

Editing with Adobe Premiere Pro CC

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Please direct suggestions and/or corrections to the author, your help in improving this document is appreciated, since it's in perpetual beta. This document is designed to supplement my editing workshops. The document is not intended to provide a comprehensive step-by-step tutorial (for that see the "Resources for further study" section). You'll find a handy summary of keyboard shortcuts at the end of this document.

Introduction

Adobe Premiere Pro is a professional-level non-linear video editing application. While it's easy to make movies with simpler programs like Apple's iMovie, you'll soon hit a brick wall the moment you try to do anything sophisticated. Enter programs like Premiere Pro CC which are sophisticated enough for doing high-end professional work, flexible enough for a wide range of media makers, yet anyone can master the basics with a reasonable amount of practice. Adobe Premiere Pro will confront you with a learning curve, but if you keep up in the workshop and review the steps in this handout as practice between meetings while remaining focused on the fundamentals, you be off to a good start editing. Find a project you want to cut immediately after the workshop to reinforce what you've learned.

Creating a new project and a sequence

These are *important steps* you should follow closely:

1. Launch Premiere Pro
2. You will see a "welcome window" giving you the choice of creating a new project, opening an existing project, or getting help.
3. Choose "New Project." Premiere Pro will come back with a "New Project" window.
4. Give your new project a name, e.g. "My Project"
5. In the "New Project" window you'll see a "Location:" pop-up with a "Browse..." button, click on the "Browse..." button.
6. Premiere Pro will display a dialog box asking you to select the destination path for your new project. Navigate to your project folder, "Adobe [AvidISIS] => Course Name => Project Folders => Your Name"
7. Once you've located your project folder and selected the folder by clicking on its name and then click the "Choose" button.
8. Now click on the "Scratch Disk" tab (in Premiere Pro, whenever you see blue text, it's clickable)
9. In the Scratch Disk tab make sure everything is set to "Same as Project." Premiere creates a lot of temporary preview files and for this class you want to keep everything in the same folder as your project.
10. Make sure you selected the proper folder by looking at the "Location:" pop-up in the "New Project" window. It should show the path to your project folder (if you're working in a lab environment, the folder should be on your own external hard drive. By default, Premiere Pro will store all of the files it creates that are related with your project (including captured and preview media) in your project folder. This enables you to keep all of your media assets in one place and thus easy to find. If this path is not correct, click on the "Browse..." this is a change button again and identify the location of your video project folder again. It's very important that you tell Premiere Pro the correct location of your video project folder.
11. Click on the "OK" button to create the Premiere Pro project file, which will be created in the project folder you specified in step 10.
12. Premiere Pro will now display a "New Sequence" dialog box in which you can specify the settings of the first sequence (timeline) in your project. You should choose a video format identical to the format of the majority of the video footage you'll be working with. Note: You can take care of this later when you start editing. If the first clip you drag into a new sequence does not match the format of the sequence, Premiere will ask you to change the sequence settings to match the clip or to keep the same settings. Given the clip is in the format you want to edit in, changing the sequence settings to match the clip is by far the easiest way to deal with sequence settings.
13. Type in a name for the sequence in the text box next to "Sequence Name"
14. Now you can finish up creating your new sequence by clicking the "OK" button. Note there are other tab for "Settings" and "Tracks" but when starting out it's best to leave all the settings at their default value. The sequence will appear in your Project Pane along with your other files media assets. If the sequence does not

appear in the Timeline Pane, double-clicking on it in the Project Pane will open it in the Timeline Pane.

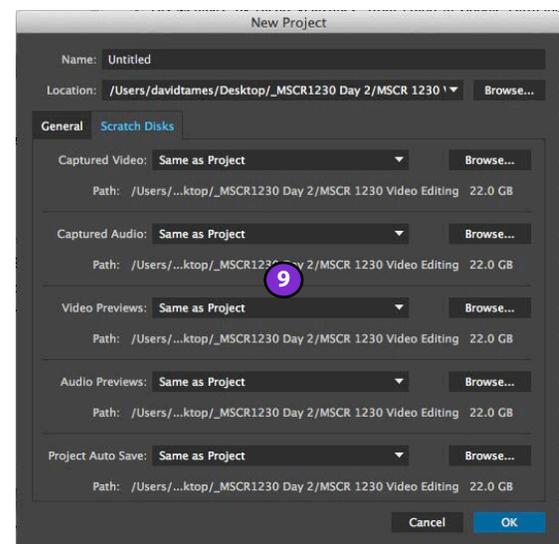
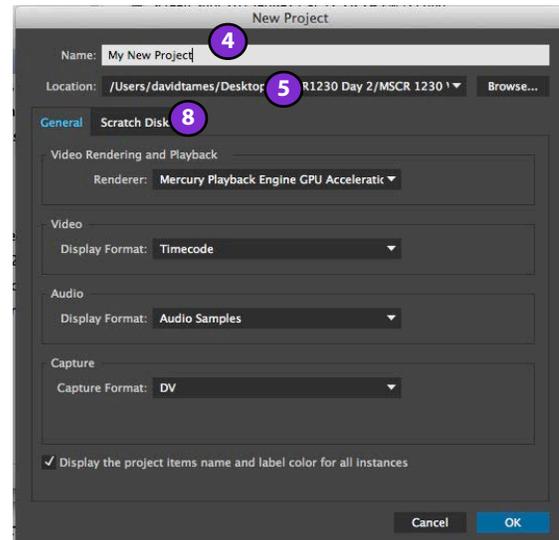
Now you're ready to start editing. The following sections will cover the Premiere Pro workspace and walk you through the process of reviewing media, placing media in a timeline, performing editing operations on both your video and audio tracks, and exporting your final sequence in the appropriate format for screening and critique in class.

The workspace

In the Premiere Pro workspace each item appears in its own panel (a.k.a. window pane) and multiple panels can be docked where you'd like. If the workspace does not look familiar you can reset it by choosing the menu "Window > Workspace > Editing" and then choose "Window > Workspace > Reset Current Workspace...".

Here's an overview of the various components of the workspace:

- A. **Timeline:** The timeline is where you'll do most of your editing activities. You can remove sequences from a Timeline panel or add additional sequences to it, each sequence will appear as a tab within that Timeline panel. You can also open multiple Timeline panels, each within its own frame, with each containing any number of sequences. But for now, we'll stick to working with a single sequence in our timeline.
- B. **Tracks:** A sequence may contain several video and audio tracks. When you add a video, audio, or video+audio clip to a sequence, you need to specify which track or tracks it should end up in. You can target one or more audio or video tracks. The way you specify target tracks depends on the editing method you use, however, the easiest way to place a clip into a particular track is to drag it into the track you want to place it in.
- C. **Source Monitor:** The Source Monitor is used to view and trim raw clips before you add them to a sequence. To view a clip in the Source Monitor, double-click it in the Project panel.
- D. **Program Monitor:** The Program Monitor is to the right of the Source Monitor and plays back the sequence of clips that you are assembling.
- E. **Project panel:** This is where you keep track of the many links to your project's video clips, audio files, graphics, images, and sequences. You can use bins (a.k.a. folders) to organize your media assets. For example, you might create bins for video footage, music, images, sound effects, and sequences. This makes it easier to find things and only see the kind of media you're looking for.
- F. **Media Browser:** The Media Browser gives you access to all the media assets available on all of the hard drives connected to your computer. Use the Media Browser to import clips copied from tapeless video cameras, sound recorders, downloaded from media library sites, etc.
- G. **Effects panel:** Commonly used effects are listed in the Effects Panel and are organized into two bins: Video Effects and Audio Effects. Within each of these bins, Premiere Pro lists effects by type in nested bins. Effects are organized as Presets, Audio Effects, Audio Transitions, Video Effects, and Video Transitions.
- H. **Audio Mixer:** The Audio Mixer tab allows you to adjust audio levels and related settings while listening to audio tracks and viewing video tracks. Each Audio Mixer track corresponds to a track in the currently active sequence and displays the audio tracks. Each track is labeled near the top of the Audio Mixer, and you can rename the





tracks by double-clicking the name. This is handy when you have to keep track of audio mixes with lots of layers. You can also use the Audio Mixer to record audio (e.g. voice over) directly into an audio track in your sequence.

