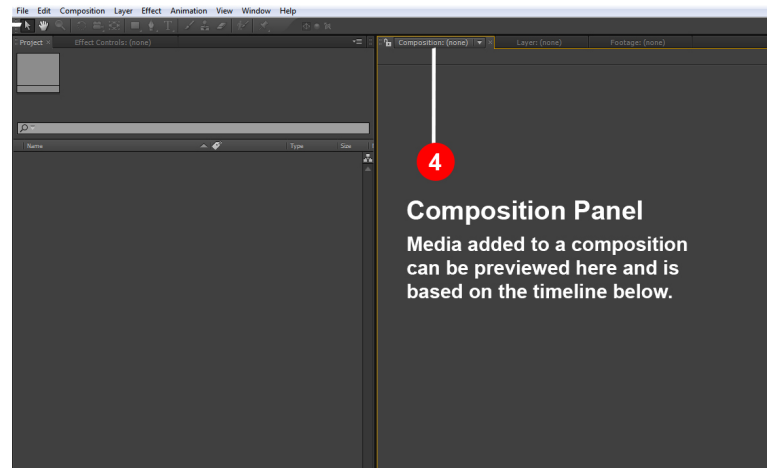


Fig. 08: Composition Panel

### 4A. CREATE A NEW COMPOSITION

A composition is a project created within After Effects that stores any media placed within it. Also, there is no limit to the amount of compositions you can create within one After Effects project.

There are several ways to create a new composition. The most effective way is to **drag & drop** files from the **Project Panel** to the **Composition Panel**. After Effects creates a composition based on the file it now contains.

All compositions contain information such as the size of the composition, the type of resolution, aspect ratio, frame rate, duration and so on. This information is created from the asset used to create the composition.

1. Drag footage from **Project Panel** to **Composition Panel**.
2. A new composition is created from that file will appear in the **Project Panel**.
3. The file will also appear in the **Layers & Timeline Panel**.

See Fig. 09 to the right.

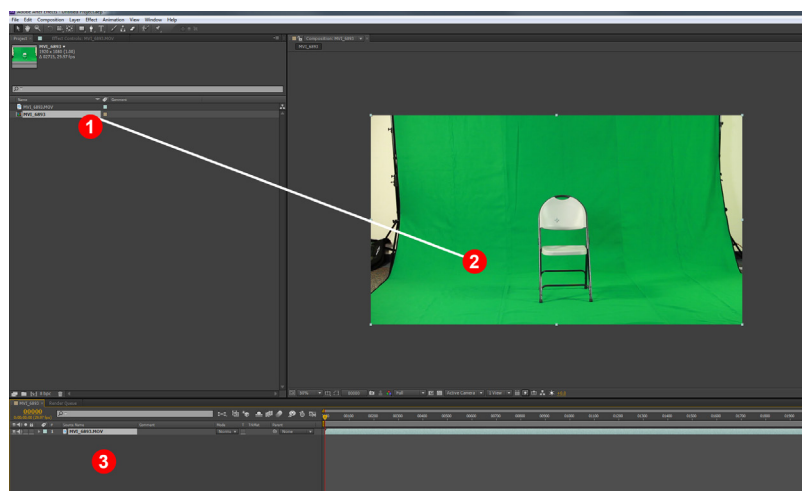


Fig. 09: Creating a New Composition

Once a composition is created, you can continue adding assets to it by simply dragging them from the **Project Panel** down to the **Layers & Timeline Panel**.



#### 4B. NEW COMPOSITIONS APPEAR IN PROJECT PANEL

Take a look at the **Project Panel** in Fig. 10 below. Notice how there is a new file within this panel. This is the composition file created by dragging and dropping the movie asset to the **Composition Panel**. The name of the composition takes the name of the asset used to create it.

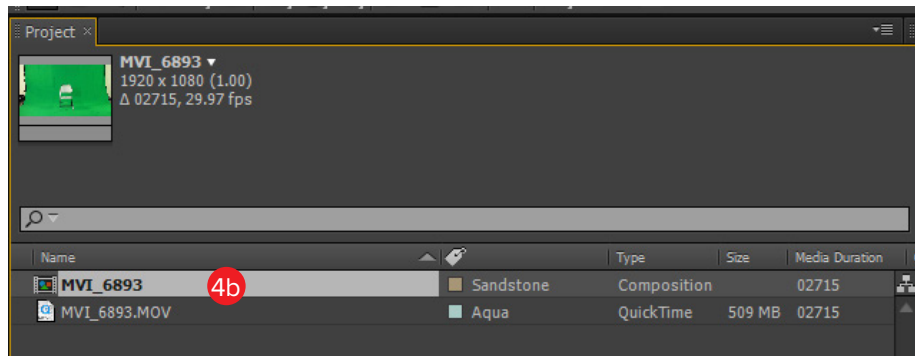


Fig. 10: New composition file in the Project Panel.

