Blackmagic Intensity Shuttle Thunderbolt
### Global Emergent Media Lab Workflow Quick Guide

Index:

This guide is still a work in progress and so there may be steps involved in different workflows for this equipment not outlines herein.

How to start using the video recorder

The Intensity Shuttle turns on and off by itself, you can start it by plugging it in to the Laptop at the station using the attached thunderbolt cable.

To control the recorder we are going to use Premiere. I will outline how to set-up a basic premiere project for this purpose, so if you know how to do so already, please skip ahead.

Setting up a premiere project to use the recorder
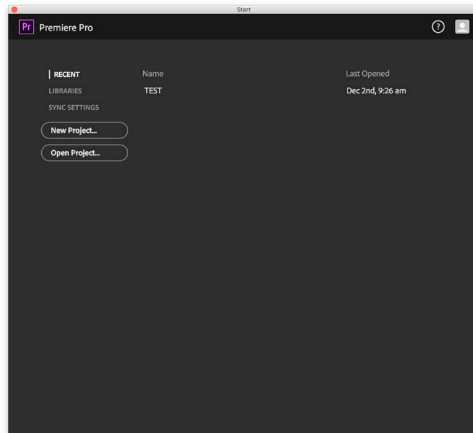
Start Premiere, the project select screen will appear. (Note: if you navigate away from this screen, it will disappear. Click on Premiere on your dock and it will re-appear.) Select New Project.
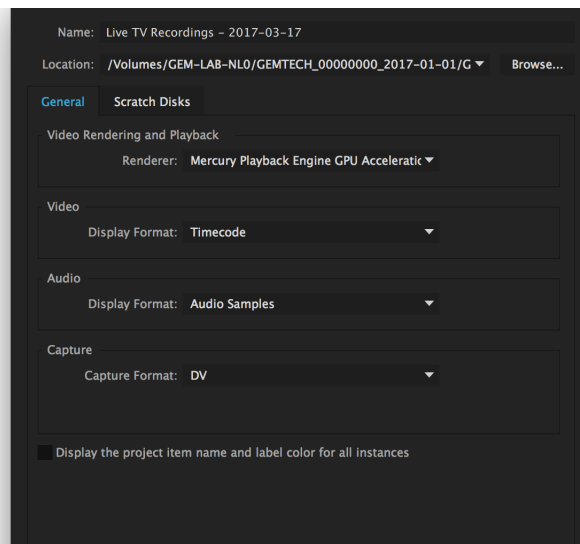
On the New Project Screen enter a name for your project. (Please make this name descriptive and not just "record" or "test".) Then click "Browse" next to the location field, select a folder for your project (it is suggested you make a new folder per project and name it the same as the project.)

It is permissable to record to the laptop hard drive, however you MUST transfer the captured footage off the laptop hard drive and delete it when you are finished. If you are recording SD footage, you can record it to most any USB 3.0 hard drive.

Recording to the desktop can be advisable is you are working with a 1080p recording, as it is possible your hard drive may not be able to keep up. But in this case, it's best to run a five minute recording test with your hard drive first. Premiere will warn you if you drop frames, if it does record to the internal drive, if it doesn't then record straight to your drive.

The rest of the settings on the first tab will be automatically set to the correct items.
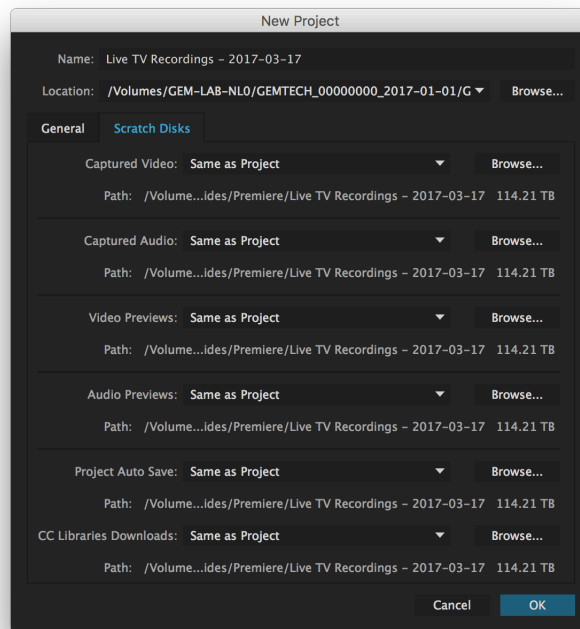
Click on the Scratch Disk tab, all of the entries here should now be set to the folder you selected in the location field. If they aren't, make sure to assign them to the same folder. Click "OK."

In order to start the recording process, go to the window drop down menu and select **Capture**. This will open the capture window where we will be controlling the process from.
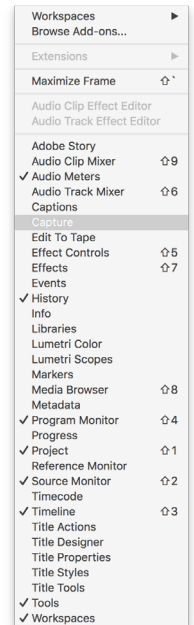
Where is your video coming from?
There are three broad sources of video capture and two broad sources of audio capture on the intensity shuttle.

In order from highest definition to lowest they are:

HDMI
- Standard HDMI connection can carry up to a 1080p signal.
Component
- This is an analog signal, but with the color information seperated. It uses Red, Green and Blue plugs.
It won't increase resolution of the same source but it will provide better color information.
Certain devices can output early HD (1080i or 720i) through this connection.
S-Video
- This is an analog signal, it seperates brightiness information from color,
making it slightly higher fidelity than Composite.
Composite
- This is your standard "Yellow Plug" analog video.
HDMI (Audio)
- This means an embedded Audio track sent through the HDMI, must be stereo.
RCA
- These are the White and Red plugs most analog audio uses.

We have a few devices set up at the lab that we have confirmed to work with the recorder for digitizing common formats.

DVD / MiniDisc
- Can be digitized using the Blu-Ray/DVD player via the HDMI connection. (All regions are automatically supported.)
Blu-Ray
- Can be digitzed using the Blu-Ray/DVD player via the HDMI connection. (All regions are supported, but there is a method for changing settings, check the guide at the video hub.)
VHS
- There is a deck at the station which is capable of ouputting a signal which the video recorder can process directly from the analog outputs.

<u>Using a device from outside the video hub</u>
It is also possible to use devices that are not provided by the lab, as long as they connect via one of the technologies listed on the last page.

Disclaimer: Not all devices will work with the recorder and it may take some experimentation to get a new device working, or it might not work at all, this will become more clear in the next steps.

In general, tape deck units can be hit and miss due to inconsistent frame rates and timecode that they output, so expect some extra time for testing to see if a device like that will work. The supplied VHS player has a component called a "Time Base Corrector" or "TBC", which accounts for these frame rate issues. It can be possible to route another device through it, (using the video in plugs on the front) to try to take advantage of this, but that isn't guaranteed to work.

Also, for HDMI sources, the recorder can only record up to 1080p/59.94 fps or 1080i/60fps (not 1080p 60fps or anything above 1080p in resolution.)

Checking the Blackmagic Desktop Video Application
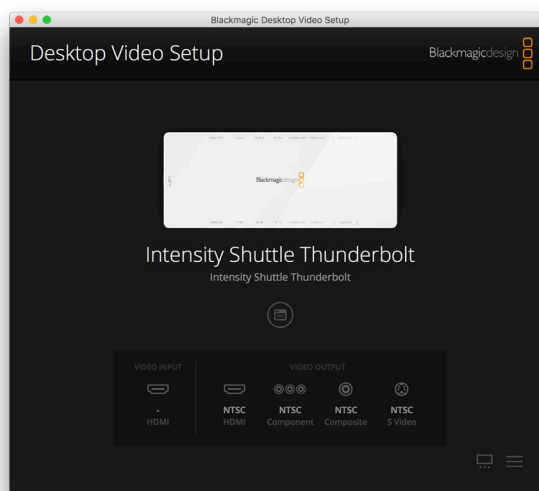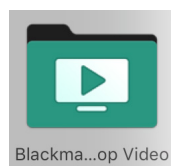
Now you want to check the Blackmagic Desktop Video Application so you can verify that it is set to detect the right input channels. You'll want this open in the background as you record so you can trouble shoot if necessary.