- I. Effect Controls Panel:** You use the Effect Controls panel to change settings for transitions placed in a sequence. Settings vary depending on the particular type of transition. Click the Effect Controls tab, and then click any clip in the Timeline to display the effect parameters associated with that clip.
- J. Tools panel:** The Tools panel contains the fundamental editing tools such as ripple and rolling edit, slip, slide, and razor.
- K. Info panel:** The Info panel displays data about the currently selected item, along with timecode information for clips under the current-time indicator in the Timeline.

A ten step guide through the basic editing workflow

1. Copy media from the camera (or P2 card) to a folder

Copy the entire contents of the camera's memory card into a dedicated folder inside your designated Project Folder, e.g. "/Volumes/MyExternalHD/Video Projects/Media/Card Name".

2. Preview and import media assets using the Media Browser

Prior to launching Premiere Pro you've collected a variety of media assets (video, sound, images, etc.) and you've organized them in folders inside your Media folder inside your project folder. You can browse through your folders and look at (or listen to) the assets you've collected using the Media Browser. The Media Browser knows how to make sense of card based camera file structures (1).

Selecting clips (2) and then right-clicking and selecting Import will import the files into your Project.

If the files aren't moved from the camera or media card to your hard drive, they will go offline if the camera or media card is not connected to the editing workstation. Always copy media from the camera to a folder in your Media folder before importing media.

There are three ways to import files into Premiere Pro:

- Use the Media Browser panel. This is the most efficient manner to browse through camera media and then import them into your project, especially good when you only want to import selected clips from the camera card.
- Choose “File > Import” from the menu bar and navigate to the location of the file (this works best with stand-alone media files like a QuickTime movie or audio file),
- Drag and drop the media file(s) from the Finder into your Project pane (again, this works fine for stand-alone media files like a QuickTime movie or audio file, but can be problematic with card-based camera file structures, so use the Media Browser when in doubt).

! Premiere Pro links to your media assets, it does not really import them!

Keep in mind that any media assets you import into Premiere Pro are not actually ingested into the program. Premiere Pro simply keeps track of where the media assets are located in the computer’s file system. This is why it’s imperative that you copy media from cameras and sound recorders to a folder inside your video project folder before importing them into Premiere Pro.

3. Review your footage setting in and out points using the Source Monitor

Double clicking on a video or sound clip in the Project Pane will open it in the Source Monitor. Here you can play the video (or audio) by clicking on the play button, you can also scrub back and forth by clicking and dragging the pointer (a.k.a. CTI or Current Time Indicator) along the numerical timeline under the picture. The space-bar acts as a toggle either playing or pausing the clip.

! Is Premiere Pro acting strange and not doing what you expect it should?

This might be because a tool other than the default pointer tool is selected. To make sure the pointer tool is selected click on the first tool in the Tool Pane (the arrow) or press “V” which is the keyboard shortcut for the pointer tool.

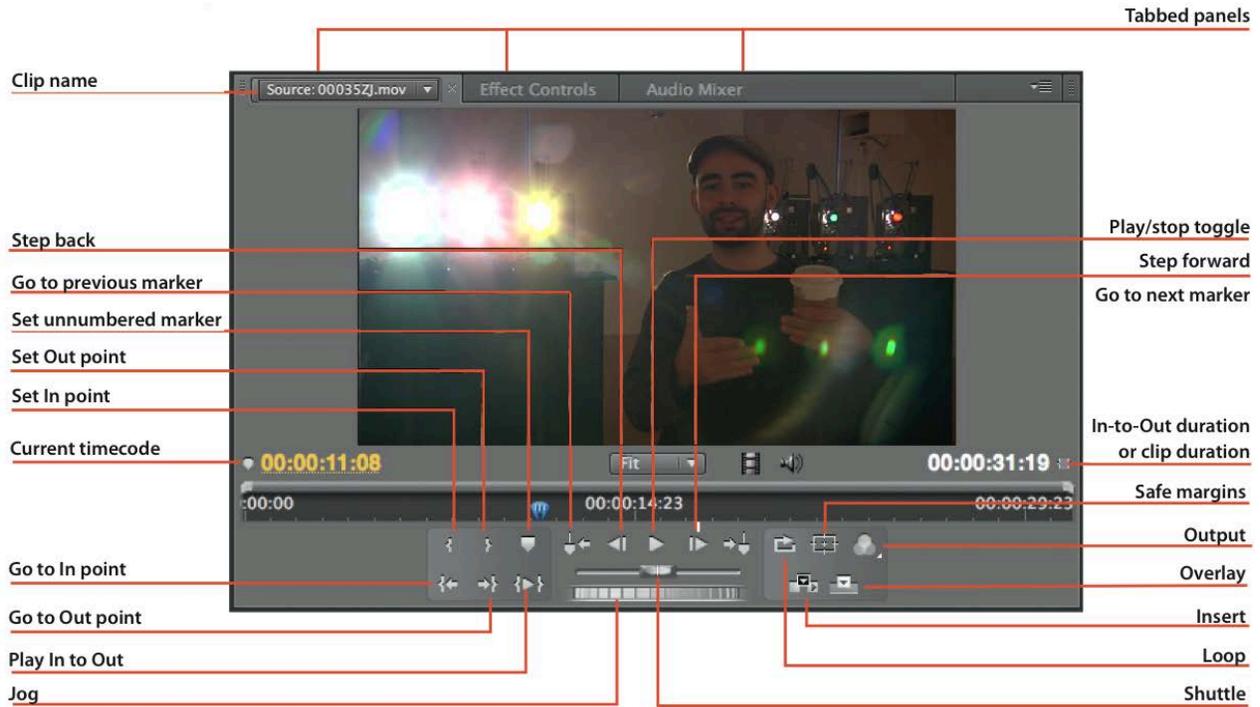


Both the Source Monitor and Program Monitor provide a variety of controls for video playback. You’ll use the Source Monitor to play or cue a clip and setting in and out points. You’ll use the Program Monitor to control playback of the currently active sequence in the Timeline Panel. Click on a Sequence tab to make a sequence active, and preview it in the Program monitor. Double-click a clip in the Source panel or in a Timeline to preview it in the Source monitor.

Most playback controls have keyboard shortcuts. When you use keyboard shortcuts to control video playback, make sure that the monitor you want to control is currently active, if it’s not, simply click the video image in the monitor you want to make active. Here are some of the playback controls:

- To play, click the Play button , or press L or the spacebar.
- To stop playback, click the Stop button or press K or the spacebar. The button and the spacebar toggle between Play and Stop.
- To play in reverse, press J.
- To play forward at increasing speeds, press L repeatedly. For most media formats, clip speed increases from one to two to three to four times.
- To play in reverse at increasing speeds, press J repeatedly. For most media formats, backward clip speed increases from one to two to three to four times.
- To play from the In point to the Out point, click the Play In to Out button.
- To play an entire clip or sequence repeatedly, click the Loop button, and then click the Play button. Click the Loop button again to deselect it and prevent looping.
- To play from the In point to the Out point repeatedly, click the Loop button, and then click the Play In To Out button . Click the Loop button again to deselect it and prevent looping.
- To move forward a single frame, hold down the K key and tap the L key, you can also use the right arrow key.
- To move back a single frame, hold down the K key and tap the J key, you can also use the left arrow key.
- To play forward in slow motion, press Shift+L.

