

ROWAN UNIVERSITY COLLEGE OF COMMUNICATION & CREATIVE ARTS

TV POST-PRODUCTION GUIDE

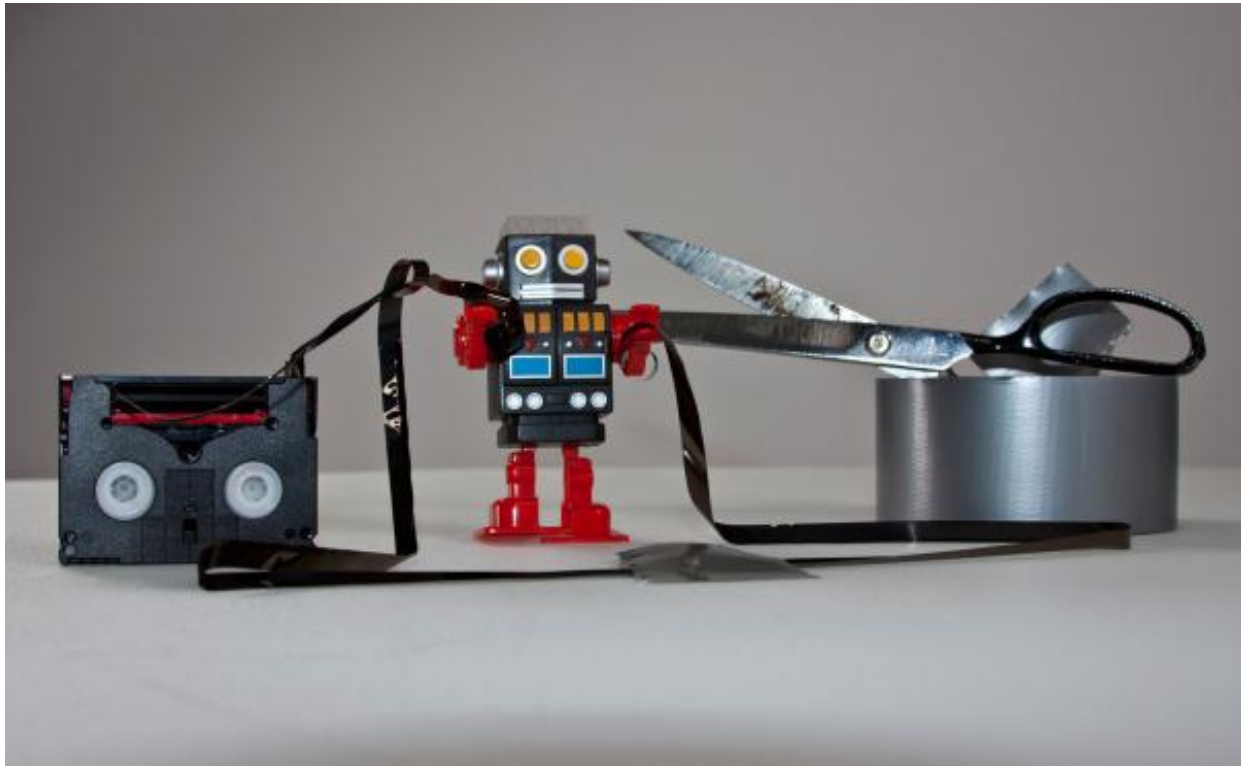


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TABLE OF CONTENTS

Before You Begin: A Note About Pre-Production and Production Decisions	4
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COMPUTER SYSTEM OPERATIONS

Hard Drives and Operating Systems	4
Organizing Folders and Files Using Naming Conventions	7
Media Technical Formats	8
Checking Your Media Technical Format.....	9
Saving, Transferring & Backing Up Your Raw Footage	11

GETTING STARTED WITH AVID MEDIA COMPOSER AT ROWAN UNIVERSITY

Systems & Logins	14
Launching Avid Media Composer.....	14
Creating \ Saving \ Moving \ Opening Your Avid Project File	14
The Avid Project Window	18
Avid Settings To Check Immediately	19
Media Creation.....	19
General	21
AMA	21
Audio	22
Other Avid Settings	23
RTF Modified Keyboard Shortcuts.....	30
Additional Quick-Reference Keyboard Shortcuts	31
Customizing Your Own Avid User Profile \ User Settings	32

WORKING WITH MEDIA IN AVID

AMA Workflow Overview	34
Linking to AMA Files.....	35
Tips For Working With AMA Media.....	36
Transcoding AMA To DNxHD: Clips Only.....	39
Transcoding AMA To DNxHD: Sequences	41
Importing Non-AMA Media	43
Re-Importing Externally Modified Files Using Batch Import	45
A Note About Spanned Clips.....	46

Working With Mixed Formats and Frame Rates	47
Capturing and Batch Capturing From Videotape	49
Creating Media Clips Based on Logging Spreadsheets	60
Log & Capture Tips When Tapes Are Shot With Free-Run Timecode	67
Audio Editing & Mixing in Avid Media Composer	68
Audio Settings	68
The Track Control Panel.....	69
Simple Cutting and Fading (clip ends)	69
Audio Mixer: Clip Gain.....	70
Audio Mixer: Clip Pan	71
Audio Mixer: Global Track Options	71
Audio Mixer: Automation Gain and Pan	72
Editing Audio in the Timeline Window: Keyframes	73
Channel Levels and Master Mix Levels	76
Creating Basic Text and Graphics Using the Avid Title Tool.....	77
Exporting a Sequence	80
Export Option 1: Same As Source, No Compression.....	83
Export Option 2: Export and Compress Using Avid H.264	84

WORKING OUTSIDE OF AVID

Accessing the TV Data Server	87
Compressing With Adobe Media Encoder	88
Recommended H.264 Compression	89
Recommended MPEG-2 HD Compression for Blu-Ray Disc	91
Recommended MPEG-2 SD Compression for DVD	93
DVD or Blu-Ray Disc Burning With Adobe Encore	95
Backing Up All Your Work	99
The Project File	99
Sources & Other Files	99
Imported/Rendered/Transcoded MXF Media Files	100
System Auto-Lock	101
Ending Your Computer System Session.....	101

PARTING WORDS

If You Need Post-Production Help.....	102
Guide Notes	103

BEFORE YOU BEGIN...

A NOTE ABOUT PRE-PRODUCTION AND PRODUCTION DECISIONS

You've heard it before – “The most important phase of production is PRE-PRODUCTION!” The decisions you make in Pre-Production and Production will have a significant impact on your Post-Production activities, decisions, and workflow. This guide is written primarily for Post-Production, but some pre- and production considerations must be made before entering post-production phase.

This guide is intended for students in TV-2 and TV-Doc who will be editing with Avid Media Composer, but anyone interested in editing may find it useful.

HARD DRIVES & OPERATING SYSTEMS

You will need your own external hard drive for saving your work. Depending on your class and project, you may also need to provide a backup hard drive.

- ***IMPORTANT! If you do not back up your work on your own hard drive, you will be unable to recover lost files in the event of a system failure or primary editing hard drive failure. Your project/media may be unrecoverable unless you maintain your own backup copies. It is your responsibility to maintain your backup copies on your own personal hard drive, separate from the primary editing hard drive.***

The physical type of drive you choose is important. When dealing with large HD files, you need a drive that is fast enough and powerful enough to play back these files in real-time. When choosing an external hard disk drive, you want it to have a **speed of 7200 rpm and have its own power supply** – *not* draw power from its USB connector. “Passport” and “slim” drives are not a good choice for your editing drive as they are powered from the USB (thus reducing the maximum amount of data transfer) and only run at 5400rpm. These are good for file backups only, as they are not fast enough to give you smooth HD file playback in real-time. For maximum compatibility, it is recommended that you use a drive that can connect to a **USB 2.0** or **Thunderbolt** port (Mac only). If you use a Thunderbolt port, you do not need a separate power supply. Beyond that, the maximum capacity is up to you and your budget – but at least **1TB is recommended**.



Depending on how and where you work, you may have the option to work on a PC/Windows or Mac/OSX system in post-production. Starting in Fall 2014, all the video editing labs for the TV2 and TVDoc courses are Macintosh OSX systems – but there are still some Windows PC systems in labs in the building. You may have a hard drive that is formatted for use on only one, or perhaps both of those systems. Many students ask why they can't use a Mac-formatted drive on their PC, and vice-versa... and why USB drives and flash media cards can be read and saved to on both Mac and PC.

Operating systems need to read and write files in certain ways – just like you read this sentence in English, someone who can't read English can read it in Japanese (if written that way, of course) and still understand the content. Some formats can be read by multiple operating systems, and some can be read by only a few.

Drive Format & Operation	Windows PC	OSX Mac	File Size Limit	Notes
Windows (NTFS) Read from drive	YES	YES	16 TB	
Windows (NTFS) Write to drive	YES	NO*	<i>(Windows 7 and above)</i>	* possible with 3 rd -party software
OSX (HFS) Read from drive	NO*	YES	16 TB	* possible with 3 rd -party software
OSX (HFS) Write to drive	NO*	YES	<i>(OSX v10.3 and above)</i>	* possible with 3 rd -party software
Dual (FAT32) Read & Write	YES	YES	4 GB	Most USB thumb drives, flash drives and cards are formatted FAT32
Dual (exFAT) Read & Write	YES	YES	16 EB	Not as safe as other formats, lower fault tolerance, more difficult to recover corrupt data

You can see that if you have a Windows PC, you would not be able to use a Mac-formatted drive. If you have a Mac running OSX, you would be able to read from a Windows-formatted drive, but not write/save to it. Anything formatted in the FAT32 mode can be read by and written to using any system, but single files cannot be larger than 4GB. For example, if you have an empty 16GB thumb drive formatted at FAT32 (usually most are by default) and try to save a 5GB file to it, an error will result, indicating that you do not have enough disk space. The issue is that FAT32 only allows 4GB size “containers” within the total drive size – and 5GB is too big for any one container, so that file can't fit on that drive. Similarly, with all CF/SD cards formatted with FAT32 by default, they can be read by any computer operating system, but a single file can be no larger than 4GB. This presents a problem if you are recording for long periods of time, which generate “spanned clips” – one recording spread over multiple files. Spanned clips are discussed later in this guide.

The exFAT format is a newer format that, when you examine the specifications, looks like the best option out there in that it can be used almost without limit on both Mac and PC systems. However, due to a major difference in the way the data is written to the drive so it can be read by and written to from any operating system, the risk of losing data or data becoming corrupt and inaccessible is greater. exFAT drives are great for temporary storage and projects currently being worked on, moving files from one system to another, and the in-a-pinch extra drive space for any platform. However, they are not recommended for long-term use and storage. Using it for a semester or two is fine, but not good if you hope to save the files for years.

In all cases, formatting a drive to the format best utilized by the operating system of the computer you are going to use for editing is the best option. If you are getting a new drive and know you'll only be working on a PC, go with NTFS. If you are getting a new drive and know you'll only be working on a Mac, go with HFS.

Have a drive already, and it's not in the format you need? Re-formatting a drive to a different format will erase all contents of the drive. It is possible to create individual partitions, or "virtual" drives within one physical drive, and have each partition formatted differently. Formatting drives can be done on any system. If you know you will be working primarily on one platform, use a drive properly formatted for that specific platform. If not, you've got some decisions to make.

In the event that you do not have your own external hard drive for the first week of class or labs, and there is no external hard drive connected to the computer you are using, you can use a folder on the main internal Macintosh HD to temporarily save files outside of the Avid application. In Finder, navigate to **Macintosh HD → Users → Shared → RTFUSERSHARE** and create a subfolder that is the same as your name or group name. Anyone using the computer will have access to this folder, so do not store sensitive documents here. This folder is "local" to the system on which it resides, so in other words, it is not shared between computer systems... but any user logging in to the local computer can access it. Treat it as a temporary saving location, or as a place where you can leave files for other group members to access when they log in later.

- ***IMPORTANT! Having your own external hard drive is critical to your success as an editor. If you save to a local machine hard drive, you can only use that specific machine to edit your project. So if someone else has signed up for time on that computer, even if every other computer in the lab is available, you can't complete your work if it's saved on that one computer. Also, if the computer hard drive crashes or the system becomes unusable, your files are inaccessible! Bottom line, have your own external hard drive and keep your files mobile!***

ORGANIZING FOLDERS AND FILES USING NAMING CONVENTIONS

Once you have set up your hard drive(s), you need to set up a folder structure and establish some naming conventions for files you will create and save. This should be determined in consultation with the members of your production group, if you are working in a group. In post-production, organization is paramount. If you take time at the onset of a post-production project to create a solid organizational scheme, you should be able to find media faster and work more efficiently when editing.

You should establish a folder hierarchy for each project that you work on so that every file can be saved in an appropriate and easy-to-find location. To the right is a great example of a folder structure for video editing. You might want to have additional folders for scripts, transcripts, logs, graphics, effect compositions, still images, or any other category of files. You don't have to make the entire folder structure at the onset of your project, but be sure to make a folder for each major piece before putting all files in one huge unorganized folder.



There are numerous examples of file and folder naming conventions in textbooks and online, but no matter which method you use, try to adhere to these guidelines to ensure compatibility across different software and hardware:

- Limit your file and folder names to 32 characters or less – use shorthand and abbreviations when possible.
- Limit the number of subfolders between the root of the drive and your media files. Some editing software is limited by how far into folders and subfolders it can look for media files. Combine information in one folder name to limit the number of unique subfolders you'll need to stay organized.
- Using a blank space is okay, but using the underscore symbol (_) is better.
- Never use punctuation marks in a file or folder name, other than a period to designate the file extension (i.e., .mov)
- You can use – and + in a file or folder name, but avoid using any other symbols.
- Never use a single numerical digit – instead of “2” use 02 or 002.
- When using dates or times in a file or folder name, use two digits for the day and month, and four for the year – and figure out if you'll use MM/DD/YYYY or YYYY/MM/DD or something else! Military time is better than 12-hour clock time, unless you want to add A(M) or P(M) too.

MEDIA TECHNICAL FORMATS

You need to determine the format of footage that you will be working with in post. There are several types of media that you may encounter, and each has its own format and considerations. Sometimes you will be told the format of footage you'll be working with; other times you will have to find out for yourself. You may even work on a project that has some footage in one format and some footage in another. Your life in post production will be significantly easier if all of your media is of the same format, and you know that format before you create a new editing project. But this isn't always possible. There are several media formats you may encounter in TV production at Rowan, and the most common ones are indicated in the chart below.

Recording Device	Physical Media	Codec	Standard	Aspect Ratio	Resolution / Scan Rate & Mode
Panasonic DVX100A	MiniDV tape	NTSC DV 25	SD	4:3, 4:3 letterbox	480/24p*,pA 480/60i
Panasonic DVX100BP				4:3, 4:3 letterbox, 16:9 anamorphic / squeeze	480/24p*,pA 480/30p*, 480/60i
Studio Productions	DVCPro tape	NTSC DV 25, NTSC DV 50		16:9 anamorphic	480/60i
Panasonic SDX900				4:3, 16:9 anamorphic	480/24p*,pA 480/30p*, 480/60i
Panasonic HMC150	SD/SDHC card	AVCHD AVC/H.264 (.mts file)	HD	16:9	720/60p, 720/30p**, 720/24p, 1080/60i, 1080/30p*, 1080/24p,
Canon 7D	CF card	MPEG-4 AVC/H.264 (.mov file)	SD	4:3	480/60p
			HD	16:9	720/60p, 1080/24p, 1080/30p
GoPro Hero3+ Silver	MicroSD card	MPEG-4 H.264 (.mp4 file)	SD, HD	4:3, 16:9	480/50p, 480/60p, 480/100p, 480/120p, 720/25p, 720/30p, 720/50p, 720/60p, 720/100p, 720/120p, 960/25p***, 960/30p***, 960/50p***, 960/60p***, 1080/25p, 1080/30p, 1080/50p, 1080/60p

* For these instances, progressive scan mode is used for picture imaging, but the recording uses an interlaced mode for timecode and formatting considerations, at 60i.

** TC/format used is 60p.

*** 960 is not a standard HD resolution. GoPro 25p, 50p, and 100p frame rates are intended for shooting in the PAL format.

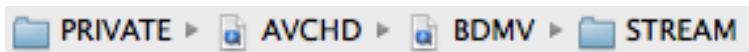
The chart on the previous page shows a mixture of interlaced (i) and progressive (p) formats. The numbers indicate frames per second – which for NTSC-SD is typically 29.97, rounded to 30 for easier representation. However, when you use HD formats, the listed rate depends on the scan mode. For interlaced video, the number is the field rate. So for 1080/60i, the rate is 29.97 fps. You are seeing 60 fields in interlaced scan mode. Recall that 2 fields = 1 frame, so this gets you the 29.97 frames-per-second rate. When you use progressive video, the listed number is the actual frame rate (since in progressive video there are no fields). This means that for 720/60p you will have 60 frames generated in a progressive scan rate – double the rate of interlaced – and this equates to 59.94 frames per second in technical terminology. Yes, this can be confusing, and even professionals get confused – do a Google search for “29.97 vs 59.94” and see what you find!

When you are ready to begin production, you will need to make sure your camera is set to the intended shooting mode. For most typical TV projects, we recommend that you shoot in **720/60p** and use the editing frame rate of **59.94**. This mode has been tested to work well with our current editing systems, in consideration of media file size, computer processor speeds and available memory. You can choose to shoot in another format, or may be instructed to shoot in or edit prerecorded footage in another format.

CHECKING YOUR MEDIA TECHNICAL FORMAT

If you have already shot your footage, or are given footage to use for which you don't know the format, you can check to see what format was used to shoot before you set up an editing project with the matching specifications.

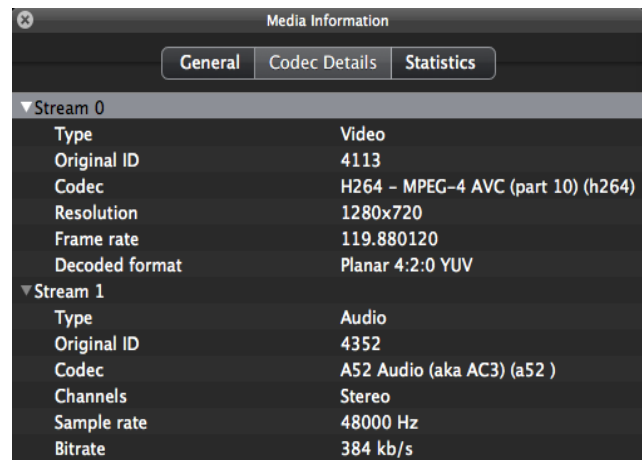
Depending on the camera used to shoot the footage, and the codec being used, you may have difficulty at first in just finding the files to play. For instance, when using the HMC150, there is a specific folder structure that should remain intact within the main folder called “private.” Additionally, the OSX operating system tends to disguise some folders that contain playable media as QuickTime playable files, even though they are actually folders. The typical card structure should look like this:



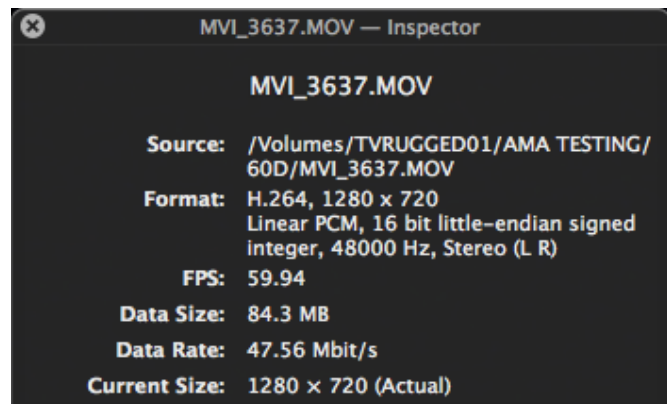
See the QuickTime logos for items named AVCHD and BDMV? When browsing in a Finder window, if you double click on these icons, QuickTime Player will launch and attempt to play the files, with limited success. Instead of double-clicking on AVCHD, right-click on it once and choose “Show Package Contents” to open it as a folder. Then, do the same for BDMV, and the STREAM folder will appear, which contains your playable files.

If you are working with a **.mts file**, open and play the file using **VLC Media Player**.

Once it is playing, go to the Window menu and select “Media Information...” Look specifically at Resolution for the vertical frame size (in this example, it’s 720) and the Frame rate. VLC incorrectly multiplies the frame rate by 2 when reading .mts files*, so divide by 2 and you have the actual frame rate (in this case, it would be 59.94 and not 119.88, which doesn’t exist!). Therefore in the example to the right, the footage format is 720/60p. *using VLC version 2.0.3.



If you are working with a **.mov file**, you can open and play the file using **VLC Media Player** or **QuickTime Player**. Once it is playing using QuickTime Player, go to the Window menu and select “Show Movie Inspector” and you will see information similar to what is pictured to the right. For .mov files, FPS does indicate frames per second, so in this example, we again have footage shot at 720/60p.



Working with a **.mp4 file**? Either VLC or QuickTime should be fine, but depending on the codec used, VLC may be your best bet. Both will show the accurate frame rate.

It is very important to determine the format of footage you will work with BEFORE you create a new project, especially when using Avid Media Composer. Choosing project settings that are different from your footage format will force the program to reprocess your footage to the format you choose (taking additional time to import or render), rather than leave it in its original format. Exceptions to this rule are possible, if you know you will be outputting in a certain format and need everything to conform to that format. But usually, choosing to create a new project with the same specifications as your source footage is the best approach. Yet no matter what type of footage you are working with, you will want to back it up before editing.

SAVING, TRANSFERRING & BACKING UP YOUR RAW FOOTAGE

Hard drives crash. Files are corrupted. People make mistakes. Your digital media could be lost at any time. We can all do our best to maintain computer systems and keep them in a healthy status, but every once in a while something bad can happen. In that event, it's good to have a backup copy of everything, just in case. YOU and YOU ALONE are responsible for backing up your projects, media, and supporting files. After production wraps for the day, many students want to rush right into editing – fight the urge and spend time now to save time and frustration later! Later in this guide you will learn how to backup ALL of your project materials – for now, we'll focus on the raw footage.

For physical tape, you should immediately put the REC/SAVE tab on the tape spine to the SAVE position and store the tape in a relatively cool, dry environment – the backseat of your car doesn't qualify. Since you will eventually be working with a digital ingest version of the footage, you needn't duplicate the entire tape. If something should happen to the digital ingest version, you can always re-ingest the media from the original tape. So keep the tape in a safe place at all times!



For tapeless media recorded on CF and SD cards, the procedure is a bit more involved. First, it's a good idea to move the tab on the card to the LOCK or SAVE position, just as you would on a tape, to prevent accidental erasure – that's the easy part. Do this as soon as you remove the card from the camera, so that at a glance you can see which cards have already been used.

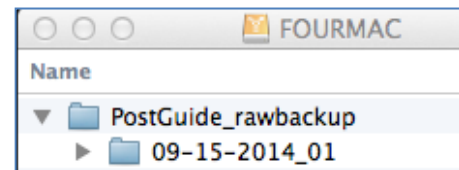


Next, you need to determine where you will save/use the footage for editing, and where you will save your backup copy – essentially, you need two separate hard drives. Depending on how your class or project is set up, you may or may not be provided a hard drive for primary editing. When in doubt, have your own ready to go. You can also use your personal computer hard drive as a backup location, though that isn't as good as a dedicated external hard drive. Keep in mind the format of the hard drive and the type of computer system you are using. Since your raw footage is shot on cards in the FAT32 file format, your backup/archive drive for raw footage could also be FAT32 – and then it doesn't matter what platform you use to offload/backup the footage. However, since rendering and output files could likely be larger than 4GB, you probably do not want to use the FAT32 format for your main editing drive.

Once you have identified your edit drive and your backup drive, first connect your backup drive to the computer. If you've already set up a folder structure and naming

conventions (as described in the previous section), use what you've already created. If you are starting from scratch, then take this time to create a new folder for the footage you'll be backing up for a particular project. Name the folder and include something appropriate like "rawbackup" in the title.

Next you'll create a subfolder for each SD or CF card you used. If you haven't already, now is the time to develop a naming convention to keep things organized. You could simply say Card01, Card02, etc., or better, include the date the card was shot, as in the example to the right. Always use double (or even triple) digits when numbering folders for cards. There are many other pieces of information you may want to include in the name of the folder, such as location or subject. To minimize the number of subfolders, it's better to include as much of this information as possible within the first folder name. Whatever you do, create a solid naming convention rule that you or your group members establish for the project, and stick to it!



Once you have your backup drive folder structure ready to go, connect the SD or CF card to the computer using a USB card reader. Copy the ENTIRE card contents, including all subfolders and files, to the folder you created on your backup hard drive for your first card. When the copy is complete, eject/disconnect your backup drive and connect your editing drive, and repeat the entire process. Though it may be faster to copy from drive to drive, it is always safer to copy from card to drive so if there was a flaw on the first copy procedure, you are not duplicating the flaw. Also, it is highly recommended that you keep the drive/folder/file structure and naming conventions identical, as then it will be easier to restore your project from the backup drive if needed.

- **IMPORTANT! DO NOT change the file names or contents of any folders on the SD or CF card. The folder structure and file names on your backup drive should be identical to the folder structure and file names on your primary editing drive. When you import/link media in your editing application, you will be able to rename the media (or actually, the reference link to the media) without actually renaming the files.**

Repeat the process for each card used, making a new folder for each individual card. Once a card has been copied to both your editing drive and your backup drive, change the card tab to the UNLOCK position so it is ready for re-use.



After you have backed up all of your raw footage, disconnect your backup drive and shelve it in a safe place! Don't carry it around in your backpack all day, and try not to

use it for other purposes. This is your safety net in case your primary editing drive fails or has any problem that would make your files inaccessible! Plenty of projects – student and professional – have been lost or ruined due to failed hard drives, but many have been saved and rebuilt successfully with the help of a well-maintained and updated backup drive. Just as you are now backing up your raw footage, you will want to back up your project files, scripts, logs, graphics, and any other files you create for your project – often it's as simple as copy & paste! Just remember to disconnect your backup drive before you begin editing, so that you don't confuse yourself (or the editing program) as to which drive you're using when you import and edit your footage.

Once you have successfully copied the files from the SD or CF card(s), eject/remove the card(s) and card reader so that only your editing hard drive is connected to the computer. Never import directly from the card! With only your editing drive connected to the computer, you are ready to begin editing. While you may choose to use other software, the remainder of this guide pertains to specifically to Avid Media Composer non-linear editing software. Continue to the next page to begin working with your footage in Avid Media Composer.

