



# DV-PAL Conversion to Square Pixels

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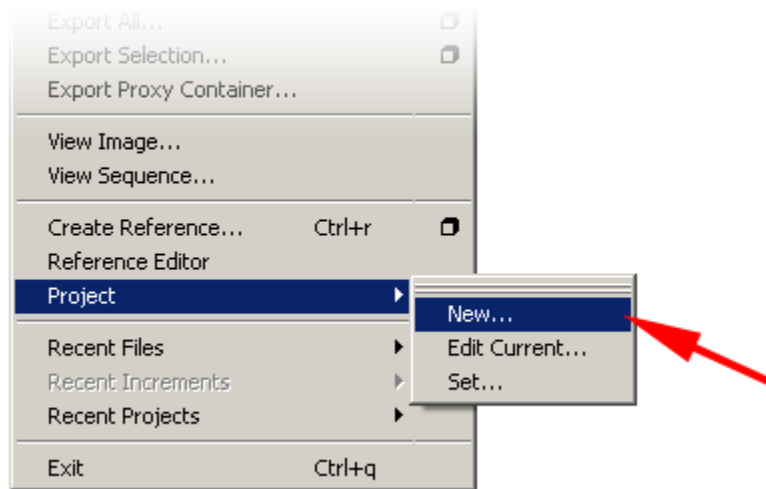
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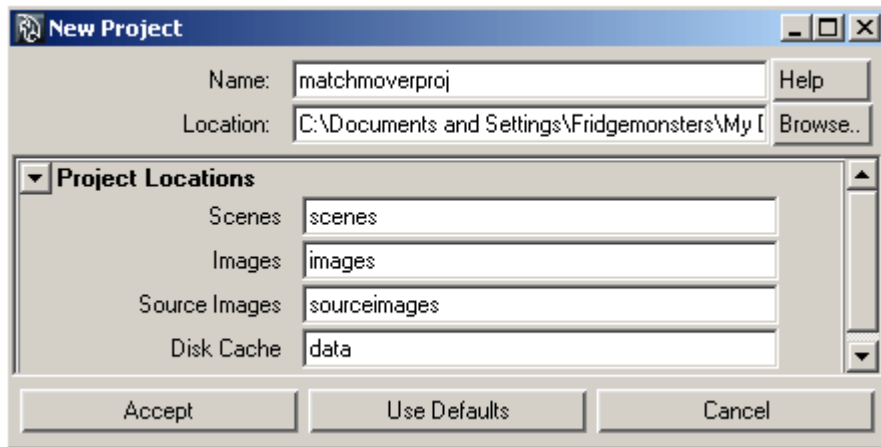
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## Setting the Project

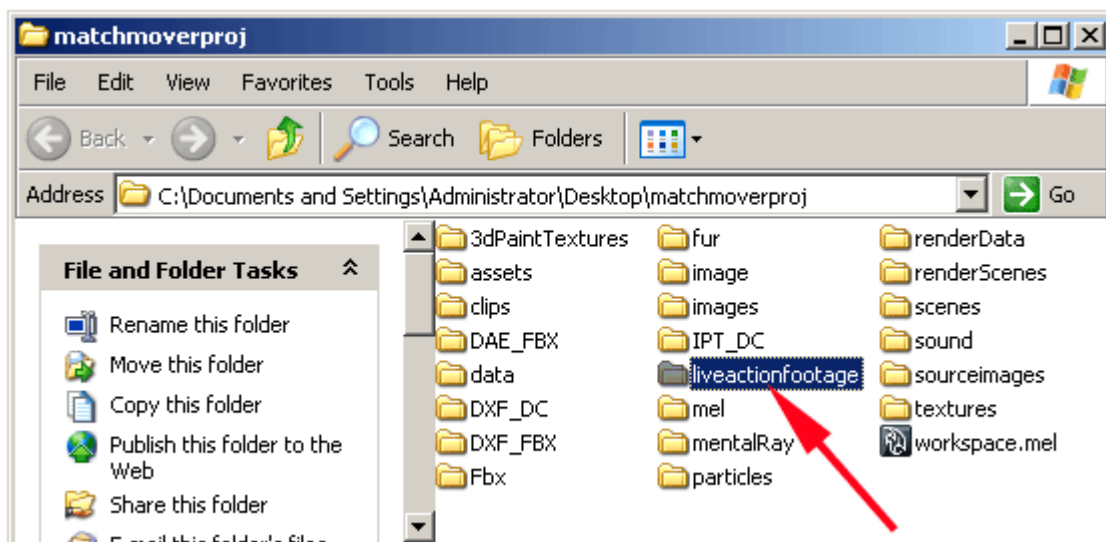
Launch MAYA and create a New Project. Name your project : **matchmoverproj**



Click the **Use Defaults** button to set the Project Data Locations. Then click **Accept**.