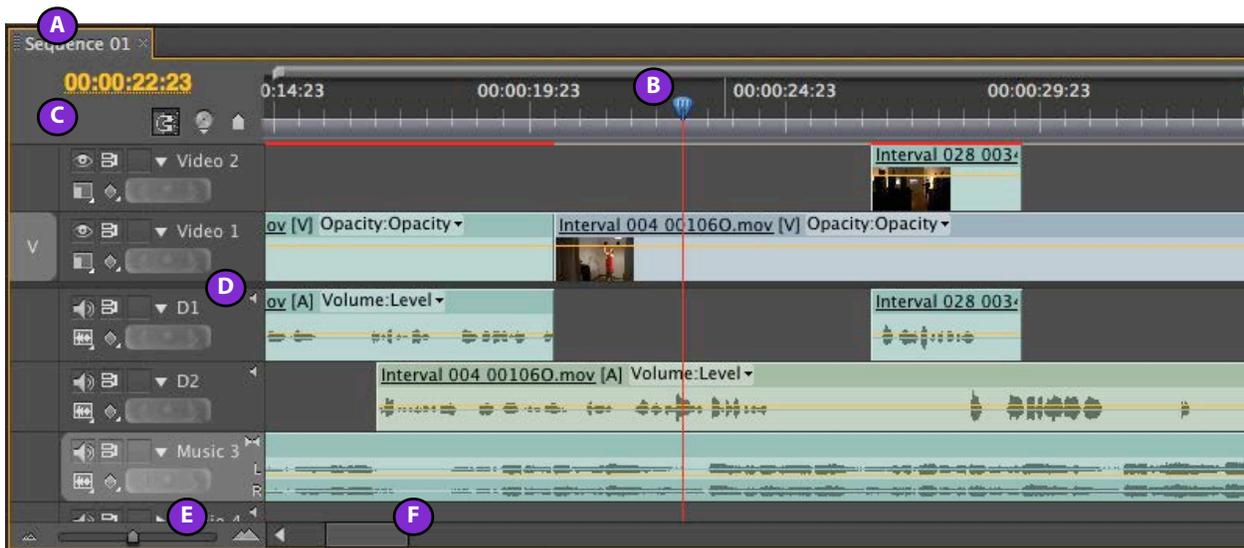




- To play backwards in slow motion, press Shift+J.
- To play around the current time, from two seconds before the playhead to two seconds after the playhead, Option-click the Play In To Out button. Pressing Option (Mac OS) changes the button to the Play Around button. The Play Around button is available to drag into the button bar.

Playback continues unless you specifically press spacebar to stop or another command. This feature supports real-time adjustment of common editing actions. For example, you could adjust a video effects while you are playing back in a loop. Some of the actions that don't stop playback include Keyframing of effects, Interface items, Timeline items, Metadata entry (e.g. updating the description field or log notes), changing Audio parameters, Titling, and Zooming in and out of the timeline.

In the Source monitor the timecode of the current time position (indicated by the CTI) is shown on the left, while the duration of the clip between the In point and Out point is shown in white on the right hand side of the window. We'll discuss In points and Out points below.



4. Construct an assembly of your video sequence in the Timeline Panel

The Timeline Panel appears in a pane (usually in the lower right portion of the workspace when you launch Premiere Pro or create a project unless you've created a custom workspace). You can close the sequences shown in Timeline panel by clicking on the 'x' in the sequence tab, or add additional sequences by double-clicking on the sequence names in the Project Pane, each open sequence will appear as a tab (A) within the Timeline panel.

It is here in the timeline where you do most of your video editing activity. You can stop and start the video by using the playback controls listed in the section above. As you view items in the Source Monitor, set in and out points, and then drag them in the desired arrangement in the timeline, you create a sequence of clips which will in the timeline from left to right. To return to the starting position, click the "Home" key on the keyboard.

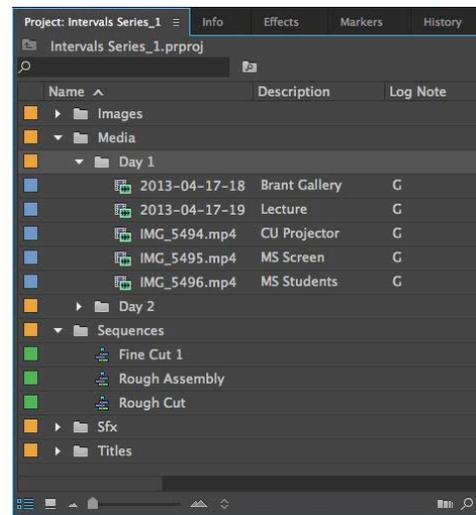
With items in the timeline, you can:

- (1) Adjust edit points, making clips shorter or longer, or stretch them over time;
- (2) Create multiple layers of video, e.g. titles, superimposed images, etc.
- (3) Create multiple layers of audio, e.g. voiceovers, music, etc.;
- (4) Add transitions, filters, special effects, etc.
- (5) When you have finished editing the timeline, you can play it back in real time or export it in a variety of formats directly from Premiere Pro.

The important editing operations will be demonstrated in the Video Tools class. We'll cover some of them in this handout, however, if you need additional help with them, you are encouraged to check out the Lynda.com tutorials that cover editing with Adobe Premiere CC or make an appointment with your instructor for additional assistance with editing.

5. Organize and annotate your media assets in the Project Pane

As the number of media assets in your Project Pane begins to grow, you'll soon have an unwieldy number of clips on your hands. It can take a long time to find the clip you're looking for when they are not annotated and/or organized in some way. The Project Pane has columns called "Description" and "Log Notes" you should use for identifying your footage. I suggest keeping the file names identical to the original. You can click and drag the names of columns to reorganize the order they appear in as was demonstrated in Video Tools. You can create bins (a.k.a. folder) to organize your sequences, video clips, audio clips, music files, titles, etc. Bins should be used for organizing your project.



Create new bins to group together related media assets. With the Project Window active, Choose File > New > Bin to create a new bin. Note the small icons next to each item in the Browser; these change based on the media type, and are a good way to see what's in your Browser at a glance. You can also change the view of the Browser to either list or icons by clicking on the buttons in the lower-left corner of the Project Pane.

6. Continue working in the timeline, trimming and rearranging clips as needed

After you've selected in and out points in the Source Monitor and moved a clip into the timeline you can still adjust in points and out points by trimming them. You trim by clicking and dragging the ends of a clip in the timeline, notice as you hover the pointer over the start or end of a clip, the cursor changes indicating that trimming mode is active. Other tools for trimming, including the ripple, roll, slip, and slide tools, are available and described later in this document.

If you need to delete a gap in the sequence, simply select the empty space and press the delete key.

Working with multiple sequences

You can work with multiple sequences in a single project. You might want to create a sequence for your "selects" (a collection of your better video clips strung together in one sequence), and then create another sequence in which you perform your editing, first to create a rough cut and then when you have your basic sequencing right, a fine cut. By doing the fine cut in a separate sequence, you can go back and use pieces of the rough cut if you change your mind or want to try another approach. Keeping around old drafts of your work in the form of sequences can come in handy. You might also create a new sequence when you want to try some experiments, but want to be able to go back to a stable baseline you're happy with.

You can drag clips around in the timeline in order to rearrange as you like. Dragging a clip from one position in the timeline to another in lifts it (leaving a gap) from its original location and overwrites it to the new location.

Command-dragging a clip extracts the clip (rippling the gap) from its original location and inserts it, sliding all clips to the right of that point to later in the edit.

To delete a clip in the sequence start by selecting a segment in the timeline and pressing the Delete key. This will leaving a gap in the sequence. To eliminate the gap and ripple the rest of the sequence, delete the segment with the Delete key, and then right-click or Control-click on the gap and choose Ripple Delete.

Trimming in the timeline. Hover over a transition, and then when the cursor changes to a red bracket icon, you can drag to trim either side of the transition. This will leave a gap between the clips equal to the amount you dragged. If you want to ripple the trim (closing the gap automatically), simply Command-drag.

You will notice that sometimes you get audio clips out of sequence. If you want to make sure the audio and video clips that are linked together remain in sync, you need to make sure that “Linked Selection” is turned on in the upper left of the Timeline Pane. When Linked Selection is on, selecting the audio or video of a linked clip will select both. When it’s turn off, you can select the audio and video portions of a linked clip separately. In addition, you can link and unlink clips using the Clip > Link or Clip > Unlink menu commands.



7. Work towards a fine cut of your sequence using additional editing tools

Once you have established the basic flow of your clips in the sequence, it’s time to start fine-tuning your edit as you work towards a fine cut. Much of this work will occur in your timeline. So far we’ve done everything using the Selection tool (arrow, shortcut: V), for fine tuning your edits, you’ll find yourself in need of expanding your repertoire, enter the Tool Panel.

The Tool Panel offers a variety of tools you’ll make use of while fine-tuning your editing. When you select a tool, the pointer changes depending on the tool that’s currently selected. Short cut keys can be used instead of clicking on the tool icons in this panel for faster editing, these are shown in parenthesis throughout this document. These tools are best learned through experimentation so you develop a feel for what they do. To perform any of these changes to a clip, select the tool and then perform the edit. It’s a good idea to go back to the Selection tool (V) when you’re done working in a tools so things will operate as you expect. If you ever wonder why your mouse clicks don’t do what you expect them to do, check to make sure the tool you want to be active is actually active. It’s very east to accidentally select the wrong tool, for example, inadvertently typing a key on the keyboard that corresponds to a keyboard shortcut.