GETTING STARTED WITH AVID MEDIA COMPOSER AT ROWAN UNIVERSITY

It has been determined that the Avid systems crash less, function better, and give YOU fewer headaches only if you...

RESTART THE COMPUTER BEFORE LOGGING IN!

A full reboot may take a few minutes, but it's worth it! If you ever encounter a system flaw or error message, you'll want to do some basic troubleshooting and trial & error to fix the problem. But if you can't resolve it, try restarting the program you are using. If that doesn't work, reboot the whole computer. If you still have problems, seek help!

SYSTEMS & LOGINS

Bozorth Lab 154 has six iMac workstations and Lab 146 has three iMac workstations. Log in using your Rowan network username and password.

Wait for all of the startup procedures to complete (about 1 minute) after logging in before you begin working. Your H drive will mount on the desktop and the background image may change or flicker as tasks load and complete.

LAUNCHING AVID MEDIA COMPOSER

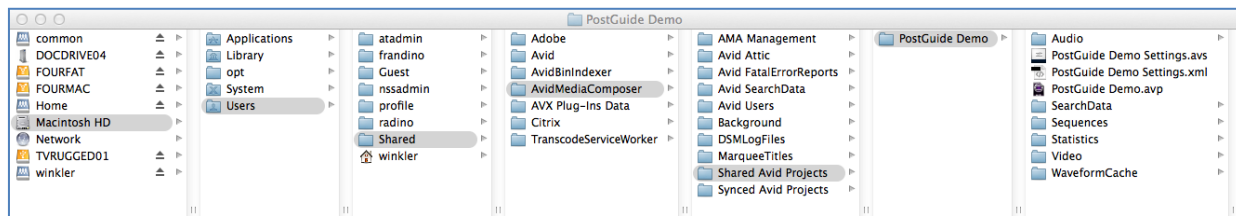


Single-click on the icon for "Avid Media Composer" in the dock. If you cannot find it, open a Finder window and open it from Applications → Avid Media Composer. Wait about 2 minutes – this is a big program and takes a while to start up. Please be patient. The screen may flicker, go black, or seem to freeze momentarily – this is normal. *Note: The Avid software will encounter performance issues if other processor- and RAM-intensive programs are running simultaneously.*

CREATING \ SAVING \ MOVING \ OPENING YOUR AVID PROJECT FILE

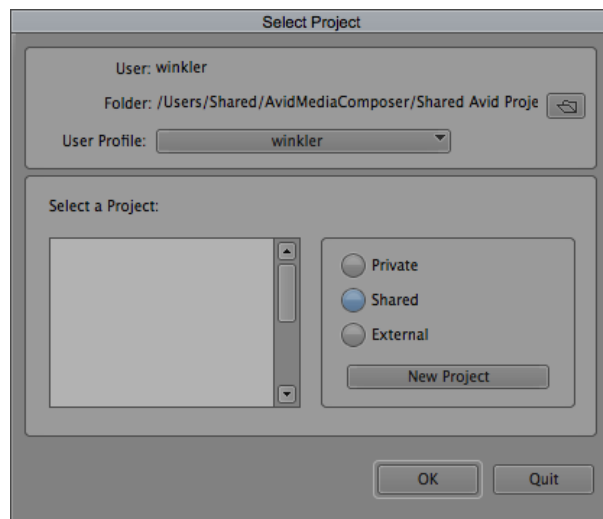
If you haven't already done so, you will create an Avid Project File for your work. Even though Avid refers to it as a file, this is really a folder containing all the information necessary to assemble your project – essentially, the blueprints. The project file contains bins, sequences, and media information – but not the actual media files. The Avid software will create everything for you as you go, and all you will need to know is the save location of the project file.

At the top of the next page is an example of some files and folders contained in a typical Avid project file. The project is called *PostGuide Demo* and the file includes the folder named the same, and all of its contents. The file and folder names within your own project file may vary. "Audio", "Sequences" and "Video" are file folders that represent user-created folders within the project. You should not manually create anything here.



The software will function better if your project file is on a separate drive from your media files. Keeping the project and media files on separate physical drives while you are working will increase system performance and speed. Then when you are done working, you can move your project file to your own drive for safekeeping. When you are ready to work again, copy the project file from your drive to the system drive, and then copy it back when you are done. Since the project file is relatively small, it's a good idea to keep a few versions readily available – an easy way to make backups! More about this in a bit...

When you launch the Avid software, you will see a project and user profile selection dialog box with some save location options for the project.



- Private – this will use the current logged in user's *Documents \ Avid Projects* folder. You cannot change this location path.
- Shared – this will use a folder on the local system that is accessible by all users. You cannot change this location path.
- External – this will use any folder location you specify. You can set this location by clicking on the open folder icon at the top of the dialog box, and the chosen path will be indicated in the "Folder" line beside it.

If no project files can be found, the selection box will be blank. The User Profile should be the same as the username you used to log into the computer.

To create a new project, first choose where you want to save the project – private, shared, or external. Ordinarily, if you are working on an individual project that only you should have access to, you would choose the Private option. As of this writing, projects saved in the Private area save to the individual logged-in user's Documents folder on the local computer. However, as Rowan systems and accounts are updated, this folder may eventually exist on the user's H drive. If you open and try to use your project file

from your H drive, you may experience performance issues, program hang-ups, and other adverse issues as network speed and traffic volume is unpredictable.

The safer and more stable method is to create/open and save your project in the **Shared** location. This is a location on the local computer and not the network. Using this location, your project file will exist on the local system hard drive while you are working (and then when you close your Avid session, you can move the project file to your own hard drive for safekeeping). Although while in the Shared location, your project is accessible by anyone using the computer, it is a guaranteed “local” save location. You can always copy your project file to your Documents and/or H drive folder, and delete the version on the Shared location if you do not want anyone to see your work. But never open or actively work on a project saved in a network folder location! You can move it back to the Shared location before working on it again - more on that in a bit.

After selecting Shared, click the **New Project** button.

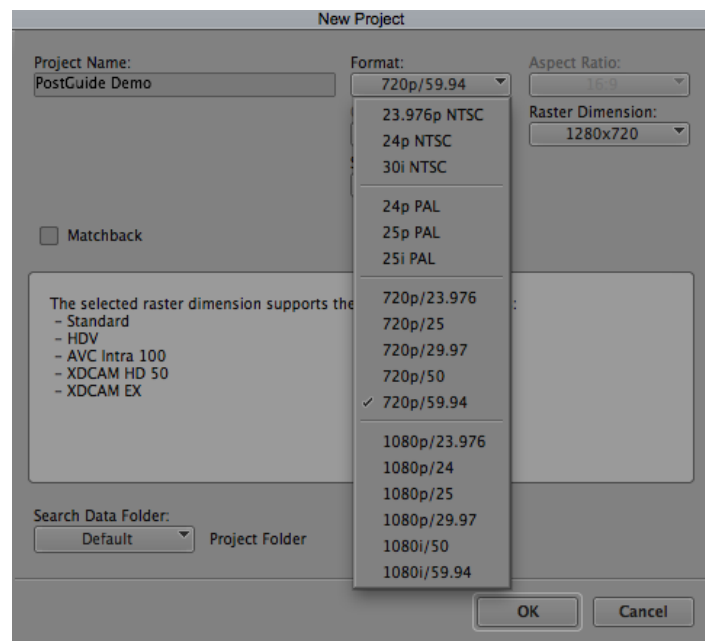
Now, provide a logical NAME for the project! If working in TV2, you probably want to use the naming convention

TV2_ProjectName_YourLastName,
or whatever your Professor instructs you to do! DO NOT leave the default name as New Project. Even if you’re just playing around and trying this out for the first time, provide a legitimate name for the project like YourName_Test.

In a previous section of this guide, you learned that you need to determine the format of the footage

you will be working with so that you can set the Avid Project format setting to the same format. Once you set the project format, it is difficult to change to another format, especially if the timecode base is different or you want to switch from a progressive to an interlaced format, or vice-versa. **Always verify what your primary footage format will be, and in most cases, set your new project format to that.**

For most typical TV projects, we recommend that you shoot in **720/60p** which uses the timecode base frame rate of **59.94** – so if you’ve shot with this recommendation, set your project to **720p/59.94** as in the above pictured example. Also make sure that the



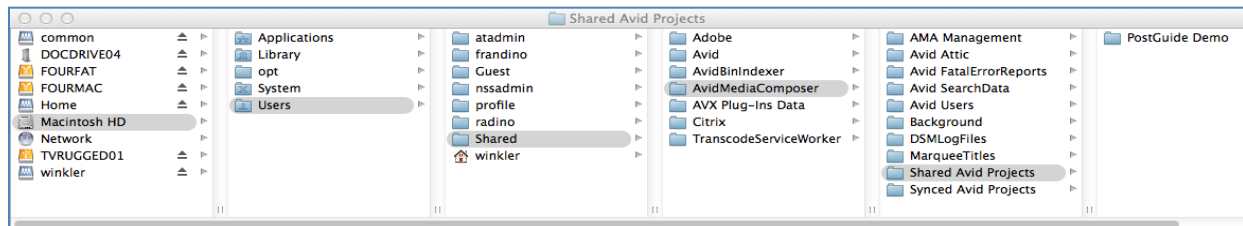
“Raster Dimension” is set to the actual frame size (in this case, 1280x720) and “Stereoscopic” is Off. Color Space and Aspect Ratio will be locked, and do not check the “Matchback” option. If you choose to work in another format, you’ll want to experiment with the footage you’ve shot to see the best look, and possibly do some trial and error to see which project format will be best.

The most often used formats include 720/60p @ 59.94 fps, 720/24p @ 23.976 fps, 1080/24p @ 23.976 fps, and 1080/60i @ 29.97 fps. Even if you are shooting 24p, do not select exactly 24 fps – this is for export and formatting back to film that runs at a true 24 fps. If you are going to a digital file format for playback on DVD, BD, or the web, choose 23.976 fps instead of 24 fps whenever setting up a 24p project.

Note that once you set the name of the project in this step, you cannot change the project name while working in the Avid software. Choose wisely and check for typos! When you are ready to create this project file, click OK, and you’ll see the project file is now listed in the Select a Project window. Choose it and click OK to open the project.

After you work on your project, save it, and close Avid, you will want to move your project from the “Shared” area on the local hard disk to your own editing drive or USB thumb drive, so that you can re-open the project on another computer and also have a backup/safety copy. Browse to:

Macintosh HD → Users → Shared → AvidMediaComposer → Shared Avid Projects



You will see a folder for your project, in addition to folders for any other project files that may reside on that system. Copy the entire folder for your project to a folder on your own personal hard drive – it’s a good idea to place it within a new folder you create called “My Avid Project” or something to that effect, so you don’t confuse it with anything else related to the project. It is up to you as to whether or not you want to delete the original project file from the original system location. You may find it advantageous to leave it there so you’ll have a backup copy in existence, just in case...or perhaps move it to the Documents folder under your own personal log in for an additional safety net (Macintosh HD → Users → yourname → Documents → Avid Projects).

Then, if you want to work on your project on another system, simply connect your hard drive and copy the project file (folder) from your hard drive to the same path as before on the new system:

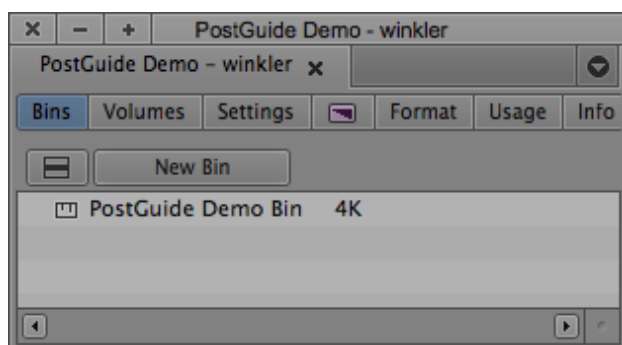
Macintosh HD → Users → Shared → AvidMediaComposer → Shared Avid Projects

Remember, to achieve the best performance and system speed, you want to have the working copy of your project file on a different non-network drive than all of your media (which we have yet to specify how to save – read on to find out more!). If your project file (folder) exists in the above system drive path, it will appear in the Shared list in the project selection dialog box.

- **IMPORTANT! DO NOT change the contents of the Avid Projects folder while the Avid software is running. ALWAYS QUIT THE AVID SOFTWARE before moving/copying/pasting contents of the Avid Projects folder.**

As you progress through your project, you may move to and from systems quite frequently, and make major changes to your project. You may want to consider keeping multiple versions of your project file (folder) on your personal hard drive. An easy way to do this is to create a folder on your hard drive called “My Avid Project”, then a separate subfolder for each version – you could use a naming convention that expresses the date/time a version was saved, or use a version number. Then when you are ready to edit, copy/paste the most recent version (or any version you want to work with) to the editing system. That way, if there is an error during copy/paste, at least you will have an alternate/older version of your file you can work with, rather than nothing at all!

THE AVID PROJECT WINDOW



When you create and open a new project, the Avid project window opens and the first bin is created for you, named the same as the project plus the word “Bin.” You should rename this bin to something useful, and also add additional bins and organizational folders, much in the same way you set up a folder hierarchy on your

backup and primary editing hard drives. Note that you can put folders inside other folders, and bins inside of folders, but you cannot put bins inside of other bins or folders inside of bins. Also note that the window name lists the name of the project and the loaded user profile.

The project window controls all aspects of the Project File and also the settings for the project and system. When saving your project (and it’s a good idea to save often), simply click on the project window and hit ⌘-S (or Ctrl-S on a PC) to save *everything* in the project at once.

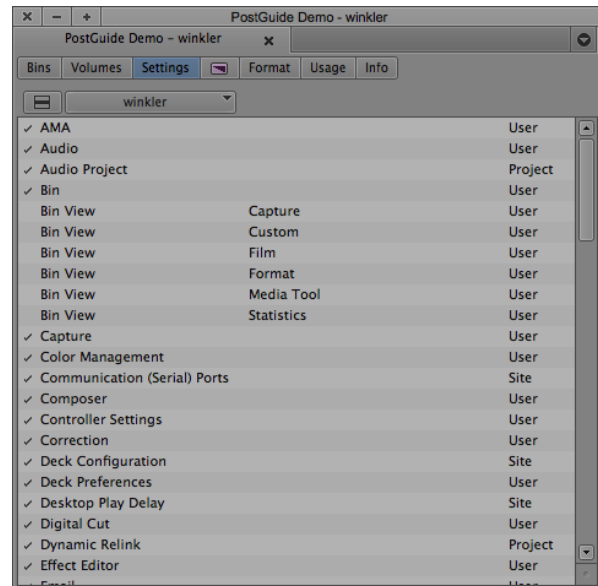
Additional functions and features of the project window include a settings list (detailed in the next section of this guide), effects, project format, project usage statistics and system info. If you click the X in the upper right corner of the window, this will save and close your entire project and bring you back to the project selection dialog box. Operations and functions of the project window are detailed extensively in online tutorials and software documentation, and will not be detailed here.

AVID SETTINGS TO CHECK IMMEDIATELY

Most program and system-specific settings should be preset for you if you are using a Rowan Avid system. Note that these settings are not necessarily the default software settings, but rather the settings we have preset for you to use in the Rowan labs. However, some settings are project-specific and must be verified after creating a new project or even opening an existing project.

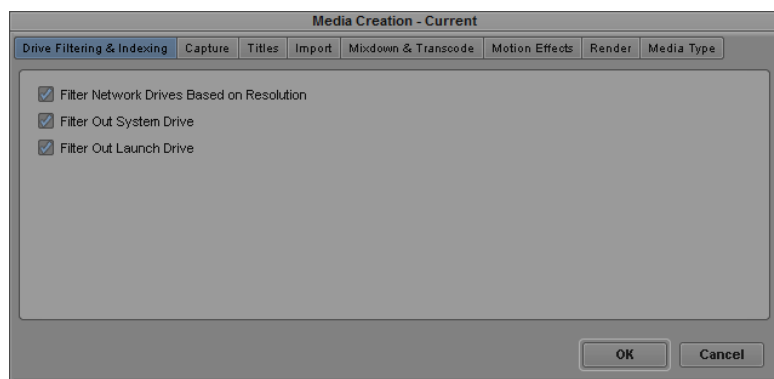
Locate the project window and click the “Settings” tab.

Scroll down the list until you find the entry for **Media Creation**. Double click this item, and a new dialog box will appear.



On the “Drive Filtering & Indexing” tab, make sure all three filtering options are checked. This will ensure that your media files are imported and saved to your externally connected hard drive and not your H drive or the system hard drive. If you have no external

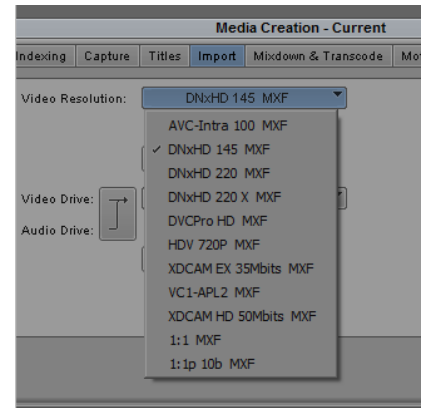
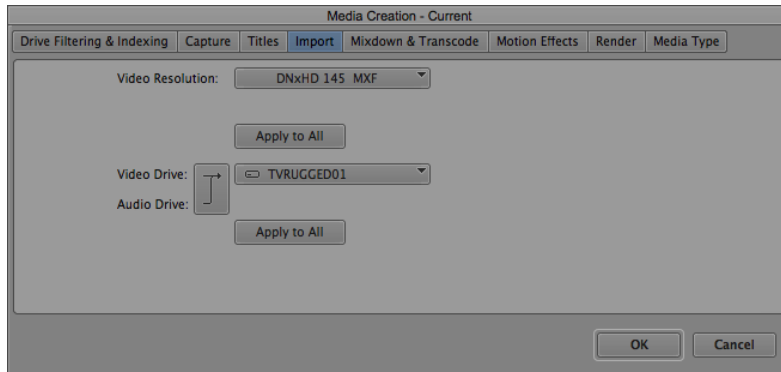
drive and want to save (temporarily) to the internal system hard drive, uncheck “Filter Out System Drive” and uncheck “Filter Out Launch Drive.” However, this is not recommended as it is best that you use your own external hard drive.



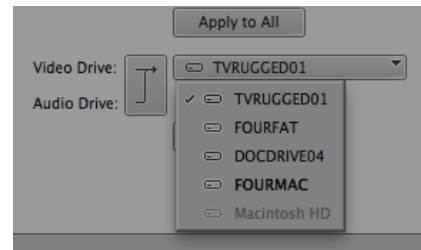
The subsequent tabs are used to determine the compression format and save location for all of your captured, imported, rendered, and otherwise internally created media files. If you are working in an **SD project**, choose **DV 25 411 MXF** for capture and all other

tabs. If you are working in an **HD project**, choose the midrange **DNxHD MXF** option. The best choices for the most common formats are:

Format	Recommended DNxHD MXF Resolution
720/24p	DNxHD 60 MXF
720/60p	DNxHD 145 MXF
1080/24p	DNxHD 115 MXF
1080/60i	DNxHD 145 MXF



Next, you need to specify the hard drive onto which the media files will be saved. Be sure to choose **YOUR primary editing drive** which should show up in the drop-down list. The hard drive with the largest amount of free space is detected by default and indicated in bold in the drop-down selection list. Again, make sure you select YOUR drive at this point and click every “Apply to All” button that you see. Then choose each subsequent tab, and make sure that the drive selected is the correct one. All tab options should have the same drive selected. Then click “OK.”



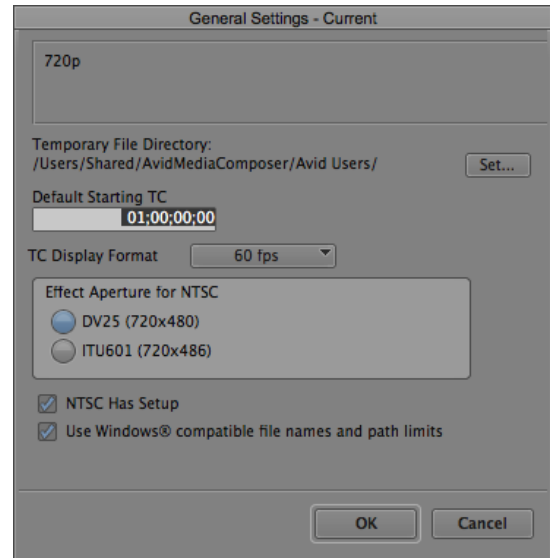
- **IMPORTANT!** *If you do not verify that the Media Creation settings for your project will save media to YOUR hard drive, your media might be saved to a drive physically contained in the local computer system you are working on. This means that when you try to open your project on another computer, all the media will be offline because it did not travel on your hard drive to a different computer. Save time and frustration later by checking these settings NOW! And re-check these settings EVERY TIME you open your project.*

When you choose a drive in the Media Creation settings, Avid will create a system folder on that hard drive called Avid MediaFiles.

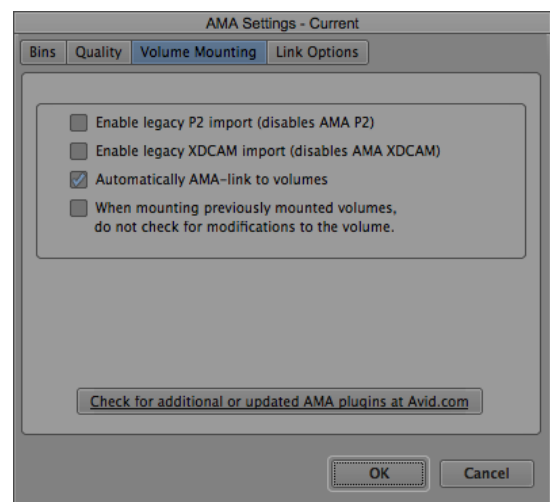
DO NOT rename, move, erase, add anything to, or remove anything from, this new folder. Just let it sit there untouched – Avid will manage it for you. Again, ***do not directly add any files to, or remove any files from, the Avid MediaFiles folder.***

Click OK in the Media Creation window and go back to the settings list in the project window.

Double click the **General** setting item. The current project format appears at the top of the window. Depending on the format of the project you are working on, these settings may vary. When working with drop frame timecode (23.976fps, 29.97fps, and 59.94fps), your Default Starting TC should be 00;00;00;00 (note the semicolons). When using non-drop frame timecode (true 24fps, true 30fps), you should see 00:00:00:00 (note the colons). The TC display format can be changed to fit your preference – when working in 60p (59.94fps), you will want to see timecode represented at 60fps. Keep in mind that this only changes the TC *display* and not the actual TC format. When working in SD-NTSC, use DV25 for effect aperture. Check the NTSC Has Setup option – this ensures proper color standards and pixel mapping for effects. Also, keep the option to Use Windows compatible file names and path limits checked. This will ensure maximum cross-platform compatibility for your projects. Then click OK on this window and go back to the settings list in the project window.

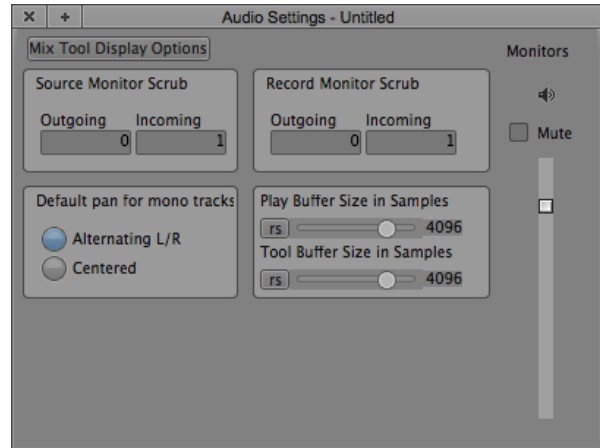


Double click the **AMA** setting item. Click on the **Volume Mounting** tab and make sure that **Automatically AMA-link to volumes** is checked. Then click ok to return to the settings list.



Next, double click the **Audio** setting item. The only item in this window you need to verify is the **Default pan for mono tracks**. This sets the global audio pan settings for your project. By default, it should be set to **Alternating L/R** – this puts all your odd numbered audio tracks panned left, and all even numbered audio tracks panned right. This helps to identify individual tracks and isolate the best quality audio, especially if multiple inputs and microphones were used for a recording. You can always pan your audio track-by-track later... or if you want everything panned center by default, you can choose the All Tracks Centered option. This can help ensure that your audio is not bouncing from left to right unintentionally, but it is harder to identify individual audio tracks while editing.

That's all you need to check for now, but there are numerous other settings that you can explore and learn about which are listed for reference on the following pages.



OTHER AVID SETTINGS

If an option is given in Avid and nothing is listed here, that option should be either off, unchecked, or left alone. In the Project Window under the **Settings tab**...

AMA

Bins

The selected items should be "Create a New Bin", "Volume Name", and "Display Editor headframe"

Quality

Select "Highest Quality" in all areas.

Volume Mounting

The chosen option should be "Enable AMA Volume Management"

Link Options

Multi-channel audio = None (or all set to Mono)

Alpha Channel = Invert (white = opaque)

Audio

Default Pan

- 1 **Alternating L/R** : *True stereo sound or individual channels. Odd audio tracks are left, even are right (you can pan later)*
- 2 All Tracks Centered *Allows for a mono mix of all channels equally to both left and right*
- 3 Leave all other settings at their defaults.

Audio Project

Main Tab

- | | | |
|---|------------------------|--------------|
| 1 | Sample Rate | 48 kHz |
| 2 | Audio File Format | PCM (MXF) |
| 3 | Sample Bit Depth | 16 bit |
| 4 | DV Audio Pattern | Locked Audio |
| 5 | Convert Samples... | Always |
| 6 | Show Mismatch... | Yes |
| 7 | Remove Extra Filler... | Remove |

Input Tab

- | | | |
|---|--------------|-----------|
| 1 | Input Source | Host-1394 |
|---|--------------|-----------|

Output Tab

- 1 Button should read "Stereo". If it says mono, click it to change.