When you open the program it should show up as a screen like the one on the previous page, displaying that the computer recognizes the connection to the Intensity Shuttle. Click the gray button under the recorders name. It will bring you to the setup menus.
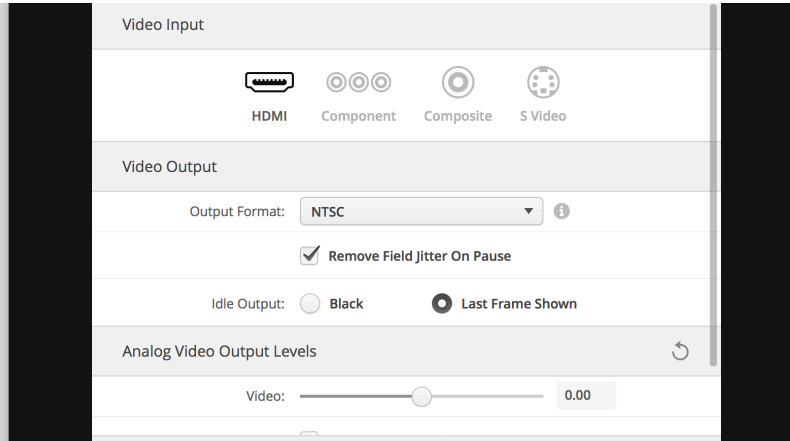
In the video tab make sure that the appropriate Video connection is selected and in the audio tab make sure that the correct audio source is selected. By default analog video only permits analog audio, HDMI can switch back and forth.

Premiere Capture Tool
Moving back to Premiere, we can now set-up the capture tool.
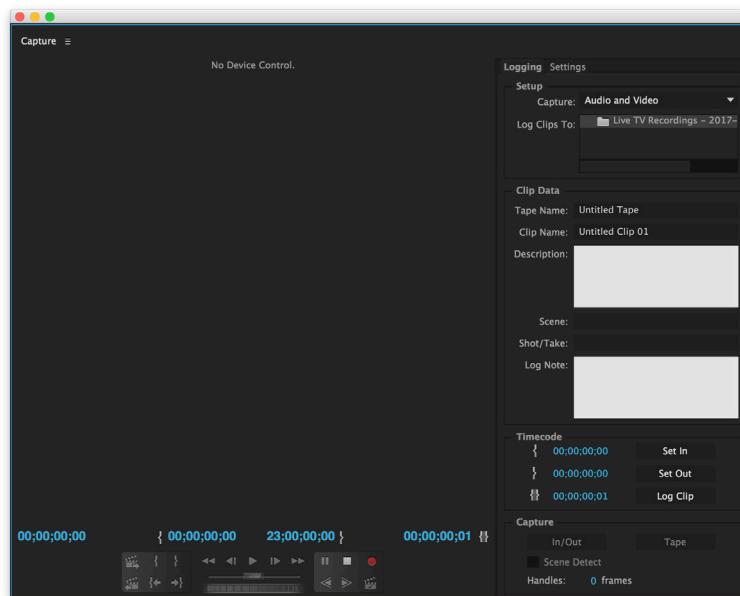
Your capture screen will most likely look like this when you open it. (Unless the last person to record was using the same device as you and the settings are already correct.) In order to calibrate the capture tool we'll need to go to the settings tab, but first I'll explain a few things about what is currently on the screen.

The Capture Window
The left side of the capture window shows (from top to bottom) a status message on the device you are connected to (No Device Control), a video capture preview (currently blank), different sets of timecode and device controls.

These controls are designed for use with tape decks which are directly controlled by the software, which the intensity shuttle is not. So only record and stop will be functional. Additionally the status message will always read "no device control" but will also give you a read out of remaining recording time when you are recording.

The Logging Panel
The logging panel on the right side allows you to set the metadata and name for the clips you'll be ingesting. The two bottom panels (Timecode and Capture) are for use with tape decks as described above, so we'll ignore those.
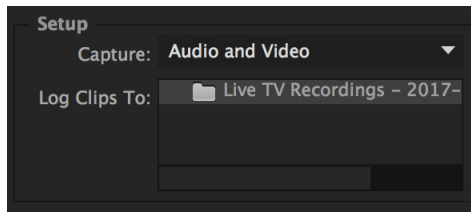
The Setup Panel allows you to set what you will capture (so if you are only capturing video or audio you can set it to that, but in general make sure it is set to Audio and Video.) It also allows you to view your capture destination, which should be the same folder as your project by default.
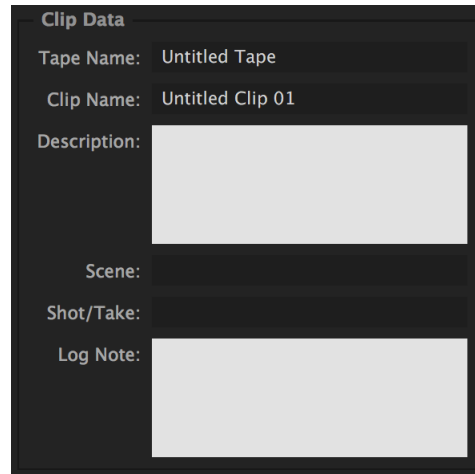
The Clip Data panel allows you to name the clip and enter metadata that will appear whenever the clip is loaded into Premiere (whether in this project or another.) However as we will likely be converting these files later, some of this information will likely be lost. The most useful information is:

Tape Name: Use the name of the media (if recording from media), Use the name of the Channel and Date (if recording from live tv or streaming service), etc.
Clip Name: Use a number and then a short but descriptive title. (I.e. 01_CNN – Morning News Coverage of Event, 02_NBC – Morning News Coverage of Event, 03_CNN – Midday Coverage of Event…)
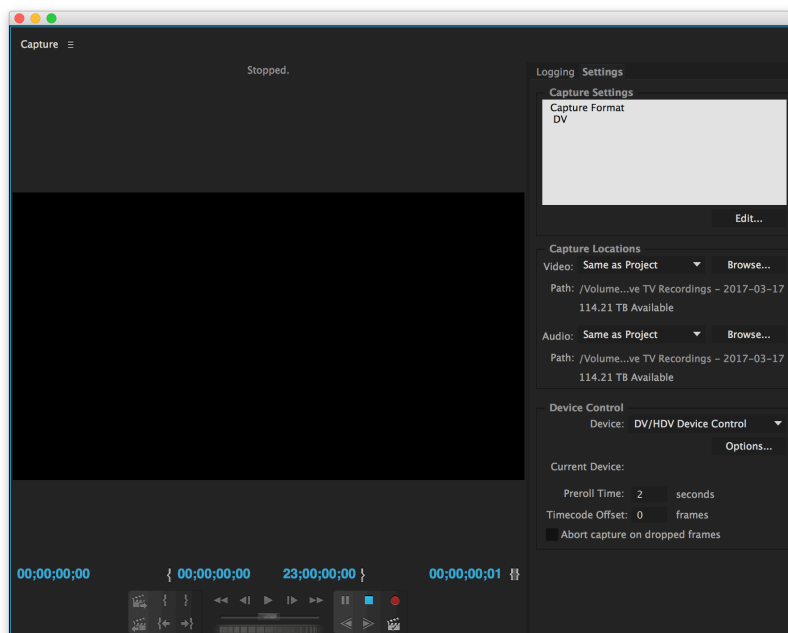
<u>The Settings Panel</u>
So the next step towards recording is to get a video to show up in the capture window and the audio level to show up on the audio meters (from earlier). To do this we have to switch to the settings tab.
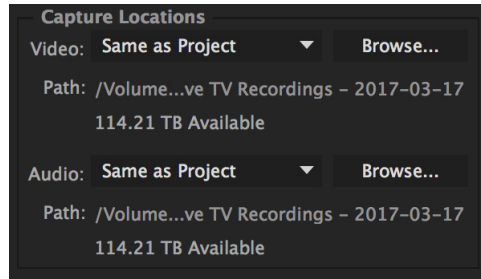
First check the Capture locations panel and make sure it is capturing to the right place.

