

Getting the Best Results from Adobe Premiere Pro

These days there are so many types of video, so many formats, aspect ratios, codecs, file types, and settings that getting your files in and out of your editing system seems more complicated than the actual editing process itself. This guide will break these things down and simplify the choices at each step of this process while hopefully answering all the questions that arise along the way.

Step 1 – Getting your footage into your computer

The old way was to use a deck or a directly connected camera to digitize your footage. This method has largely been replaced by digital storage and direct transfer. Most new cameras either use hard drives or memory cards instead of tape. If yours doesn't, consider an add-on device for this. I've listed a few types to the right.

When using cameras or capture devices with digital storage it's as simple as plugging them in to your computer and copying the files to your media drive. Once the files have finished copying, usually much faster than real time, you can import them into your editing bin and start editing.

An important note on sequences

One of the most important considerations for editing performance and real time playback is your sequences format. While there is a confusing mass of choices and options there is a very simple way to get the right format. Create a new sequence and ignore the format. Next, choose one clip that has the most common format you will be using and drop it in the new sequence. You will be prompted that your clip properties do not match your sequence settings. The options are to keep the existing settings or to change the sequence to match your clip

settings. Select **Change sequence settings** and it will take care of the difficult part for you. Don't worry if this isn't the format you want your final file to be, because that conversion should be done when you export. Editing in the same format you shoot in will prevent your system from having to transcode on the fly and allowing it to display the native format of your clips. To you, this means better performance while editing.

Step 2 – Edit your program

Now that you have a properly setup sequence and your footage is ready to edit, get to it! Once you have a completed program move on to step 3 where I'll cover the best way to get your footage ready for your target audience.

Memory Card Recorders:

[AJA Ki Pro Mini](#)

[Focus FS-H Proxy Recorders](#)

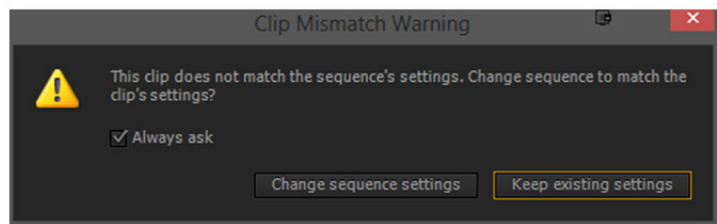
Hard Drive or SSD Recorders:

[Edirol \(Roland\) F-1](#)

[Blackmagic Design Hyperdeck Shuttle 2](#)

[Atomos Ninja 2](#)