Effects Tab

- | | | |
|---|-----------------------|----------------------|
| 1 | Effect bypass | < nothing selected > |
| 2 | Render Sample Rate... | High and Slow |
| 3 | Real-Time Audio... | Enabled |
| 4 | Dissolve Midpoint... | Linear -6dB |

Bin

1	Autosave every	10 minutes
2	Inactivity period	45 seconds
3	Force Autosave	15 minutes
4	Maximum bins in a project attic	1000
5	Maximum version of a bin in the attic	50
6	Double click loads in	Source or Record Monitor
7	Use Border Colors and Icons	YES
8	Enable edit from bin	YES
9	Always keep at least one version in attic	YES
10	Show local media icons	NO

Capture

General Tab

1	Stop deck after capture	SELECTED
2	Pause deck after capture	NOT selected
3	Preroll Method	Best Available
4	Force Unique Clip Names	YES
5	Activate bin window after capture	YES
6	Space bar stops capture	NO
7	Capture across timecode breaks	YES*
8	Stop capture if a bad frame...	YES
9	Ignore Media Read Errors	YES
10	Capture a single video frame	NO
11	Ask before discarding cancelled clip	YES
12	Ask for name when new tape is seen	YES
13	Display incoming video in the client	NO
14	Pause deck while logging	NO

Batch Tab

1	Optimize for disk space	SELECTED
2	Optimize for batch speed	NOT selected
3	Switch to emptiest drive if...	NO
4	Rewind tape when finished...	NO
5	Eject tape when finished...	NO
6	Log errors to the console...	YES
7	Capture the tracks logged...	YES
8	Use the audio sample rate...	NO
9	Use the audio sample bit depth...	NO
10	Use the video compression...	NO

Edit Tab

Do select the option listed to **Enable edit to timeline**

MXF Media Files

1	Maximum default capture time:	63
---	-------------------------------	----

2 Do NOT select Switch to emptiest drive...
DV & HDV Options

DO NOT selected DV Scene Extraction or Enable detection...

**Capture across timecode breaks: Your footage should not have timecode breaks!*

Composer

Window Tab

- | | |
|-------------------------------|---------------------------------|
| 1 Data Display at Top | Always Display Two Rows of Data |
| 2 Button Display at Bottom | Two Rows |
| 3 Center Duration | YES |
| 4 Tick Marks in Position Bars | YES |

Edit Tab

- | | |
|---------------------------------|-----|
| 1 Color Framing | OFF |
| 2 Sync Point Editing | NO |
| 3 Single Mark Editing | NO |
| 4 Phantom Marks | NO |
| 5 Auto-create New Tracks | YES |
| 6 Auto-enable Source Tracks | YES |
| 7 Copy Source Locators | YES |
| 8 Undo Only Record Events | NO |
| 9 Activate Record Monitor After | NO |
| 10 All other options checked | |

FF / REW Tab

- | | |
|--------------------------|-----|
| 1 Stop at Head Frames | YES |
| 2 Stop at Tail Frames | NO |
| 3 Stop at Locators | NO |
| 4 Ignore Track Selectors | YES |

MultiCam Tab

- | | |
|------------------------------|--------------------|
| Split Mode Play | Quad or Nine Split |
| MultiCam Mode Client Monitor | Linecut |

Correction

Features Tab

- | | |
|----------------------------|--------------|
| 1 Saved Color Labels | Name and RGB |
| 2 Eyedropper 3x3 Averaging | YES |
| 3 Show Eyedropper Info | YES |
| 4 Eyedropper Picks... | YES |

AutoCorrect Tab

Chosen option should be "Nothing"

Desktop Play Delay

By default, set at 0 frames. If you connect an external VTR, this may change to maintain audio/video sync on both desktop and VTR.

Effect Editor

1	Indent Rows	YES
2	Large Text	NO
3	Thumbwheels	NO
4	Real Time Update	YES
5	Set Position to Keyframe	YES
6	Update Position While Playing	NO
7	Show Add Keyframe Mode Menu	YES

Full Screen Playback

1	Scaling	Project
2	S3D View	Off
3	S3D Overlay	Off
4	Target Mask	No Mask
5	Full Screen	YES
6	Display Both Fields	YES
7	Flip On Vertical Sync	NO
8	Expand Luminance For Computer	YES

You can specify the monitor for full screen playback by dragging the settings window to the monitor you want to use, and click the Select Monitor button.

General

Temporary File Dir:	[do not adjust]
Default Starting TC	Sets <i>new sequence starting timecode</i> . Will <u>not</u> change existing sequence timecode. Best to set to 00;00;00;00 (using semi-colons)
TC Display Format	Depends on project frame rate. If using 60p, use 60fps.
1 Effect Aperture	DV25 (720x480)
2 NTSC Has Setup	YES
3 Windows comp.	YES

Import

Image Tab

1	Image Size Adjustment	Image sized for current format
2	File Pixel to Video Mapping	Computer RGB 0-255
3	Alpha Channel	Invert on import (white = opaque) DO NOT dilate fill
4	Frame Import Duration	30 seconds
5	Autodetect Sequentially...	DO NOT CHECK

OMFI/AAF Tab

Use the current import resolution

Shot Log Tab

Maintain events as logged.

Audio Tab

- 1 Multichannel audio = None / all mono
- 2 Convert source sample rate to project sample rate on import
- 3 DO NOT convert sources w/ pull-up and pull-down rates
- 4 Convert source sample bit depth to project sample bit depth on import
- 5 DO NOT apply attenuation/gain on import
- 6 DO NOT auto-center or pan mono clips
- 7 DO NOT auto-detect Broadcast Wave Mono Groups

Interface

You can custom-configure the software interface brightness and color scheme.
Show Labels in Tool Palette and Show ToolTips should be checked.

Keyboard

Allows you to see all the keyboard shortcuts!

Common changes w/ command palate to create "RTF Modified Keyboard":

Change F8 to "Red Marker", Change N to "Add Edit", Change Up arrow to FF,
Change Down arrow to REW, Shift+I = Clear in, Shift+O = Clear Out, Shift+M to
match frame, Shift+N to reverse match frame

Media Creation

Drive Filtering & Indexing Tab

Select all three filtering options; this will disable media saving to the local
machine hard drive.

Capture Tab (only for Standard Definition NTSC 30i projects)

- 1 Video Resolution: DV25 411 MXF
- 2 Choose the drive option () and then click Apply to All
- 3 All other tabs – for HD projects, use lowest number DNxHD MXF (145).
Choose your drive option () and then click Apply to All

Render Tab

Same as Source OK, Save after Render OK, Automatic Effects Processing OK

Timeline

Display Tab

- | | | |
|---|------------------------|-----|
| 1 | Show Toolbar | YES |
| 2 | Show Marked Region | YES |
| 3 | Show Marked Waveforms | NO |
| 4 | Highlight Suggested... | YES |
| 5 | Show Position Bar | NO |
| 6 | Show Effect Contents | NO |

7	Double-Click to Show Nesting	YES
8	Show Four-Frame Display	YES
9	Use Fast Scrub	YES
10	Movement During Play	NONE

Edit Tab

1	Start Filler Duration	00:00:05:00
2	Find Flash Frames...	5 frames
3	Auto-Patching	YES
4	Auto-Monitoring	NO
5	Segment Drag Sync Locks	YES
6	Default Snap-To Edit	NO
7	Default Sync Locks On	NO
8	Dupe Detection Handles	0 frames
9	Click the TC track...	NO
10	Only One Segment Tool	NO
11	Default Segment Tool	Segment Insert
12	New Sequences	1 Video, 2 Mono Audio Tracks
13	Lassoing transitions enters	Trim Mode

Trim

Play Loop Tab

Preroll 2:15, Postroll 2:15, No Intermission

Features Tab

Select "Never use Small Trim Mode"	
Auto Focus when entering Trim mode	YES
Render On-The-Fly	YES
Dual Image Play	YES
J-K-L Trim	YES

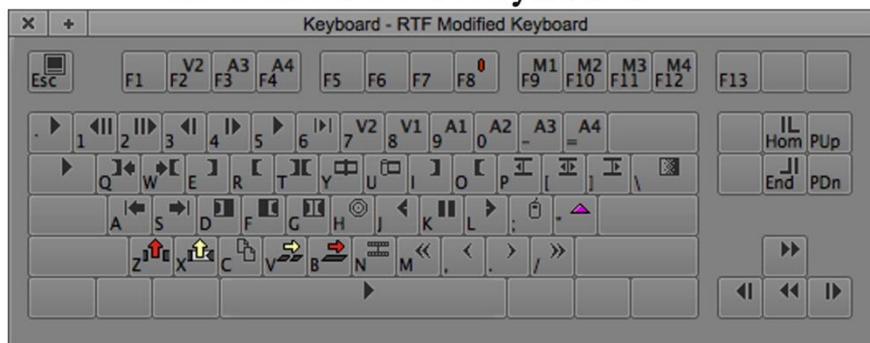
Video Display

DV Output Setting (SD only)	Output To DV Device selected for firewire output DV 25 411 Realtime Encoding selected (must have timeline open to change, and be connected to IEEE 1394 firewire device)
Enable Confidence View	YES
Highest Quality Scaling...	YES
Maximum Real Time Streams	Stream Limit: 8

The following User or Project settings have been reconfigured to be Site settings (via the “Special” menu) on all RTF Avid systems:

AMA	General
Audio	Import
Audio Project	Interface (Standard Avid Default)
Bin	Keyboard (RTF Modified Keyboard)
Capture	Media Creation (Full Filtering
Composer	DNxHD 145)
Export (QuickTime Mov SaS)	Timeline
Export (QuickTime H.264)	Trim
Full Screen Playback	Video Display

RTF Modified Keyboard



Frequently used shortcuts

Q = Go to In	D = Clear In	Z = Lift
W = Go to Out	F = Clear Out	X = Extract
E or I = Mark In	G = Clear In & Out	V = Splice In Edit
R or O = Mark Out	H = Focus Timeline	B = Overwrite Edit
T = Mark Clip	J = Play Reverse	N = Add Edit (split clip)
U = Enter Trim Mode	K = Pause	M = Move back 10 frames
A = Go to start	L = Play Forward	, = Move back 1 frame
S = Go to end		. = Move forward 1 frame
		/ = Move forward 10 frames
Left Arrow = Go back one frame		
Right Arrow = Go forward one frame		
Up Arrow = Go to next edit		
Down Arrow = Go to previous edit		
F8 = Add red marker on selected track at this point		

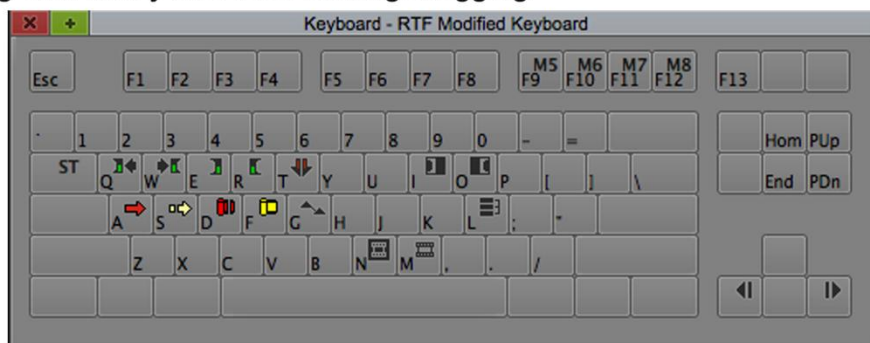
⌘ + [and ⌘ +] will expand or shrink the timeline view, horizontally
 ⌘ + K and ⌘ + L will expand or shrink the timeline view, vertically

Push J + K or K + L and you can play slow-mo reverse or forward

Tap J or L multiple times and you will play faster reverse or forward

When using keyframes, you can delete a keyframe by pressing “DEL” on the keyboard when the little hand appears on the timeline over the keyframe you want to remove

When using keyframes, you can move a keyframe left and right along the track by holding the Alt key and then clicking/dragging



When you push SHIFT, you get a second set of customized keyboard commands.

Shift + I is Clear In
 Shift + O is Clear Out
 Shift + M is match frame
 Shift + N is reverse match frame

Smart Tool shortcuts:

Shift + A is Segment Mode for Lift/Overwrite
 Shift + S is Segment Mode for Extract/Splice-in
 Shift + D is Overwrite Trim Mode
 Shift + F is Ripple Trim Mode
 Shift + G is Keyframe Mode
 Shift + L is the Link Selection Toggle

ADDITIONAL QUICK-REFERENCE KEYBOARD SHORTCUTS

HOT KEYS

CTRL / ⌘	and	C	COPY
CTRL / ⌘	and	S	SAVE
CTRL / ⌘	and	S	(After clicking on on project window) SAVE PROJECT
T			(After clicking on timeline) SELECT CLIP
X			EXTRACT CLIP
1			STEP BACK 8 FRAMES
2			STEP FORWARD 8 FRAMES
3			STEP BACK 1 FRAME
4			STEP FORWARD 1 FRAME (or use the back and forward arrows for one frame at a time)
6			PLAY IN/OUT MARKED CLIP
V			SPLICE IN
HOME			PLACES THE POSITION INDICATOR AT THE BEGINNING OF THE SEQUENCE
END			PLACES THE PLAYHEAD AT THE END OF THE SEQUENCE
SPACE			PLAY/STOP CLIP
U			ENTER TRIM MODE
CTRL	and	LEFT-CLICK	SNAP TO THE END OF A SELECTED CLIP/EDIT POINT
CTRL	and	MOUSE DRAG	(In Extract / Overwrite Modes) –SNAP TO THE EDIT POINT
CTRL	and	MOUSE DRAG	(After setting clip IN point) SNAP TO EDIT POINT IN LIFT OVERWRITE SEGMENT MODE
ALT / OPT	and	-	DRAW A MARKED SUBCLIP INTO A BIN
CTRL / ⌘	and	Y	ADD VIDEO TRACK
CTRL / ⌘	and	U	ADD AUDIO TRACK
U			ENTER/EXIT TRIM MODE (or to enter trim mode, lasso around the edit points) (or to exit trim mode, click on the time-code track)
SHIFT	and	F	ENABLE / DISABLE RIPPLE TRIM MODE (yellow button)
SHIFT	and	D	ENABLE / DISABLE SHIFT OVERWRITE MODE (red button)
J			REVERSE PLAYBACK IN REAL-TIME (PRESS TWICE FOR DOUBLE-SPEED)
K			PAUSE
L			PLAYBACK IN REAL-TIME (PRESS TWICE FOR DOUBLE-SPEED)
J	and	L	FORWARD PLAYBACK AT 1/4 SPEED
K	and	J	REVERSE PLAYBACK AT 1/4 SPEED

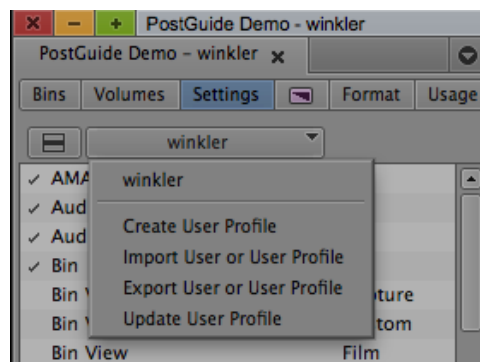
ADDITIONAL

YELLOW ARROWS	SPLICE IN / EXTRACT RELATED
RED ARROWS	OVERWRITE / LIFT RELATED
ENABLE BOTH ARROWS -- TOP HALF OF CLIP WILL BE LIFT/OVERWRITE; BOTTOM HALF WILL BE EXTRACT/SPLICE	

CUSTOMIZING YOUR OWN AVID USER PROFILE \ USER SETTINGS

As an editor, you may want to change properties of Avid settings to fit your comfort and ease of use with the software – the most commonly customized setting is for keyboard shortcuts. Avid gives you the option to save your own user profile on each system you use, and take your own personal settings with you as you move from system to system. As you gain proficiency and comfort with the editing application, you may want to take advantage of this feature.

To begin, go to the project window and click on the Settings tab. Just below the tab line but above the settings list is a drop-down menu that lists the currently loaded user profile and user settings, which by default should be the same as your Rowan systems username. You can continue to use these settings and update them as you wish. Alternatively, you can create separate user profiles or different settings depending on the tasks you need to perform within the application.



If you want to create a new user profile, click the drop-down menu and choose the option to **Create User Profile**. In the resulting box, name the profile you want to create – usually, this will be your name, but could be anything. Then click OK.

The profile is reloaded and you can see that your new profile name is listed in the drop-down menu where your login username used to be. You can now change settings as you like without affecting the original profile. Also, if you are opening or creating a new project, you can now select any of your named profiles at the project selection screen when the Avid software first launches. Note that the newly created user profile settings are the same as the default settings created by the Avid software. Any settings you previously adjusted under the profile automatically loaded with your username are reset under the new profile.

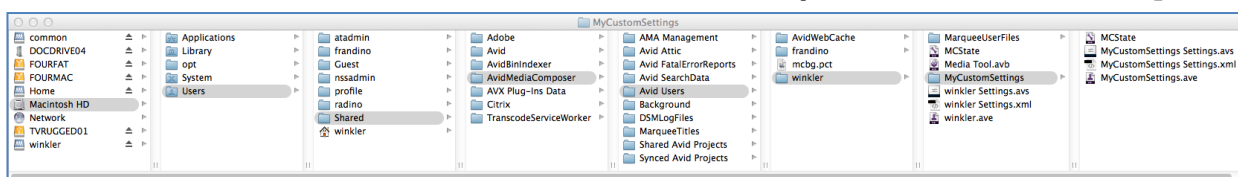
Your user profile will exist only on the original system you created it, unless you choose to export it and take it to another system. To do this, use the same drop-down menu and choose **Export User or User Profile**. You'll then choose where to save the file – preferably on your primary editing drive or your own USB thumb drive. Then, when you move to a new system, you can go through the same steps and instead of creating or exporting, you'll choose the option to **Import User or User Profile**. Anytime you make changes to your profile or settings, it's a good idea to re-export, as they are not automatically saved back to the location you import them from.

In the event of a problem, such as your user profile becoming corrupted or unable to open, you can download and re-install the original profile settings from the TV Production Resources website.

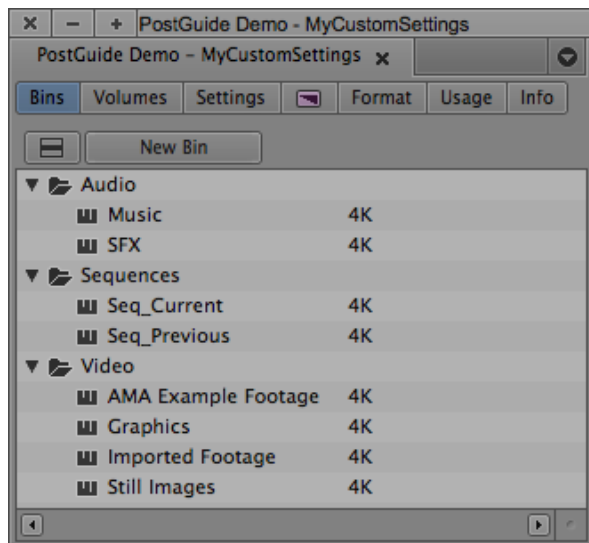
- **IMPORTANT! DO NOT change the contents of the Avid Users folder within the system drive while the Avid software is running. ALWAYS QUIT THE AVID SOFTWARE before moving/copying/pasting contents in the system Avid Users folder.**

Each individual user profile is created within the master user folder.

Macintosh HD → Users → Shared → AvidMediaComposer → Avid Users → [name]



In the screenshot above, the user in question is “winkler.” You can see that the “winkler” user folder contains the “winkler” settings as well as a subfolder for the custom-created settings that are named “MyCustomSettings”.



This screenshot is an example of a project file with a few organizational folders and bins created. Note that the project name “PostGuide Demo” is displayed and the loaded user profile is called “MyCustomSettings”. Your project file name, profile name, and specific folders and bins will differ. Remember that if you just created a new user profile, you’ll want to verify that the settings on the previous pages are updated and correct under the new profile, before proceeding.

Now that your user and project settings are verified, you can create some folders and bins. With the project window selected, hit ⌘-N to create a new bin and using the fast menu, you can choose to create a new folder. Now is also a good time to hit ⌘-S and save everything!

In the screenshot above, see that there are two bins for sequences? It’s a good idea to keep one bin for your currently open sequence, and one bin for all past versions of the sequence. This aids in organization and also keeping the open bin sizes to a minimum.

AMA WORKFLOW OVERVIEW

The next section of the guide will walk you through an AMA, or “Avid Media Access” workflow, which is the most likely workflow you will use while editing with files originally shot on an SD or CF card, which you have already copied to your editing hard drive. But first, here is an overview and explanation of AMA and how it will impact you as an editor— read it, it’s important!

The AMA workflow allows you to very quickly add media to your project without waiting for it to import/transcode. This greatly speeds up post production media ingesting, or acquisition to the editing system. Rather than importing media and waiting for it to transcode, or convert, to a native Avid compression format (such as the most commonly used DNxHD), clips added to your project through AMA appear in your project as links to the original files on your hard drive. This saves time and hard drive space (you only have the 1 original file to deal with instead of that plus an imported/transcoded file), but comes at an operational cost ... system performance.

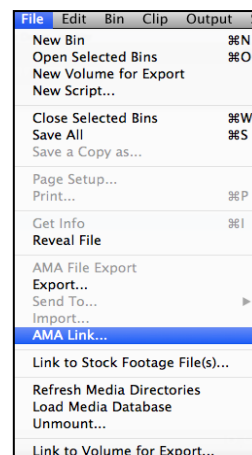
Here’s a scenario for you – you have recorded 6 hours of footage using the Panasonic HMC150. At 11GB/hr for AVCHD, that’s 66GB of files. If you were to import all of that footage into Avid at the DNxHD 145 MXF specification (720p/59.94), it would take approximately 1x real time (6 hours) to create the new Avid media files. That compression comes at a data save rate of 64GB/hr of media, so the files on your hard drive after importing equate to 66GB + 384GB (6 x 64) = 450GB. Suddenly you’ve lost a day of editing and almost half of your 1TB hard drive free space – and you haven’t even started editing yet. With AMA, you only have the 66GB used and it takes just a few minutes for Avid to link the files.

However, here’s the issue about system performance - Avid AMA utilizes the computer processor and installed codecs (compressor and decompressor program helpers) to decode the highly compressed media and use it in real time for playback and editing in Avid. The process will seem effortless and easy to you, but it is very intense for the computer system. Therefore, if you are doing anything other than playing back AMA media in real time (including scrubbing, fast forward, rewind, and reverse play), the system may seem sluggish and tend to freeze up faster-than-real-time motion, or pause a bit more than you’d expect before playing. Since this isn’t a smooth way to edit, it is best to use AMA media to establish a rough cut sequence or timeline, and then transcode only the media you need within your timeline to an Avid-native compression format such as DNxHD. This will take a little time (but significantly less than if you imported all of your media) and will greatly improve system performance for the clips you want to use in more refined editing. You can transcode additional media from its AMA linked format to DNxHD at any time, from within a sequence or a bin.

Recall the previous example, with 6 hours of media using 66GB of space. Once you use the AMA linked media to set up a rough cut, let's say the rough cut for your 10 minute final project is currently 30 minutes long. You can transcode this media to DNxHD to get much smoother playback in all speeds and directions, and increase system performance and reliability. With 30 minutes of AVCHD / AMA linked footage, it will take about 30 minutes to transcode – again, 1x real-time. But it will only create 32GB of new files (remember, 64GB per hour using DNxHD 145 MXF). You'll then be able to edit with the native Avid files, which will greatly increase system speed and performance, over what you experienced with AMA. Rather than waiting the full 6 hours to import/transcode 384GB of files, you wait one half hour (a nice lunch break) and now you've only used 66GB + 32GB = 98GB of your 1TB hard drive. Sound better? Let's get started. You'll be editing with AMA media faster than it took you to read this explanation!

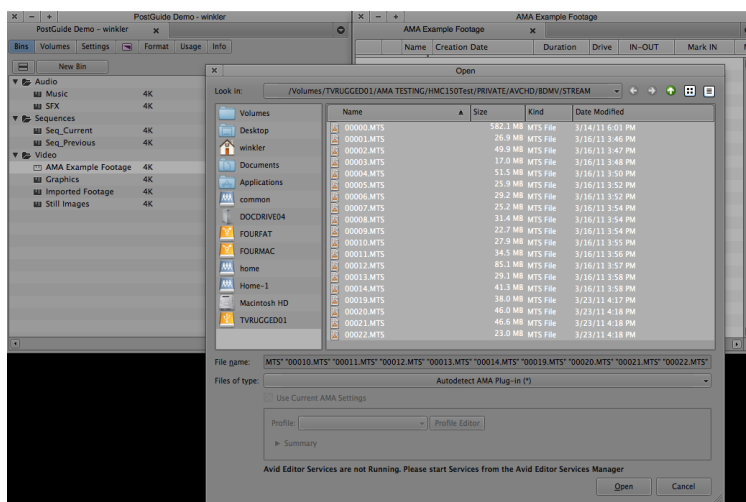
LINKING TO AMA FILES


By this point, you should have already connected your primary editing hard drive (with media saved on it) to the computer, opened your Avid project, and created some organizational folders and/or bins. Create and open a new bin (or open an existing bin) for the files you are about to link. Then, go to the File menu and select **AMA Link...**

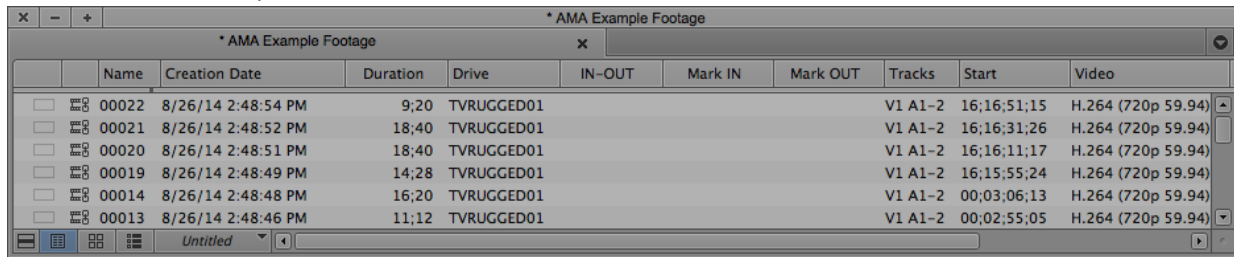


In this example, we're going to AMA link some AVCHD/MTS files shot on an HMC150. Since AMA linking does not take up any additional hard drive space, it's usually easier to link all media files and then individually eliminate linked clips from your Avid project, rather than linking files one by one, hoping you got the right ones!