To change the composition name, click on the file listed in the **Project Panel** and press the **Enter** key. Or you may do so within the composition settings explained next.

#### 4C. COMPOSITION SETTINGS

There are a couple ways to view information about the composition.

1. Menu bar > Composition > Composition Settings
2. CTRL + K

Once open, you are given the ability to change the composition name, size, duration, etc... In most cases, you will want to keep the size of the composition the size of the asset which created it.

You can also create a composition without adding media to it first. This gives you the ability to set up your own parameters, having full control of the composition outcome.

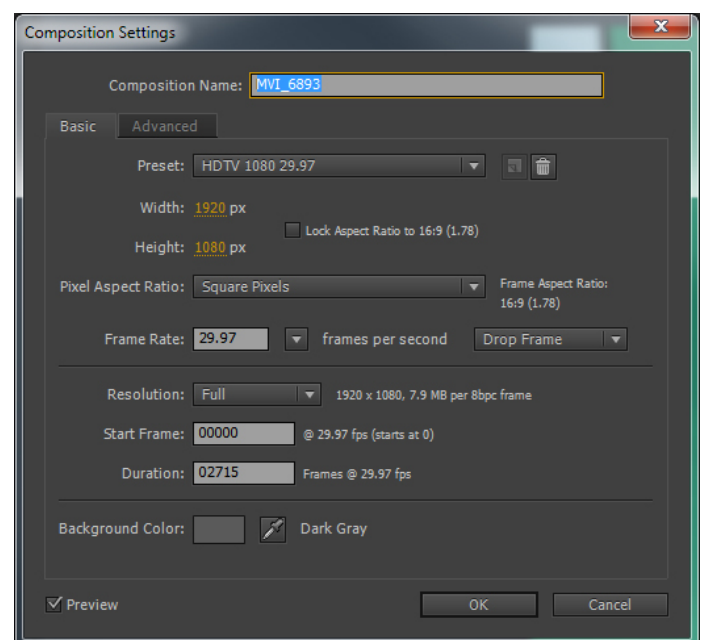


Fig. 11: Composition Settings window.

## 5. LAYERS AND TIMELINE PANEL

Once a composition is created, the asset used will show up in the Layers & Timeline Panel below. There are several uses for this panel such as organizing media based on time and layers structure, edit or trim media to adjust timing, add effects, change size, position, rotation, apply transparency, audio adjustments and even apply animation parameters to create moving assets.

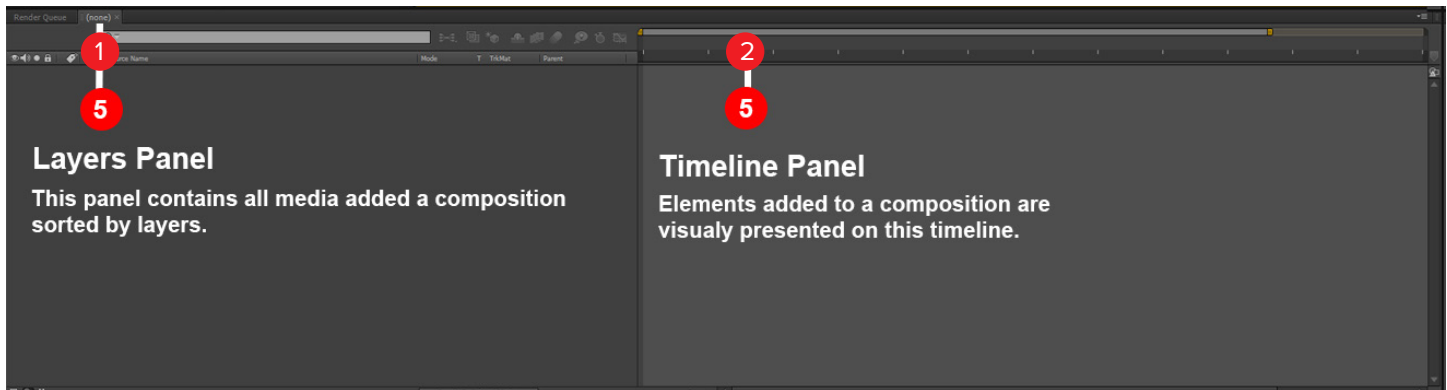


Fig. 12: Layers and Timeline Panel

1. **LAYERS PANEL** The Layer Panel contains all media added to a composition and is sorted by layers.