If for some reason you want to reset where the video is being captured to, you can change it here, BUT there is a glitch that makes it so that if you do not save and restart Premiere the change will not take place and it will continue to record to the original save location.
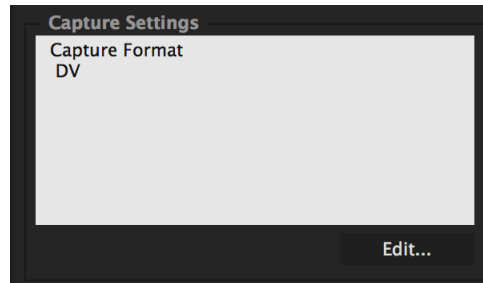
Next look at the Capture settings panel, it should look like this if it isn't calibrated. Click "Edit…"
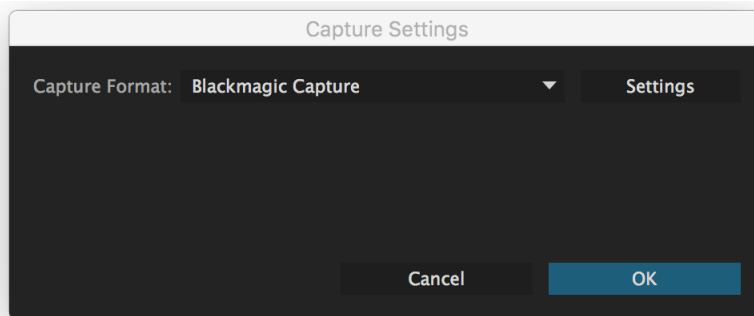
This will bring up the capture setting window, on the drop down select Blackmagic Capture.

Next select "Settings".

Determining your capture settings

This settings window will easily be the most complicated part of this process and will require a lot of experimentation if you are not using a device with suggested settings (to be given at the end of the guide.)

Essentially you have to get this panel to align with what your source is outputting. Now depending on your source, this may or may not be a problem.

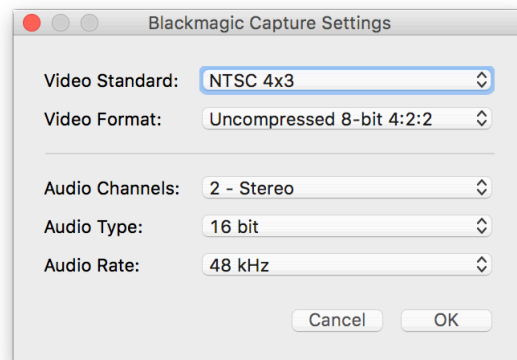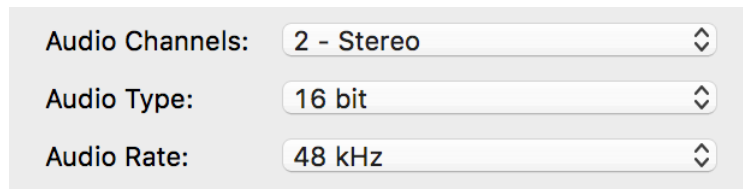The main field you'll be worried about here is Video Standard. Video Format is just the format you are recording to, and I would suggest leaving that at Uncompressed 8-bit 4:2:2. (Unless this is raw source footage, then you can consider 10-bit but the filesize gets even bigger.)

The audio controls are also usually fine when set as standard (seen above), if you are having trouble with audio there will be a trouble shooting section to follow. (Note that you will never have audio working until you have Video Standard working.)
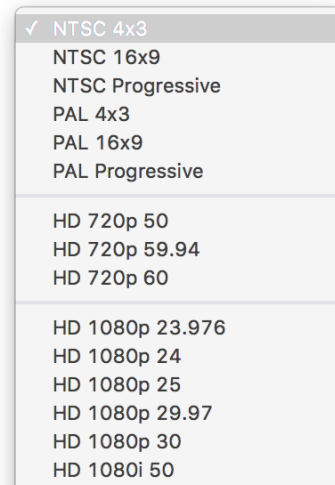
So for Video Standard, you must choose the option from the list that matches your source.

Common Settings / Proceedures:

You will know that your video is properly set up when you close the settings windows and see an image in your preview in the capture tool.

DVD / Mini Disc
Blackmagic Desktop Video
- Video Input : HDMI
- Audio Input : HDMI Embedded

Premiere Capture Tool:
- Video Standard: Either NTSC 4x3, NTSC 16x9 or NTSC (Progressive.)
This will depend on your source DVD/Mini Disc, as though it is coming through an HDMI cable, it is still the original DVD SD signal. So you mostly need to get the aspect ratio right.

BluRay
Blackmagic Desktop Video
- Video Input : HDMI
- Audio Input : HDMI Embedded

Premiere Capture Tool:
- Video Standard: 1080p +the correct frame rate
For 1080p sources you need to nail the correct frame rate along with the resolution, luckily our player can help you with that. Start playing the video and hit the display button on the player remote (usually in the bottom drawer of the Hub cabinet.) This will put on an on screen display with the resolution and frame rate.

This will give you an idea of what setting to try, i.e. if it says 1080p 24 try 24 frames per second on the capture tool. If that doesn't work, i.e. the number the player lists is 24 or 30 and you still have a blank preview, try 23.976 or 29.97 respectively. Sometimes the player will tell you it is a "clean" 24 or 30 when it is in fact "drop frame" which relates to those frame rates.

VHS
Blackmagic Desktop Video
- Video Input : Composite (or S-Video)
- Audio Input : RCA

Premiere Capture Tool:
- Video Standard: NTSC 4x3 or NTSC 16x9.
This should get you a preview, there are some more in depth aspects to VHS, but those will be dealt with later.

Digital TV Receiver
Blackmagic Desktop Video
- Video Input : HDMI
- Audio Input : RCA

Premiere Capture Tool:
- Video Standard: 1080i 59.94
So this requires work in the audio side of things.

The problem is that the receiver does not export an audio signal other than 5.1 surround sound. Our recorder needs a stereo input (or PCM as it is otherwise known) so we're going to run the audio signal through the TV and the headphone amp. This will get us a viable stereo signal, however it also means you will have to do some input lag correction in post.

- Turn on TV
- Check headphones attached to headphone amp to confirm audio.
- Take the RCA audio cable out of the back of the VHS player and into the RCA plugs in the headphone amp.

Go into Blackmagic Desktop Video's Audio Input tab and switch the source from HDMI embeded to RCA. You can use the knob on the heaphone amplifier to modify the audio level of your recording.

Explanation of Video Standards
So, assuming you don't know the intricacies of video compression here are the basics should you be working with an outside piece of equipment.

NTSC: Relates to signals put out by Standard Definition (SD) devices in North America. (Usually running at 24fps.)
PAL: Relates to signals put out by Standard Definition (SD) devices in Europe and some parts of Asia. (Usually running at 25fps.)

4x3: Aspect Ratio (Square/Academy)
16x9: Aspect Ratio (Widescreen)
Progressive: Try this if you have an SD source and the other options don't work.

720p 50: A Low Quality HD Signal running at 50 Frames per second (usually a European Standard.)
720p 59.94: A Low Quality HD Signal running at 60 frames per second with Drop Frame.
720p 60: A low Quality HD Signal running at actual 60 frames per second.

1080p 23.97: Full HD running at 24 frames per second with Drop Frame. (Usually Films)
1080p 24: Full HD running at actual 24 frames per second. (Usually Films)
1080p 25: Full HD running at European Standard actual 25 frames per second. (Films or TV)
1080p 29.97: Full HD running at 30 frames per second with Drop Frame. (Usually TV)
1080p 30: Full HD running at actual 30 frames per second. (Usually TV)

(All of the above are progressive frame rates. Without getting too technical, this is a "pure" signal where the entire frames information is delivered at once to the display, more common in disc media or digital streaming.)

1080i 50: Full HD running at European Standard actual 50 frames per second. (Usually TV or Video Games)
1080i 59.94: Full HD running at 60 frames per second with Drop Frame. (Usually TV or Video Games)
1080i 60: Full HD running at actual 60 frames per second. (Usually TV or Video Games.)

(All of the above are interlaced frame rates. Basically this is a technique by which the image is divided in half (even and odd lines of pixels) and delivered to the display one after another. A broadcast TV standard owing back to Tube TVs.)