Next you will have to browse for the folder that contains the media files. If you have kept your SD/CF card folder structure intact, this could take a few clicks through your editing drive – and be sure you are using your editing drive and not your backup drive! Once you see the media clips, click within the clip window and hit ⌘-A (or Ctrl-A on a PC) to select all the clips. Then click Open.

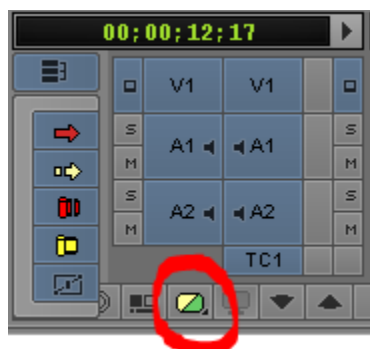





After clicking Open, it will seem that nothing happens. Wait a few seconds and a status box will show up and the screen or windows may flicker. Each file you selected is now being AMA linked within the project. Depending on the number of files you selected to link, this could take a few minutes. When the process is done, your bin will contain all the clips and each clip icon will include a chain link.  This indicates that the clip is a linked clip, and not a native/imported/transcoded clip. Hit ⌘-S (or Ctrl-S on a PC) to save your bin before moving forward (*hint - if you see an asterisk (*) in the title bar of the bin, it means you've made a change that hasn't yet been saved, as in the screenshot below*).



TIPS FOR WORKING WITH AMA MEDIA

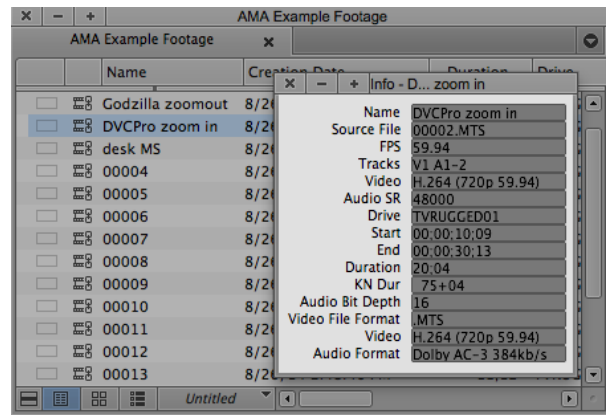
Now that you've linked some files via AMA, you can view them and edit them into a sequence as if they were regularly imported clips. However, keep in mind that system performance may be a little sluggish and choppy if you try to play backward, faster speed forward or backward, or jump around a lot within the clip or sequence. Again, this is normal due to the processor-intensive work that must be done to decode the highly compressed footage, and real-time processing of this is hard enough. While in AMA, you should have smooth forward playback and regular speed, but the system may drop frames in playback when transitioning from one AMA clip to another in sequence. When you transcode the media to an Avid native format (next section), you will have improved variable speed and dual direction playback capability.



If you are getting frustrated with choppy playback, you can lower the **video quality mode** in Avid. At the bottom of the timeline window is a small icon that may be green , yellow , or half-green and half-yellow . Clicking it will cycle through the three different video quality modes. Green is highest quality, half/half is good quality (usually this is selected by default), and yellow is low-quality. Try the yellow low-quality mode if you have excessive sluggish

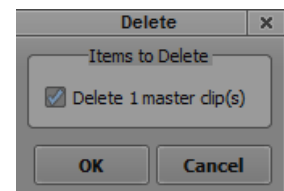
performance – this will only change how Avid presents the media to you. When you get to the point of exporting your work, you will want to be in the half/half mode for rough cuts and the green mode for your final cut to ensure the best quality rendering and exporting possible.

Since the files you linked are still named the same as the actual files created by the camera, it's a good idea to **sort the bin** first by file name / number. Click on the "Name" heading in the bin, and then hit ⌘-E to sort by that column. It will be hard to keep track of all those clip numbers. You can **rename a clip** in Avid, and Avid will "remember" its original file name / number, as well as where it exists on your hard drive. Click the name of the clip and type to rename it. Once you've renamed it, you can right-click on the clip icon and choose the option **Get Info**. In the example to the right, you can see that the clip now named *DVCPPro zoom in* is actually referencing the source file named *00002.MTS*. Other info about the clip also appears for your review. To see where the file is saved on the drive, you can right-click the clip icon and choose the option to **Reveal File** instead of Get Info. A Finder window will open with the file selected/highlighted.



You can **subclip** your AMA media just like regular media clips. If you have an interview that is 10 minutes long and all you need from it is a 15-second sound bite, you can subclip this section... and then eventually only transcode this portion rather than the entire clip.

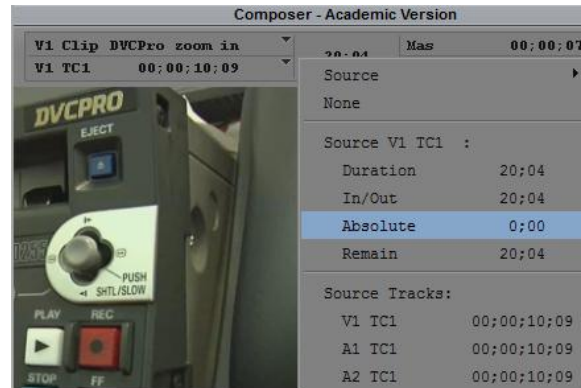
You can **delete a clip** from your bin simply by selecting it (by clicking the clip icon) and pressing delete on the keyboard. Avid will ask what you want to delete – in this case, select the option to **Delete 1 master clip(s)** and hit OK. This will delete your project's AMA link to the media file(s) you selected, leaving the actual file(s) on the hard drive safe and unchanged.



When **re-opening a project** that contains AMA clips, Avid will attempt to re-establish links with all the media. This process could take a few seconds or minutes, depending on the amount of AMA linking in your project. Let your project "settle" after opening it, otherwise the system may freeze or crash. If no matter what you do, the system freezes when you open a project, try holding down the **Option key** (Alt on a PC) while you click OK on the Select Project window, and continue depressing that key while the project loads. Holding this key during loading will force the project to open with all bins closed, rather than open as they were at the end of your last edit session.

Here's an idea - if all you want to do is **review or log your footage**, you *do not* have to load it in Avid. You could watch it in **VLC Media Player** or other media playback software without opening Avid. However, you will not see any timecode information.

What many people use is the clip counter, with each clip starting at 00:00 and progressing up (all players should show this). You can view a clip counter in Avid just as easily as you can view timecode – just choose **Absolute** from the timecode drop-down menu at the top of the Composer window. Keep in mind that many DSLR cameras, such as the Canon 7D, do not record actual timecode – for these, you have no choice but to reference the clip counter.

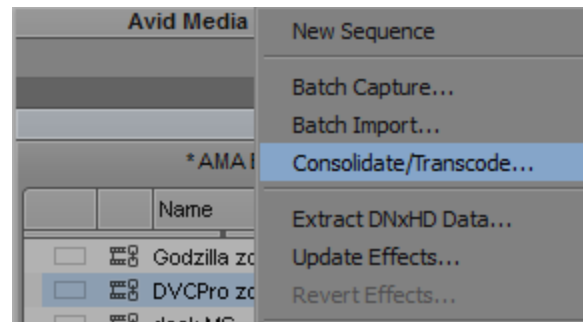


When editing, **don't add effects or transitions to AMA clips in your sequence.** Even basic dissolves can be problematic. Effects on AMA clips will cause a lot of stress on the computer processor, especially for real-time effects that don't normally need to be rendered to be seen in a draft mode. The computer will try to simultaneously decode the AMA clip and apply the video effect to it, which can cause decreased performance, dropped frames, or errors and ultimately a system freeze or crash. Use AMA to establish your rough *cuts*, and leave the effects and other transitions to be added after transcoding.

There are numerous other tips, tricks and shortcuts for working with AMA functions, and clips in general – consult the help menus and online resources to discover more about bin views, sorting, sifting, searching, creating your own custom bin column headings, and countless other features that will enhance your productivity!

TRANSCODING AMA TO DNxHD: CLIPS ONLY

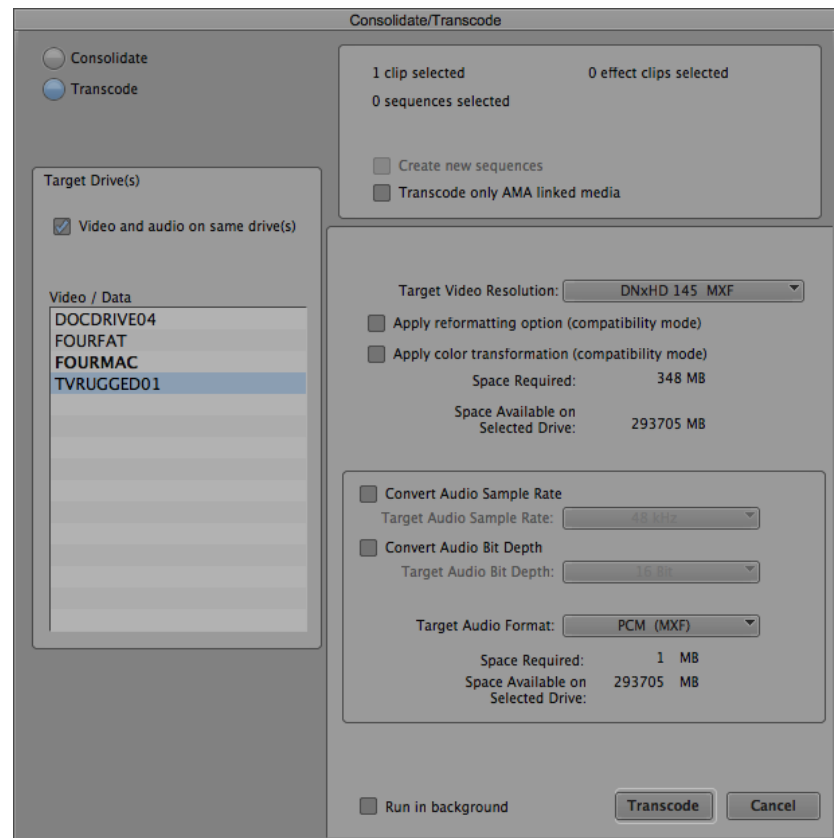
You can transcode individual clips or entire sequences – first, we'll go through the clip method. Select any subclip, clip, or multiple clips in your bin that you want to transcode, and they'll be highlighted in blue. Right-click on the clip(s) and select **Consolidate/Transcode**.



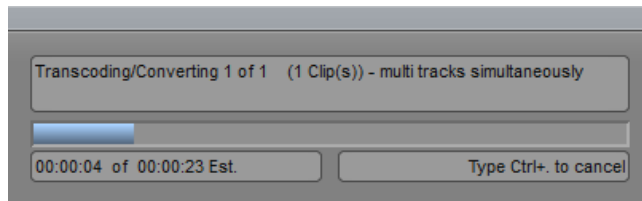
In the resulting window, choose the **Transcode** radio button.

Next, making sure the option for **Video and audio on the same drive(s)** is checked, select your hard drive from the drive list. On the right, Avid will indicate how much space is required to perform the transcode, and how much space is currently available.

Check the box that says **Transcode only AMA linked media** since this is exactly what you want to do! In the **Target Video Resolution** section, click the drop-down menu and select your desired DNxHD



MXF option. If you are working with 720p/59.94 media, this should be DNxHD 145 MXF. The drop-down menu here is the same menu you saw in the Media Creation settings when you first starting work on your project. If your media was recorded at the wrong audio sample rate or audio bit depth, this is where you could transcode the audio format to the proper 48 kHz and 16 bit (or whatever you are working with). Usually you can leave these options unchecked and format unchanged. Background transcoding is now an option in newer versions of Avid Media Composer. However, testing on Rowan systems was intermittent in terms of successful completion. At this time, we recommend that you do NOT choose to run the transcode in the background. When you are ready to proceed, click **Transcode**.



When you transcode, Avid takes the original file and creates a new file that uses the compression you specified. As long as you are not using the lowest compression settings, the audio/video

media itself will not seem noticeably different. Since DNxHD is less compressed than AVCHD or other MP4/H.264 media, Avid can work with it faster and smoother than other compressed formats, but it takes up more space. The transcoded file will actually exist as one independent file for video, and one independent file for each audio track – most often, you will have your V1, A1, and A2 tracking exist as separate MXF files (though within the Avid application, they will be treated as one master media clip). These files are automatically saved in the Avid MediaFiles folder on the hard drive you specified in the transcode options window. Avid maintains the MediaFiles folder. **DO NOT** rename, move, erase, add anything to, or remove anything from, this folder on your hard drive. Just let it sit there untouched – Avid will manage it for you. Again, ***do not directly add any files to, or remove any files from, the Avid MediaFiles folder.***

The transcode process will take approximately 1x real time – so if you’re transcoding a 20-second clip, it’ll take about 20 seconds. When the transcode process is complete, you will see a new clip created in the same bin as the old clip – except it will have an appendage to the name and the clip icon will no longer have the link icon in it. Also you can see the difference in listed video format between the original clip and the new clip. Note that the originally selected clip, not the new one, remains highlighted.

	Name	Creation Date	Duration	Video
<input checked="" type="checkbox"/>	DVCPRO zoom in	7/2/2012 14:57:04	20;02	H.264 (720p 59.94)
<input type="checkbox"/>	DVCPRO zoom in.new.01	8/16/2012 15:19:46	20;02	DNxHD 145 (HD720p)

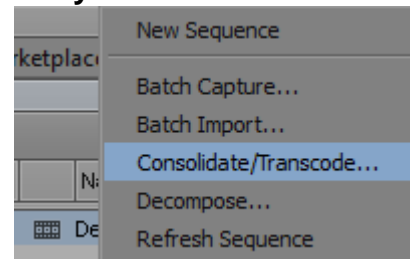
It’s suggested (but not required) that you rename the appendage of the clip name to something shorter – so instead of .new.01, use something to denote that this file is the transcoded version (author’s suggestion is to use .xc or .dnxhd, because .tc could be confused with timecode info). Just try not to have two clips of the same name in the same bin (or project, for that matter) to avoid confusion. You might also want to move all your transcoded clips to new bins so you aren’t confusing AMA and Transcoded media in the same bin. Ultimately, how you organize these clips is up to you. But from this point forward, whenever you want to use this clip, make sure you are editing with the transcoded version and not the AMA linked version.

TRANSCODING AMA TO DNxHD: SEQUENCES

In this section, we'll look at transcoding a rough cut sequence that uses all AMA media to one that uses all DNxHD media, for refined editing.

Depending on how long your sequence is, or needs to be, you may want to work on smaller sequences so that you don't have a long collection of AMA clips. **Some users have reported issues with AMA sequences longer than thirty minutes.** The more AMA clips you have in a sequence, the harder the computer has to work.

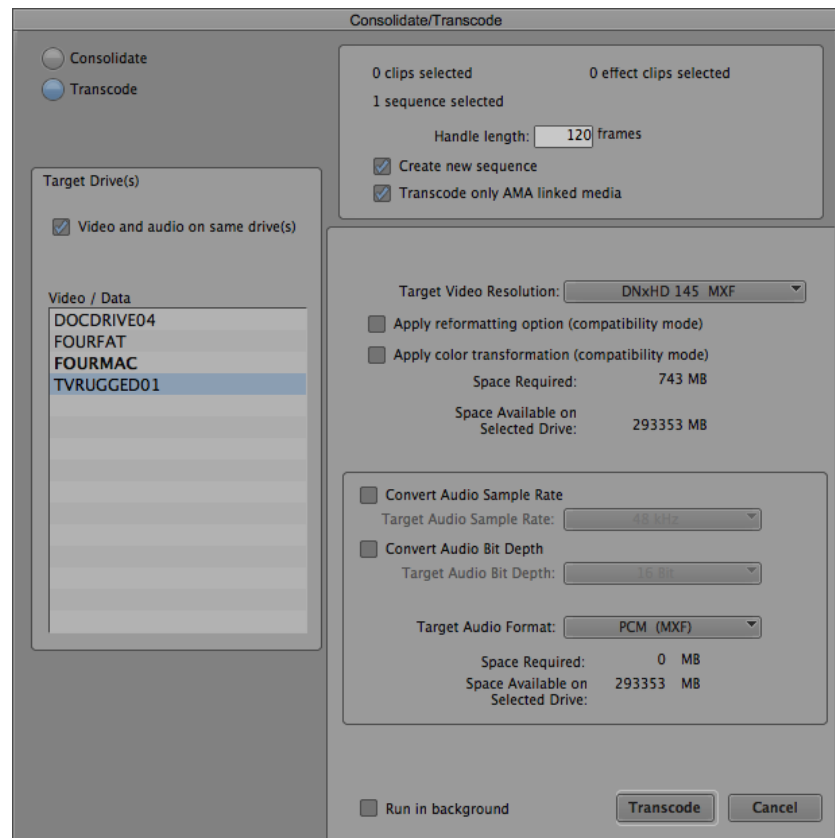
Once you have your sequence ready for transcoding, right-click on it in its bin and select **Consolidate/Transcode**.



In the resulting window, choose the **Transcode** radio button.

Next, making sure the option for **Video and audio on the same drive(s)** is checked, select your hard drive from the drive list. On the right, Avid will indicate how much space is required to perform the transcode, and how much space is currently available.

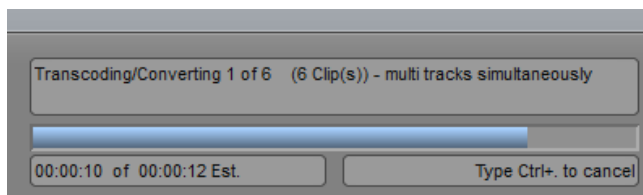
In the topmost section on the right, select the option to **Create new sequence**. Also, you can specify the new media file **Handle length**. This means that when a new media file is created, its starting "mark in" and ending "mark out"



points can be extended however many frames you specify. This is good if you may need to extend a clip for the purposes of a fade or other effect. It is recommend that you specify a handle length of at least 2 seconds – when working with 720p/59.94, your footage format is 60 frames per second, so 120 frames would provide 2 seconds. If the media does not have sufficient handle time, as much handle time as is available within your specification will be used (i.e., if you marked in 10 frames from the beginning of a

clip, the handle length for that clip can only be 10 frames because no additional media exists).

Check the box that says **Transcode only AMA linked media** since this is exactly what you want to do! In the **Target Video Resolution** section, click the drop-down menu and select your desired DNxHD MXF option. If you are working with 720p/59.94 media, this should be DNxHD 145 MXF. The drop-down menu here is the same menu you saw in the Media Creation settings when you first starting work on your project. If your media was recorded at the wrong audio sample rate or audio bit depth, this is where you could transcode the audio format to the proper 48 kHz and 16 bit (or whatever you are working with). Usually you can leave these options unchecked and format unchanged. Background transcoding is now an option in newer versions of Avid Media Composer. However, testing on Rowan systems was intermittent in terms of successful completion. At this time, we recommend that you do NOT choose to run the transcode in the background. When you are ready to proceed, click **Transcode**.



When you transcode, Avid takes the original file and creates a new file that uses the compression you specified. As long as you are not using the lowest compression settings, the audio/video

media itself will not seem noticeably different. Since DNxHD is less compressed than AVCHD or other MP4/H.264 media, Avid can work with it faster and smoother than other compressed formats, but it takes up more space. Each transcoded file will actually exist as one independent file for video, and one independent file for each audio track – most often, you will have your V1, A1, and A2 tracking exist as separate MXF files (though within the Avid application, they will be treated as one master media clip). These files are automatically saved in the Avid MediaFiles folder on the hard drive you specified in the transcode options window. Avid maintains the MediaFiles folder. DO NOT rename, move, erase, add anything to, or remove anything from, this folder on your hard drive. Just let it sit there untouched – Avid will manage it for you. Again, **do not directly add any files to, or remove any files from, the Avid MediaFiles folder.**

Transcoding from AMA to DNxHD takes approximately 1x real-time. When the transcode process is complete, you will see a new sequence created in the same bin as the old sequence – except it will have an appendage to the name.

Seq_Current		x			
	Name	Creation Date	Duration		
<input type="checkbox"/>	00006.new.01	8/16/2012 16:33:44	8;23		
<input type="checkbox"/>	00014.new.01	8/16/2012 16:33:44	14;27		
<input type="checkbox"/>	Godzilla zoomout.new.01	8/16/2012 16:33:44	10;03		
<input type="checkbox"/>	00012.new.01	8/16/2012 16:33:44	7;44		
<input type="checkbox"/>	DVCPro zoom in.new.01	8/16/2012 16:33:44	9;00		
<input type="checkbox"/>	desk MS.new.01	8/16/2012 16:33:44	7;36		
<input type="checkbox"/>	DemoSequence_01.Transcoded.01	8/16/2012 16:33:44	34;24		
<input checked="" type="checkbox"/>	DemoSequence_01	8/16/2012 12:09:50	34;24		

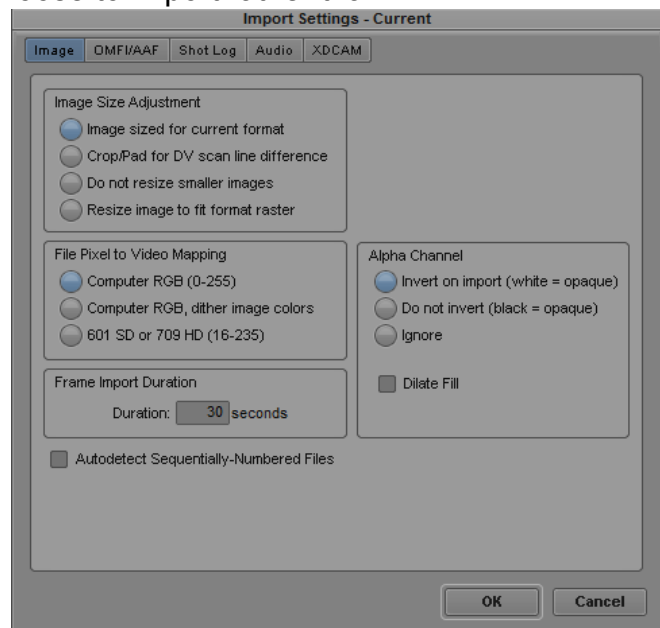
The icon remains the same however. Also, new transcoded media files for all of the clips within the sequence now exist in the same bin as the transcoded sequence. Note that the originally selected sequence, not the new one, remains highlighted/selected.

You may want to rename the appendage of clip and sequence names to something shorter – so instead of .Transcoded.01 or .new.01, use something to denote that this file is the transcoded version (author's suggestion is to use .xc or .dnxhd, because .tc could be confused with timecode info). Just try not to have two clips or sequences of the same name in the same bin (or project, for that matter) to avoid confusion. You could even move all your transcoded material to new bins – and it's highly recommended that you move all clips out of a bin called Sequences! Ultimately, how you organize these clips is up to you. But from this point forward, whenever you want to use media from this sequence, make sure you are editing with the transcoded version and not the AMA linked version. Since this was your rough cut, you can use the transcoded sequence to begin making finer cuts. You will notice that the playback sluggishness is mostly gone when you use DNxHD media instead of AMA linked media.

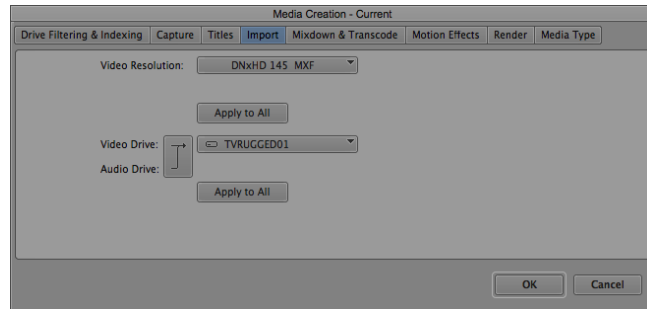
IMPORTING NON-AMA MEDIA

Not all media can be linked via the AMA process, and sometimes you may know what file you definitely want in your project right away, and you have time to wait for it to import. When you import a file, you are essentially performing an instant transcode from the original file format to a native Avid file format – except the only version that exists in your Avid project is the transcoded version. Still images, graphics, animation compositions, and standalone audio files (voiceovers, sound effects and music) are good examples of files you would likely choose to import rather than AMA link.

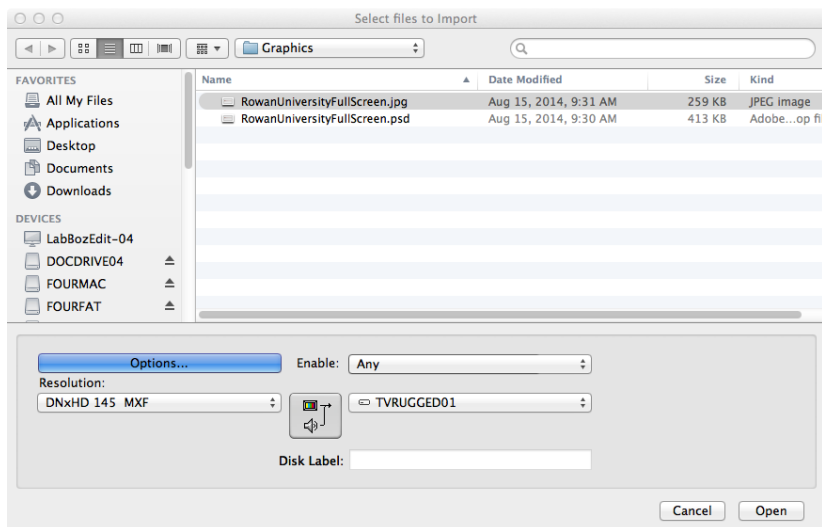
You will want to verify the **Import Settings** options, available from the Settings list in the project window, pictured to the right. “Image” pertains to both still images and motion video. There is also a section for Audio, and the others you probably won't need to adjust or even use. Depending on the sources you are importing, especially graphics and animations, you may need to do some trial-and-error to see which import option is the best. You may need to adjust the import option for each file or batch of files you import.



The **Media Creation** settings, which you should have adjusted earlier, control the file compression and formatting to be used – as you probably guessed by now, it's DNxHD 145 MXF for 720p/59.94 media. Media Creation also specifies which hard drive the media will be imported to / saved on – make sure before you import that YOUR hard drive is the one selected.