2. **TIMELINE PANEL** Elements added to a composition are visually presented on this timeline.

Any footage item can be the source for one or more layers in a composition. You can arrange the layers spatially in Layers & Timeline panel. You can stack layers, use masks, blending modes, and keying tools to composite (combine), the images of multiple layers. You can even use shape layers, text layers, and paint tools to create your own visual elements.

For our purpose, we will only focus on the parameters necessary to create assets for use with the V-Author™ Software.

### 5A. LAYER FEATURES

Each layer has specific icons associated with it. See Fig. 13 to the right.

1. **Hide Layer** The Eye icon located on the far left of the layer controls visibility of a layer. Click and toggle between ON/OFF.
2. **Mute Audio** Mutes audio for that layer. Click the icon to toggle the sound ON/OFF.
3. **Solo Layer** When selected, this feature hides all other layers and solos the layer selected within that composition.
4. **Lock Layer** Prevents layer(s) from being edited.



Fig. 13: Layer Features

## 5B. LAYER DROP DOWN PARAMETERS

There are two areas here that we will use in this guide, Masks and the Transform section.

To reveal the Transform option:

1. Click on the Arrow to the left of the layer.
2. Click the arrow arrow to the left again to reveal the Transform option.
3. Transform option

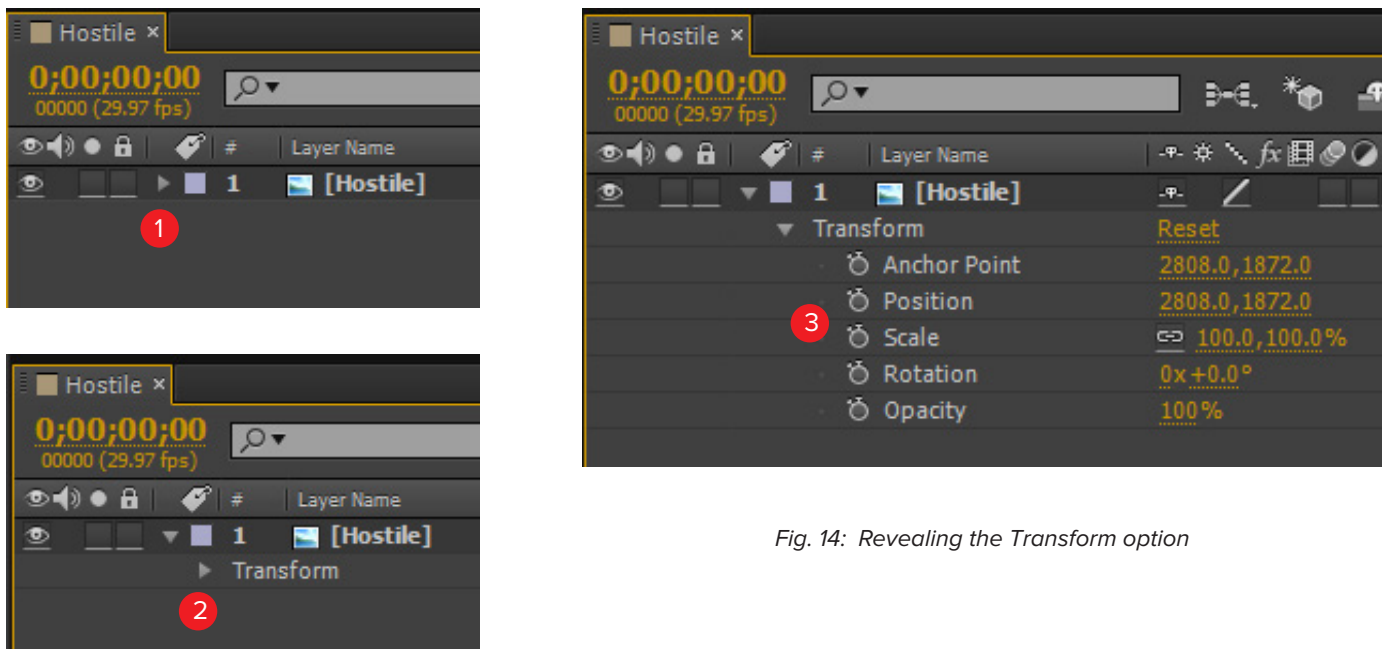


Fig. 14: Revealing the Transform option

### Masks

Masks are used to either add or subtract areas from any layer selected. This can be obtained by using the Pen tool as described earlier in this guide. Once a mask has been added to a layer, you have the ability to select multiple options. See Fig. 15 below for an example.

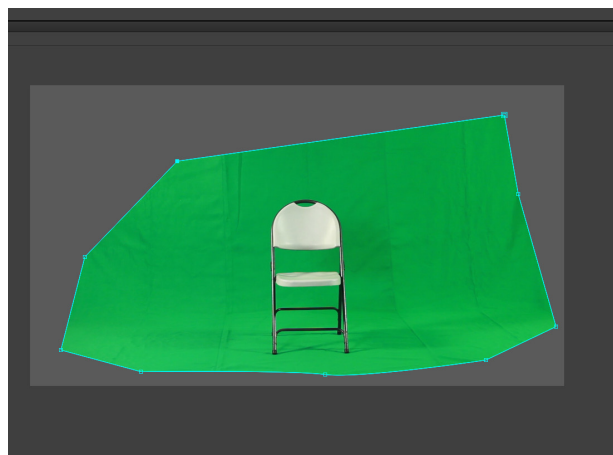


Fig. 15: Masking a layer using the Pen tool.

We will focus on the **“Add”** and **“Subtract”** parameters. Add makes everything inside the mask visible and Subtract does the opposite. See Fig. 16 below.

1. Select the arrow pointing to the right on the layer
2. Select the arrow pointing right that says “Masks”
3. Select the drop down menu to choose either “Add” or “Subtract”

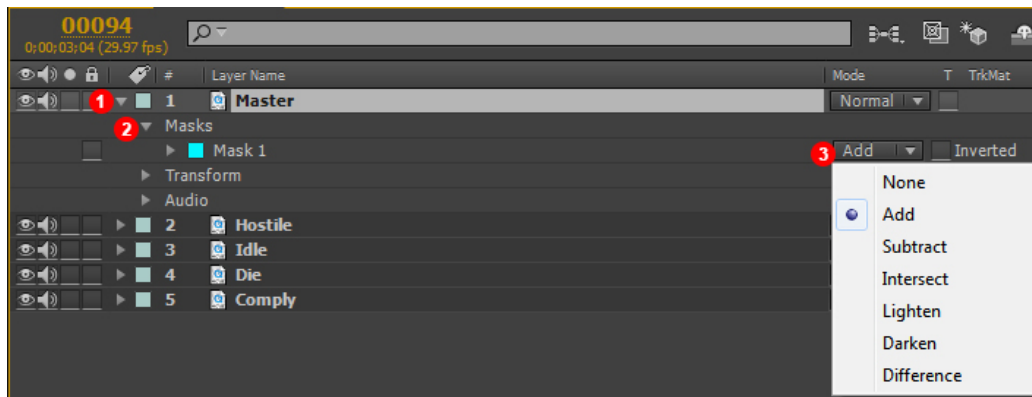


Fig. 16: Layer Features

## Opacity

Selecting this drop down arrow will present you with a list of transform options. The one we will focus on is the **“Opacity”** option. Alternatively, by selecting a layer and hitting **“T”** the Opacity parameter will pop up. You can change the Opacity from 100% which means the footage is opaque to 0% which means the footage is transparent.