Selection Tool (V)

This is the default tool and is used for common tasks in the timeline. To select the tool, either click the select button in the toolbox or press the V on the keyboard. To select a single clip or transition, click the clip or transition in the timeline. To select only the video or audio portion of a clip, hold down the Alt key while clicking the clip. To select multiple clips, hold down the Shift key while clicking each required clip. Shift-click a clip again to remove it from the selection. To select multiple adjacent clips, you can drag a selection rectangle (marquee) around all the desired clips. Shift-drag to remove clips from the selection. To select all clips on a track (or multiple tracks), use the track selection tool instead.



Ripple Edit Tool (B)

A ripple edit means moving an edit point and causing the rest of the timeline to move the same amount to compensate. To perform a ripple edit, select the ripple edit tool. Position the mouse at the edit point in the timeline and drag left or right.



Razor Tool (C)

The razor tool is used to cut a clip in the timeline into two separate clips. Click on the clip at the point where you want the cut to be made.



Pen Tool (P)

The pen tool is used for creating control points (a.k.a. anchor points or keyframes).



Track Selection Tool (A)

The track selection tool is used to select all clips from a given point on a particular track in the timeline. Position the pointer where you would like to start the selection and click. To select an entire track, position the mouse right at the beginning of a track. If you want to select multiple tracks, hold down the Shift key while clicking.



Rolling Edit Tool (N)

A rolling edit involves moving an edit point without affecting the rest of the timeline. The first (outgoing) clip is made shorter while the second (incoming) clip is made longer by the same amount, or vice versa. The result is that the overall length of the program is not altered. To perform a rolling edit, select the rolling edit tool. Position the mouse at the edit point in the timeline and drag left or right.



Slip Edit Tool (Y)

A slip edit means adjusting the in and out points of a clip at the same time by the same amount in the same direction. The duration of the clip stays the same. To perform a slip edit, position the mouse over the clip in the timeline, then click and drag left or right.



Hand Tool (H)

The hand tool is used to drag the area of the timeline visible in the sequence pane left and right.



Rate Stretch Tool (X)

The rate stretch tool is used to change the duration of a clip in the timeline while at the same time adjusting the speed to compensate. If a clip is reduced in length using the rate stretch tool, its speed will be increased, and if the clip is increased in length using the rate stretch tool, its speed will be reduced.



Slide Tool (U)

A slide edit involves moving a clip left or right in the timeline while simultaneously adjusting other clips to compensate. The duration of the clip you are sliding stays the same, the durations of clips on either side will be automatically reduced or increased as required. To perform a slide edit, position the mouse over the clip in the timeline, click and drag left or right.



Zoom Tool (Z)

The zoom tool is used to zoom into portions of the timeline. Clicking on the timeline while the zoom tool is selected zooms into a portion of the timeline, while holding down the Option key while clicking in the timeline will zoom out from the timeline. While the zoom tool is active, you can click and drag around a rectangular area to magnify that portion of the timeline.

Experiment with these tools and make sure you understand how to perform basic edits.

8. Finesse your audio tracks by adjusting audio levels

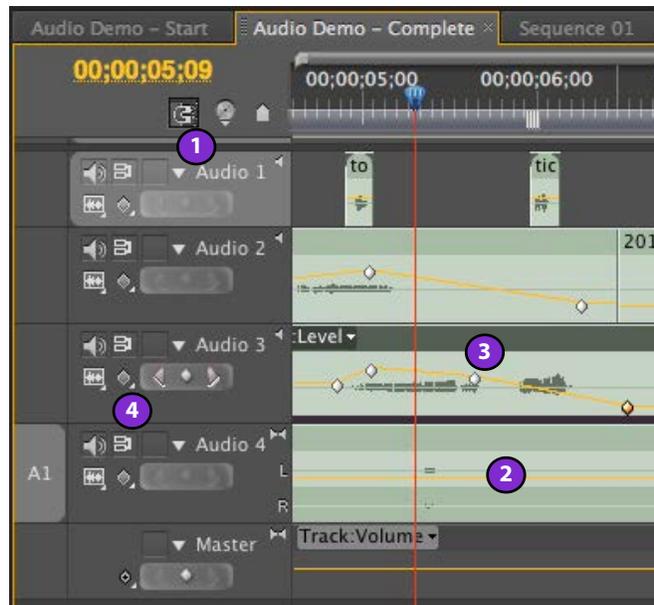
So far we've been focused on editing video clips which usually have a stereo track associated with them. Often you'll want to edit just audio separately from the video, especially in terms of audio levels. This section will get you started with this process, and in a future handout we'll get into more details on how to use audio filters, effects, and the mixer, but for now, we'll stick to the basics.

Rubber banding. You can set key frames and adjust audio levels by using the "rubber banding" technique in the timeline. Here's how it's done:

1. Expand an audio track's view by scrolling in the box with the audio track name to enlarge or click and drag the thin line between audio tracks.
2. Adjust the overall level of the track by dragging the yellow line in the audio track of the clip up or down.
3. To add keyframes, choose the Pen tool (shortcut: P) and then click on the yellow line. This will add a keyframe (shown as a diamond) which you can click on and drag up or down to increase or decrease the volume. You can also add keyframes by holding down the Command key while clicking on the line. You'll see that the cursor

changes to a pointer with a plus sign when you hold down the Command key and the pointer is over an audio track volume line.

4. You can click on the small diamond icon in the audio track's header (track patching info area), and then select one of the following options from the pull-down menu:
 - **Show Clip Keyframes:** Animates audio parameters for a clip, including volume level.
 - **Show Clip Volume:** Changes only a clip's volume level.
 - **Show Track Keyframes:** Animates audio track parameters, including volume, mute, and balance.
 - **Show Track Volume:** Changes only a track's volume level, uses Command-click to adjust the volume, drag up and down. To change the timing of a keyframe, Option-drag left or right.



Using the audio mixer panel you can adjust the level (loudness or volume) and pan (for a mono clip determines where in the stereo field the sound is placed). Pan a clip all the way to the left and it will only come out the left speaker, pan to the right and it will only come out the right.

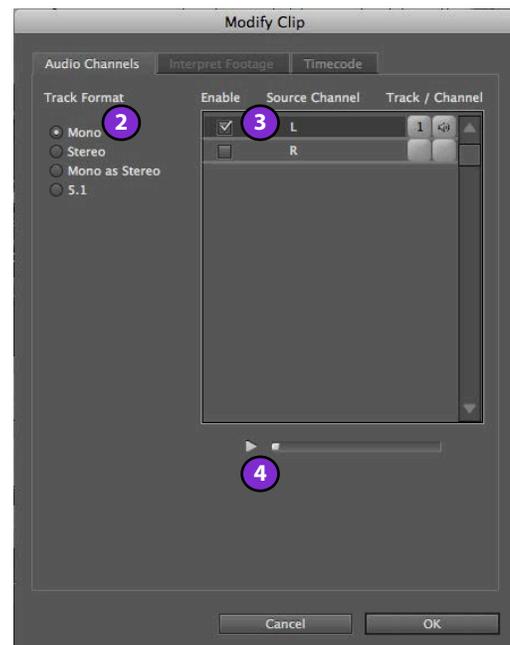
The use of the mixer will be covered in a future handout. For now, stick to Track Volume changes using the Rubber Banding technique and keep things simple for starters.

Need additional audio tracks? By simply dragging an audio clip into an area below the last audio track, you can create an additional audio track. In Sequence Settings you can add and subtract tracks as needed, but the dragging technique is by far the easiest way to add audio tracks.

Converting a stereo clips into two mono clips. Note that with stereo audio, the left and right audio tracks travel together. You can change this by:

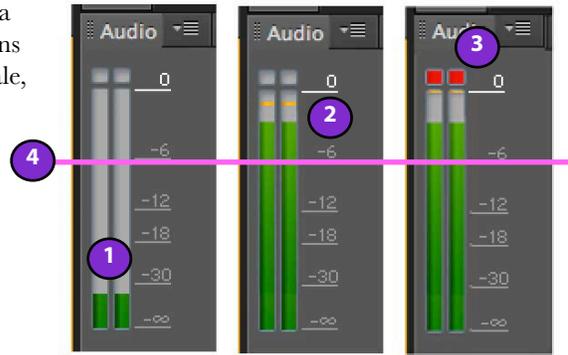
1. Selecting a clip in the Project pane and right-click and choose “Modify > Audio Channels...”
2. A Modify Clip dialog box appears. Click on “Mono” to change the clip to a Mono clip
3. Chose which channel should be used as the mono channel, 1 (left) or 2 (right) by clicking on the “Enable” check-box in the track summary and then click “OK” when you are done.
4. You can preview the clip by pressing on the Play button and scrub using the play indicator to the right of the Play button. While the audio is playing the Play button changes into a Stop button.