When importing, use the project window to select and open the bin to which you want to import your files. Then go to the **File** menu and choose **Import...**



Browse to and select the file(s) you want to import. You have one last chance here to change the Video Resolution, Hard Drive, and Import Options – verify everything and then click **Open** to import the file(s).

The time it takes to import the file(s) will depend on the type and size of the file(s). Graphics and short

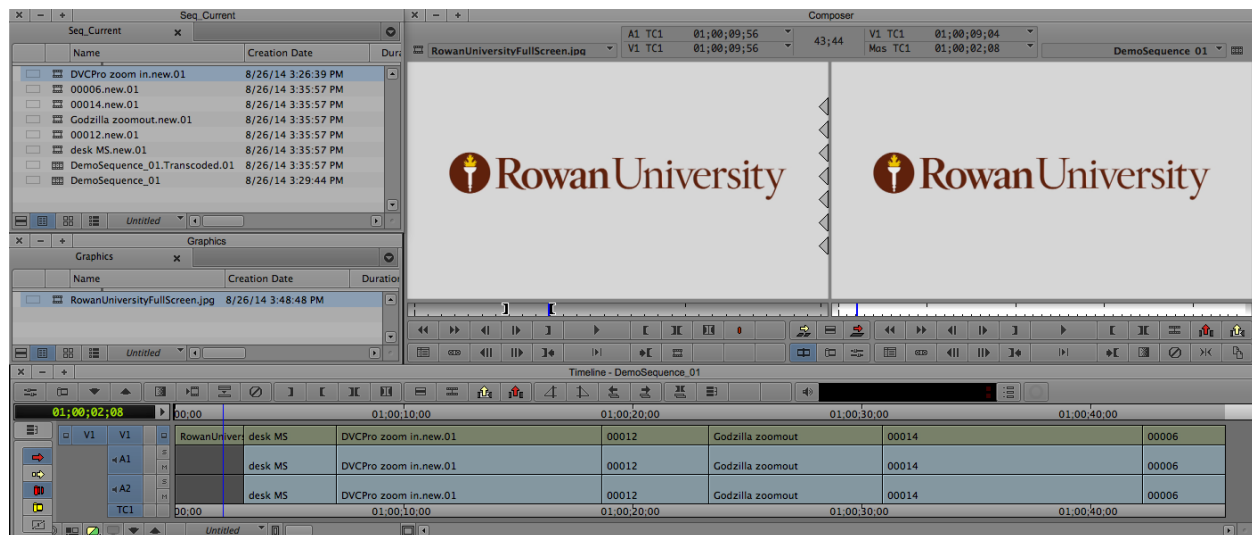
audio/music tracks are relatively fast; footage/video media files will take a bit of time. For footage/video media files, expect the import process to take 1x the running time of the media. So if you're importing a 1-minute video clip, it will take about a minute to import. Once imported, the file appears as a clip in your bin and you can work with it like any other DNxHD clip.

- **NOTE:** *The Avid software documentation recommends that to improve system performance and playback smoothness, you avoid mixing AMA linked and non-AMA imported video media within one sequence.*

RE-IMPORTING EXTERNALLY MODIFIED FILES USING BATCH IMPORT

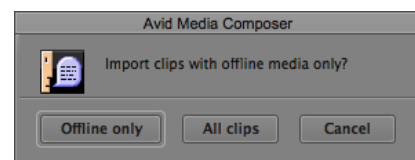
Sometimes you will need to make changes to imported files outside of Avid, and re-load those files into your project. If you import them again, you will have to manually re-edit anything that you used into your sequences. However, you can use the batch import procedure to re-import and refresh all sequences using those imported items in just one step.

For example, you have a graphic that you made in Photoshop and exported as a .jpg. You imported this .jpg into your project and edited it into your sequence. But later on, you decided to make changes to the graphic and want Avid to use the new graphic instead of the old one. You re-saved the .jpg file outside of the Avid program (using the same file name as before) and want to bring it in.

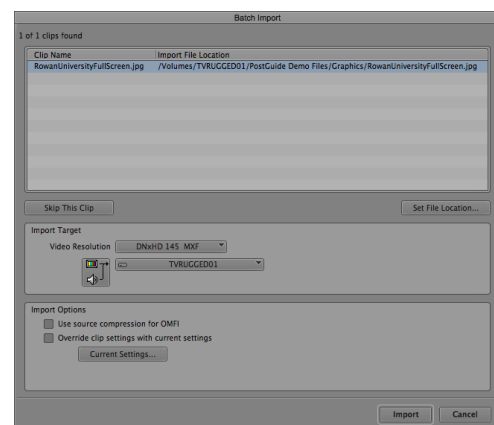


Find the graphic in your Avid bin and right-click on it, and choose **Batch Import...**

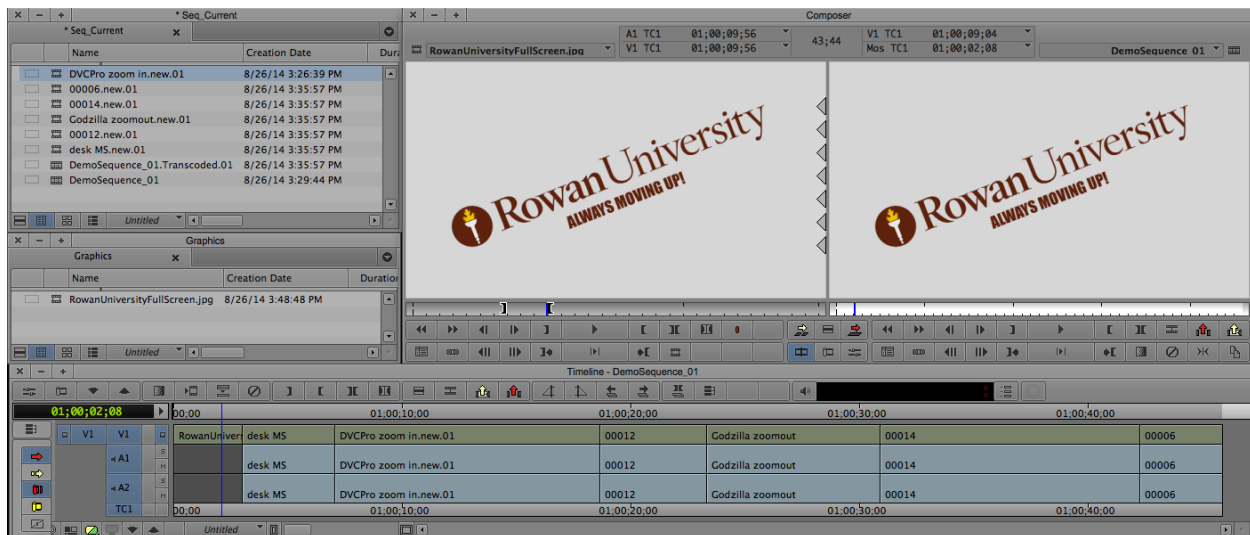
When asked about Offline or All clips, choose **All clips**.



Next, select the clips to batch import. If the new files are not in the same location or path as the originally imported files (Avid remembers!), choose "Set File Location" to manually choose the new files. Also in this window, you can choose to import at a different resolution and change import settings for this batch import process. When you're ready, choose **Import**.



The graphic will import and in a few seconds, automatically be updated in your sequence. Unlike editing within Avid, this is a “destructive” edit in that you cannot restore the previous version of the graphic unless you batch import it again – ANY use of the graphic within your project will be updated. Don’t forget to save your project after the changes!



A NOTE ABOUT SPANNED CLIPS

If you were recording media on your HMC150 camera for an extended period of time, then you may have a “spanned clip.” Recall that the CF and SD cards are formatted as FAT32, and with that format no single file can be larger than 4GB. At the data recording rate for the HMC150, this means that when you hit about 20 minutes of elapsed recording time in one shot, your file is roughly 4GB in size. Rather than shut down and stop recording, the HMC150 camera creates a new file on-the-fly for recording the rest of your footage. The software then links the two files so that as the first one ends, it automatically triggers the second linked file to continue recording as if it was really one continuous file. Thus, your one recorded media clip spans two files – hence, a “spanned clip.” *Note: As of this writing, the Canon 7D will stop recording after 12 minutes (4GB) and will not create a spanned clip.*

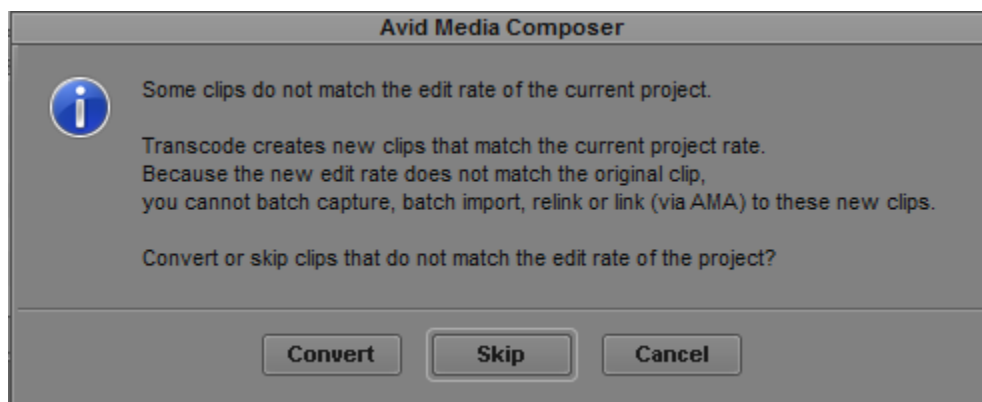
So, how does this affect you? If the editing or playback software on your computer doesn’t know how to read the information, or metadata, within a spanned clip, you may get an error message or the file will not play. In versions of Avid Media Composer software prior to version 6, the files would seem to import/transcode in an endless loop, never stopping – yet no new files were created and in effect, nothing happened. In versions of the Avid software from version 6 and above, this error has been resolved and no longer poses a problem.

WORKING WITH MIXED FORMATS AND FRAME RATES

Although ideally you want all of your media to be of the same format and frame rate, and you want your project settings to match this format and frame rate, this isn't always possible due to the numerous shooting formats in existence. The Avid software is built to allow you to work with a variety of formats and frame rates all within one project and sequence. However, the ability for Avid to playback a mixed format sequence will be based on the capability of the computer system.

For the sake of an example, let's say you are editing a project at 720p/59.94 and want to use footage shot in the 1080p/23.976 format. You can easily AMA link this footage into your project. But unless you import or transcode it, it will remain in its own format and will not conform to the project format. This means that before you transcode it, Avid will attempt to convert it on-the-fly during playback and editing in your timeline. This can get very processor-intensive for the system, and your playback performance may suffer.

If you transcode, the footage will be converted to the project format and you can work with it natively. You will get the informational warning pictured below. Choose **Convert** and your 1080p/23.976 clips will be transcoded and converted to 720p/59.94.

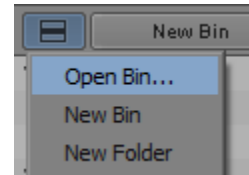


If, when you are all done editing and are ready to export, you have footage of mixed formats and frame rates in your sequence, you must transcode or perform a video mixdown of the entire sequence so it conforms to one format, start to finish. Otherwise, you will have errors in the exported file, the file won't play at all, or Avid will prohibit you from exporting altogether. Procedures for transcoding sequences are detailed in an earlier section of this guide; Video Mixdown procedures are detailed in the Exporting section of this guide.

Note that while you are working in one project format (i.e., 720p/59.94) you may be unable to switch to another format for transcoding, rendering or output (i.e., you cannot choose to transcode contents of a 720p/59.94 project to 1080p/23.976).

To get around this, you can **create a new project at the format and rate you want to convert your footage or sequence to**, and open a bin from your existing project while in the new project.

Go to the fast menu of the Project Window and choose **Open Bin...** and browse for the specific bin inside the other project. When the bin opens, **Duplicate** the clip(s) or sequence(s) you want to use, and **drag the duplicate into a new bin in the new project**. Then you can transcode, and your media will now exist within this project at your new project's format and frame rate.



This is useful if you know you need to output in a specific format that isn't the native format of your project, and let Avid do all the rendering and transcoding rather than another program or conversion software. At Rowan, we can use Avid to down-convert HD materials to SD for archiving on tape or use in the TV studios – we take the clip(s) or sequence(s) from an HD project and open them in an SD project bin, and use Avid to transcode to SD so that we can then record it to DVCPRO tape (remember, HD media is not compatible with SD VTRs). You may never have to worry about these multi-format, multi-project procedures if all of your original media is recorded in the same format as your project, and format you work in is the format you want to export. Hopefully, it will be!

CAPTURING AND BATCH CAPTURING FROM VIDEOTAPE

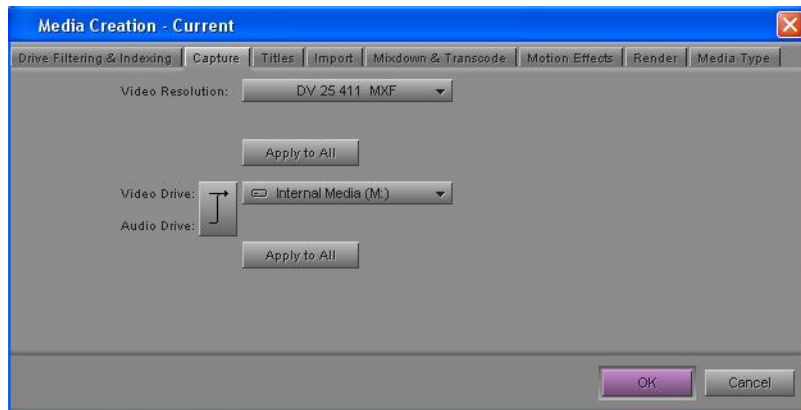
**Please note that the screenshots in this section are taken from Avid Media Composer PC version 5. The procedures for capturing and batch capturing have not changed between version 5 and the current version, so know that the procedures are still the same although the screen shots in this guide section may appear different from the Avid interface that you are using.*

At Rowan, we do not have any HD tape systems, so if you are capturing from tape you must be working with standard definition footage in a standard definition (NTSC 30i) project. In Avid, “capturing” is the term given to the process of recording media from tape into the computer, but this process is also commonly known as digitizing or ingesting. There are several ways to capture material in Avid, but first we need to verify some settings and make sure the media is saved where we want it to be saved.

STARTUP

1. Make sure your VTR is turned on and connected to your computer workstation (this may involve using a firewire router depending on the lab and system you are using) before you start the Avid software.
2. Launch the Avid software, and while it loads...
3. On the front of the VTR is a control that allows “Local” or “Remote” control of the deck. Make sure that the switch is in “Remote” mode (this will disable all of the transport control buttons).
4. Also on the front of the VTR is an input switch. Set it to “Option” for the firewire interface.

SETTINGS: MEDIA CREATION

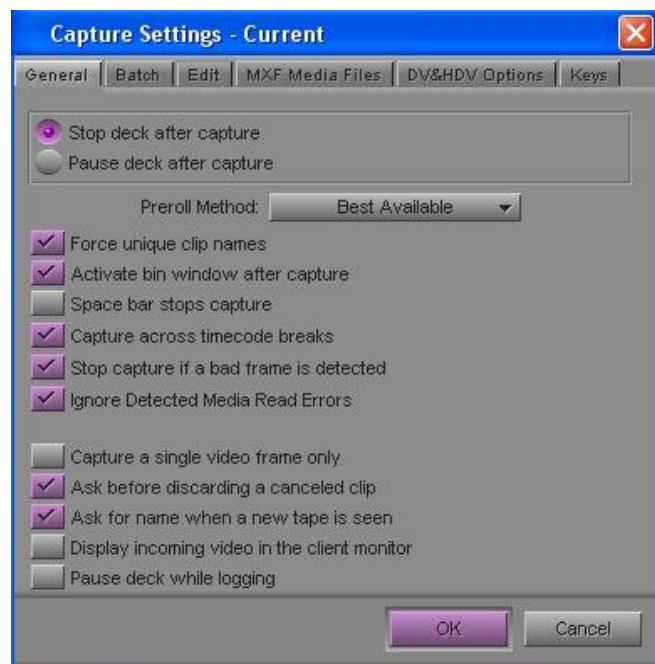


Once you have launched a project, you need to verify some settings for capture. Open the MEDIA CREATION settings and click the Capture tab. This will show the resolution for capturing (should be DV 25 411 MXF) and also the target drives for saving the material (some

other programs may refer to this as your “Scratch Disk” settings). You want to make sure that the video and audio both go to the same drive and that drive is your primary editing hard drive – this is the same as when you verified Media Creation settings at the start of your project. Once you have chosen your drive, click “Apply to All” – this will make all functions save to that chosen drive.

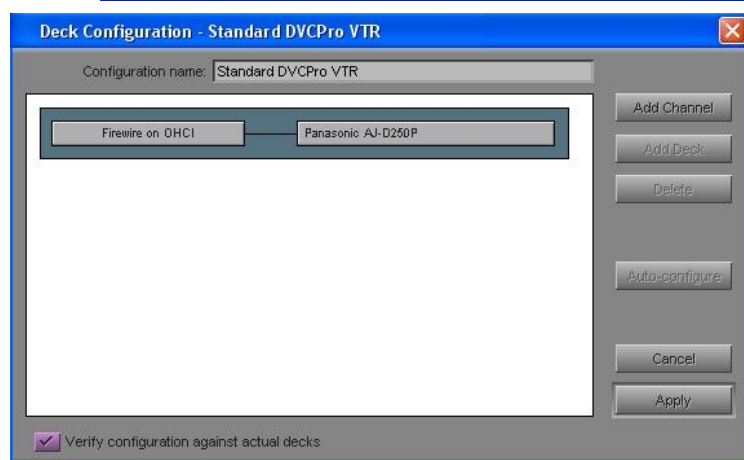
SETTINGS: CAPTURE

You’ll want to verify the correct capturing settings before you begin capturing so as to avoid problems. These settings are detailed in another section of the Post Production Guide. For now, just make sure your screen has these options selected as pictured to the right for Capture settings.



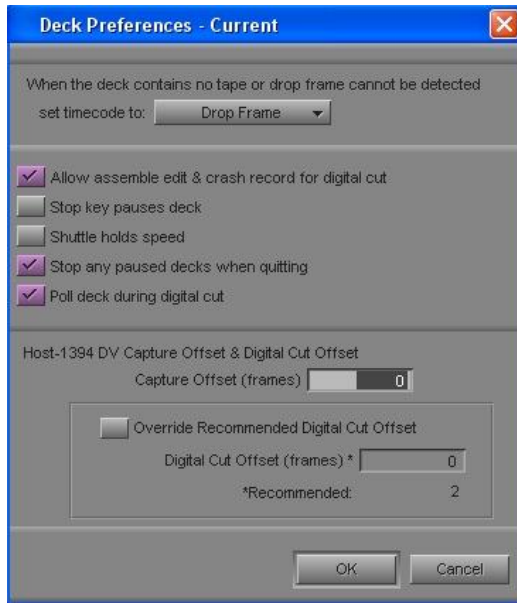
SETTINGS: DECK CONFIGURATION

You also need to verify that the deck configured for your Avid is the deck you will actually be using! Locate the Deck Configuration settings and make sure that the selected option is “Standard DVCPRO VTR” or something similar. If you open the deck settings it should look like the image pictured to the right.



If not, click the “Add Channel” button and choose the option for “Firewire on OHCI”, and then “Add Deck” and select your VTR from the drop-down list, sorted by brand. The most typical VTR used at Rowan is the Panasonic AJ-D250P. If you are using a MiniDV camera from Rowan, it is most likely the Panasonic DVX100BP.

SETTINGS: DECK PREFERENCES



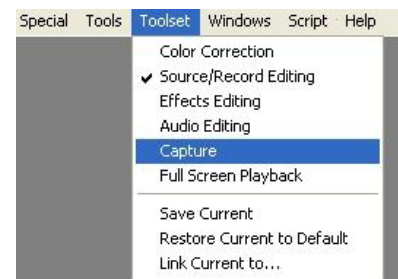
There is a separate setting for Deck Preferences. Verify that it looks like the image to the left.

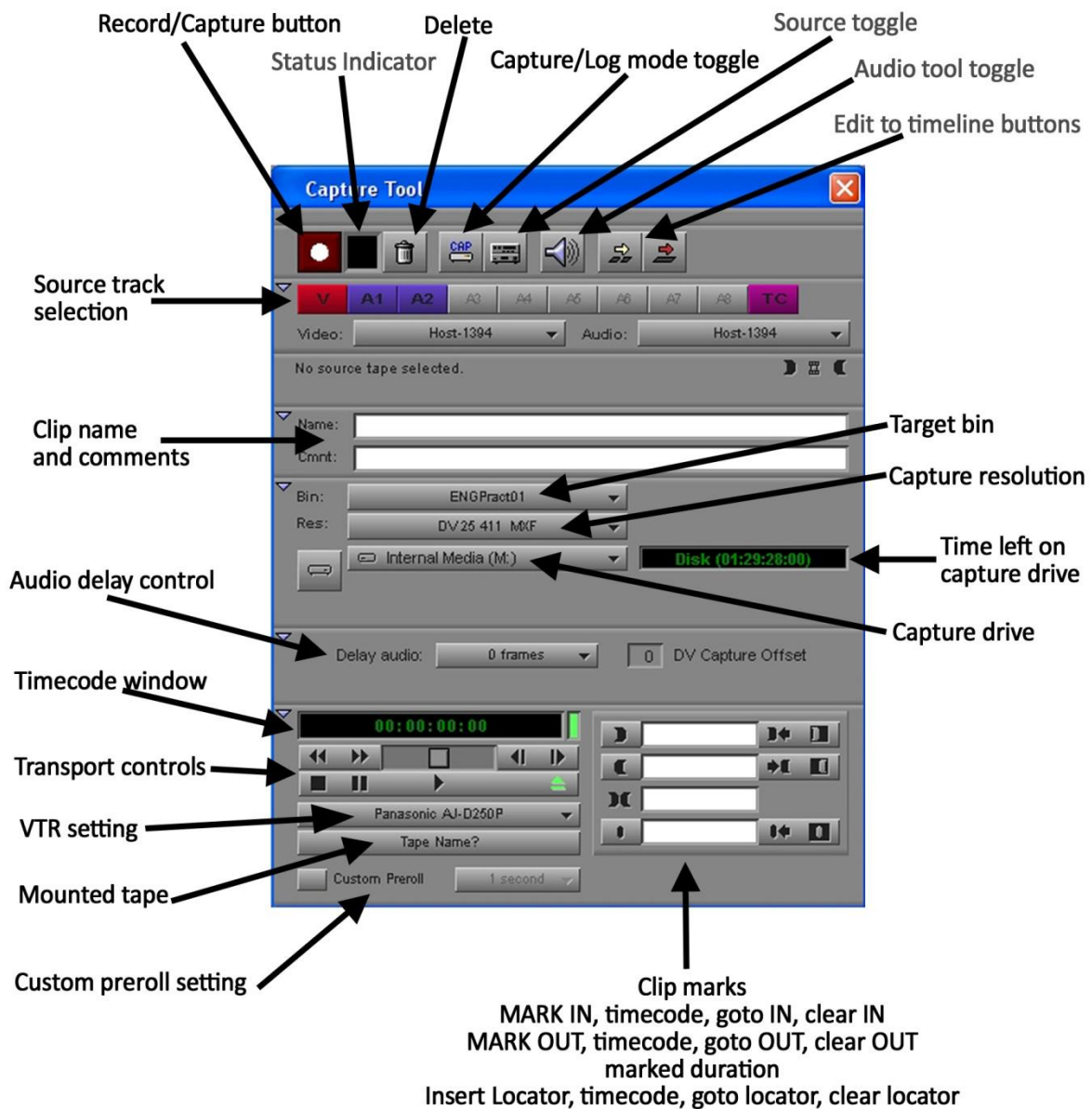
BASIC CAPTURING

Step 1: Once all of your settings are verified, you are *almost* ready to capture. Before you can start rolling tape, you must designate a bin in your project for capturing the footage. Create a new bin and name it depending on what you’re going to capture. Most often, naming the bin the same as the tape name or ID number is best. In this example, the tape we are using is called ENGPract01. Make sure the bin is open and click on it to activate it.



Step 2: Go to the Toolset menu and click “Capture” to activate this mode. A new window will appear. There are several features you will use and adjust, and several you will not. Let’s look at the capture tool on the next page.





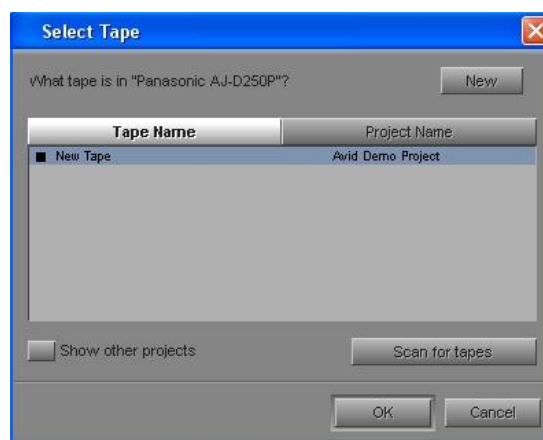
If your capture tool did not open to look quite like this, then you are in the logging mode. Click the pencil icon that says LOG and this will change to the above view, which is capture mode.

Step 3: Verify that this tool is set up for capture by checking:

- The BIN selected is the one you are going to capture to (we're using "ENGPract01")
- The RES selected is DV 25 411 MXF
- The DRIVE selected is your primary editing drive, selected earlier in the Media Creation settings (but you can change it here if you need to).
- You see timecode information 00:00:00:00 – not "NO DECK"

Step 4: Once you have verified all of the settings and everything is good to go, insert your tape in the VTR. If you are using a MiniDV tape, you must use the supplied MiniDV adapter – DO NOT insert a MiniDV tape directly into the VTR.

Step 5: After inserting the tape, Avid will ask what tape you've loaded. Click the "New" button to set up a new tape identification or select your tape from the list by clicking the black square. DO NOT overwrite or erase any existing tapes. If you do, it will erase Avid's knowledge of those tapes previously used in the system. This will negatively affect your ability to stay organized! Avid will only list tapes with media already captured for your project/system.