Exit MAYA. During this tutorial you will convert a DV-PAL video to a sequence of JPEG images. Create a new folder in the **matchmoverproj** folder called **liveactionfootage**.

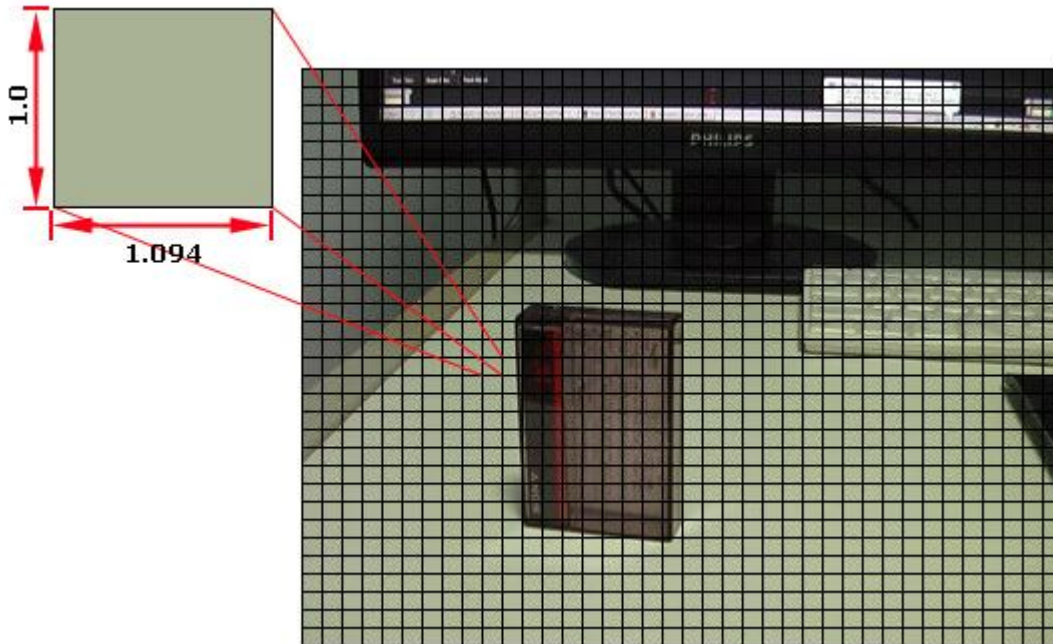


## Introduction

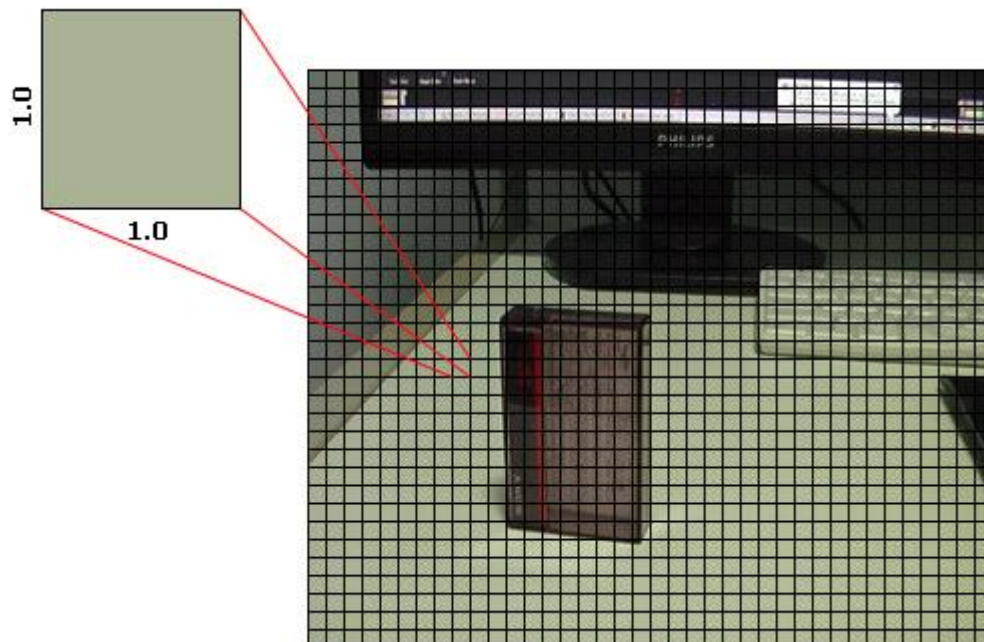
This tutorial explains how to prepare a **DV-PAL** video using **Adobe AfterEffects** for use with **Autodesk MatchMover**.