If using an outside device
So, what do you do with this information? In a best case scenario you will have a menu on or a display function on the device you are using that will tell you what video format it is outputting. If your device doesn't, you're going to have to make an educated guess and try multiple settings, hence why I described each setting briefly. (You can also try googling the device's model number, sometimes you can dig up the information you need.)

If you are lucky, you will pick the right setting first, click "OK" for that window and the Capture settings window and and the image will display in the Capture Window. (Note if you navigate out of Premiere while not recording the image will disappear until you have the program selected again.)

A general piece of advice, if the image does not show up, if a device says it's running at 24fps / 30fps / 60fps and you aren't getting an image, try the drop frame equivalents of 23.97fps / 29.97fps / 59.94fps, as sometimes the device is not actually putting out a "clean" frame rate.

Finding the correct settings may take some experimentation both with the settings here and (if your device has a menu) seeing if the device can be set to different resolutions or frame rates and re-attempting to find the right setting in Premiere.

You will know when you have the right settings as you image will appear in the capture tool preview window, free of any flicker and displaying normally.

Audio

One peculiarity of working with the video recorder is that it does not "live preview" audio. So you will have a visible preview of the video but not an audible preview of the audio.

The way to confirm you have audio is to look at the audio meters in Premiere that are usually next to your timeline.

If you see a signal on them while the capture window is open, then that is a confirmation that your audio is coming through. If they are blank, then we have settings to go back through and check.

Before we do that though, there is another observation to be made. It is possible, especially with VHS, that the audio is working but the level it is coming in at it too high and is peaking on your audio meters (i.e. hitting the red at the top.) If this is the case, go to Blackmagic Desktop Video's audio tab. You will see two sliders under the header "Analogue Audio Level". You can use these to reduce the incoming volume you are recording, as you do not want it to peak and hit the limiter.

An easy way to confirm that your device is outputting audio is to turn on the TV at the station. If the TV is not set to the source you are trying to view, press the "home/house" button which will pring up the signal selector.

If you are working with an HDMI source it will already be running to the TV and you can use the headphone amp to check for the audio.

If it is an analog device (or the VHS) you can unplug the AV cables from the recorder and plug them into the receiver cables on the side of the TV. Check using the headphone amp that audio is being output.

So, assuming you have tested that audio is being output, but audio is not coming through when you capture your screen will look something like the following:
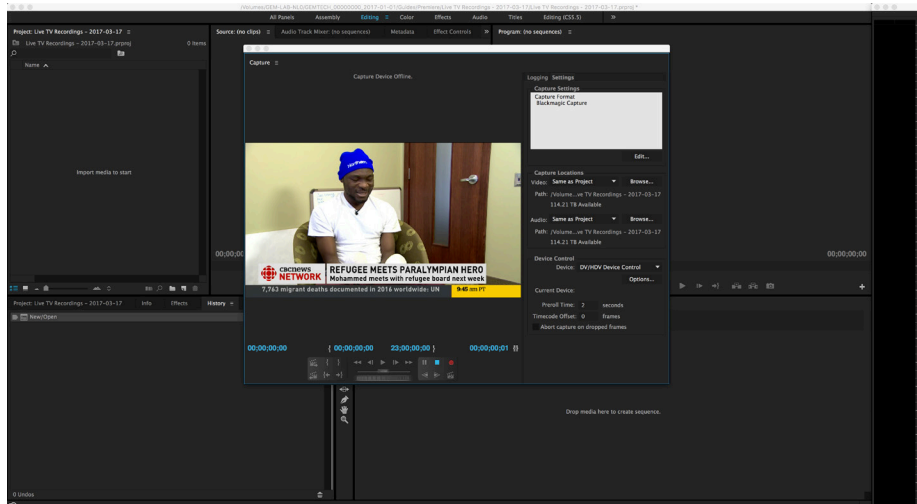
The meters on the right side are dead, no incoming signal. If you are working with anything but the Digital TV box, then check Blackmagic Desktop Video's audio tab, verify that the input is set correctly. If it is, then verify that the input level has not been greatly reduced to the point of muting the audio.

If it is the digital cable receiver, go back to check that you correctly rerouted the sound for the audio workaround with that device.

If you are working with device you brought it may be time to delve into it's own settings. If it is an analog device check for any settings that may be affecting it's audio output volume and raise them. Also check if there is a "Dolby Surround Sound" option, if there is, turn it off as the recorder only accepts stereo.

> If you are working with a digital device, look for the audio settings and verify they are set to "stereo" or "PCM" or "Linear PCM" or "L PCM".

All of these are different versions of common stereo implementations, which is what the recorder needs.

If there is no such option, then you will have to do the following:
- Unplug the source plug from the HDMI splitter feeding the TV and recorder.
- Plug your device into that HDMI port.
- Go back to the "Common Settings and Proceedures" section and look at the Audio workaround for the Digital TV Receiver. Follow those steps.
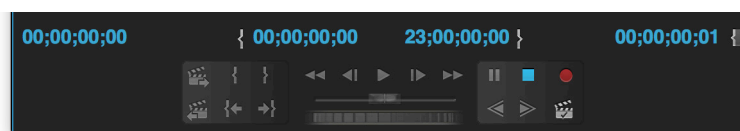
In the end, you should have the following:
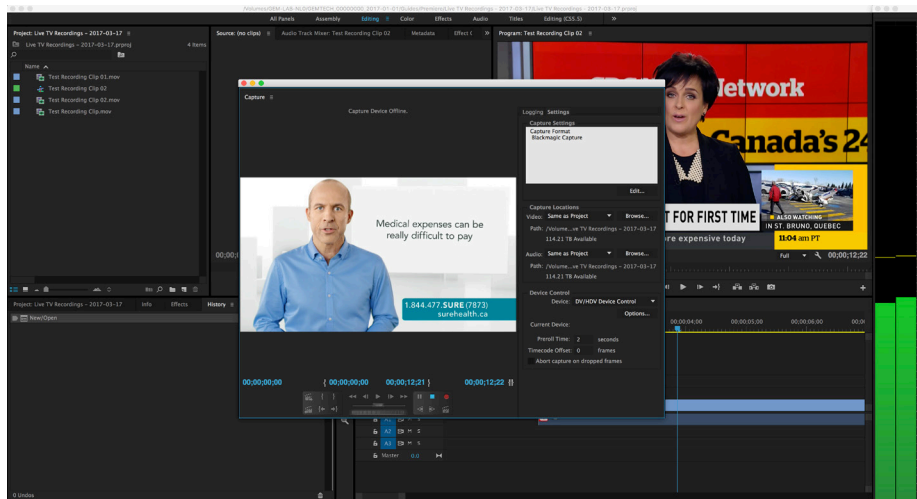
A preview on the capture window along with a signal on the audio meters.

Recording
Once you're got everything set and both your video and audio are coming in correctly recording is as simple as hitting the red record button.


The recordings will be saved to the folder designated earlier and automatically loaded into the Premiere project you currently have open.

It is HEAVILY suggested that you compress these files, unless they are raw footage that you intend to work on later with a grade or correction. But first, if you have audio input lag you should fix that and here is how.

**Audio Work-Around (Input Lag Correction)**
So if you used the audio work around associated with the Digital TV Receiver or another source that doesn't have a digital stereo output setting this is how you correct the audio lag in Premiere afterwards.