For this project, we've entered the new tape name ENGPract01 and selected it by clicking the black square to highlight it in blue. Click OK to close the Select Tape dialog box and return to the Capture tool.



Step 6: Avid will only display and play out the tracks you have



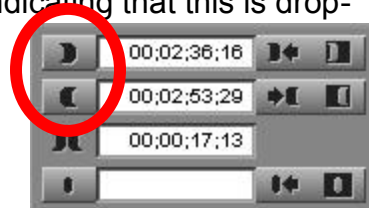
selected for capturing. At the top of the capture tool, click on the track indicators until they light up, indicating that they are selected for capture. Remember, these are the tracks for the SOURCE tape you just loaded. Most often, there is 1 track of video and 2 tracks of audio. You should also select the TC (timecode) track. For this example, we're using all four. But sometimes you may not need everything (e.g., if you've recorded VOs to tape and have no need for the video, just deselect the video button!).

Step 7: Using the transport controls, you can play, pause, rewind, and fast forward the tape. You can also advance frame-by-frame, and use the horizontal scroll control to jog/shuttle the tape forward and backward at variable speeds. The timecode information should move according to the tape position and direction.



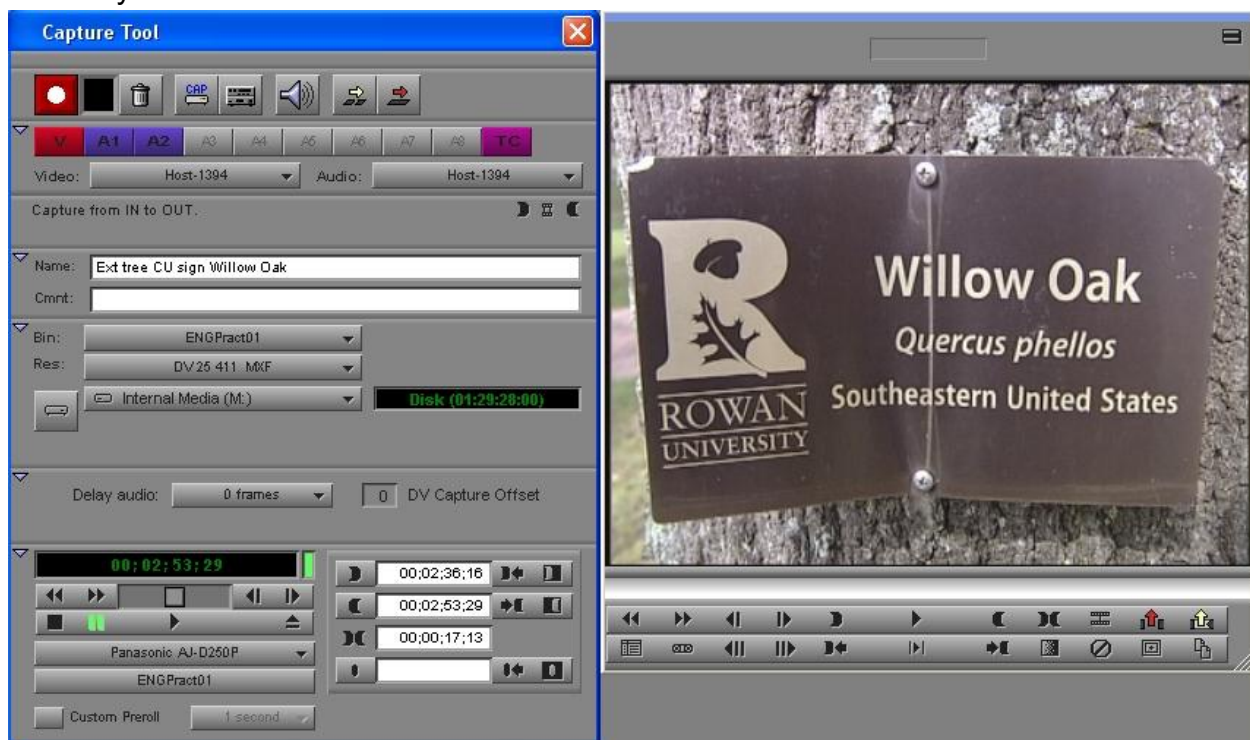
Step 8: Cue the tape to the start of the media you want to capture. For ENGPract01, this happens at timecode 00;02;36;16 (note the semicolons indicating that this is drop-frame timecode). Click the MARK IN button to mark in at this point, and the timecode will appear in the text box.

Alternatively, you could type in the timecode and hit Enter (you don't need to enter the semicolons, just type in the numbers). This is useful if you have already logged the tape on paper and know the timecode values you need.



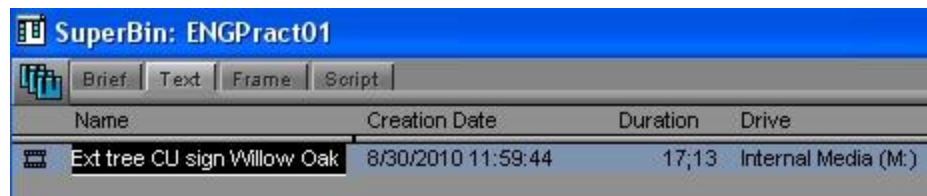
Repeat this step to locate and identify the end point of the clip, this time using the MARK OUT button. Note that once you have an IN and OUT marked, the duration is calculated automatically. You do not need to add any locator marks.

Step 9: Once you've marked the region of media you want to capture, NAME THE CLIP! Type in a name for the clip using any naming conventions or organization plan you've created. You can also add a helpful description. These are the only two fields you can manually enter data into at this time.



Step 10: When everything is set, click the Record/Capture button at the top left corner of the Capture tool. Avid will tell the VTR to rewind to a preroll point a few seconds before the marked IN point. The tape will then roll and Avid will start capturing the media at the exact timecode you specified. The status indicator light will blink red while capture is in progress. Just sit back and watch the magic happen. When playback reaches the end timecode you specified, capture will end and the deck will pause or stop the tape a few seconds later.

Step 11: Verify that the clip captured successfully. Go back to your bin and locate the captured



clip. The name of the clip will be highlighted in case you want to change its name (or forgot to in the previous step and it appears as an Untitled clip). Double-click on the video clip icon to open it in either the source monitor or a new viewer window. Play the clip and spot-check it for any audio or video glitches. When you're satisfied, you can go back to the capture tool and repeat these steps to capture more media. Remember that if you insert a new tape, you click "NEW" in the select tape window and give it a unique name. DO NOT overwrite or erase existing tape names! And don't forget to SAVE your project after capturing new material!

If your clip fails to capture, there are numerous possible causes. The most frequent problems include:

- The timecode you entered manually (by typing it in) doesn't exist – recheck the timecode!
- There is a timecode break within the clip and the math doesn't work out (you'd need to capture two separate clips).
- The starting timecode is too close to the start of the tape or a timecode break, and a suitable preroll point can't be found. Adjust the MARK IN point a little later and/or set a custom preroll of 1 second.
- Your MiniDV tape won't play properly – video looks sped up and has jagged edges, no audio. This usually means you shot in "LP" mode (should have been "SP"), and the VTRs don't play back LP mode. You'll need to use a MiniDV camera for capturing instead of a DVCPro VTR.

LOGGING AND BATCH CAPTURING

If you mastered basic capturing, congratulations! If you've been doing the basic capturing for numerous clips, you're probably getting impatient. Capturing is a real-time process, so every time that you enter a clip for capture, you have to sit and wait for the system to play it in real time and capture it. Wouldn't it be great if there was a way to log in all the timecodes at once, and then let the machine capture everything by itself? Well, you're in luck... if you use the LOG and BATCH CAPTURE features of Avid Media Composer.

Step 1: Go through the setup procedures as before, including creating/selecting a bin, opening the Capture toolset and loading your tape in the VTR as before. Name the new tape or pick it from the list of tapes to select.

Step 2: At the top of the Capture tool click the CAP button to change to the logging mode. The capture tool window gets much smaller and no longer contains anything pertinent to drives or actual capturing!



The CAP button is now a pencil and says LOG. Note also that the Record/Capture button has been replaced by a MARK IN button. Track, Naming, Transport and Timecode areas are the same as before.

Step 3: As before, use the transport controls to cue the tape to the starting point of the media you want to capture. Click the MARK IN button (either in the timecode area or at the top left where Record/Capture used to be).


Step 4: In logging mode, it's best to enter a clip name BEFORE choosing Mark out, because there is a single button that will MARK OUT and enter the clip into your bin in one step. If you click this before naming the clip, it'll log it as an Untitled Clip – you don't want that! So enter a clip Name now.



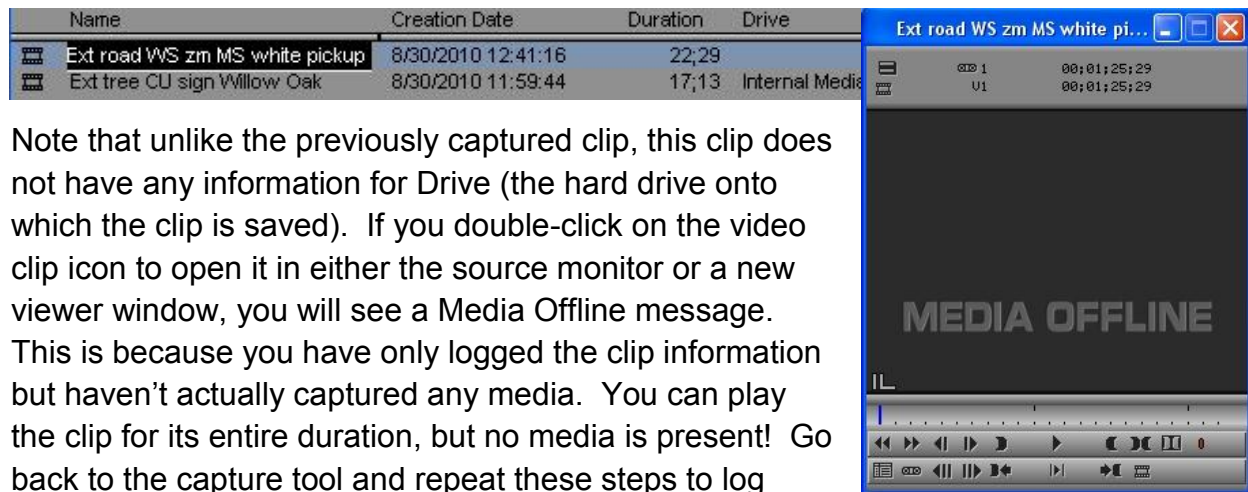
Step 5: After naming your clip, cue the tape to the end of the media you want captured for this clip. Now you can do one of two things:

- Click the MARK OUT button  in the timecode info area to mark out at this point, and the information will stay active for your review, then click the LOG button  at the upper left of the Capture tool to log the clip to the selected bin.

OR...

- Click the LOG & MARK OUT button  at the upper left of the Capture tool to instantly MARK OUT at this point AND log the clip to the selected bin. If you do this, the clip info will disappear and the capture tool will be ready and waiting for you to enter the next timecode and clip name values.

Step 6: Verify that the clip was logged successfully. Go back to your bin and locate the captured clip. The name of the clip will be highlighted in case you want to change its name (or forgot to in the previous step and it appears as an Untitled clip).



Note that unlike the previously captured clip, this clip does not have any information for Drive (the hard drive onto which the clip is saved). If you double-click on the video clip icon to open it in either the source monitor or a new viewer window, you will see a Media Offline message. This is because you have only logged the clip information but haven't actually captured any media. You can play the clip for its entire duration, but no media is present! Go back to the capture tool and repeat these steps to log more media.

Step 7: *OPTIONAL*. This is a step devoted to helping you organize your media while logging and preparing to capture. Depending on how you like to work, or what you have been instructed to do for your project, you may want to only log the clips you know you'll use, then capture them. Or, you may want to log every clip on your tape and then capture what you think you'll use. Or even still, you might log and capture everything! This last option might take up a lot of hard drive space depending on how big your project is, so the general rule of thumb is to log everything, but capture only what you think you'll actually use. Often times you will have multiple takes or versions of the same thing, and you'll need a way to designate what's good and what's not. You can use the Description field to enter comments, or create your custom fields. If this is

something that interests you, do a search in Avid Help for “Adding Customized Columns to a Bin” for this information.

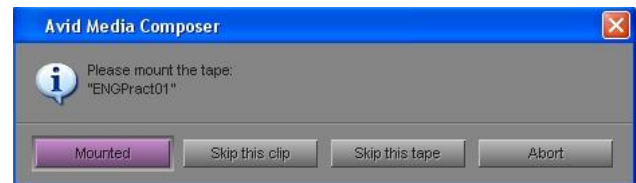
Step 8: You’ve got your clips logged, now it’s time to BATCH CAPTURE! Before you do, make sure to SAVE all your work NOW! Then, in your bin, select the clips you want to capture. You can select multiple clips at once – this sets up a “batch” of files to capture. In the screenshot below, 3 of the 4 offline clips have been selected for batch capturing.

	Name	Creation Date	Duration	Drive
	Ext MS blue emerg box	8/30/2010 13:10:06	7;21	
	Ext dirt CU ant crawling	8/30/2010 13:09:21	30;08	
	Ext road CU wheels rolling	8/30/2010 13:08:45	19;18	
	Ext road WS zm MS white pickup	8/30/2010 12:41:16	22;29	
	Ext tree CU sign Willow Oak	8/30/2010 11:59:44	17;13	Internal Media (M:)

Step 9: Go to the Clip menu and select Batch Capture. In the resulting dialog box, make sure that “Offline media only” is checked. The number of clips you’ve chosen to batch capture is listed. Do not select the “extend” option. Then click OK to begin the batch capture process.



Step 10: Avid may ask you to mount the correct tape in the VTR. If you are prompted, make sure the correct tape is loaded and then click “Mounted” to begin the batch capture.



The Avid system will control the deck and begin the batch capture process. The clips will be captured in chronological order on the tape. The system will behave as it did in the basic capture mode, except that it will do all of the clips you selected back to back without any input from you!

As the batch capture progress, you will be given status updates in the capture tool window, just above the Clip name area.

Capturing 'Ext road CU wheels rolling' 1 done, 0 skipped, 2 left for less than 1 minute.

Like basic capture, batch capture is a real-time process. If you have chosen to batch capture a lot of clips, then this is the perfect time to let the machine take over and go outside to get some fresh air, eat lunch (but don’t bring the food back into the lab), or

take a power nap. However, it's best to only batch capture clips on the same tape at one time – otherwise the system will prompt you to insert a different tape and wait until you do.

When the capture is completed, you'll get a message telling you the result. If some clips could not be batch captured, you may need to go back and try them individually, keeping in mind that if your clip fails to capture, there are numerous possible causes. The most frequent problems include:



- The timecode you entered manually (by typing it in) doesn't exist – recheck the timecode!
- There is a timecode break within the clip and the math doesn't work out (you'd need to capture two separate clips).
- The starting timecode is too close to the start of the tape or a timecode break, and a suitable preroll point can't be found. Adjust the MARK IN point a little later and/or set a custom preroll of 1 second.
- Your MiniDV tape won't play properly – video looks sped up and has jagged edges, no audio. This usually means you shot in "LP" mode (should have been "SP"), and the VTRs don't play back LP mode. You'll need to use a MiniDV camera for capturing instead of a DVCPRO VTR.

Step 11: Verify that the clips batch captured successfully. Go back to your bin and locate the captured clips – they should still be highlighted in blue. Notice that there is now information in the Drive column! Select a single clip, and double-click on the video clip icon to open the clip. Play the clip and spot-check it for any audio or video glitches. Do this for any or all of the clips you just batch captured.

	Name	Creation Date	Duration	Drive
	Ext MS blue emerg box	8/30/2010 13:10:06	7;21	Internal Media (M:)
	Ext dirt CU ant crawling	8/30/2010 13:09:21	30;08	
	Ext road CU wheels rolling	8/30/2010 13:08:45	19;18	Internal Media (M:)
	Ext road VWS zm MS white pickup	8/30/2010 12:41:16	22;29	Internal Media (M:)
	Ext tree CU sign Willow Oak	8/30/2010 11:59:44	17;13	Internal Media (M:)

When you're satisfied, you can go back to the capture tool and repeat the previous steps to log and batch capture more media. Remember that if you insert a new tape, you click "NEW" in the select tape window and give it a unique name. DO NOT overwrite or erase existing tape names! And don't forget to SAVE your project!

CREATING MEDIA CLIPS BASED ON LOGGING SPREADSHEETS

**Please note that the screenshots in this section are taken from Avid Media Composer PC version 5. The procedures have not changed between version 5 and the current version, so know that the procedures are still the same although the screen shots in this guide section may appear different from the Avid interface that you are using.*

The Avid Media Composer software allows you to log and capture your footage within the program. You can choose to capture as you log, or log all clips and *batch capture* later. However, to log footage for your project, ideally you need your Avid system, your Avid project, and a VTR connected – this doesn't happen all the time. If you want to log elsewhere where you can find a VTR but not necessarily the Avid software, you can log shots to a simple spreadsheet – the best option is to use Microsoft Excel or Google Docs – and then import this information into your Avid project at a later time for capturing. The following instructions detail this process with step-by-step directions.

STEP 1 – Log your footage in a simple spreadsheet

Create a spreadsheet document using Google docs, Excel, or another spreadsheet program. For best results, dedicate a sheet for each tape you log. Set your sheet up with the following columns (see also the screenshot on the next page):

- **Name** - The name for the media clip can be anything to help you organize your shots. Follow the guidelines for good naming conventions. Do not use any symbols or quotation marks.
- **Tracks** - The video/audio tracks you intend to capture. Usually VA1A2 (Video, Audio 1, Audio 2). You do not have to select all tracks if you do not need them (i.e., a voiceover might just be A1 or A2).
- **Start** - The starting timecode of the clip (use HH;MM;SS;FF for drop frame TC)
- **End** - The ending timecode of the clip (use HH;MM;SS;FF for drop frame TC)
- ***Custom*** - Any custom columns you want to create (i.e., Description, Comments, Rating, Talent, etc.) that will help you in the sorting/sifting process later, that are not already reserved in the system – reserved columns are listed at the end of these instructions.

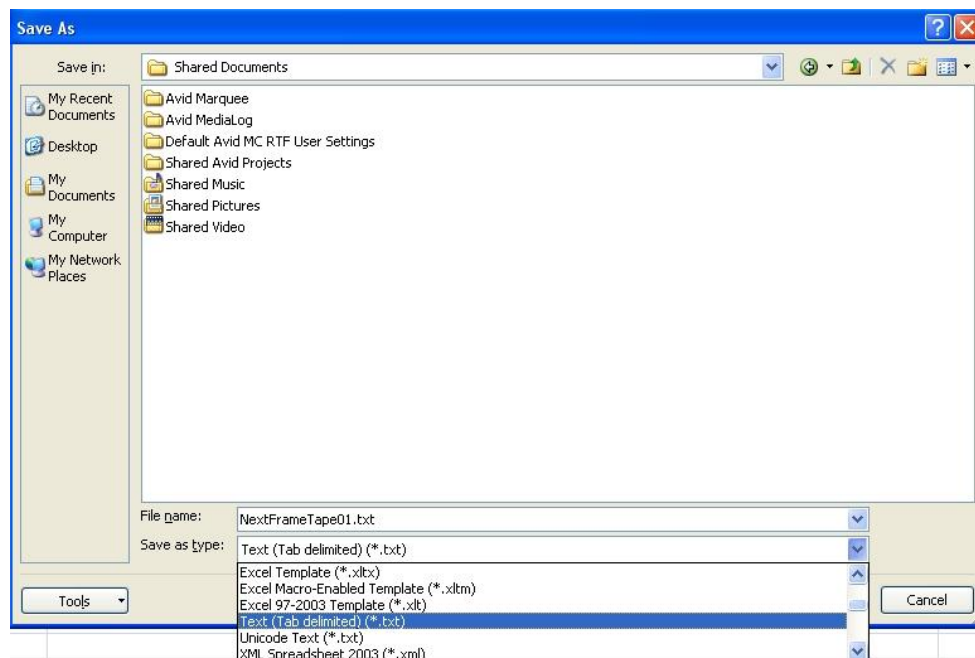
As you log, your spreadsheet may begin to look like the image on the next page.

	A	B	C	D	E	F
	Name	Tracks	Start	End	Description	Rating
1	Ent box handouts CU	VA1A2	00;01;02;12	00;01;16;20	Newspaper box of Film Festival handouts	2
2	Bigscreens WS	VA1A2	00;01;16;20	00;01;44;26	Jumbo screen of Philly Fest promo	2
3	Banner WS	VA1A2	00;01;44;26	00;01;54;01	Philly fest banner	1
4	screen WS full promo vid	VA1A2	00;01;54;01	00;02;55;19	Jumbo screen of full promo best static shot	3
5	MS clock zm WS screen	VA1A2	00;02;55;19	00;03;14;02	Clock tower shakey zoom out and pan to screen	3
6	MS banner pan to clock	VA1A2	00;03;14;02	00;03;26;06	Film fest banner pan to clock not bad	3
7	MS zm CU clock tower	VA1A2	00;03;30;01	00;03;34;11	Clock tower zoom in	2
8	MS pan across banner	VA1A2	00;03;34;11	00;03;51;25	Pan Across banner	4
9	CU screen zm WS street	VA1A2	00;03;51;25	00;04;31;27	CU of Jumbo Screen zoom out to street x2	2
10						
11						
12						

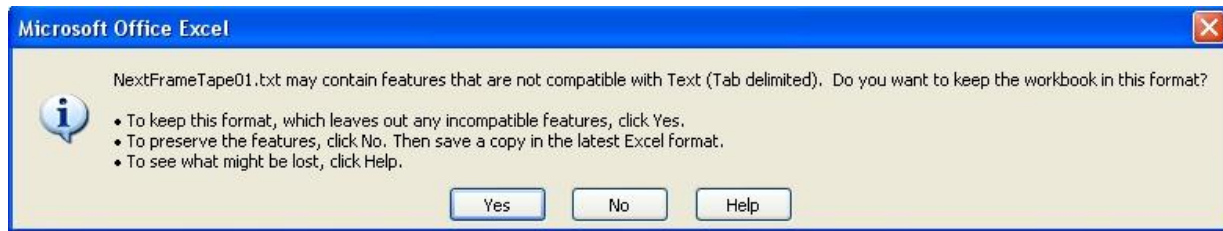
STEP 2 – Save the spreadsheet with specific text formatting

Save your spreadsheet document. Also, save a backup copy just in case. Now, you need to save the sheet as a new text-only file that Avid can understand. Make the file name the same as the Tape Name or Tape ID according to how you’re organized.

Go to **File** (or the “**Office**” button) and choose “**Save As...**” and “**Other Formats.**” In the “**Save as type:**” drop-down box, choose “**Text (Tab delimited) (*.txt)**”, then name your file with the .txt extension (you may want to add the word “text” to the name so you know it’s not the actual spreadsheet file). Choose where to save it, and then click **Save**.



If you get an error message like the one below, just say “Yes.” **Then close/quit your spreadsheet program (if you don’t close it, Avid can’t work with it).**



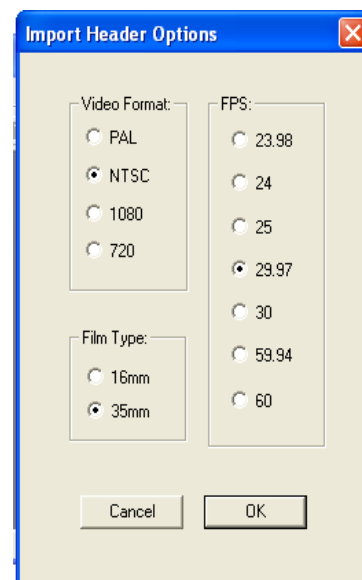
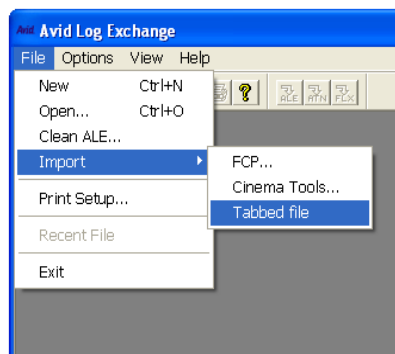
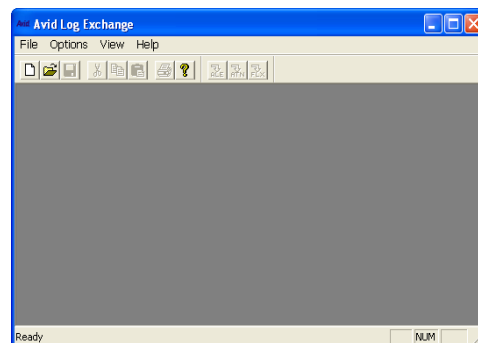
STEP 3 – Convert the text file to an Avid format file

Now it’s time to let Avid do some work.

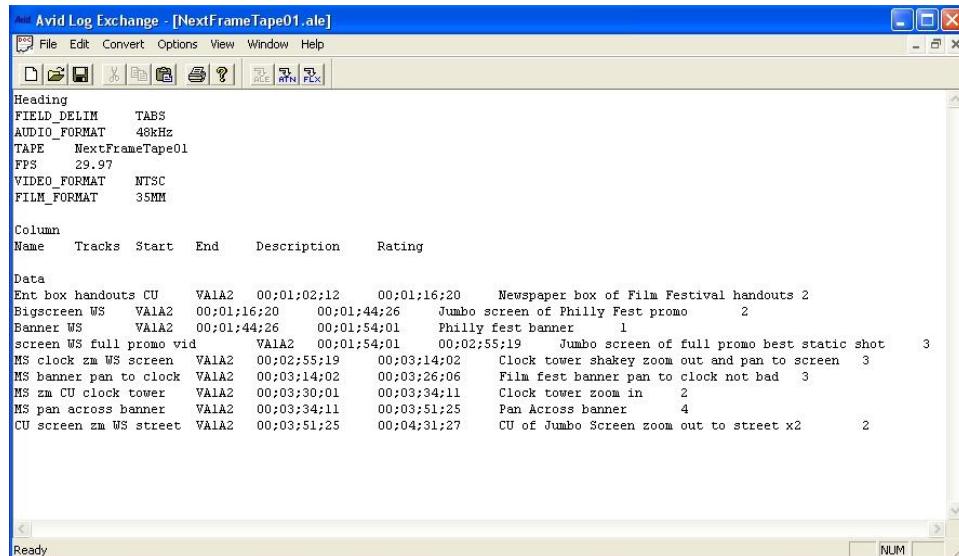
Go to Start → All Programs → Avid and click on the program called “**Avid Log Exchange**”. A very simple, blank window opens.