Pixels on a computer monitor are square. They are the same width and height and can be described as having a pixel aspect ratio of 1:1.

DV-PAL video has 720x576 pixels. However, these pixels are not square. Instead of having an aspect ratio of 1:1 (same width as height) the pixels have an aspect ratio is 128:117, or about 1.094:1.



Consequently, when you display DV-PAL footage on a computer monitor it appears to be squashed. This tutorial explains how to un-squash DV-PAL video.



## Tutorial

The first thing to understand is the numbers.

As you can see on the previous page, DV-PAL video is recorded with pixels that are wider than computer monitor pixels. Therefore, the DV-PAL video needs to be stretched, to be displayed correctly on a computer monitor.

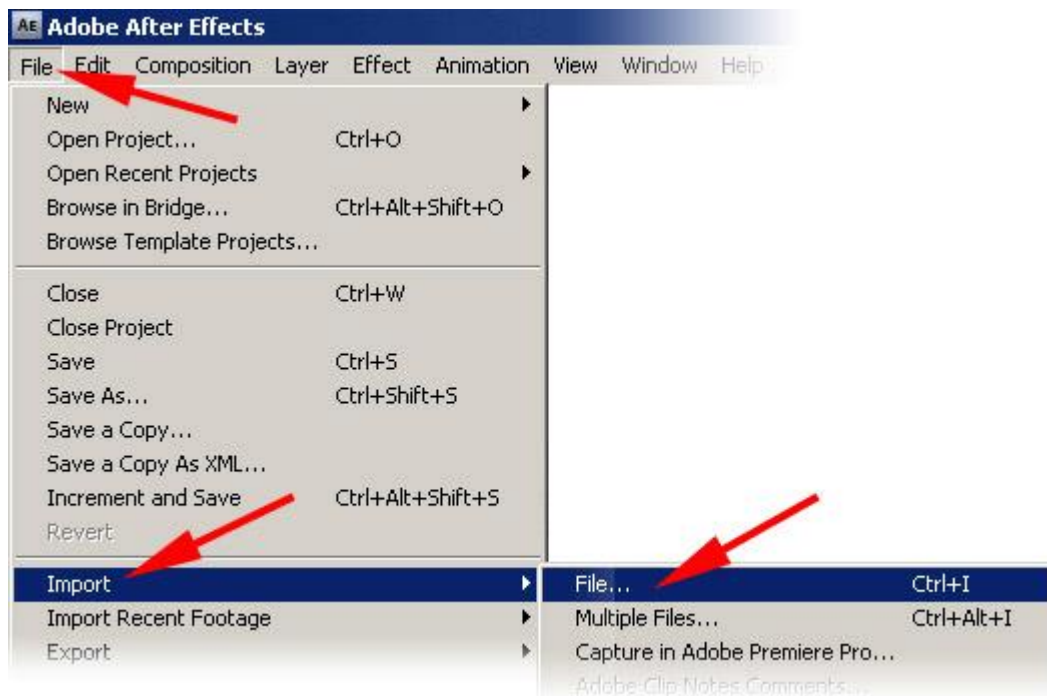
**1.094017 \* 720 = 787.68 (788 rounded up)**

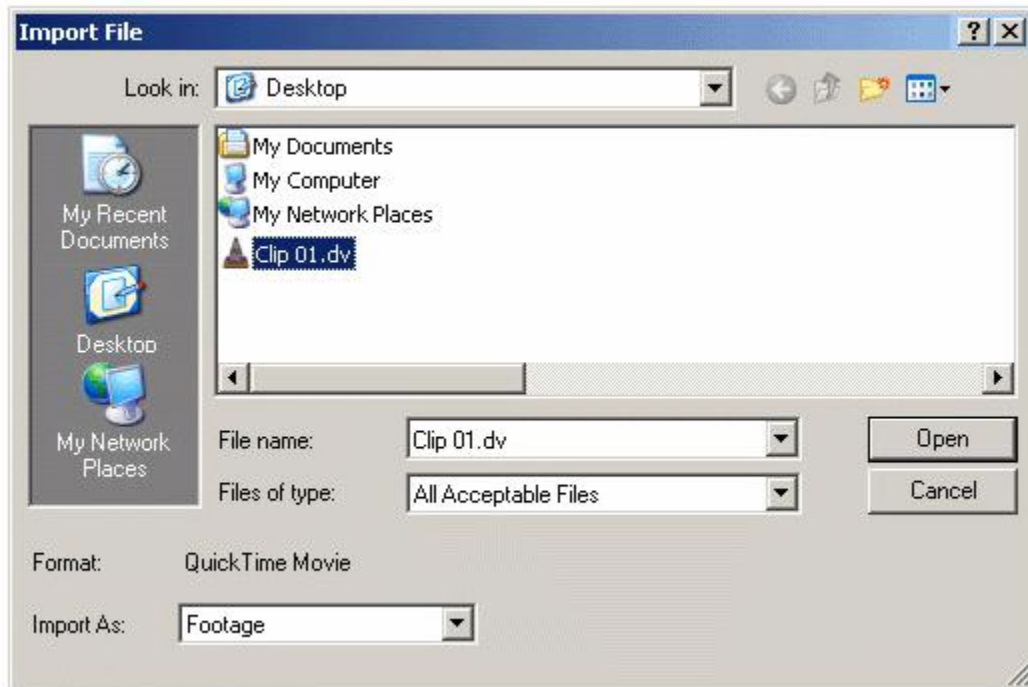
DV-PAL video at 720x576 pixels is equivalent to square pixel video at **788x576**.