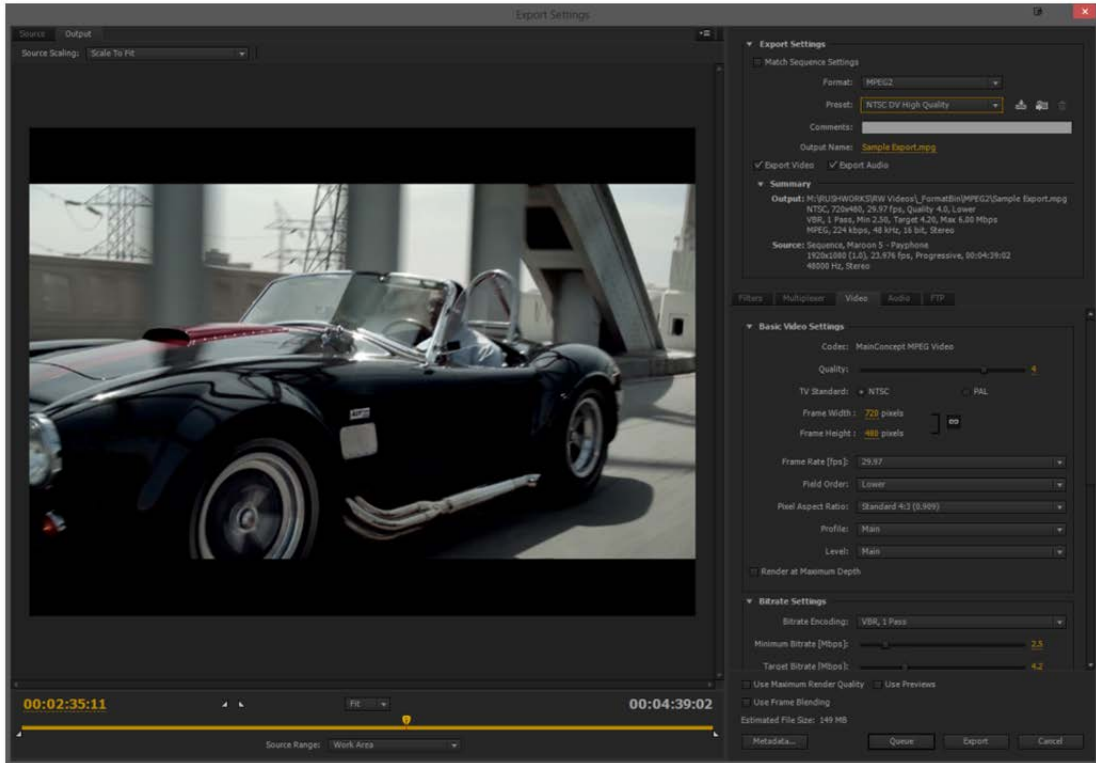
Examples of Digital Recording Devices



Step 3 – Export your program

This can be the most confusing part of the editing process. In many cases it will require a bit of trial and error to get the results you need, so start with a short project until you have verified your settings are accurate and saved as a preset.

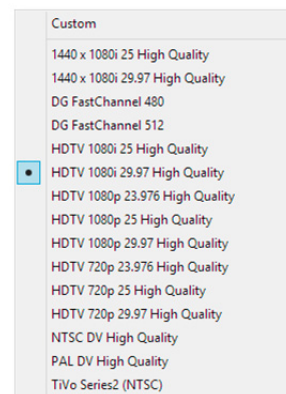
In order to export your program from Premiere Pro, first make sure the desired sequence is highlighted on the timeline. Next, click **File > Export > Media** or hit **Ctrl + M** on your keyboard. You should now see the **Export Settings** window, as shown below.



There are three areas I'll be focusing on so I'll take them in the order you should change them. The first item is in the upper right, **Export Settings**. The next is in the upper left, **Source Scaling**, and the last is the lower right area with two tabs, focusing on **Video** and **Audio**.

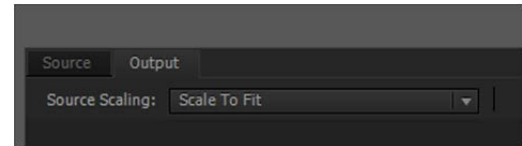
Export Settings:

In most cases there will be a preset with most of the settings you'll need so you shouldn't have to start from scratch. For playback in RUSHWORKS systems like the A-LIST of VDESK we prefer MPEG2 files so let's look at that format first. Click the **Format** drop down and select **MPEG2**. If you are exporting an HD file, choose **HDTV 1080i 29.97 High Quality**. If your project is SD, choose **NTSC DV High Quality**. Both of these will work as-is for playback in our systems, but there are some settings to check which might improve your results. Let's take a look at those next.



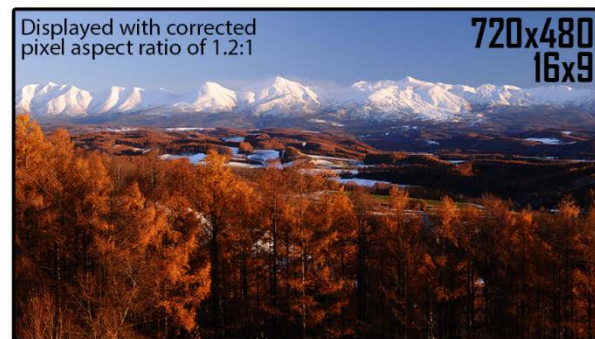
Source Scaling:

The drop down at the upper left corner of the Export Settings window determines how your video will fill the shape of your exported file's aspect ratio. Understanding the various types



of aspect ratios will help you deliver the best experience to your viewers. There is an excellent article on Wikipedia that illustrates all of the common aspect ratios and includes many sample images so you can see the effects of cropping 16x9 to 4x3: [http://en.wikipedia.org/wiki/Aspect_ratio_\(image\)](http://en.wikipedia.org/wiki/Aspect_ratio_(image))

In video editing you'll most likely only be dealing with 4x3 or 16x9. One of the most confusing things about aspect ratio is the use of non-square pixels. In SD the most common resolution is 720x480, and both 4x3 and 16x9 are this resolution. The different shapes of the video are achieved by changing the shape of the pixels. Below you can see both 4x3 and 16x9 samples. The top row shows the uncorrected image (at 1:1 pixel aspect ratio) and the bottom row shows the respective images with corrected pixel aspect ratios. Notice the extra peak on the left and the patch of snow on the right in the 16x9 image.