This audio lag is reliably a synch discrepancy of 7 frames. So while it is not ideal, it is relatively easy to fix. See an example of the re-synched file bellow on a timeline.
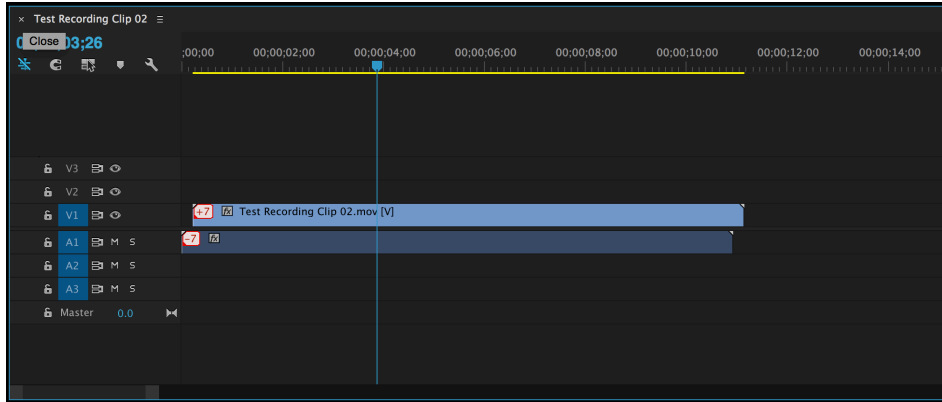

So what this timeline shows, is that the audio is preceeding the video by about 7 frames. To get a properly synched file:

1. Create a sequence for each clip you wish to fix the sync on. Do this by right clicking a blank space in the Project Window and selecting New Item > Sequence.
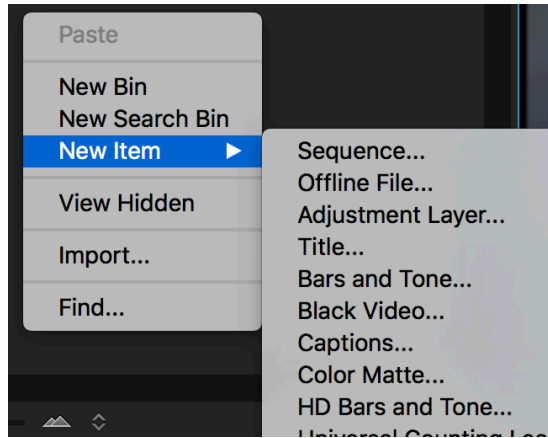
2. In each sequence, move the audio back by seven frames (this is easiest if you disable the "snap" and "linked selection" features on the timeline panel.)
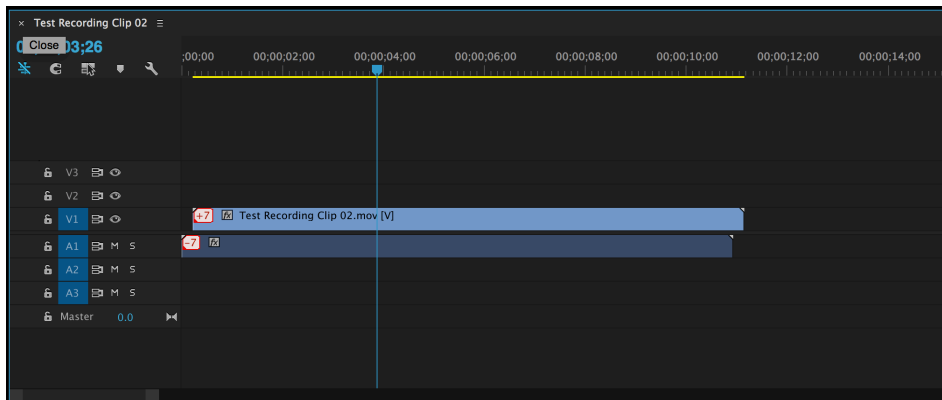
3. Trim the excess audio from the front and excess video from the back. Then bring the clip to the front of the timeline. It will look like the example below.
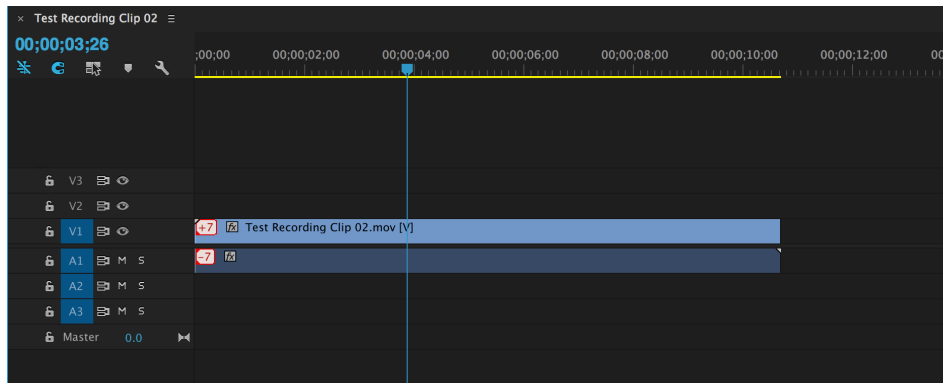
4. Now follow the rest of these recompression suggestions, except you want to use the export setting from the timeline instead of from the file.

Compressing a file (for size or sync reasons)
One double edged aspect of the video recorder is that it records files in a very high quality uncompressed format.

As such it is suggested that in archiving you will want to compress the clips you make in order to save space on your drives. These are some suggested settings and how you would recompress a single file. (How to batch process is in the next section.)

Step 1: Select a File or Sequence
So first pick a file or sequence you want to re-compress. You can right click an individual file in the timeline window and select the bottom option on the list that pops up.
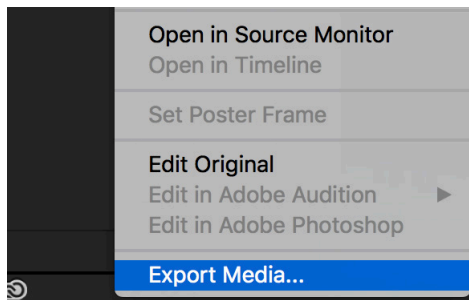
For a sequence, open it in the timeline window and hit command+m.

Step 2: Set your export settings
So the next step will be to make sure that you choose the right settings and location for your output file.

The lab suggests you encode your new files as one of two formats Quicktime ProRes 422 files or H.264 Files.
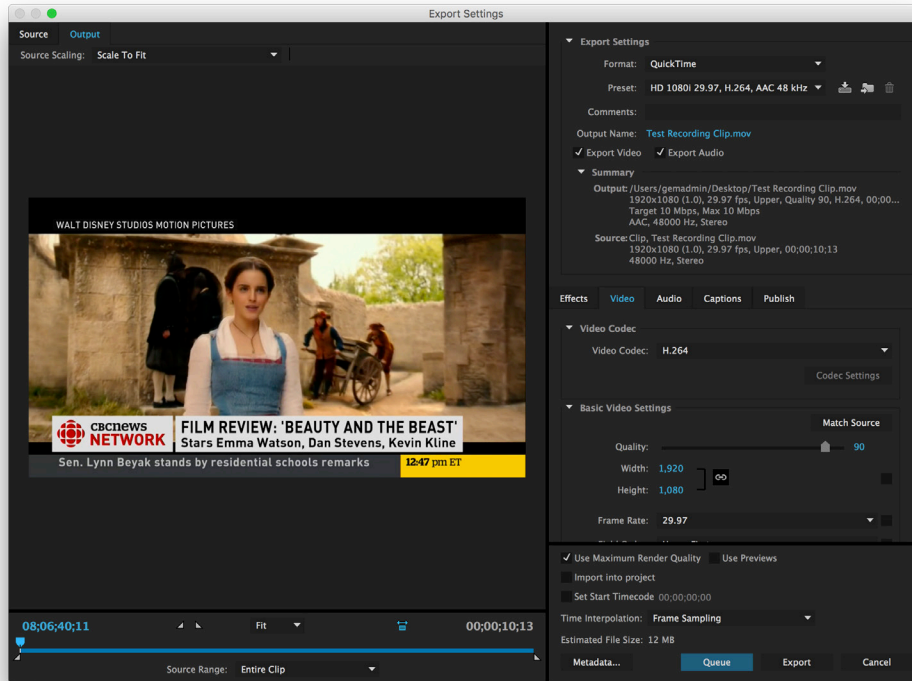
ProRes 422
These files are natively viewable on mac, retain a high degree of quality, are editing system friendly and shrink the file size of the uncompressed recordings by about 80%. These are best if you intend to use these files creatively (i.e. if they are source footage meant to be color corrected/graded, effected in some way.)

H.264
These files are much more heavily compressed than ProRes files, however given the right settings they can be less than half the size of ProRes, so if you are most concerned with filesize these can be a fair alternative. 14

You can suffer greatly diminished quality if you compress to H.264 improperly, whereas ProRes 422 is automatic in that there are less options available when selecting it. And lastly H.264 is designed for minimized filespace and playback, not editing (encoding and decoding files). This means that it can take 4 to 5 times the export time compared to ProRes and can be harder to edit with.