If you video record a square with your DV-PAL camera, and export the result as 788x576 to a computer monitor, the square remains square.

Launch **Adobe AfterEffects** and **Import** your .dv footage.

File > Import > File



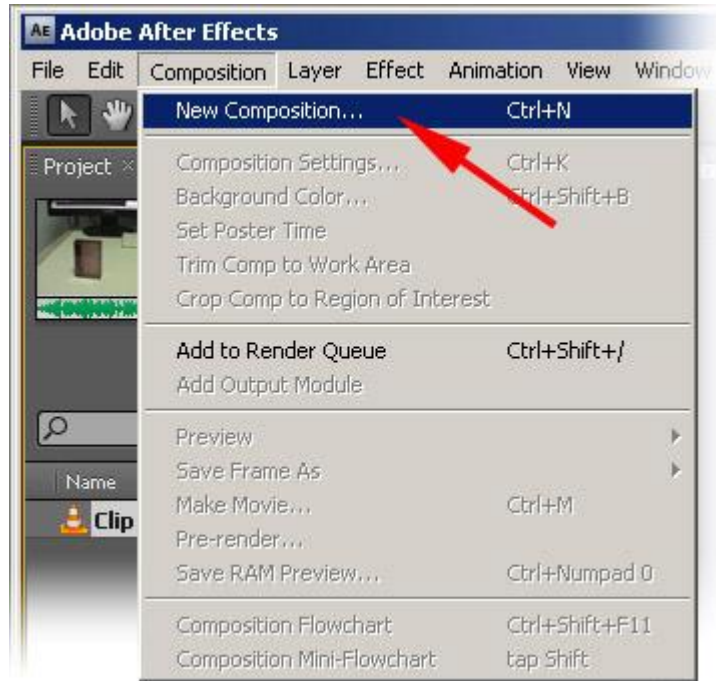


Your footage will be loaded into the **Project** tab. Notice the resolution (720 \* 576), the Pixel Aspect Ratio (1.094) and Duration (25 seconds 18 frames in the example below)