Note: if the clip is already being used in your sequence as a stereo clip, you can't change the properties of the clip to mono. This is easily resolved by right-clicking on the item in the Project pane and choosing “Duplicate” which will create a duplicate item and this item (which will have “Copy” at the end of the name) can then be modified.



Audio monitoring. Audio levels are measured in decibels (dB), a measure of a ratio compared to some absolute reference. It turns out that digital audio is measured in decibels (dB) below full scale, which on a digital meter is 0, thus, we see the meter is indicating numbers like -6 dBfs, which means 6 dB below full scale. This is why the numbers go 0, -6, -12, -18, -30.

Furthermore, 3 dB is the smallest change you'll notice, 6 dB is a more noticeable change (roughly equivalent to double the sound energy, or half the sound energy, depending on the direction you're going, up/louder or down/softer. Always keep an eye on your audio meters when working with audio.



If levels average on the low end of the scale (1), unless your video is intended to be a very quiet experience your video will not play loud enough. You want most peaks to hover under the peak indicators (2). The yellow peak indicators show you the level of recent, rapid peaks that you might miss looking at the green peak indicators. When your audio levels are too loud, it will be indicated by the red peak indicators (3). If you allow sounds to go over this peak setting, your audio will distort when played back. It's best to keep the average peaking level of your audio track around the -12 to -6 dBfs range (4), reserving the space above -6 dBfs as headroom for the occasional transient peak which may hit as high as -3 dBfs. If you're creating anything intended for broadcast, the rule of thumb is to keep all of your peaks under -10 dBfs, but you'll see different specifications out there. For web video we typically have our audio levels run a little hotter than broadcast standards because of the variety of playback situations.

9. Add titles as needed

To add a title over your video, follow these steps:

1. Choose Title Menu > New Title.
2. Select from the options in the pull-down menu: "Default still" is probably the best choice starting out. Premiere Pro comes with a range of pre-designed templates from which to choose, or you can also customize and save templates of your own.
3. The "New Title" dialog box will appear. Set the formatting options.
4. Type the text you want on the screen, keep text away from the edges, and avoid serif type.
5. When you're done, click on the "OK" button.



Designing titles from scratch is fairly easy. The Title MainPanel in the Title Tool allows you to see your title as you design it. Most of the tools are to the left, in the Title Tools panel. You can easily duplicate titles so once you've got a style you want, you simply duplicate the title in the Project Pane and rename and edit the new one as needed.

10. Export your sequence

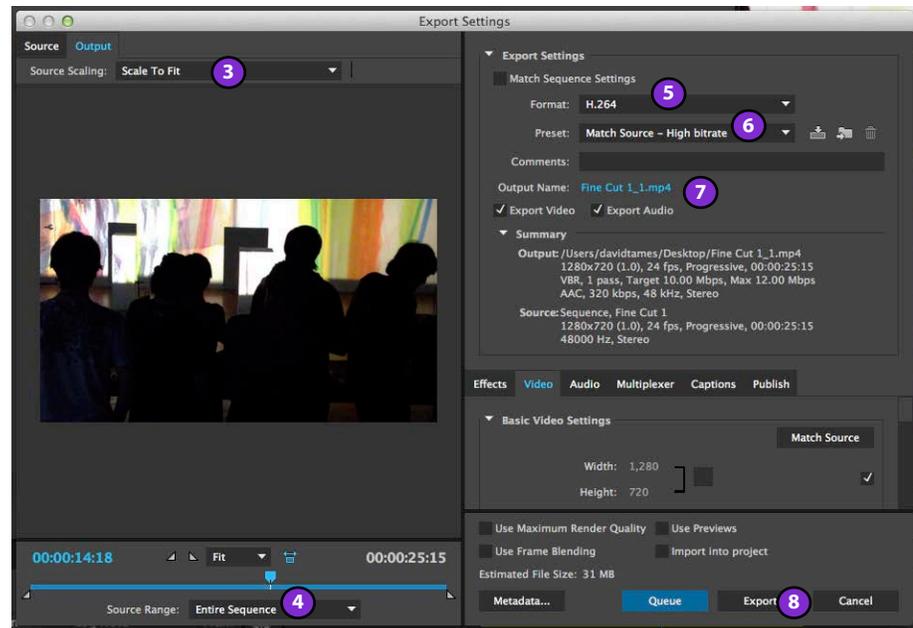
Follow these steps to export a compact, yet high quality version of your video using the H.264 video codec. This is the codec currently used by a majority of video streaming sites because it's relatively high quality with a compact file size. We'll call this "Distribution Quality," since there are some compromises in image quality in order to achieve the smaller file size. On the other hand, an "Edit Master Quality" export is a video exported to a very high quality format (e.g. ProRes 422) which has a much larger file size. Distribution formats favor compact size over quality, while Edit Master Quality formats favor quality over file size. From an Edit Master you can make a variety of Distribution Format videos. But for now, here's how to export a "Distribution Quality" video for screening and critique:

1. Select the sequence you want to export in the Project Pane or make sure it's the active sequence in the Timeline
2. Choose "File > Export > Media..." from the menu (shortcut: Command+M)

3. Make sure the default “Scale to Fit” is selected. Unless you have a reason for changing this, leave it be.
4. For **Source Range:** select “Entire Sequence,” this will export your entire sequence. You can scroll through the play bar in this dialog box to make sure you don’t have extra bits of video after the end of the video. You’ll see the total running time of the sequence as the number on the right hand side under the preview of the video. the area on the sequence you wish to export (on the left hand side of the window under the image) Select the “Source” tab. Only use if you are exporting only a portion of your outputted video. For now select “

5. For **Format:** select “H.264” from the pop-up menu, make sure Match Sequence Settings is NOT selected.

6. For **Preset:** select “Match Source - High Bitrate” to match the source video settings as closely as possible. As long as your sequence was set up as recommended earlier in this handout, everything should be fine.

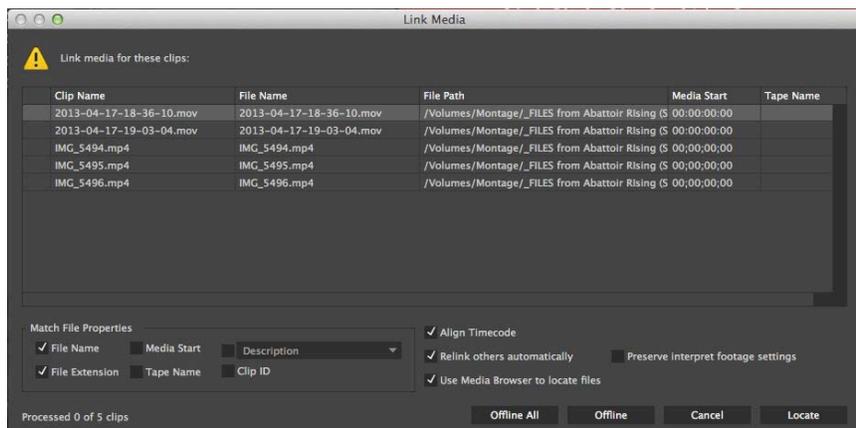


7. Choose a name and the destination folder by clicking on the blue default file name. Name your file following some scheme you’ve developed for yourself. When you click on the file name it will bring up a “Save As” dialog box. Here you choose the name of your file and select the destination folder. When done, click “Save”.
8. Click the Export button at the bottom of the frame to begin exporting. A progress box will display the progress of the export.
9. View your exported file full-screen and with either quality closed-ear headphones (available in the classroom and Media Studio editing area) or high-quality near-field monitors.
10. If you’re happy with the video, copy it into the designated folder for screening and critique.