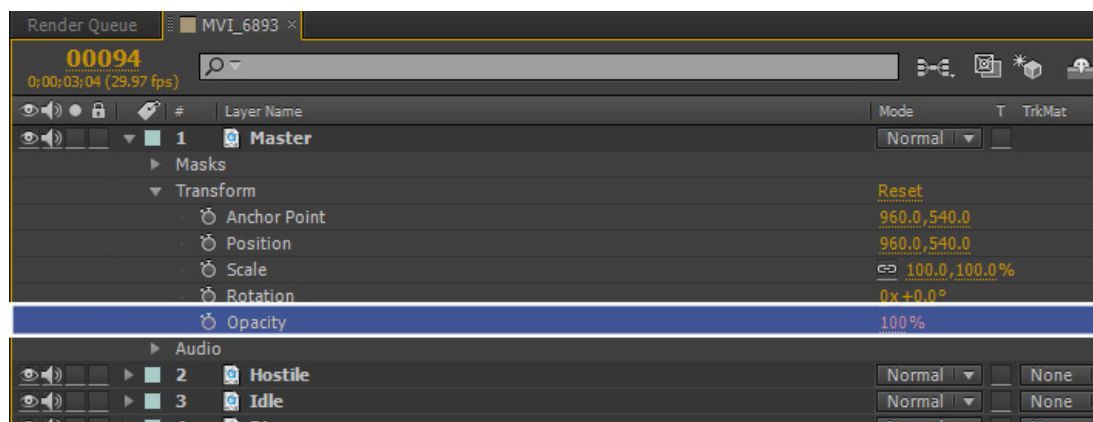


Fig. 17: Opacity Properties

## 5C. TIMELINE PANEL

The Timeline Panel defines the duration of any given asset added to a composition. We will focus on three main timeline features.

1. Current Time Indicator
2. Time Ruler
3. Work Area

### Current Time Indicator

The current time indicator is the **Red Vertical Line** located within the timeline area. Moving this left and right along the timeline allows you to preview your project on the Composition Panel. This is also known as **Scrubbing**.

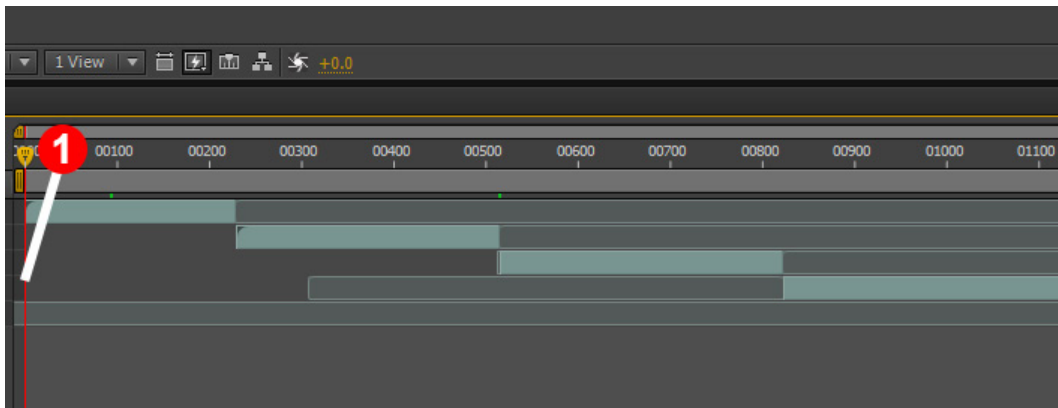


Fig. 18: Current Time Line Indicator.

### Time Ruler

Notice there are numbers located at the top of the Timeline Panel. This area is referred to as the **Time Ruler**. The time ruler will display either seconds or frames. You will notice both instances while creating assets for use in the V-Author™ software. When creating a composition from a video sequence, the time ruler will display frames as shown in Fig. 19 below.

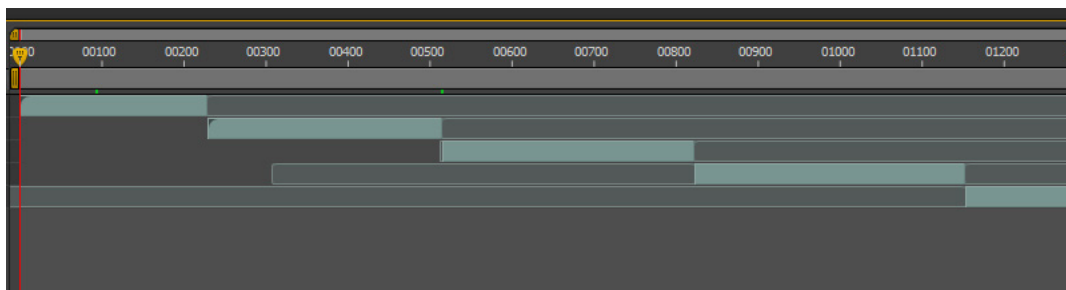


Fig. 19: Frame display.