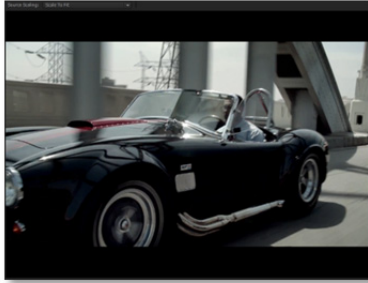


There are some HD formats that use non-square pixels. The most common is HDV which uses 1440x1080. Since most broadcasters use either 1920x1080 or 1280x720 for HD, and 4x3 SD at 720x480, we'll focus on these formats for output.

If you've properly setup your sequence and your source footage has the proper metadata then Premiere Pro should be automatically adjusting the aspect ratio of both the image and the pixels. The default setting in the **Source Scaling** window, **Scale to Fit**, will also take this into account for both source and destination formats.

Source Scaling Options

The three settings for **Source Scaling** allow you to customize the way your final output will be displayed.



Scale to Fit



Scale to Fill



Stretch to Fill

In most cases your choice should be one of the first two, **Scale to Fit** or **Scale to Fill**. These will maintain the proper shape of the source by scaling both horizontal and vertical dimensions by the same amount.

The third option, **Stretch to Fill**, will ignore source formatting and simply stretch the width and height of the source to fit the output without regard for maintaining shapes. Notice the rims on the car – in the far right image they are squished and no longer match the proper perspective of the shot. If your source is 4x3 and your output is 16x9 the **Scale to Fill** option can remove the vertical black bars on the sides (called Pillarboxing as opposed to the horizontal bars called Letterboxing) at the expense of around ¼ of the image. This is a subjective decision that the editor must make based on the content of the video project. Be sure you consider graphics that might be cut off if you choose **Scale to Fill**.



4x3 source scaled to fit in 16x9



4x3 source scaled to fill in 16x9

Below we'll look at the individual settings and define each item. After the definitions I'll make some recommendations for common delivery targets.

Video Tab:

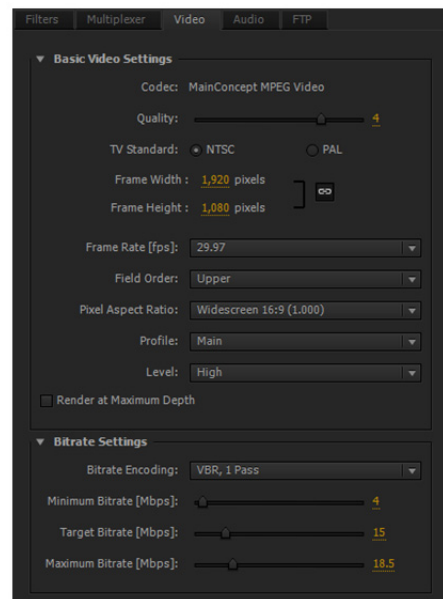
This section shows settings that will be used to export the current sequence. The **Preset** dropdown from the **Export Settings** section will change the items in this section so make sure you pick the appropriate preset before altering the individual properties in this section.

Basic Video Settings:

Codec: The compression format to be used

Quality: Relative quality setting for the export

TV Standard: Select NTSC for the USA



Frame Width: The width of the video in pixels

Frame Height: The height of the video in pixels

Frame Rate [fps]: The number of frames per second in the video

Field Order: Used for interlaced video – 480i is usually lower field first, 1080i is upper first

Pixel Aspect Ratio: The specific ratio of width and height of the individual pixels

Profile: Indication of the standard use of the format and settings

Level: Specific constraints indicating the level of performance required for the decoder

Bitrate Settings:

The choices here are subjective and usually reliant on the need for a specific balance between visual quality and file size. The higher the bitrate the higher the visual quality will be.