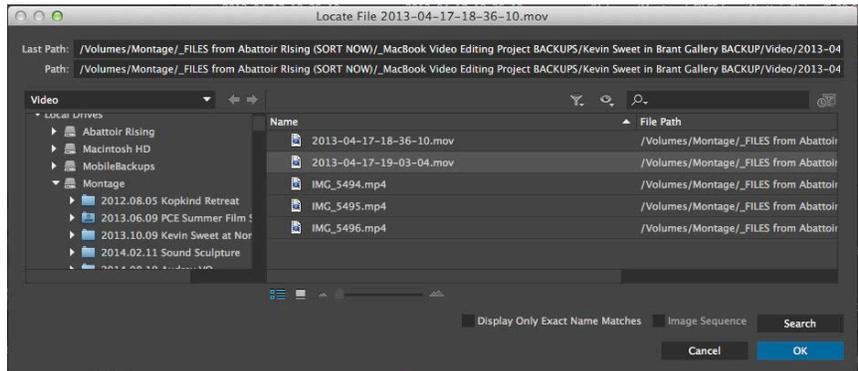
Media offline, where is the file?

In the event Premiere Pro can’t find one or more of the media assets you’re using in your project, it will put up a dialog box asking you to locate the media assets it can’t find. This often happens if you rename the folder the media asset is in, or move the folder, or if your media happens to be on a hard drive that’s not currently mounted on the desktop. This can also happen when you use media on an external device (e.g. tapeless camera or audio recorder) without first moving the media files to a media folder inside your project folder on your external hard drive.

In any of these situations, Premiere Pro will put up a dialog box that looks like the one



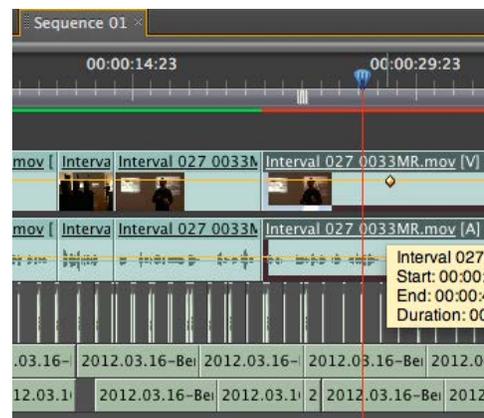
pictured above. You can skip a single file or all of the files that Premiere Pro is looking for, however, in most cases you'll want to select "Locate" and then navigate to the location of the file in question and select it in the file list, after clicking "Locate" you'll see a dialog box like this. Navigate to the location of the file and select it from the list of files:



After clicking "OK" Premiere Pro may come back with other files that need to be re-linked, or when there are no more files that need to be re-linked, it will put up a progress dialog letting you know that it's in the process of re-linking files. If there are a lot of files that need to be re-linked, Premiere Pro might take some time to do this, sit tight, and soon all of your media will be ready to go. The good thing is if a group of files are all in the same folder, Premiere Pro will link to all of them at the same time, so you often don't need to do this on a file by file basis.

Video formats and rendering

There are a variety of video formats out there, some camera formats are designed to balance between size and image quality and require a lot of computer horsepower to reconstruct the frames from the storage format. On the other hand, there are some editing formats that are designed for ease of editing and computers have an easier time playing them, but they take up way more storage space. Then we have mastering formats designed for no-compromise image quality and distribution formats that are designed to be as compact as possible, sacrificing quality. Each format has its own quirks. Mastering formats usually take up too much room to be viable distribution formats. Often camera formats require a lot of computer processing for playback. Many distribution formats degrade picture quality appreciably. Fortunately Premiere Pro is able to directly edit common camera formats, but for any effects or transitions, it has to render out the video because it can't play it back in real-time, it takes up too much of the computer's resources computing the transition or effect.



This is where rendering comes in: rendering is the process of pre-computing (a.k.a. pre-baking) any transitions or effects or conversions that are needed for full-quality, real-time, playback. To render the currently active sequence, choose "Sequence > Render Entire Work Area" from the menu bar. The work area can be adjusted to a specific area so you need only render part of your sequence to see real-time playback.

While rendering Premiere Pro will show you a progress indicator with an estimate of the time it will take to render your project. Depending on how long your sequence is and how many transitions and effects are in it, this could take a while.

The colored lines along the top of the timeline tell you the rendering status of the video. The color indicators are adaptive and based on your specific system. If you have a high-performance graphics engine and/or lots of cores, Premiere will be able to play video that otherwise it would have to render ahead of time for full-quality, full-frame rate playback. Here's what the colors are telling you:

- **No color.** Premiere can play the original source media in real time full-quality and full-frame rate without breaking a sweat.
- **Yellow.** Premiere most likely can play back the original source media in real time on most hardware but it will probably break a sweat in the process.
- **Red.** Premiere may or may not be able to play back the video real time, and it's certainly in for a workout. For simple effects, it will probably provide real-time playback, on the other hand, for more complex effects, it's going to reduce quality and/or frame rate in order to do its best to play back in real time with a lot of huffing.

and puffing. If you want smooth, high-quality real-time playback, you will have to render the work area or entire sequence.

- **Green.** This portion of the timeline has been rendered (a.k.a. pre-baked) and Premiere will play it back in real time without breaking a sweat because all of the heavy lifting has been accomplished during the rendering process.

If you have a fast system (lots of cores, two or three gigabytes per core, fast drives, and a supported graphics card), playback of yellow sections and many red sections will be in real time. With a slower computer, you'll end up having to render more frequently.

The Dropped Frames Indicator provides feedback in the event Premiere needs to drop frames to keep up with real-time playback. To turn on this feature, open the Program Panel menu and choose Show Dropped Frames Indicator.

Even if you drop frames during playback, you don't have to render. Adobe Premiere Pro defaults to playback of 1/2 quality. Unless you are viewing full screen you don't need to see every pixel while editing. When you pause playback, Premiere Pro shows you the full resolution by default, which is why you may notice the video looks better when paused.

While editing Premiere will do its best to play back footage, but it may be doing this at 25% or 50% of the original resolution and only showing you full resolution image when the video is paused. This speeds up the editing process, but when you're done editing, you probably want to look through your video once in full resolution before you do your final export, and this is when you should render the entire sequence and then do a final look-see before exporting. It's better to fix problems now rather than discover them during screening and critique!



Resources for further study

You may need to spend additional time on your own outside of the Video Tools sessions in order to develop the fluency required to complete your video production projects. All of the URLs in this PDF are clickable links and should work as long as your PDF reader is not blocking them:

Tutorials

- “[How to create a video story with Premiere Pro](#),” *adobe.com*, this is a wonderfully short and concise tutorial.
- “[Adobe Premiere Pro CC Essential Training](#)” (2015) with Ashley Kennedy *Lynda.com*, a very compressive tutorial, however, since each module comes with a transcript, you can scan the transcript and jump right to point in the tutorial you need to figure out how to do something.
- [Editing Skills: Featuring Adobe Premiere Pro CC](#) by Larry Jordan, an excellent course that does not require any prior knowledge of Premiere Pro and is ideal for a beginning editor.

Reference

- “[Adobe Premiere Pro Help](#)” and “[Adobe Premiere Pro CC tutorials](#),” *adobe.com*, <https://helpx.adobe.com/premiere-pro/>
- [Premiere Pro, Basic Workflow](http://help.adobe.com/en_US/premierepro/cs/using/WS4C20B718-E29E-41ec-B3D0-0CD37A1D94F7.html),” *adobe.com*, http://help.adobe.com/en_US/premierepro/cs/using/WS4C20B718-E29E-41ec-B3D0-0CD37A1D94F7.html

Glossary

Here are some terms you will encounter when editing digital video. While most terms are universal, some may apply specifically to working with Adobe Premiere Pro.

4:3. The aspect ratio of early film and video, as opposed to the 16:9 ratio of high definition video and many modern film releases. Also known as fullscreen. See aspect ratio.

16:9. The aspect ratio of most widescreen video (may be either standard or high definition), and many modern film releases, as opposed to the classic 4:3. See aspect ratio.

Alpha Channel. The ability of an image or video clip to become semi- or fully transparent, allowing the clips on the tracks below to show through.

Anamorphic. Refers to widescreen video that has been “squeezed” to fit into a 4:3 aspect ratio. It must be unsqueezed for playback in the proper aspect ratio. See aspect ratio.

Aspect ratio. The ratio of the horizontal dimension to the vertical dimension of a picture. Most widescreen video is 1.78:1 (a.k.a. 16:9), and standard-definition video / early film is 1.33:1 (4:3). Wider aspect ratios are typical in theatrical film and video, such as 1.85:1 (the 35mm wide screen standard) and 2.35:1 (a.k.a. “CinemaScope” or “Scope”).