Go to File → Import → Tabbed file and choose the text file you just saved.

When the “Import Header Options” dialog box appears, choose the options that correspond to your media. Your choices should be “**NTSC**” and “**29.97**”. Even if you shoot in 24P with the DVX100 or SDX900 cameras, choose “29.97”. Film Type you can leave alone. Then click **OK**.



If you have no errors in your import, a new text file will appear that will have some heading information as well as the text information from your spreadsheet. **The columns may or may not match up with the corresponding data – DO NOT make adjustments to make it neat and tidy.**



Save the file (**File → Save**). Instead of a .txt extension, the file now has an .ale extension (for Avid Log Exchange).

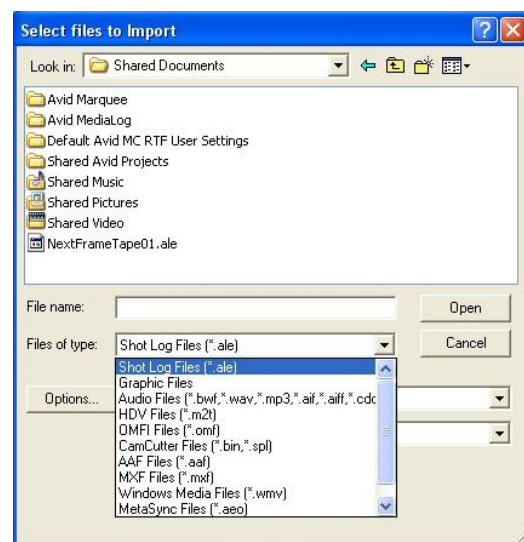
Now go to **File → Clean ALE...** and choose the file you are working with. This command will re-check the file for errors. If there are no errors, it will seem like nothing happened – this is good! Once the file is cleaned, **SAVE** again. Then close the Avid Log Exchange Program.

STEP 4: Importing the ALE file into an Avid bin

Now open the Avid Media Composer application and open your project.

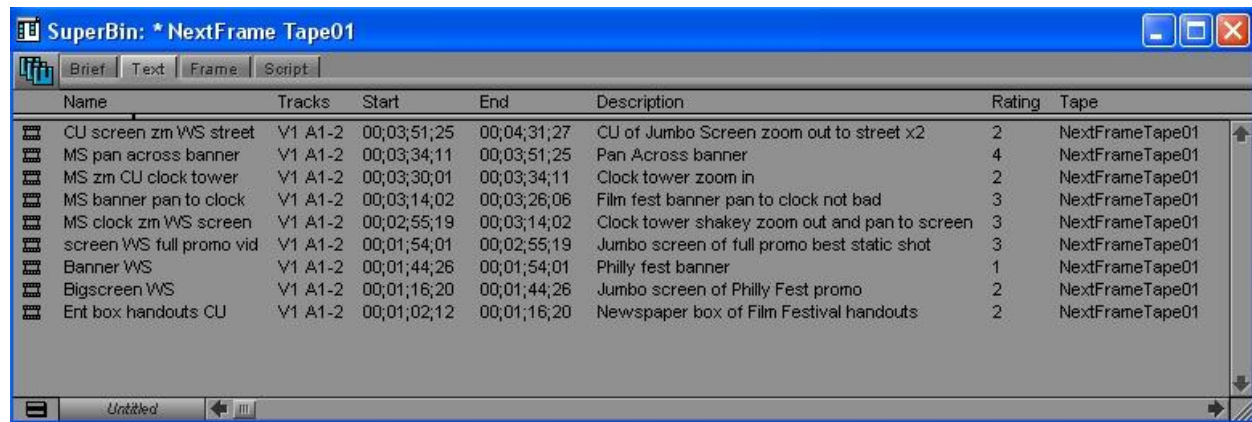
Since the information you are going to import pertains to a specific tape, make a new bin in your project and name it the same as your tape. This makes it easier to organize in the early batch capture stage of post production. It's also a good idea to start a new bin from scratch in case of an error during the import.

With the new bin active and selected, go to **File → Import**, just as if you were importing pictures or music. When the dialog



box appears, browse to the location you saved the .ale file. Under the drop-down for “Files of type” choose “Shot Log Files (*.ale)” and your log file should appear. Click “Open”.

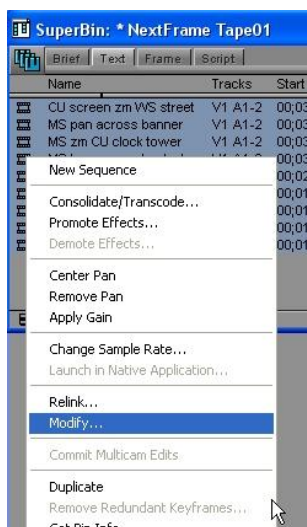
The bin should then fill up with the media information you specified in the log file. Keep in mind that these are the “Master Clips” which hold all the information, not the media itself. This you’ll need to batch capture in the next step.



STEP 5: Batch Capture

You’re not going to want to capture all of your clips – that would fill up more hard drive space than you have and take a very long time. As you plan your EDL you can pick and choose which clips you want. This is where a category such as “Rating” could be handy. Maybe you only want to capture the best b-roll which you’ve rated as a “3” or a “4”. Simply select all the clips that meet that criteria, and then batch capture. But before you actually perform the batch capture, you need to verify some settings.

➤ VERIFY DROP-FRAME TIMECODE



First, if you’ve logged timecode with semicolons (;) and shot in the drop-frame timecode mode, you don’t need to do anything.

But if you’ve logged with colons (:) and shot in drop-frame mode, you need to manually change your logged clips to match the tape – otherwise Avid will tell you that you’ve inserted a drop frame tape when it is expecting a non-drop frame tape.

To do this, select all of the media clips that have colons (:) in your bin and right-click on the clip icon at the far left of the bin window. Choose “Modify...” and a new dialog box opens.

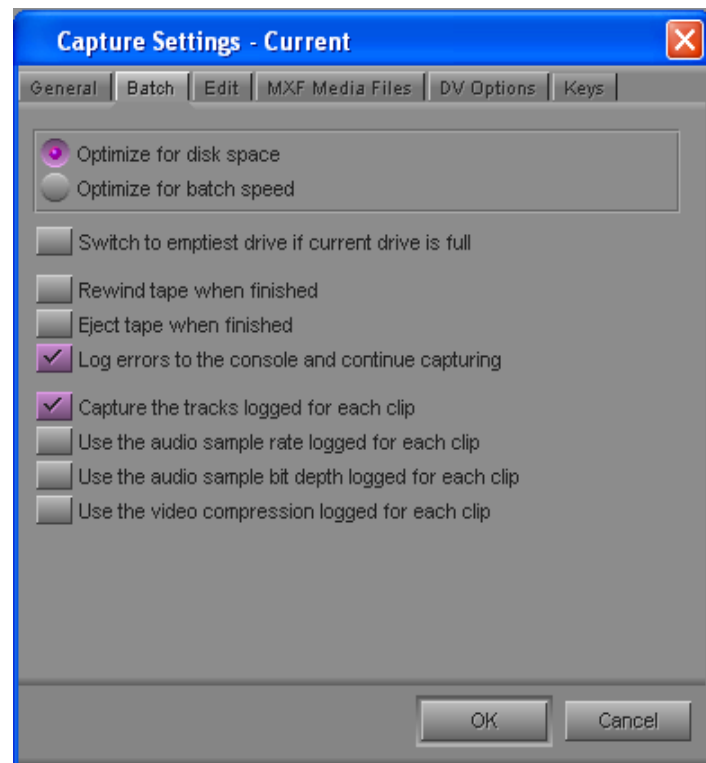
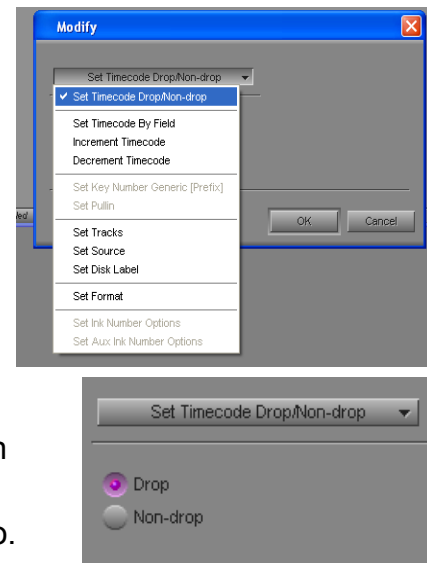
From the uppermost drop-down box, choose “Set Timecode Drop/Non-drop” and then click the button that corresponds to Drop-frame. Then click “OK” and all the colons in the media clips you selected automatically change to semicolons.

Again, if you already had semicolons, you can skip this step.

➤ VERIFY BATCH CAPTURE SETTINGS

Due to a bug in the Log Exchange Program, the audio on every clip is logged as 8-bit OMF audio. However, the media you will capture is designated as 16-bit MXF audio. Since the log information in this case is wrong, you want to batch capture based on project, not logged, settings.

In your project window, choose the Settings tab. Find the “Capture” settings and open them. Click on the “Batch” tab, and verify that your settings look like these:



Most important is to make sure that the last three options (audio sample rate, audio sample bit depth, and video compression) are NOT checked.

➤ VERIFY MAXIMUM CAPTURE TIME

The RTF Avid stations are set to capture no more than 63 minutes of footage in one shot. In the event that you need to batch capture a longer section of media (i.e., a continuous take from a live event or multi-camera continuous shoot), you'll need to change the time limit. On the "MXF Media Files" tab of Capture Settings, you can change the maximum capture time to whatever you need it to be.

Once you have verified the settings, you can batch capture as though you had taken the time to log the clips individually in Avid yourself (refer to the previous section of this guide for Batch Capture instructions). As you can see, this process allows you to log footage outside of Avid and import the logs into Avid for capturing later. This way, the editor could be capturing a tape on the Avid and another group member could be logging footage elsewhere – group multitasking!

RESERVED NAMES FOR BIN/COLUMN HEADINGS IN AVID MEDIA COMPOSER

The following names should not be used as "Custom" headings of your logging columns unless you understand the exact formatting and use of these fields.

ASC_SAT	End	Pullin
ASC_SOP	FPS	Pullout
Audio Bit Depth	Format	Scene
Audio Format	Frame	Shoot Date
Audio SR	IN-OUT	Sound TC
Auxiliary TC1	Journalist	Soundroll
CFPS	Lock	Start
Cadence	Mark IN	Take
Color	Mark OUT	Tape
Creation Date	Modified Date	TapelD
Disk Label	Offline	Tracks
Drive	Production	Video
Duration	Project	Video File Format

LOG & CAPTURE TIPS WHEN TAPES ARE SHOT WITH FREE-RUN TIMECODE

“Time-of-Day” Free-Run timecode can be used to help you match shots between simultaneously recorded cameras. As you know, Avid doesn’t like to capture tapes with inconsistent timecode. You will need to be very specific and careful when logging & capturing your footage, especially around timecode jumps. Do not use Free Run timecode unless you understand exactly what this will mean in post production. If you’ve already shot Free Run, use the information below to help you in post production.

FIRST, go to the Settings tab and ensure the following:

Capture → General → Preroll Method: Choose Standard Timecode
Capture → General → Capture across timecode breaks (CHECKED)
Capture → Batch → Log Errors to the console and continue (CHECKED)
Capture → MXF Media Files → Capture to Multiple files, max 63 minutes
Deck Configuration → Deck Settings → Fast cue (UNCHECKED)

The problem Avid has with inconsistent timecode is in the preroll. When you mark an IN point for media, the deck needs to rewind a short amount of time (standard is 3-6 seconds), roll forward, and then start recording on the frame you specified as your IN point. The problem is that the deck can’t just count backwards x frames. If you set your in point at 13;27;54.10 and the preroll is 5 seconds, Avid tells the deck to go back to 13;27;49.10. If you hadn’t been recording at this timecode (i.e., you started and your IN is the first frame of the new recording), this clip will not be captured because the deck does not have sufficient preroll because it can’t find the timecode it is supposed to use at its rolling start point.

To avoid this problem, do two things. First, when logging, log your IN at least 2-3 seconds forward from the starting TC jump. You want to give Avid and the deck at least 2 seconds of consistent timecode for preroll purposes BEFORE the IN point from which you want to start capturing. Then in the capture tool, when you are ready to digitize, set your Custom Preroll to 1 second. This will minimize problems.

AUDIO EDITING & MIXING IN AVID MEDIA COMPOSER

The Avid Media Composer software takes some getting used to, and most tutorials for editing and operation are enough to get you moving in the right direction. Traditionally, most new Avid users have the most difficulty with audio editing and mixing. The features of this software's audio editing capabilities are conceptually the same but operationally different than some editing programs you have already used.

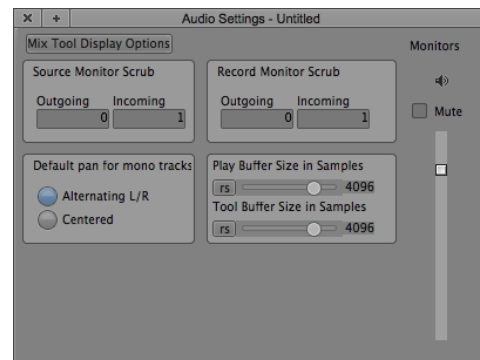
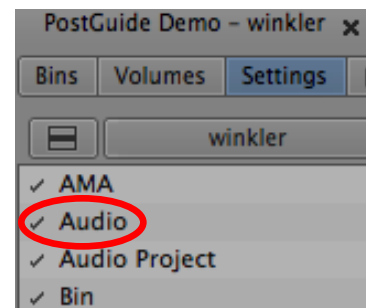
The primary function of the Avid Media Composer software is of course video editing. However, audio is just as important (if not at times more important) than the video. For most of your projects, you will need to do very basic audio editing and mixing of the audio recorded with your footage, music, and sound effects. Audio editing in AMC is based on the frames-per-second timeline you're working with, so you can only work with audio on a frame-by-frame basis. If you need to do more fine tuning, you can export your audio to a program such as Avid ProTools or Adobe Audition and edit at the sample level, then re-import the adjusted audio back into your Avid project. If you can make your adjustments within Avid, it's quick and easy.

Audio Settings

You need to know which Audio mode you are working in... pick one and stick with it for the duration of the project. It WILL affect the level adjustments and mix you create!

When setting up your project, you can set the overall audio to be Alternating L/R (stereo) or All Tracks Centered (mono). The default is **Alternating L/R**, which means that all odd numbered tracks are automatically panned all the way left, and all even numbered tracks are panned all the way right. Any centered audio would be anything that is equal on both left and right.

At Rowan, you are instructed to record audio for television production courses using Ch 1 as the onboard/secondary mic, and Ch 2 as the plugged-in/primary mic. With the default audio option set to "Alternating L/R", you will hear Ch 1 audio on the left and Ch 2 audio on the right. You can always pan the audio later, but this mode is ideal for easier identification of audio sources.



The Track Control Panel

To prepare for audio editing and mixing in the timeline, you'll want to set some audio options and views. In your timeline window, locate the triangle next to the timecode display and click it so it points left, and opens the **Track Control Panel**.

The **Track Selector** allows you to choose which tracks you want to work with in audio editing and mixing.

The **Toggle Waveform View** will turn on/off the audio waveform display within each track clip.

The **Plot Views** drop-down menu will allow you to choose to view the different plotted adjustments on each clip within the track. Options include:

- None: No plotted display
- Clip Gain: Adjustable gain level for the entire clip
- Volume: Adjustable mix volume level for the clip
- Pan: Adjustable pan direction for the clip

The **Track On/Off** toggle will turn on/off track processing and monitoring. Unlike Mute, this will disable all effect rendering for a track during playback.

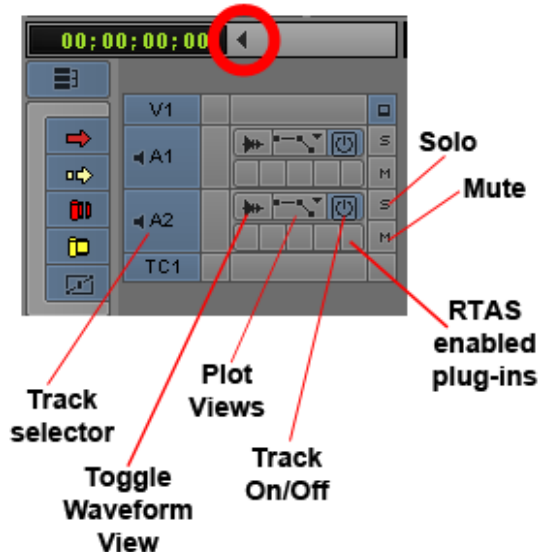
The small boxes below the above options will fill with icons representing any **RTAS enabled plug-ins** you have added to your track, including limiters, compressors, gates, echo/delay effects, etc.

Mute will mute the track, but will not deselect it.

Solo will allow you to hear just the solo-enabled track(s) and mutes all other tracks.

Simple Cutting and Fading (clip ends)

In the most basic procedure, cutting or fading audio clips in your timeline is exactly the same as cutting or fading video clips. If you want to make a cut in your audio track, cut the exact same way as you would if it was a video track. If you want to fade out or fade in your audio and the start or end of a clip on your timeline, you can add a quick transition such as a basic dissolve, just as you would add a video dissolve. Just make sure you are only selecting the audio tracks in your track selector area, and not the video. Note that the effect is called a "dissolve" and not a "video dissolve" because it works on both video *and* audio!



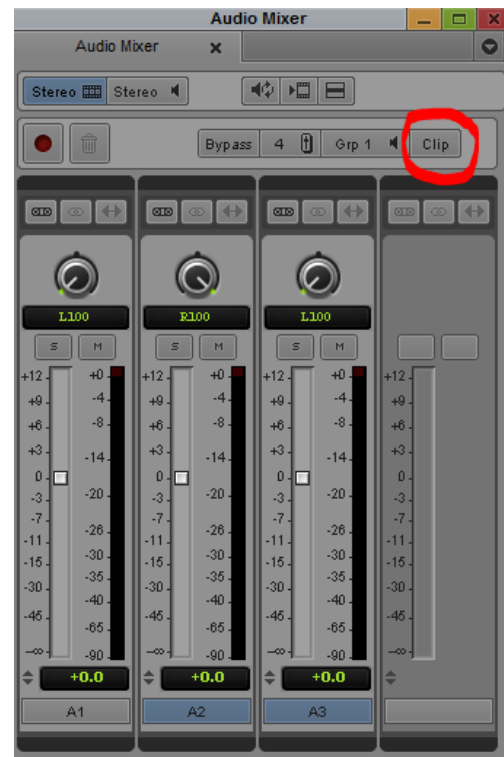
Audio Mixer: Clip Gain

You will often need to adjust the overall volume of a clip on your track – let's say you've got music you want as background but right now it's too loud. In this method, you can change the volume of the entire clip.

Select the track indicator button(s) (A1, A2, etc.) that contain(s) the audio you want to adjust. You can adjust multiple tracks at the same time. Single-click on the audio clip area so that your blue cursor is over the clip you want to adjust.

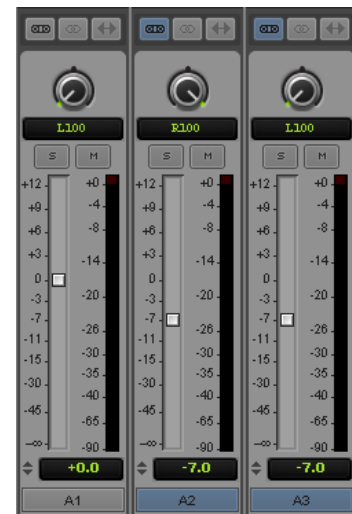
Go to the **Tools** menu and select **Audio Mixer**. Make sure that you are in the **Clip** mode (click the button on the far right until it says Clip).

The Audio Mixer in Clip Mode has a lot of options which are explained in great detail in the Avid tutorials and Help menu. For basic operation, the blue selected track indicators at the bottom of each mixer channel designate that tracks you previously selected. If you need to select different tracks, click the track indicator button on the mixer window. You will only get track selectors and fader controls for tracks that have audio clips on them at that point in the timeline. If you don't see controls for the tracks you want to adjust, move the blue cursor on the timeline to the correct area. If you are using more tracks than the mixer displays, click the numeric button with the slider icon (displayed as 4 in this picture) to expand or shrink the available mixer channels.



Drag the slider for the channel you want to adjust, up or down. The text below the slider will change to show you the dB level + or – that you've changed it to. If you want to change multiple tracks at the same time (i.e., A2 and A3 are the left and right channels of music), click the “group” button above the pan pot to be able to group channels together and change them simultaneously.

Remember, this adjusts the volume level for the entire clip. This is known as a CLIP GAIN adjustment.



Audio Mixer: Clip Pan

You may need to pan the audio clip to the left, right, center, or somewhere in between. Note the pan pots at the top of each channel in the previous example. A1 is panned “L100” (left 100%), A2 is “R100” (Right 100%), and A3 is “L100” (Left 100%). This is consistent with the “Alternating L/R” audio setup verified earlier. The audio on A2 and A3 should really be panned opposite what they are now, as in this example they are from a stereo music track and were edited to A2 and A3 because the voiceover already existed on A1. And while we’re at it, the VO should not be audible only in the left channel, but rather both equally – so we’ll pan this clip on A1 to center.

So to PAN your audio, simply click and drag the pan pot control left or right, depending on which way you want to pan. The numeric display will change to indicate how far left or right you go, and if you are centered it will display “MID.” Remember to deselect the track group option, otherwise as set in our example, you’ll pan both A2 and A3 the same way since they are grouped together. In the example to the right, A1 is panned center, or “MID”, A2 is panned full left, and A2 is panned full right.

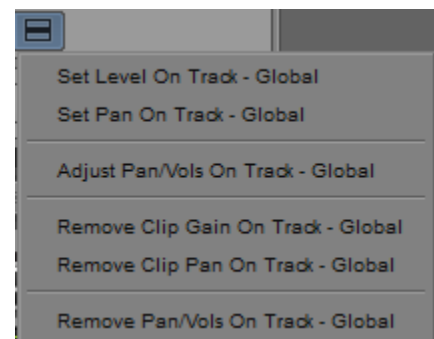


Remember, this adjusts the pan direction for the entire clip. This is known as a CLIP PAN adjustment.

Audio Mixer: Global Track Options

Occasionally you may set a level or pan value for a clip, and want that applied to ALL of the clips on that particular track. Rather than changing each clip setting one by one, you can go the Fast Menu for the Audio Mixer and adjust ‘global’ settings.

For example, let’s say that everything on A1 throughout your sequence is a narration, and you want all of the clips on track 1 to be panned to MID like the current clip. With only A1 selected (and adjusted the way you want it), go to the fast menu of the mixer and select “Set Pan on Track – Global” and this will take the current setting and apply it to every clip on the currently selected/active track.



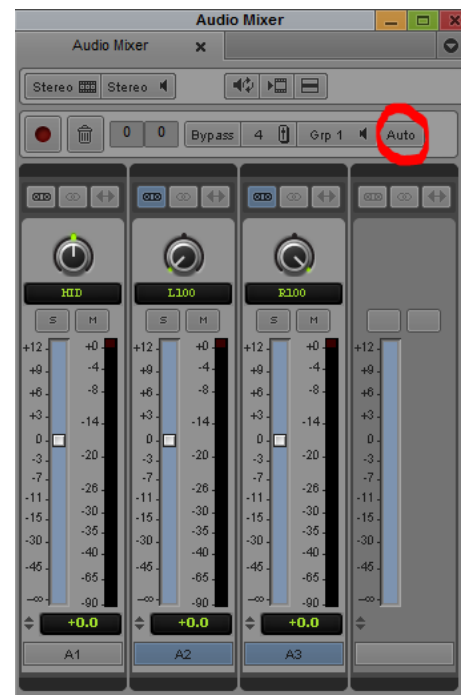
Audio Mixer: Automation Gain and Pan

You may need to adjust only a portion of the volume of a clip on your track – maybe the music gets too loud in one section and you want to bring it down. In this method, you can make a level adjustment for any part of your clip. Using the Automation Gain system with the Audio Mixer can be a little tricky. If you don't want to go this route, the easier way is to use keyframes and “rubber banding” the audio – those instructions are in the next subsection.

Select the track indicator button(s) (A1, A2, etc.) that contain(s) the audio you want to adjust. You can adjust multiple tracks at the same time. Single-click on the audio clip area so that your blue cursor is over the clip you want to adjust, *at the start of the area you want to adjust*.

Go to the **Tools** menu and select **Audio Mixer** to open the Audio Mixer window. On the upper right of the mixer, a button should say **Auto**. If it doesn't (and says Clip or Live instead), just click it until Auto appears. When you are in the Auto mode, the background of the mixer sliders will be light blue, rather than grey as in Clip mode.

For basic operation, the blue highlighted track indicators indicate the tracks you enabled for editing before opening the Audio Mixer. If you need to select different tracks, click the track indicator button on the mixer window. You will only get track selectors and fader controls for tracks that have audio clips on them at that point in the timeline. If you don't see controls for the tracks you want to adjust, move the blue cursor on the timeline to the correct area. If you are using more tracks than the mixer displays, click the numeric button with the slider icon (displayed as 4 in this picture) to expand or shrink the available mixer channels. Grouping tracks together works here too. And this will work for both level and pan adjustments.



The approach for this mode is the same, in that you select tracks and adjust sliders. However, in “Auto” mode, you perform a simulated real-time mix. With the cursor on your timeline positioned at the start of the area you want to adjust, click the red record button in the Audio Mixer window. The timeline will play and then you can control the sliders as the timeline plays, just as if you were mixing a live recording. To stop, click the button again. To cancel and throw away the mix while it's still in progress, hit Escape or click the Trash Can icon. To undo a mix once completed, just hit Ctrl-Z, the

standard Undo function. When you play back the section you just mixed, the sliders will move automatically to follow the mix you created. If you don't like it, you can record over it again! Back in your timeline, any clips that now include this Automation Gain control will have a purple triangle keyframe icon.