You can either do these next steps on the laptop, or to save render time, if all your project files are on your drive, move to one of the editing stations and do the export settings there. (Highly suggested for H.264)

For this example we'll use the ProRes 422 file settings, afterwards I will list the appropriate settings for H.264.

Most likely (like above) Premiere will have automatically set the export settings to closely match your sequence settings or the clip's properties. It will most likely be set to Quicktime and the video codec will be set to H.264. You want to change the video codec to "ProRes 422".
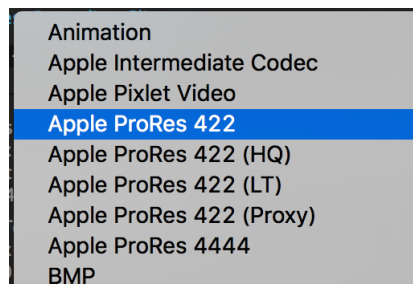
The rest of the settings should be set according to the source's properties (Basic Video Settings) though you can verify that they are correct. To change the saved name or location click "Output Name".

So if you are exporting one clip you can hit "export". However if you are exporting multiple clips, or want to keep editing in the mean time, it is suggested you hit "queue" which will send the file to the Adobe Media Encoder program.

Settings for H.264 Output
So if you want to save additional space over ProRes, you have the option of H.264, follow these settings.

Format: H.264
> **Preset:** Match Source, High Bitrate
> *Note that this will change to custom as we modify values below*

Basic Video Settings: (Leave Alone) or "Match Settings Button"
> *This should already be set correctly and be greyed out due to the selection of "Match Source" above. But if your video has unintended letterboxing or pillarboxing, click this button and it should auto conform to get rid of them.*

Encoding Settings: (Leave Alone)

Bitrate Settings
Bitrate Encoding: CBR or VBR (2 Pass)
> CBR is constant bitrate encoding, it will encode faster than VBR (2 Pass) at roughly twice the render time of encoding to ProRes. However it will encode every frame with the same amount of data, meaning high detail or heavy motion scenes will get the same of bitrate as static scenes.

> VBR is variable bitrate encoding, it will encode the slowest of all options at roughly 4-5 times the render time of ProRes. It uses algorithms to detect motion of the camera or heavy motion scenes and will allocate more of the total space of the file to those while attempting not to diminish the amount of data given to simple frames."2 Pass" means that the computer is given two runs to go over the footage, allowing it to fine tune it's allocation of extra data to complex shots.

> In general VBR is the advantage of H.264 over ProRes which is a much higher quality CBR codec. So it is really a choice between speed and quality here.

Target Bitrate:
> This is the general level of bitrate (i.e. amount of data/second of footage) that the software is going to aim to encode into your file. (i.e. Higher = Bigger File = Higher Image Quality.) So you can set this to a maximum of 50 mbps in H.264. On the next page are some example images of how your image will degrade if you go too low.

Maximum Bitrate:
> This is the maximum level you are willing to let the program encode at for what it will deem "high change" frames (meaning frames where there is a lot of subject/camera movement.) It is advisable to keep this between 2 and 5mbps above your target.

On the next page you will find side by side examples of crops from an HD source encoded in each format.

I advise you to look at the grain in the wood, the skin of the actress (a good place to look is her nose) and the white scratch on the wood just to the left of the hair on the far side of the actresses face.
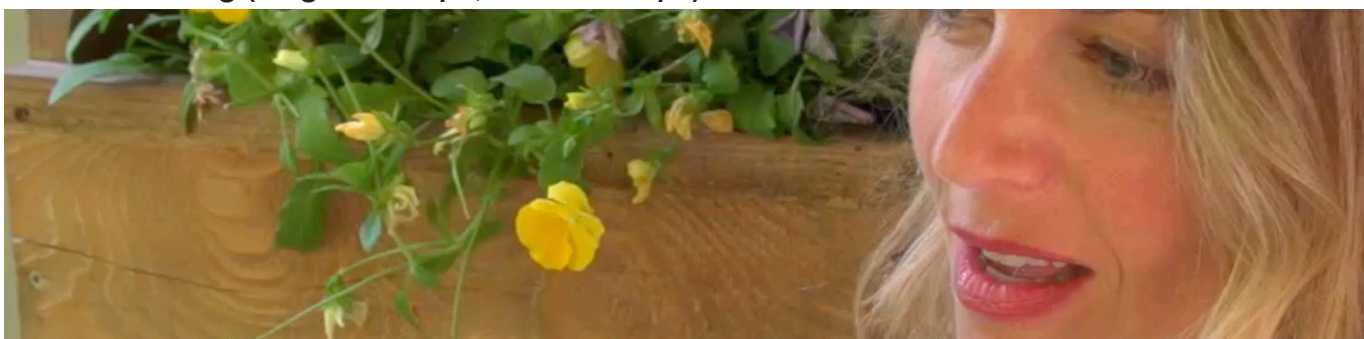
ProRes 422 Encoding (Automatic ~85mbps CBR)
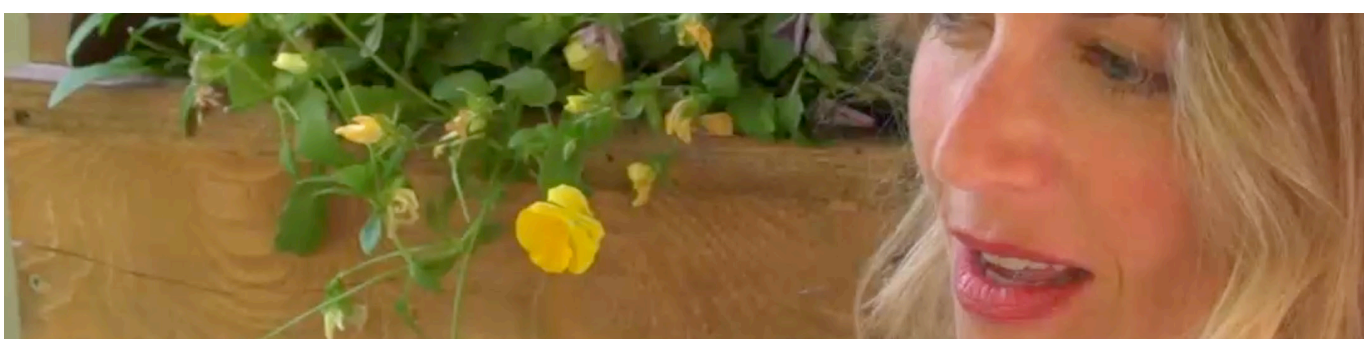

H.264 Encoding (Target 40 mbps, Max 42 mbps)
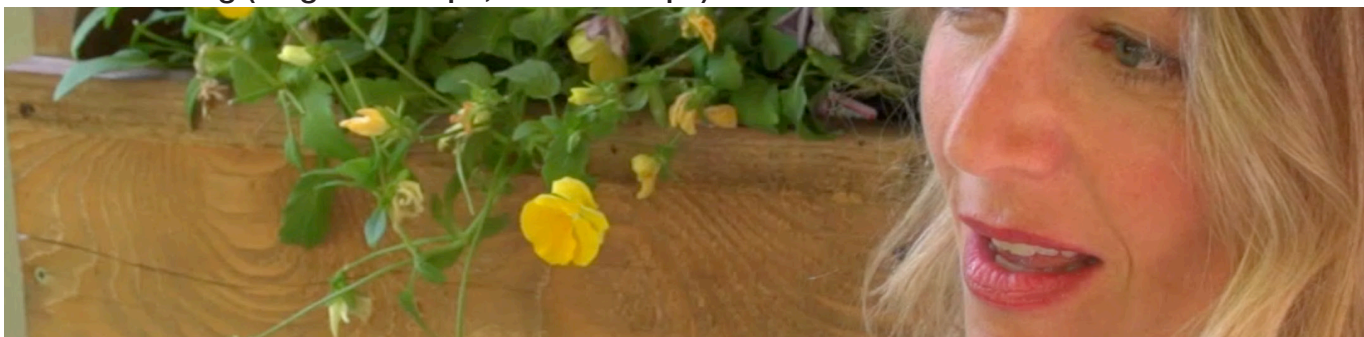
H.264 Encoding (Target 30mbps, Max 32 mbps)

H.264 Encoding (Target 20mbps, Max 22 mbps)

H.264 Encording (Target 10mbps, Max 12mbps)

As you will notice on the examples from the previous page, each step is a loss in quality.