AVCHD. A modern, high definition video codec used for consumer cameras that shoot to some variation of tapeless media (flash cards, hard drives, etc). Considered by many as the successor to the HDV tape format. Uses H.264 specifications for video compression.

Audio Meters. Displays the level (in dB) of the currently playing audio. See also Decibel.

Bin. A folder in which to organize clips and sequences.

Byte (B). Unit of binary data storage, technically 8 binary bits (each bit is a binary digit, either 1 or 0). Think of it as the equivalent of a single character in a word processing document. Typically a single pixel (dot on the screen) of video requires three bytes of storage. See Megabyte, Gigabyte.

B-roll. Shots in a documentary that are used to illustrate what an interviewee is talking about, or to cover breaks in an interview. Often used to refer to the footage that is shot for the purpose of using later as cutaway shots.

Capture. The process of transferring digital video tape material from a camera into a non-linear editing system. See also Import and Log and Transfer.

Clip. A portion of video or audio.

Codec. Compressor/Decompressor. See Appendix A: Understanding Video Compression, and Compression.

Compression. The process of reducing the amount of digital information required to store a file.

Cutaway. A shot of an image or action in a film which is not part of the main action, sometimes used to cover breaks in a scene’s continuity. In documentary often called “B-roll.”

Cutting on action. Editing two shots at a point where the movement in the first one is not yet completed and where the movement in the second one has already begun. Along with an angle change can be a very seamless edit providing the viewer with the impression that the action is continuous and uninterrupted.

Dailies (Rushes). In film production, all the processed footage that was shot yesterday (or on video productions, the same day), usually watched by the director and other crew to make sure everything came out as intended.

Decibel (dB). A measurement of sound level. Our ears respond to changes in volume in a non-linear manner. A decibel is a logarithmic scale of loudness. A difference of 1 decibel is the minimum change in volume that we can perceive, 3 dB is a modest change, and 6 decibels perceived as a doubling of volume. Decibels are used in two ways: audio signal levels while editing (e.g. if you increase the level from 0dB to 6dB in Final Cut Express you are doubling the loudness of a sound), or to measure sound pressure levels in the environment.

1.33:1
(4x3)

1.78:1
(16:9)

2.35:1
("scope")

Digitizing. The act of taking analog video and converting it to digital form. The term is incorrectly used interchangeably with ingest or capture, which is the process of transferring a digital video format into a non-linear editing system (it's already digital, so you are simply capturing or ingesting, you're not actually digitizing).

Double-system sound. The technique of recording sound and image using separate recording devices. In film production this is the normal methodology since film camera can't record sound, however, it is sometimes used in video as well when mobility is required by the sound recordist who may want to avoid running wires to feed the video camera with the audio signal.

Dropout. Loss of a portion of an audio or video signal, usually caused by an imperfection in the tape's coating or dirt covering a portion of the tape. HDV, due to its long-GOP format is particularly susceptible to dropouts because a dropout is likely to affect multiple frames. Hi8 was also a format notorious for drop outs.

DV. A standard definition video codec commonly used for consumer cameras that shoot using MiniDV tapes. DV cameras are inexpensive, and a wide range of computers can be used to edit it, as it's both standard-definition and intra-frame (see Codec). Wildly popular in the early 2000s, it has been overtaken by consumer HD formats like HDV, and more recently, AVCHD.

DVCPROHD. A high definition definition intra-frame video codec used by Panasonic prosumer and professional cameras.

Field. In interlaced video, one half of a complete video image (frame), containing all the odd or even scanning lines of the image. See Interlace Scan.

Filter. An effect applied to a clip in a non-linear editing system.

Foley. Creating sound effects by watching the picture and mimicking the action, often with props that do not exactly match the action but sound good. For example, walking on a bed of crushed stones in order to simulate walking on the ground, or hitting a watermelon to simulate a blow to the head.

Format. The video codec, resolution, and frame rate used for a production. See Appendix A: Understanding Video Compression.

Gigabyte (GB). A unit equivalent to 1 billion bytes. An hour of DV video requires 12 GB of storage, AVCHD around 10GB, and Apple Intermediate Codec around 23GB.

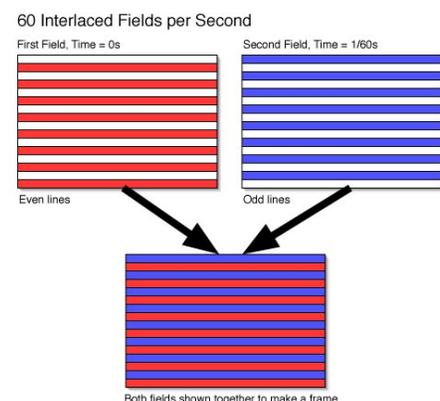
H.264. a.k.a. MPEG-4 Part 10, Advanced Video Coding (MPEG-4 AVC). A video encoding format that is currently among the most widely used formats for consumer camcorders and distribution of video content. H.264 is one of the video encoding standards for Blu-ray Discs and is widely used by streaming internet sources, such as videos from Vimeo, YouTube, the iTunes Store, and various HDTV broadcasts standards for terrestrial, cable, and satellite distribution. It is lossy compression in the strict sense, although the amount of loss may sometimes be imperceptible depending on the actual profile and data rate used to encode the video. It is possible to create virtually lossless encodings when encoding at high data rates.

HDV. A high definition video codec commonly used for consumer HD cameras that shoot using MiniDV / HDV tapes. It is innovative in its use of the MPEG-2 codec to fit more data on the same cheap MiniDV tapes that DV cameras use. Rapidly being eclipsed by AVCHD in the consumer market.

Interlace Scan. A process in which the picture is split into two fields by sending all the odd numbered lines to field one, and all the even numbered lines to field two (see illustration). Field one is then displayed first, followed by field 2. This process was necessary in the early days of television broadcast when there was not enough bandwidth within a single television channel to send a complete frame fast enough to create a non-flickering image, and has unfortunately been carried over to modern systems, though progressive scan is now more common. See also Field.

Import. The process of linking a Final Cut project to a media file, so that the file exists in a Final Cut project but isn't actually moved from its location in the Finder.

Intra-frame compression. This means that each frame (the individual pictures that make up a movie) is compressed separately. The codec basically sees the video as a series of still pictures, and deals with each one independently of the ones around it. Intra-frame is usually preferable to inter-



frame, as it's easier for the computer to work with while editing, but it also produces bigger file sizes and thus requires more hard drive storage to work with. Examples of intra-frame formats include DV, DVCPRO HD, and Apple Intermediate Codec.

Inter-frame compression. This means that the frames are not only compressed individually, but also rely on each other to determine the best method of compression. The codec looks at one frame, then looks at the next to see what's changed, and records only the changes instead of the whole frame. Inter-frame is often used by higher-performance codecs to fit more video onto the recording media, but is more difficult to edit with, as the computer has to work harder at decoding the frames (it's kind of like assembling Ikea flat-pack furniture from the instructions, the package is compact, but there's a lot of work involved in reconstituting the object). While you don't need as much storage space, you need more computational power, and therefore newer, faster computers are required to edit inter-frame codecs. The most widely used inter-frame codecs at this time is H.264.

JPEG. Joint Photographic Experts Group. A lossy standard for compressing still images. JPEG-2000 provides lossless compression.

Keyframing. Setting the level of a filter, or other effect's parameter, so that it can be changed over time with the use of other keyframes.

Kilobyte (K). One thousand bytes, or 1,024 bytes depending on whether a computer system displays size values in base 2 (binary) or base 10. Today, Macs and most external hard drive manufacturers use base 10, where Windows computers utilize base 2.

Letterbox. Placing a wide screen image (typically 16:9) in a conventional 4:3 video frame by placing black bars at the top and bottom of the screen. See also Aspect Ratio and Pillarbox.

Megabyte (MB). A unit equivalent to 1 million bytes, or 1,048,576 bytes (1,024 squared). See Gigabyte and Kilobyte.

MOS. Minus Optical Sound. Shooting image without recording sound.