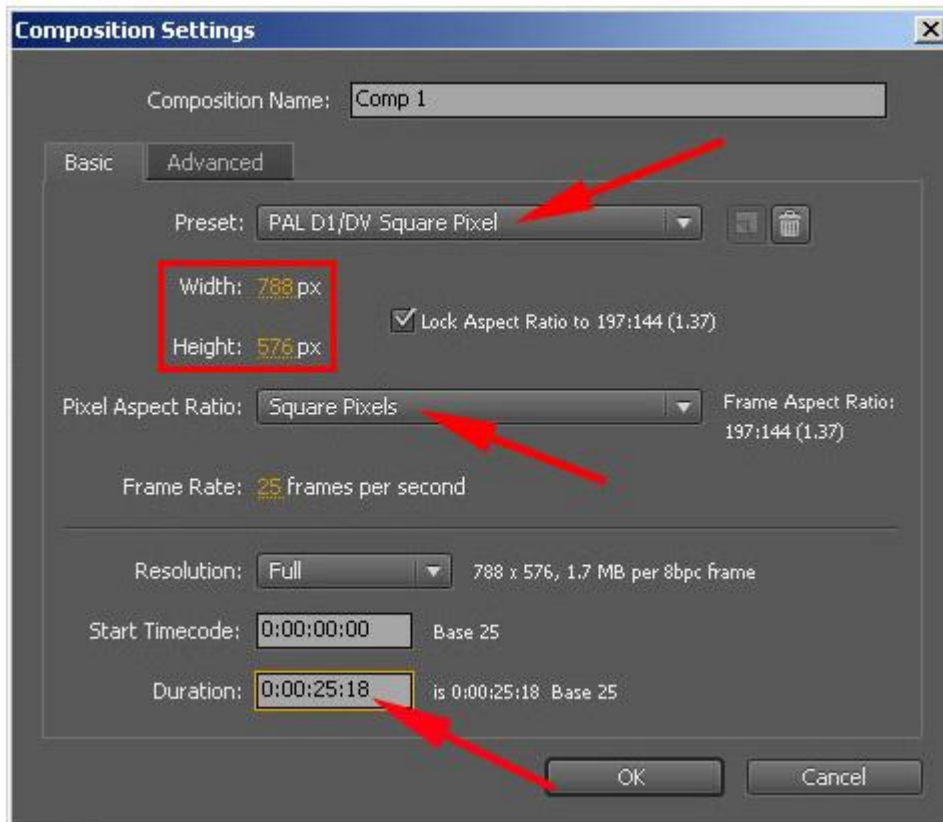


Create a **New Composition**.

Composition > New Composition

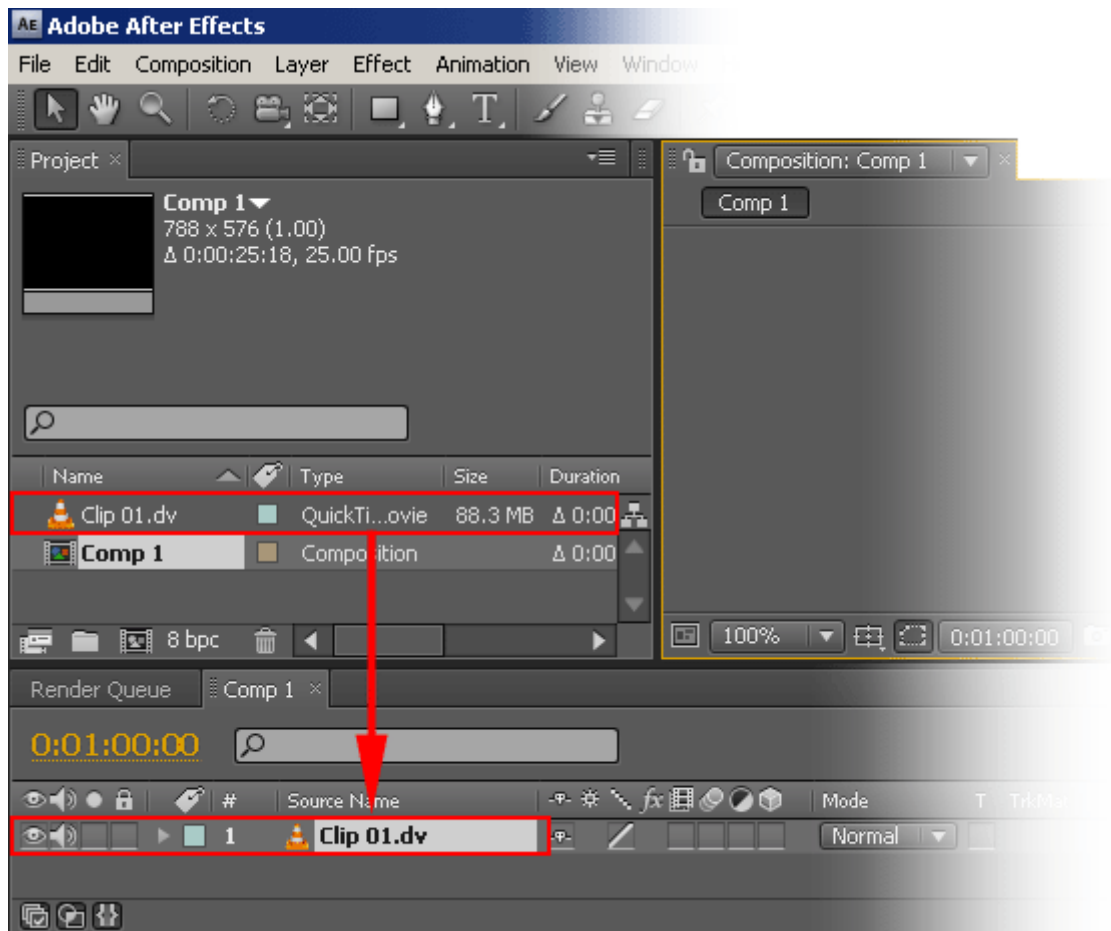


In the **Composition Setting** dialogue window, change the values as indicated in the diagram below.