Bitrate Encoding: Either variable or constant. Variable 1 pass will adapt on the fly to visual complexity and use more data for the frames needing it and less during simpler scenes. Variable 2 pass will use the first pass to analyze the video file for complexity and then use the second to compress the file as efficiently as possible. Constant bitrate will use exactly the same amount of data for each frame for the entire video file.

(For VBR)

Minimum Bitrate [Mbps]: The minimum value will be used during simple scenes

Target Bitrate [Mbps]: The target the encoder will use for the file

Maximum Bitrate [Mbps]: The maximum value will be used during complex scenes

(For CBR)

Bitrate [Mbps]: The exact value that will be used throughout the encoding process

Audio Tab:

Audio Format Settings:

Audio Format: MPEG is required for playback on RUSHWORKS systems

Basic Audio Settings:

Codec: Displays what is selected above

Audio Layer: MPEG-1, Layer II is required

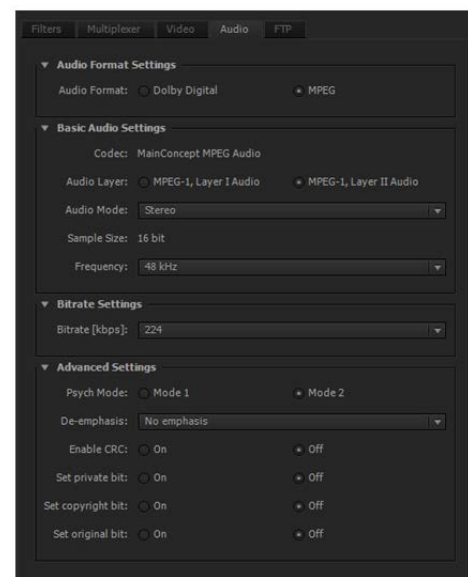
Audio Mode: Allows selection of stereo or mono. Stereo should be used for most projects

Sample Size: Fixed at 16 bit

Frequency: The frequency at which samples are taken. 44.1kHz or 48kHz should be used based on what your source material is

Bitrate Settings:

Bitrate [kbps]: Just as with video, this is subjective and should be set at the desired rate based on your quality requirements.



Recommendations for various formats

Below are the basic recommendations for each format and resolution. Feel free to experiment with the values to provide the results you desire.

MPEG-2 Video with MPEG-1 Layer II Audio				
	Standard Definition		High Definition	
	720x480 @ 29.97 (4x3) Interlaced lower field First	720x480 @ 29.97 (16x9) Interlaced lower field First	1280x720 @ 59.94 (16x9) Progressive scan	1920x1080 @ 29.97 Interlaced upper field First
VBR:	Min: 4Mbps	Min: 4Mbps	Min: 15Mbps	Min: 15Mbps
	Target: 6.5Mbps	Target: 6.5Mbps	Target: 25Mbps	Target: 25Mbps
	Max: 9Mbps	Max: 9Mbps	Max: 35Mbps	Max: 35Mbps
CBR:	Bitrate: 8Mbps	Bitrate: 8Mbps	Bitrate: 32Mbps	Bitrate: 32Mbps
	16 bit, 48kHz	16 bit, 48kHz	16 bit, 48kHz	16 bit, 48kHz
Audio:	Bitrate: 256kbps	Bitrate: 256kbps	Bitrate: 384kbps	Bitrate: 384kbps

MPEG-4: H.264Video with AAC Audio				
	Standard Definition		High Definition	
	720x480 @ 29.97 (4x3) Interlaced lower field First	720x480 @ 29.97 (16x9) Interlaced lower field First	1280x720 @ 59.94 (16x9) Progressive scan	1920x1080 @ 29.97 Interlaced upper field First
VBR:	Target: 3Mbps	Target: 3Mbps	Target: 15Mbps	Target: 15Mbps
	Max: 8Mbps	Max: 8Mbps	Max: 25Mbps	Max: 25Mbps
CBR:	Bitrate: 5Mbps	Bitrate: 5Mbps	Bitrate: 20Mbps	Bitrate: 20Mbps
	16 bit, 48kHz	16 bit, 48kHz	16 bit, 48kHz	16 bit, 48kHz
Audio:	Bitrate: 128kbps	Bitrate: 128kbps	Bitrate: 192kbps	Bitrate: 192kbps



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