When creating a composition from a video file, the time ruler will be displayed in seconds as shown in Fig. 20 below.

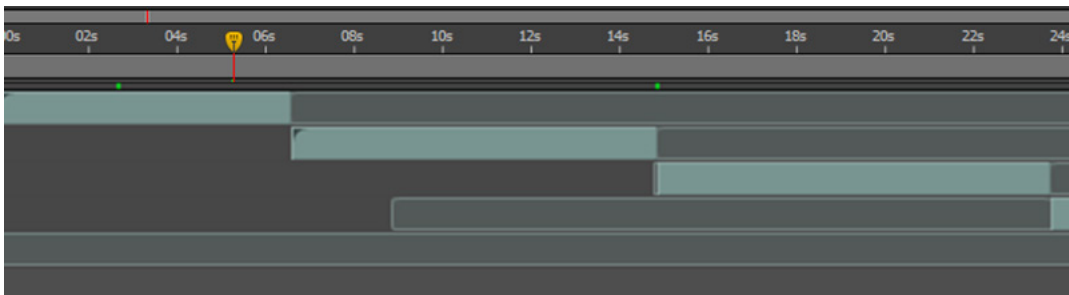


Fig. 20: Seconds display.

## Work Area

Once you have created a composition, its duration is based off of the media used when creating the composition, unless defined manually in the composition settings dialogue box.

The highlighted bar in Fig. 21 below is referred to as your work area. Its purpose is to preview or render portions of the timeline. You can adjust the work area by click and dragging the yellow handles on the left and right. This is described as creating “**In**” and “**Out**” points. You can also drag the bar up and down the timeline to position it over another area for preview.

### Keyboard Shortcuts

*Position the Time Indicator at a place on the timeline and select “**B**” on the keyboard. This will set an in point for the beginning of the work area. Next, position the Time Indicator further down the timeline and select “**N**” on the keyboard. This will set an end point for the work area.*

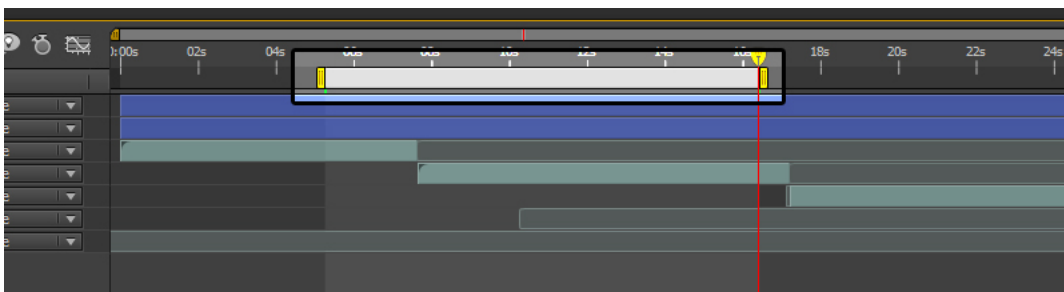


Fig. 21: Work Area

## Layer Stacking Order

As you continue to add media to a composition, you will notice a stacking order take shape. This stacking order is referred to as a *hierarchy*. Starting from the top most layer to the bottom, the top layer will be visible above any layer below it in the Composition Panel.

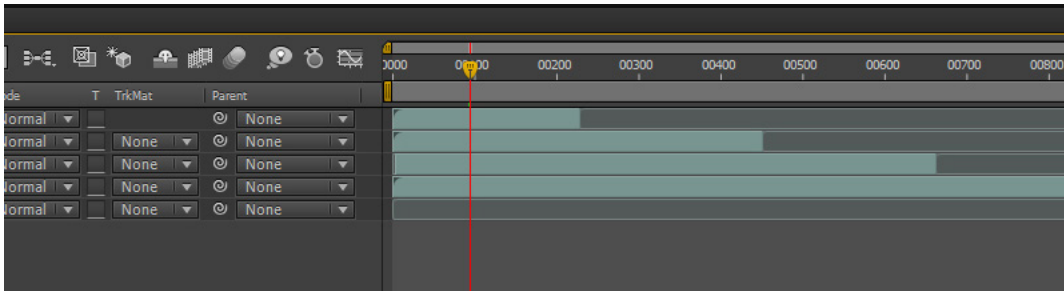


Fig. 22: Layers in stacking order.