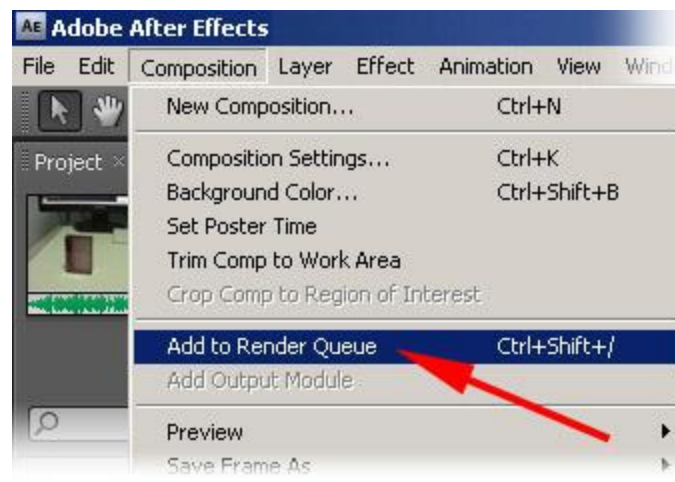
Check the new Composition (Comp 1) has the correct resolution (788 \* 576), duration and frame rate.

**Drag** the video (**Clip 01.dv**) from the Project window into the **Comp 1 timeline** at the bottom of the screen.



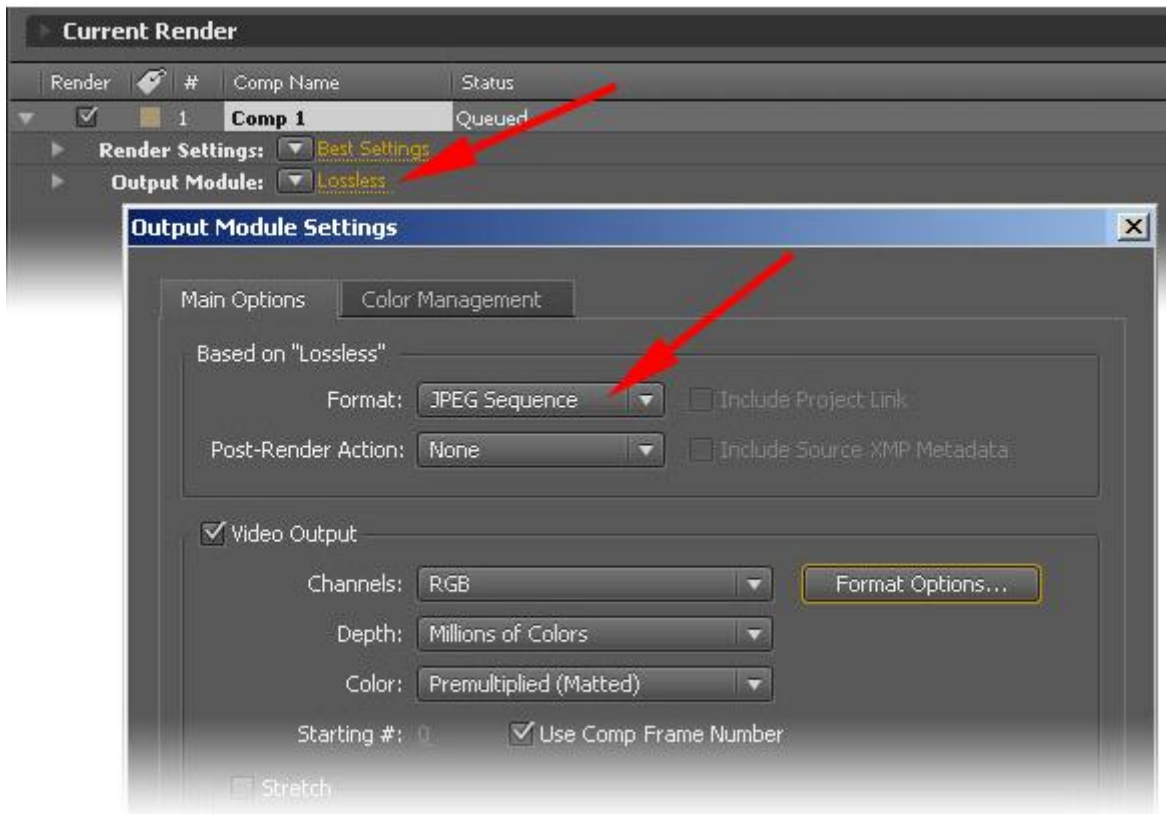
Add Composition (Clip 01) to the **Render Queue**.