MPEG. Moving Picture Experts Group. A standard for compressing moving pictures. MPEG-1 video uses a bit rate of 1.2 Mbps (Mega Bits per Second), the speed of CD-ROM. MPEG-2 supports much higher quality with a bit rate from 2 to 10 Mbps. MPEG-2 is the format specified in the DVD standard and is also used in HDTV broadcast. MPEG-4 is the modern, highly efficient equivalent, intended for a range of applications from web video and mobile devices to Blu-ray discs and HDTV broadcast. See also H.264.

Non-synchronous sound (non-diegetic). Sound that is not clearly matched to the image or something happening offscreen.

P2. A proprietary memory card format developed by Panasonic for use in their prosumer and professional camcorders. It consists of four high-speed SD cards ganged into a RAID array so that the camera can write to the cards at a much higher data rate than would be supported by a single SD card.

Paper edit. The process of creating a preliminary edit (usually an assembly edit) of your documentary using paper transcripts. Some people actually cut out pieces of paper, others highlight key text and pull from that. In the old days of linear video off-line editing, paper edits saved lots of painful video editing time. Today with non-linear editing with all their tempting bells and whistles, paper edits can help you focus on ideas and concepts rather than editing rigamarole. Paper edits are a wonderful way to work towards the rough cut by helping you focus on structure rather than interface.

Petabyte. 1,000 Terabytes, or 1 million Gigabytes.

Pillarbox (curtain). Placing an image in a frame with a greater aspect ratio than it's own by placing black bars at the left and right sides of the screen. See also Aspect Ratio and Letterbox.

Pixel. Picture Element. The basic unit from which a digital image is made. Essentially a dot with a given color and brightness value. Standard Definition images are usually 720 x 480 pixels, and High Definition is usually 1920 x 1080 pixels. High-end professional cameras can record up to 4K (4096 x 2048).

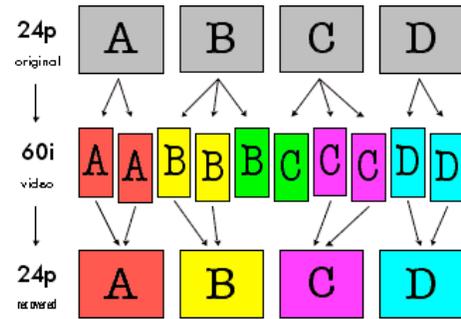
Program Monitor. Displays the open sequence in the Timeline.

Progressive scan. An image scanning system where each line is displayed progressively (1, 2, 3, 4, 5 ...) in contrast to interlaced scanning. Computer monitors use progressive scan, and most HD formats includes several progressive scan variants. Video has historically been 60i (60 interlaced fields, a.k.a 30 frames per second). Progressive scan offers

an image that is well suited for web video and for display on computer monitors and flat-screen displays.

Pulldown. Video is often shot at 24 progressive frames per second (to mimic the “film look”), but recorded at 30 interlaced frames per second. Pulldown is a method for recovering the “embedded 24” and putting it back into a native 24 (see illustration).

Resolution. The measure of pixels in the frame, directly related to the amount of detail in an image. Higher resolution means more detail. Also used to describe the size of an image, usually expressed in pixels, e.g. a high definition video frame has 1920 x 1080 pixels or 1280 x 720 pixels.



Ripple Edit. A ripple edit changes the duration of a clip by extending/trimming the in/out points.

Roll Edit. A roll edit allows you to move the edit point between two clips, extending/trimming the in/out points of the clips.

Scratch Disks. Location where Premiere Pro stores captured footage from a camera or preview footage used in editing. When working with Premiere Pro you should avoid changing the default setting of Scratch Disk, which is to put these files in the same folder as the project.

Sequence. A group of audio/video clips, images, text, and any other elements that make up your movie.

Single system sound. A method of recording sound and picture on the same device, often used in video production. See also double system sound.

Slate. 1. A device used to place an identifier in front of the camera at the beginning of a take. When shooting double system sound, the clapping motion and the clapping sound is used to synchronize the audio to the picture in post production. 2. A shot or portion of a shot in which a slate or other identifying information appears. Often master tapes will include a slate and countdown prior to the start of the show.

Slide Edit. A slide edit allows you to change the location of a clip in the timeline by changing the in/out points of the neighboring clips.

Slip Edit. A slip edit allows you to change the in/out points of the clip itself without changing its position or in/out points in the timeline.

Snapping. Allows easy moving around of timeline clips by automatically “snapping” the edges of clips together when they are brought close to each other.

Source Monitor. Displays a single clip from the Project Pane or from within the sequence in the Timeline.

Stock footage. Motion picture footage from previously existing films, filed in film libraries or archives, which is incorporated into a new film, usually to provide scenic background or for stock situations and settings, such as war scenes or foreign locations.

Synchronous sound (sync sound, diegetic). 1. Recording sound in synchronization with recording image. Can be single- or double-system. In single-system sound recording the camera records sound and image, with double-system sound recording, the camera is used to record images and a separate sound recorder is used for sound. 2. Sound whose source is apparent and matches the action in a scene. See non-synchronous sound.

Target Bit Rate. When compressing video, specifying how much data bandwidth is available to encode video information over time. Codecs can range from just a few Mbps to hundreds. Usually, the higher the bit rate, the higher the quality and the larger the file size.

Terabyte. One trillion bytes. An hour of high-definition video at a resolution of 1920 x 1280 might take about one terabyte to store in an uncompressed format. Acquisition formats like HDV involve significant levels of compression in order to reduce the data required to store video.

Timeline. Displays video sequences, playback is displayed in the Program Monitor.

Timecode. A time reference used to identify each frame of video, typically written or displayed as “02:23:43:02” designating hours : minutes : seconds : frames. A semi-colon between the seconds and frames typically indicates drop-frame time code (in which some numbers are skipped in order to align time code with real time).

Tool Palette. The group of tools that facilitate timeline editing and image manipulation.

TV Safe. The area of the video image which will normally appear on a home television set. Due to the design of CRT monitors, they “over-scan” the image, which means the edges of your video will not be visible. You can’t be sure that something that appears in the frame on your computer screen will actually be seen by “viewers at home”, so it has become standard to keep titles within an area called “title safe” and the rest of the action within “action safe.” Non-linear editing system and DVD authoring systems have guidelines you can turn on and off to see these margins. Many flat-screen TVs still overscan video so this is not a thing of the past.

USB (Universal Serial Bus). A data transfer standard used to connect computers, hard drives, cameras, scanners, printers, etc. While USB 1.0 is a comparatively slow standard, USB 2.0 (a.k.a. Hi-Speed USB) is fast and is widely used for connecting cameras and external hard drives to a computer. USB 3.0 provides even faster data transfers than either USB 2 or legacy FireWire connections.

Widescreen. A general term for presentation using a screen with an aspect ratio greater than 1.33:1 (4:3). See Aspect Ratio.

The fine print

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Acknowledgments

24P conversion diagram courtesy of Adam Wilt, used with permission. This document is based, in part, on a similar document created by David Tamés and Zak Ray at MassArt and released via a Creative Commons Share-Alike Attribution license.

Colophon

This document was produced on a MacBook Pro using Pages and set in Adobe Myriad Pro and Baskerville. Some Adobe Garamond might have sneaked in from a previous version.

Summary of commonly used Adobe Premiere Pro keyboard shortcuts

Arrow tool	V	Used for selecting objects within the workspace
Hand tool	H	
Zoom tool	Z	
Timeline zoom in	=	
Timeline zoom out	-	
Zoom into sequence/zoom in or out	\	
Maximize Frame	Shift + `	
Play in Reverse	J	A 2nd, 3rd, and (sometimes) 4th press of the J will speed up reverse playback
Toggle Playback	K (or spacebar)	
Play Forward	L	A 2nd, 3rd, and (sometimes) 4th press of the L will speed up forward playback
Previous edit	Page Up	
Next edit	Page Down	
Mark in	I	Set the In point of a clip or a position in the timeline
Mark out	O	Set the Out point of a clip or a position in the timeline
Clear in	D	
Clear out	F	
Clear in and out	F	
Insert	F9	
Overwrite/overlay	F10	
Razor blade	C	
Pen tool	P	
Trim back	Option + left arrow	
Trim forward	Option + right arrow	
Trim in and out point	mappable	
Roll edit	N	
Slip slide	Y	
Snapping	S	
Replace	Option - drag	
Lift	;	
Extract	,	
Mark clip	Shift + A	
Marker	Num *	
Matchframe	M	