## Arrange Layers Spatially

This technique will be used to spatially arrange individual video files into the same composition. This can be achieved by dragging the video down the timeline, butting each video layer up against each other.

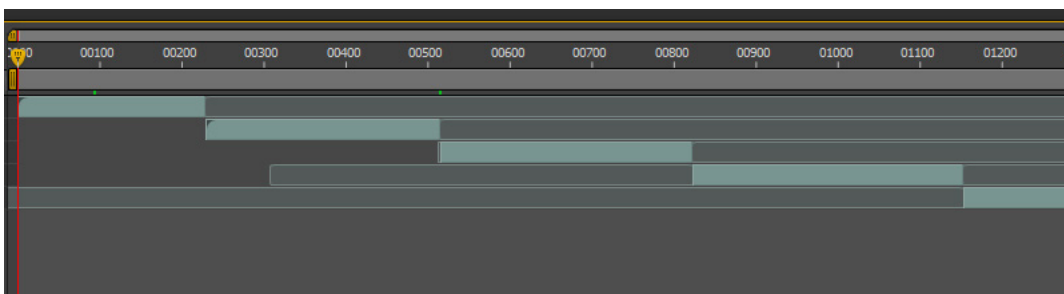


Fig. 23: Layers in stacking order.

## 6. PREVIEW PANEL

At this point I want to bring in a very important panel which you will use frequently, the Preview Panel. The button on the far right is the **Ram Preview Button** which renders and plays what's on the Timeline.

The Resolution affects the rendering process. You can change the resolution which makes rendering and previewing faster. If the resolution is set to Auto, it will consider the information of resolution given below the Composition Panel.

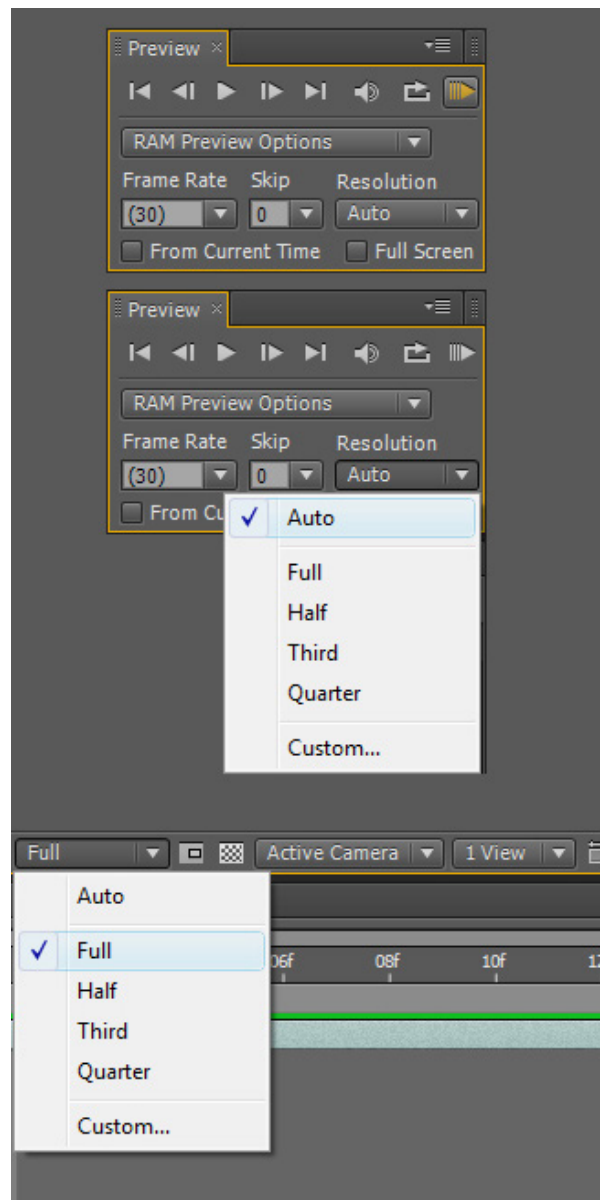


Fig. 24: Preview Panel



### III. CONTACT VIRTRA

If you have any questions/issues with any part of this manual, please see contact below:

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