The ProRes is an almost completely indistinguishable reproduction of the original recording files at a significantly reduced file size. (As the Bit Depth has been reduced (10 to 8) and supplementary raw information has been removed.)

H264 at 40 mbps is doing a passable job at creating a visually identical copy, there is a slight loss in definition, but not one that is terribly noticeable. Note however that these losses will also be compounded if any effects (like color correction) are used later.

At 30 mbps the file still looks alright, in most display` situations the loss of fine detail wouldn't be that apparent. But upon close inspection we can see we've lost fine detail in the wood grain and a bit in the face.

At 20 mbps it almost looks like a "soft focus" filter was put on the lens of the camera, with a couple hints visible that this is due to encoding due to pixelation. We can see the white scratch (and by extension other fine lines) are becoming a bit muddied or mishapen.

At 10 mbps we've lost basically all fine detail and the shot in general looks quite out of focus. Unless you are intending to send a file of material for content evaluation of viewing only, this level of compression is not recommended.

So choose your bitrate wisely if using H.264 and know that your files will suffer if you attempt to color correct them.

Advanced Settings
Keyframe Distance: For best results set this to "1", this will make every frame an "i frame".
> I-Frames are frames for which all the data exists in the frame itself. In H.264 encoding, the distance between keyframes (or I-Frames) is where frames get partially saved and partially interpreted based the outgoing and incoming frames to form a frame.
>
> The result is greatly reduced file size but also greatly reduced visual quality. Also this is part of what makes H264 difficult to edit. Because if you cut on a non I-Frame, the computer has to generate the frame out of nowhere.
>
> ProRes is naturally all I-Frame which is part of what makes it editing friendly.

Maximum Render Quality: Checked.

Using Media Encoder to batch compress files
If you are going to compress a large amount of clips or sequences it is suggested that you batch process them in Adobe Media Encoder. To batch process is essentially to create a list of compression tasks for the computer to do and then to let it run automatically, rather than having to manually start each export yourself.

If your recordings have no input lag, you can just open media encoder and drag them in from the finder. However, if you trimmed them or fixed input lag by making them into sequences you will have to send them to encoder via the "queue" option in the media export screen in Premiere.

On that topic, if you are batching sequences instead of files, in order to save time and assuming they are all from the same source you can just open the sequences, ignore the settings and hit the queue button, we'll fix the settings later.
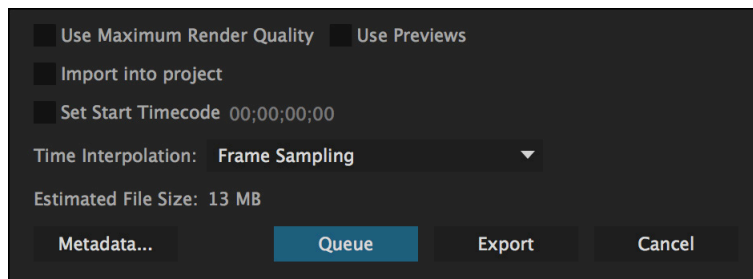

In a few seconds you should see Adobe Media Encoder opening and the sequence you "queue"-ed will appear.
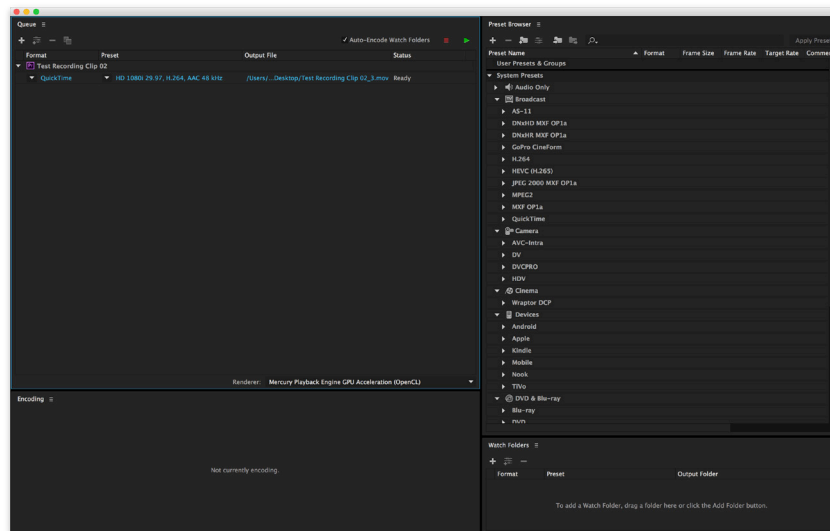
Keep going through this process until all the clips and sequences you want appear in the media encoder Queue panel. (Or drag them in, if they are files.)
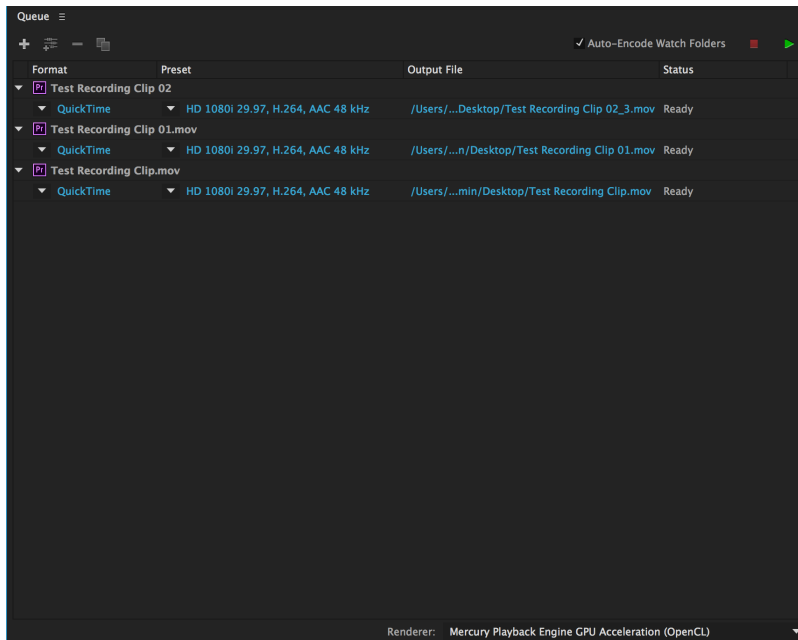

Once all of your clips are in the queue panel, click on the header for one of them and select all (command+A). The click on one of the first two fields on one of the fields ("Quicktime" or "HD 1080i..." in the above example.) You should get the following warning.
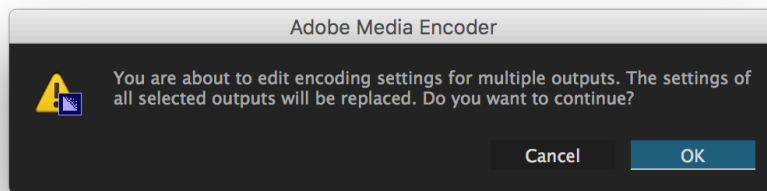

Click ok, this is how we are going to set the encoding settings like in the previous section, but we're going to do it for all files simultaneously. This will open the export page of Media Encoder, which is essentially identical to that of Premiere.

Make sure the Format is Quicktime and change the Video Codec to Apple ProRes 422 like in the previous section. Then click "ok" on the export settings window. All your files would now have "custom" listed in the second field.