Composition > Add to Render Queue

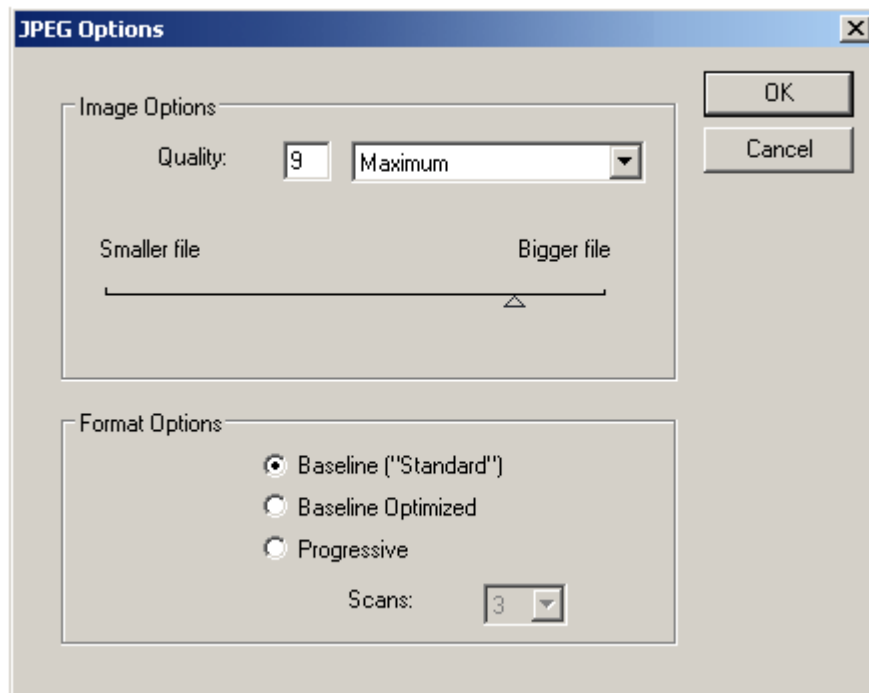




Edit the **Output Settings** to a **JPEG Sequence** as indicated in the diagram below.



Check the **Format Options** are not set lower than **Maximum**.



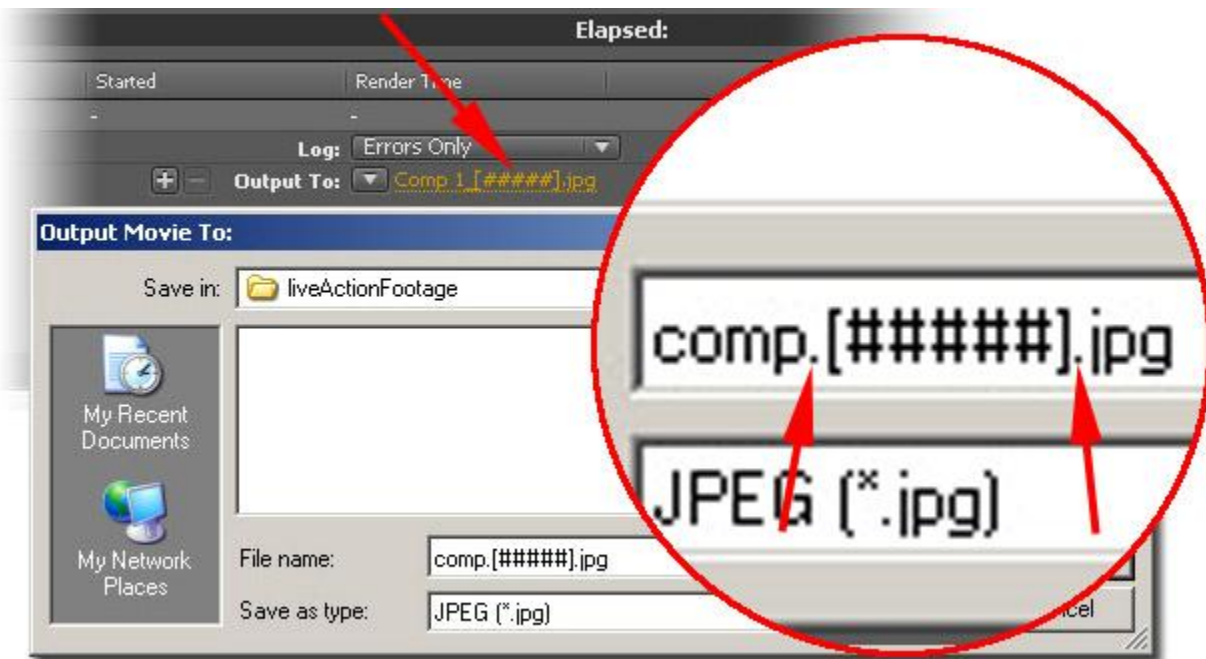
### Saving the JPEG Sequence

Edit the **Output To** settings to the appropriate path. For good house-keeping reasons, it is suggested you save the output sequence of JPEGs inside **liveactionfootage folder** created at the start of this tutorial. This will keep your MatchMoved frames and scene files together.