Next make sure that you still have all your files selected in the Queue panel and click on the "Output File" location for one of the files. (You'll notice that in the image below that not all files start off with the same output folder.)
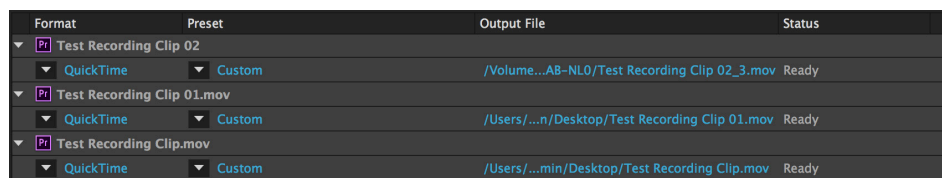
Do not rename the file, instead just choose the folder you'd like to output your batch of newly compressed files. Once you click ok, you should see that all of the files in your queue panel now have the same output destination. (See example below.)
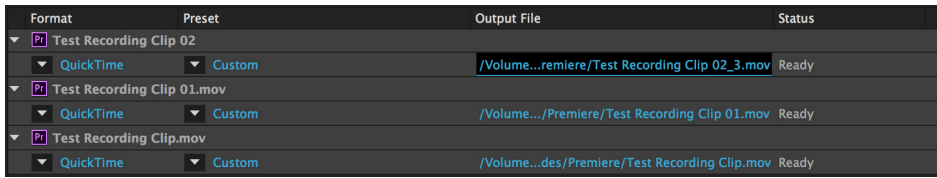
Now that all of your files have been set with the same compression settings and output location you can start the queue. Hit the green play button in the top right.

You'll see in the encoding panel below the progress on the files being output and estimates as to the time remaining per file. Note that the editing stations are better equipped to handle high volumes of compression tasks. And that if you have hours of footage it will likely take hours to compress. (Also if you choose to compress to a codec like H.264 instead of ProRes, which is a codec for finished content, it will take even longer due to the fact that the codec requires more processing power. This is one of the reasons we recommend ProRes 422.)
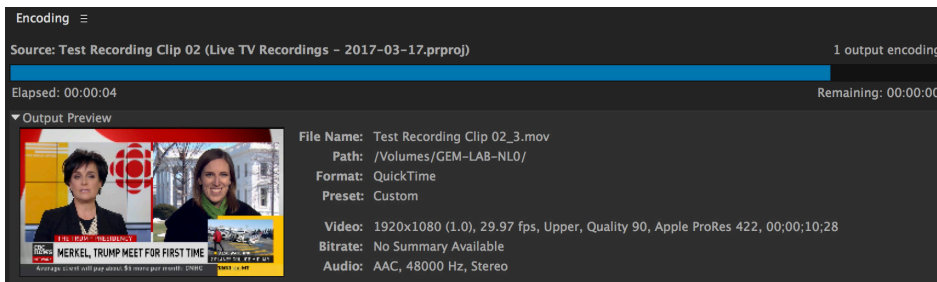

Managing your media post compression

If you followed the last step and compressed your footage into Apple ProRes 422 files, you can proceed one of two ways when it comes to bringing it into Premiere.

(a) You haven't already begun editing and/or you compressed files to fix sync issues. In this case just import your new compressed files normally into Premiere and delete the old versions of the media from your project. (If you fixed sync issues, then delete the sequences you used to sync them first or else you may get error messages.) Then delete the original recordings from the drive. *CONFIRM THAT ALL THE FILES HAVE BEEN COMPRESSED BEFORE YOU DELETE SOURCE FOOTAGE.

(b) You already started editing with the original recording files and then compressed them to save space. In this case you want to relink your new compressed files in place of the originals. (It is significantly easier if all the file names match when you start this process.)
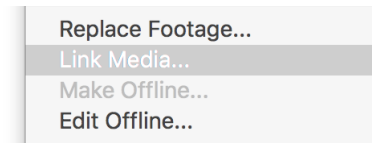
1. Select the files you want to replace with new compressed footage. Right click and select the "Make Offline..." option from the drop down menu.
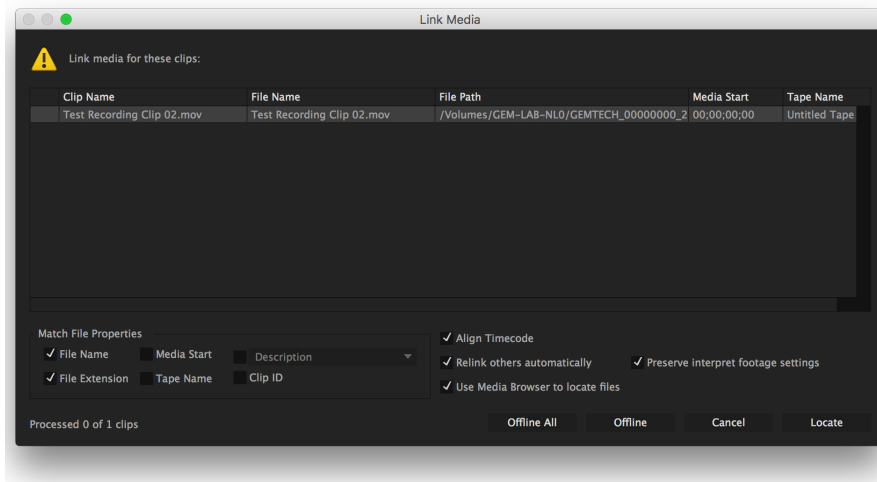
Replace Footage...
Link Media...
Make Offline...
Edit Offline...
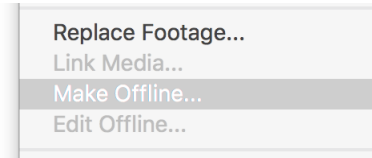
You will get the following message, select "Media Files Remain on Disk" for now.

Make Offline

Media Options
● Media Files Remain on Disk   OK
○ Media Files Are Deleted   Cancel
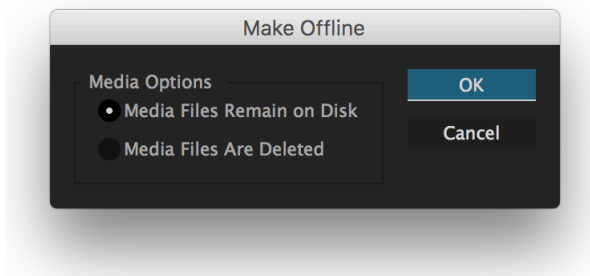
Then select the files that you just made offline (they will have "?" icons instead of film strips in the project window) right click and select "Link Media".

Replace Footage...
Link Media...
Make Offline...
Edit Offline...

This will bring up the link media window.

Link Media

⚠ Link media for these clips:

Clip Name	File Name	File Path	Media Start	Tape Name
Test Recording Clip 02.mov	Test Recording Clip 02.mov	/Volumes/GEM-LAB-NL0/GEMTECH_00000000_2	00;00;00;00	Untitled Tape

Match File Properties
✓ File Name   Media Start   Description
✓ File Extension   Tape Name   Clip ID

✓ Align Timecode
✓ Relink others automatically   ✓ Preserve interpret footage settings
✓ Use Media Browser to locate files

Processed 0 of 1 clips   Offline All   Offline   Cancel   Locate

This will display all the files that you just selected and their original file paths. Now in our workflow we are not changing the file names or the extensions (as both uncompressed and ProRes 422 use .mov) so this will be easy. Click Locate.
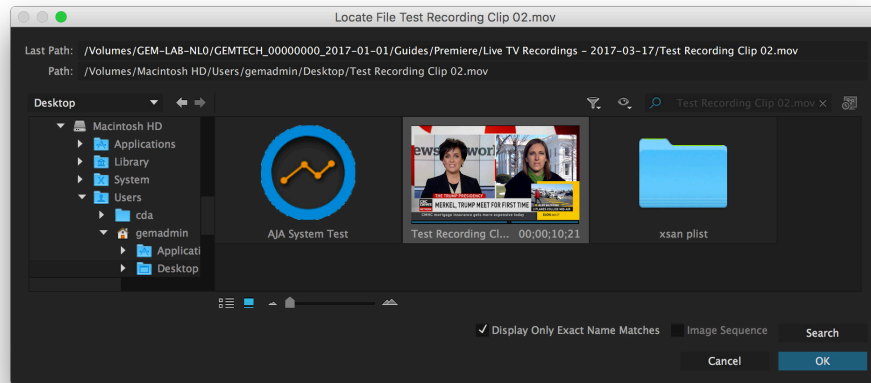
This brings up the locator window, as long as you haven't deleted the folder the original files were kept in, the locator will find that original location. You want to then navigate it to the folder with the compressed files and select the matching file. (Usually it will be looking for the first file in the list.) Click Ok.

If you kept all the original files and compressed files in single folders (instead of being spread around multiple folders) it will automatically find the other matched files and link everything for you. Congratulations, you are ready to continue editing.