### Naming the Files

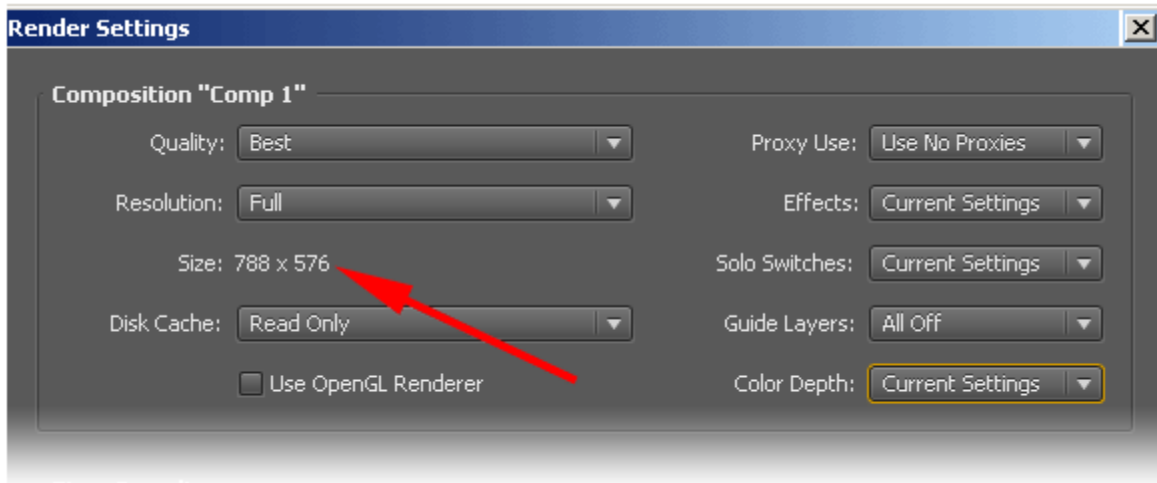
A good trick here is to name the JPEG sequence *filename.frameNumber.jpg*  
The important part here is the **dot between the filename and frame number**.

Eventually, when you have MatchMoved your JPEG Sequence, you will export a MAYA scene (.ma/.mb). The MAYA scene will contain a camera, several locators and an **Image Plane**. The Image Plane will contain the first frame of your JPEG Sequence. By placing a **dot between the filename and frame number**, MAYA will automatically play the JPEG Sequence on the Image Plane as a movie.

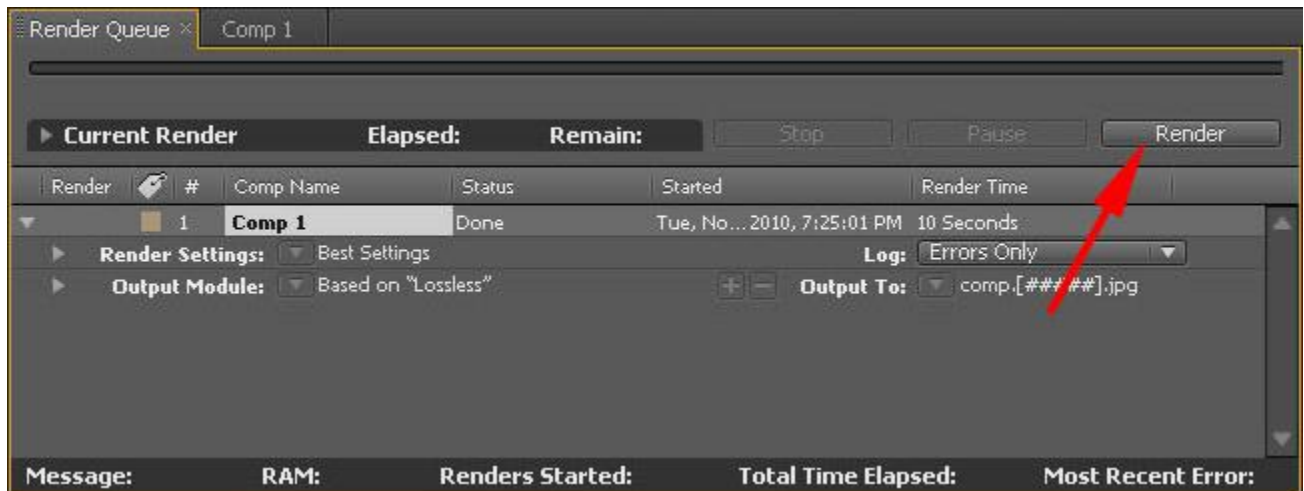


**Note :** MAYA will play a sequence of files named *filename.frameNumber.jpg* as a movie.

Double check the **Size** (788 \* 576) in the **Render Settings**.



Click the **Render** button.



When the Render progress bar has finished you will have a JPEG sequence of frames ready to import into **AutoDesk MatchMover**.