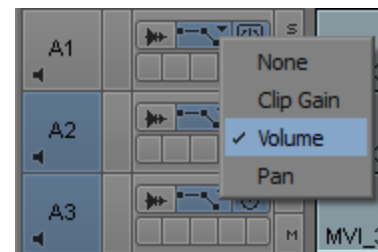
Automation Pan works the same way – except instead of adjusting the volume level faders in a real-time mix session, you adjust the pan pots.

By adding Automation Gain or Pan to a track, you are essentially adding a new keyframe adjustment for the level or pan every time you make an adjustment with the slider or pot. The Avid tutorials and help menus go into further detail on how to work in Automation mode, but this should be enough to get you started.

Editing Audio in the Timeline Window: Keyframes

You may need to adjust only a portion of the volume of a clip on your track – maybe the music gets too loud in one section and you want to bring it down. In this method, you can make a level adjustment at any part of your clip by adding keyframes to a volume or pan line, and adjusting those keyframes up or down. This is similar to adjusting audio in other multi-track audio editing applications such as ProTools and Audition, and is often referred to as “rubber-banding” the audio.

In the **Track Control Panel**, click on the **Plot Views** drop-down menu. If you want to adjust the volume of the clip, choose **Volume**. If you want to adjust the pan (left/right), choose **Pan**. Though you can have both turned on simultaneously, it's easier to work with them separately. It may also help to see a waveform overlay, but this is optional and you can turn it on/off at any time by toggling the **Waveform View** button.



If you haven't already done so, select the track indicator button(s) (A1, A2, etc.) that contain(s) the audio you want to adjust. Selecting more than one track will allow you to several tracks at once (same as grouping in the mixer).

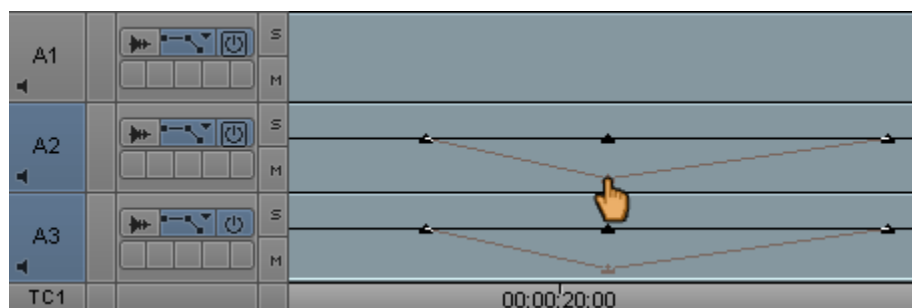
Single-click the audio clip at the first point you want to adjust, so that your blue cursor is over the clip you want to adjust, *at the exact point you want to make an adjustment*.

Insert a keyframe on the selected track by pushing the double quotation key " on the keyboard. You can also go to the **Tools** menu, select **Command Palette**, and go to the **FX** tab and map the keyframe button to another key on your custom keyboard or to any open button in the timeline window. The icon is a purple triangle pointing up ().

If you only have one keyframe on an audio clip and try to adjust its up/down position, this will act very much like Clip Gain or Clip Pan in that it will adjust the level for the entire clip. You must add at least one or two more keyframes in front of or after the first keyframe to make a slope change. The picture below shows a timeline with 3 keyframes (black triangles) added to A2 and A3.



To **adjust the level / vertical position** of a particular keyframe, move the mouse cursor over a keyframe and wait until it turns into a small hand. Then you can click and drag the keyframe up or down. For Auto Gain, moving the keyframe up raises the volume and down lowers it. For Auto Pan, moving the keyframe up pans to the left and down pans to the right. Release the mouse when you get the keyframe to the level you want. Do this for all of your keyframes.

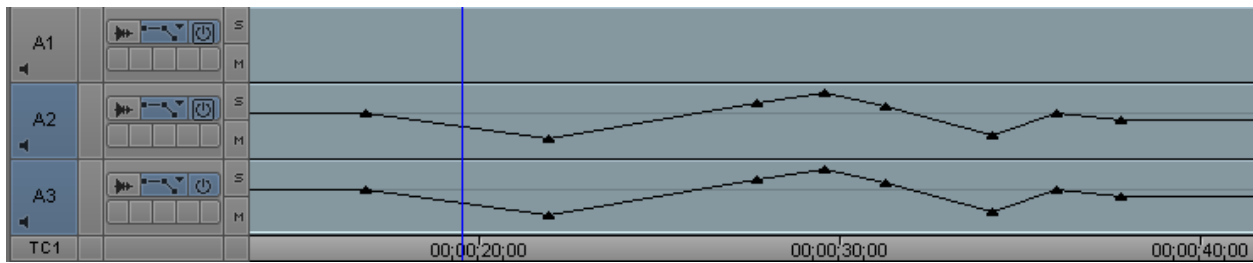


Need to **move a keyframe**? When the cursor turns into a hand, hold the Alt key and click/drag left or right along the timeline.

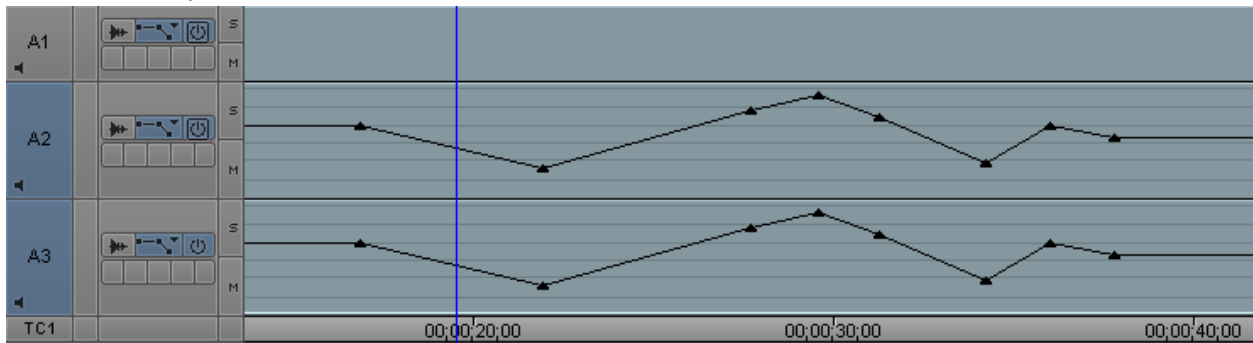
Need to **delete a keyframe**? When the cursor turns into a hand over the keyframe you want to delete, hit the Del key on the keyboard (you don't have to click anything).

Need more vertical room in the track to adjust the keyframes? With the track indicators still selected, push ⌘-L to expand the vertical space or ⌘-K to shrink it.

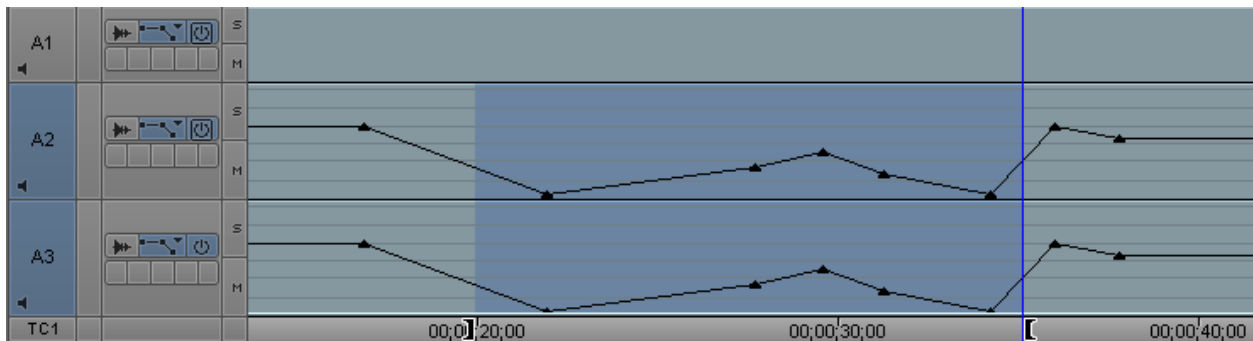
Standard view...



After using \mathbb{L} -L (pushing it about 12 times – note A1 is still the same size because it isn't selected)...



Need to adjust a lot of keyframes at once? Mark in before the first keyframe and mark out after the last keyframe you want to change. If you adjust any one keyframe within the marked points, all keyframes will be adjusted relationally. Note the differences between the keyframes pictured above and below.



There are many other options and features involved with audio editing in Avid Media Composer. Given the above procedures and explanations, you'll be able to do some basic audio editing and mixing. Go through the Avid tutorials, read the help documents, and search online Avid forums for more information.

Channel Levels and Master Mix Levels

The Audio Mixer channels include their own level indicators, showing you each channel's mixed level output in real-time (*note that since we are using mono tracks, there is only one indicator in each channel strip. Pan is not metered here*). When you are mixing the audio in your sequence, pay close attention to the master mix levels displayed in the timeline window and/or in the Audio Tool. To open the Audio Tool, go to the **Tools** menu and choose **Audio Tool**. This will open a larger audio meter that you can move and resize as needed, with both digital and analog metering. The digital scale is on the left and the analog equivalent scale is on the right. The Audio Tool will show you both the Left and Right channels of main mix audio.



How you mix and pan your clips and channels is up to you and the creative audio design you employ for your project. But you should always make sure that no channel exceeds the 0dB digital threshold for clipping, which is the point at which you will start to hear distortion. If any channels are clipping, chances are your master audio mix is clipping as well – so keep the audio “out of the red” and try to have the loudest section of your master mixed audio no higher than -8dB digital / +12dB analog. This still gives you some audio headroom just in case.

Just as you want to avoid audio that is too loud, you want to avoid audio that is too quiet. For “normal” talking levels in an interview or voiceover, you should be averaging around -20dB digital and peaking no higher than -8dB digital. Background music mixed low should be audible but not overpowering the VO, probably a bit below -20dB digital.

CREATING BASIC TEXT AND GRAPHICS USING THE AVID TITLE TOOL

Avid offers two graphics/titling applications with Media Composer – the Title Tool and Avid Marquee. Many students opt to use other programs for graphics and effects work (Adobe Photoshop, Illustrator and After Effects are most common) but for basic titling, Avid provides solutions. Marquee is an advanced program that allows the user to create motion graphics and graphic effects, with many advanced and 3D manipulation options. If you want to learn more about Marquee, consult the Avid Help menus and online tutorials.

Both applications can be accessed from the Tools menu in Avid, at the bottom select “Title Tool Application...” If you’ve never launched it before, you’ll get an option to open Marquee or Title Tool. If you check “Persist” then whichever program you launch next will launch every time you open the “Title Tool Application...” menu item.



Click Title Tool to open that program. It will launch as a separate application from Avid Media Composer (but you can’t launch it unless AMC is already running).

By default, the tool will open with a transparent background, showing a still image of whatever is cued up to the playhead/cursor on your sequence.

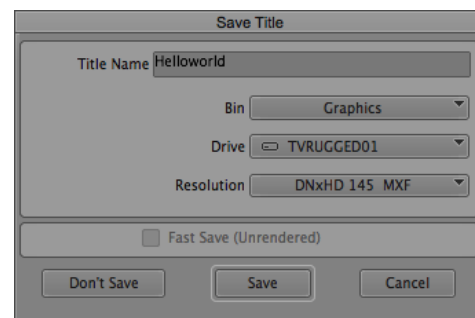


If you want to change to a solid color background, click the green “V” in the tools area to turn off video transparency. Clicking in the black box to the left of the “V” will open a color palette to change the background color.

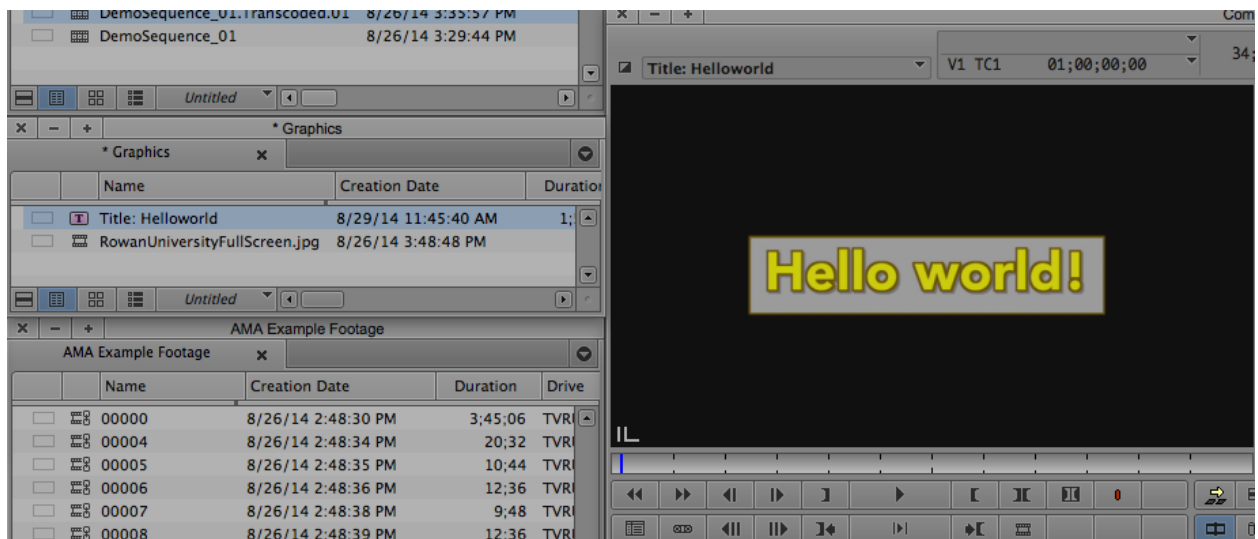
Click on the “T” to enable the Type tool, and then click the cursor on the titling canvas where you want the text to appear... then type it in! You can also draw boxes, circles, and lines with the corresponding tools. Every element is customizable in terms of font, style, border, shadow, and colors for all elements. The Object and Alignment menus will provide you with additional options for how each element will appear. Note that by default, the view quality is low-draft mode. To see exactly how everything will appear once rendered, go to the Object menu and choose Preview.

You can also create titles that Crawl (scroll left/right) and Roll (scroll up/down). Click the button for the type of motion title you want, and either a horizontal or vertical scroll bar, along with page number indicator, will appear.

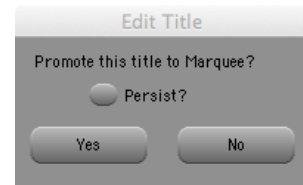
When you are ready to save your title, go to the AvidTitleTool File menu and choose “Save Title As...”



You'll be prompted to enter the Title Name, Bin to save it to, Drive to save the media file to, and the Resolution. Then click Save and the title will be saved in the bin you specified. You can then treat it like any other media file and edit it into your sequence. It is highly recommended that you Mark In a few seconds into the title, and Mark Out a few seconds before the end of the title, to give ample handles on your graphic so you can add fades or other transitions. If you used a transparent background, when you load the title into the source monitor it will appear with a black background. Once you add the title to a video layer or track *above* the video, it will again be transparent.



If you made a mistake or want to re-edit the title, hold the **Option** key on the keyboard while you double-click on the title in the bin, and the Title Tool will re-launch and automatically load that title for editing. You may see a dialog box asking if you want to “Promote this title to Marquee?” If you choose this option, it will load the title in Marquee instead of the Title Tool for editing. Usually, if you used the Title Tool to create the graphic, choose “No” to remain using the Title Tool for editing. You can choose to persist and Avid won’t ask you about this again. Make changes and re-save the Title. Depending on what changes you make, you may have to re-edit the title into your sequence again.



If you created a crawling or rolling title, the procedure for editing its duration in your sequence is not what you’d expect. Don’t do what you think is natural... you have to do it the way Avid wants it to be done!

Create and save the crawling or rolling title. Load it in the source monitor and edit it in its entirety – full length Marked In at the beginning and Marked Out at the end – into your sequence. Then, use the Trim Mode tool to roll back the length of the title clip to the duration you want it to be. When rendered, the speed of the scroll will update automatically to fit the time allotted for the clip. If you want the scroll slower, extend the clip’s duration using the trim mode tool. If you want it faster, shorten the clip using the trim mode tool. If you “add edit” or remove a section of the scrolling title clip, the scroll will simply cut off at that point – not speed up to fit the new time. Always use trim mode when shortening/lengthening the scrolling title, or when you want to change the scrolling speed.

Consult the online tutorials and help resources for additional information about working with titles created in Title Tool and Avid Marquee.

EXPORTING A SEQUENCE

To get your sequence out of Avid, you will need to export it to a playable media format – most often, this is a QuickTime Movie. Here is a suggested procedure for exporting your sequence.

➤ ***IMPORTANT! If you are using AMA media, you must transcode your entire sequence to DNxHD MXF before exporting (details in a previous section) if your sequence contains both AMA and transcoded media. If you attempt to export a sequence that contains mostly AMA media, and/or is longer than 20 minutes with AMA media, you are at an increased risk for problems during the rendering and exporting processes. Always transcode before exporting!***

- 1) Save your project by **clicking on the project window**, and hitting ⌘-S to save.
- 2) **Open the sequence** you want to export by double-clicking on it from in its bin.
- 3) **Click the sequence** in its bin once to select it.
- 4) **Right-click the sequence** and select the **Duplicate** option.
- 5) Locate the duplicated sequence in the bin and rename it to the name of the file that you want to export it as (so, perhaps something like TV2_EditProject_YourLastName_Final)
- 6) **Double-click** the duplicated sequence you've just renamed to open it for editing.
- 7) Clear any In/Out marks, and then select all of the video and audio track selectors to enable them for editing. Also click the square video display box to the left of the indicator for the top-most video track, to make sure that track and everything below it will be visible.
- 8) Insert-edit two seconds of black at the beginning of the sequence, so that the first frame of video for your sequence (or first frame of your fade from black, etc.) starts at 02:00. Then, add in two seconds of black at the end of the sequence, so that the last frame of video of your project is followed by black for two seconds. Black can be created by importing a full-frame black image, or creating a title with a black background and no text. Don't just leave empty space.
- 9) Make sure that the timeline for your sequence is **complete** and ends when your project ends (i.e., no blank space or extra media at the end of the sequence). To remove blank space, first select all audio and video tracks. Then, mark in at the end of your project (or end of 2 seconds of black), and mark out at the end of the

timeline. Then hit “x” to extract the empty section and bring the end of the timeline to coincide with the end of your project.

- 10) Make sure that all audio and video tracks are selected/enabled and turned on. **Mark In** at the beginning of the timeline and **Mark Out** at the end. The entire timeline will be highlighted.
- 11) Go to the **Clip** menu and choose **Render In/Out...** to render all effects in the entire sequence. Choose to render on your designated editing drive. Make sure that you have transcoded all of your AMA media to DNxHD before rendering effects.
- 12) If your sequence is short (under 20 minutes) and contains all media of the same format and frame rate, you can probably skip this step. But in some cases, you may need to perform a **Video Mixdown** of your sequence. A Video Mixdown will re-render all of the clips and effects within the designated marked area, using the enabled tracks, into one new video track/clip. You may need to perform a Video Mixdown of your sequence, or a section of your sequence, if **any** of the following occur:
 - a) The sequence or any clips/effects in the sequence do not render, or you encounter an error (including system freeze / endless loop) during rendering.
 - b) Your sequence contains many video tracks and the system performance is sluggish in areas featuring multiple active tracks with complex effects (usually 8 or more).
 - c) Your sequence contains media at different formats and/or frame rates (this will be indicated by a green dot on the clip icon and the frame rate in parenthesis next to the clip name in the timeline).
 - d) You have limited hard drive space and want to skip the transcode process for individual clips, and transcode the entire sequence as one new clip.

To perform a Video Mixdown, Mark In and Mark Out around the area you want to mixdown. Then go to the **Special** menu and choose **Video Mixdown...** In the resulting options box, you must choose which bin you want the new clip to be saved to, on which drive (your editing drive), and the appropriate resolution. When you click OK, a new clip will be rendered. You can then create a duplicate sequence from which to work from, and replace the previously marked area of your sequence with the newly created clip. Then work with this sequence moving forward in the exporting process, which uses the mixdown version of part

or all of your original sequence, depending on the area you marked before performing the mixdown.

- 13) When you are all done rendering and/or performing the Video Mixdown as needed, re-save the project one more time by **clicking the project window** and hitting **⌘-S**.
- 14) Single-click the sequence you want to export in its bin. Then go to the **File** menu and choose **Export...**
- 15) When the “Export As...” dialog box appears, you need to choose options for exporting and verify them. First **choose the drive and folder location to which you want to save the file**. Also verify the intended **file name**. By default, the file name is the same as the sequence name, but may be shortened due to a limit of characters in the file name.

Next, you must choose the type of export you want to perform, and there are several options. The most often used are “Same As Source” (which in this guide is referred to as *Option 1*) and “H.264” (*Option 2*). Both are detailed in the following pages, and you will need to decide which option is better for what you need to do. Most often, students choose the **Same As Source** option, but you’ll need to decide for yourself. Here are the major differences:

Parameter	<i>Option 1: Same As Source</i>	<i>Option 2: H.264</i>
Export Compression	User-specified; if using transcoded media, this will be DNxHD 145 MXF in QuickTime codec	QuickTime H.264
Export Speed (for a 5-minute sequence)	1x real-time (5 minutes)	10x real-time (50 minutes)
Export File Size (for a 5-minute sequence)	Various; at DNxHD 145 MXF, approximately 18 MB/sec (5.4 GB)	Approx. 2 MB/sec (600 MB)
Export Compatibility	Will only play on a computer with Avid DNxHD codec installed	Will only play on a computer with H.264 codec installed
Direct Upload to YouTube, Vimeo, etc.	No; file must be compressed using Adobe Media Encoder	Yes.

Most often, you will want to export “Same As Source” from Avid and use Adobe Media Encoder to further compress for all deliverable locations and types (online, web, DVD, BD). AME provides more compression options and works much faster than Avid’s compression engine for anything other than “Same As Source.” More information about AME begins on page 88 of this guide. If “Same As Source” does not work or errors occur, use the H.264 option.

EXPORT OPTION 1: SAME AS SOURCE, NO COMPRESSION

Look at the **Export Setting** drop-down selection. You have a lot of options to choose from, and each export setting will create a file with different parameters. Most often, you want to choose the **QuickTime Movie SaS** option. Then click the **Options...** button and verify that your options window looks like the one pictured below with the indicated options selected.

Export As: QuickTime Movie

If you choose Use Marks, only the area of the sequence between Mark-In and Mark-Out points will be exported.

If you choose Use Enabled Tracks, only the selected/enabled tracks in your sequence will be exported.

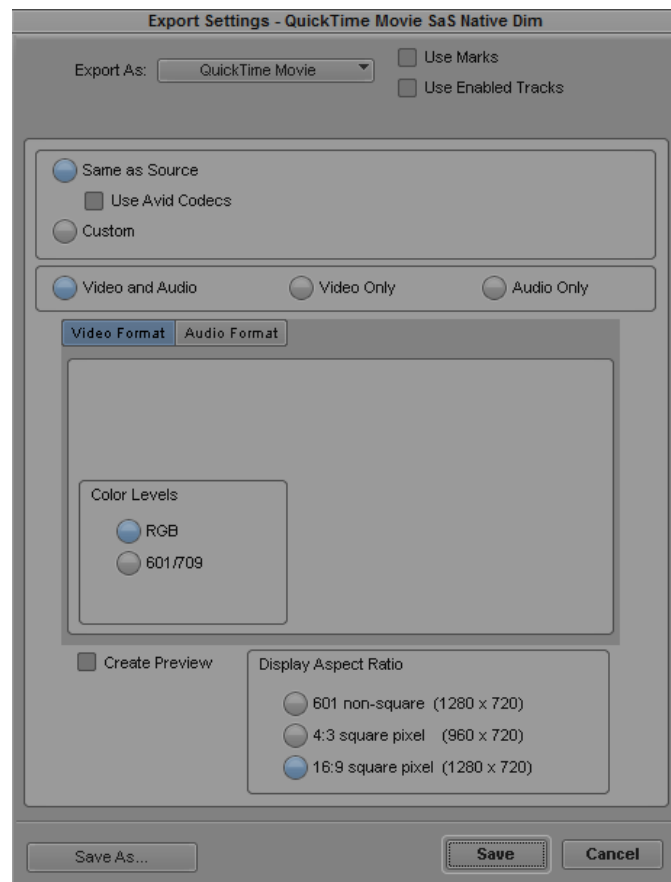
Same As Source will export the sequence to a file that uses the same codec as the source material (when transcoded, this will be DNxHD MXF at the compression value you specified (145)).

Video and Audio will export both.

Video Format is RGB.
Color Levels are RGB.

Audio Format (click to check) is Stereo.

Display Aspect Ratio is that of your project – usually this is simply listed as 16:9 with the frame size of your footage – in this case, 16:9 (1280x720).



Once you have verified these settings, click **Save** to return to the Export As... dialog box, and then click **Save** to begin the exporting process. A Same As Source export will take roughly real-time – so a 5 minute sequence will take 5 minutes to export.

When finished, use Adobe Media Encoder to convert the exported QuickTime movie to an MP4 H.264 file suitable for upload to Vimeo, YouTube, the TV Server DropBox, or other locations requiring a compressed file. See the instructions on pages 88-90.

EXPORT OPTION 2: EXPORT & COMPRESS USING AVID H.264

An ALTERNATE way to export your sequence is useful if you are limited on hard drive space or want Avid to export a file that is ready for upload to a service such as YouTube, Vimeo, or easier sharing via online resources due to a smaller file size (any files exported using the Same As Source option will need to be compressed in another program like Sorenson Squeeze). In this export setting, Avid will both export and convert your sequence to a highly compressed format. Note that this will take much longer than if Avid only did the export, but the file will already be compressed for upload/sharing. You may need to do some trial-and-error testing, and adjust some settings, to make this process work best for you. But here is a suggested method for exporting to a compressed format:

Look again at the **Export Setting** drop-down selection. Choose the **QuickTime Movie H.264** option. Then click the **Options...** button and verify that your options window looks like the one pictured below with the indicated options selected.

Export As: QuickTime Movie

If you choose Use Marks, only the area of the sequence between Mark-In and Mark-Out points will be exported.

If you choose Use Enabled Tracks, only the selected/enabled tracks in your sequence will be exported.

Choose Custom and click Format Options... (explanations on next page)

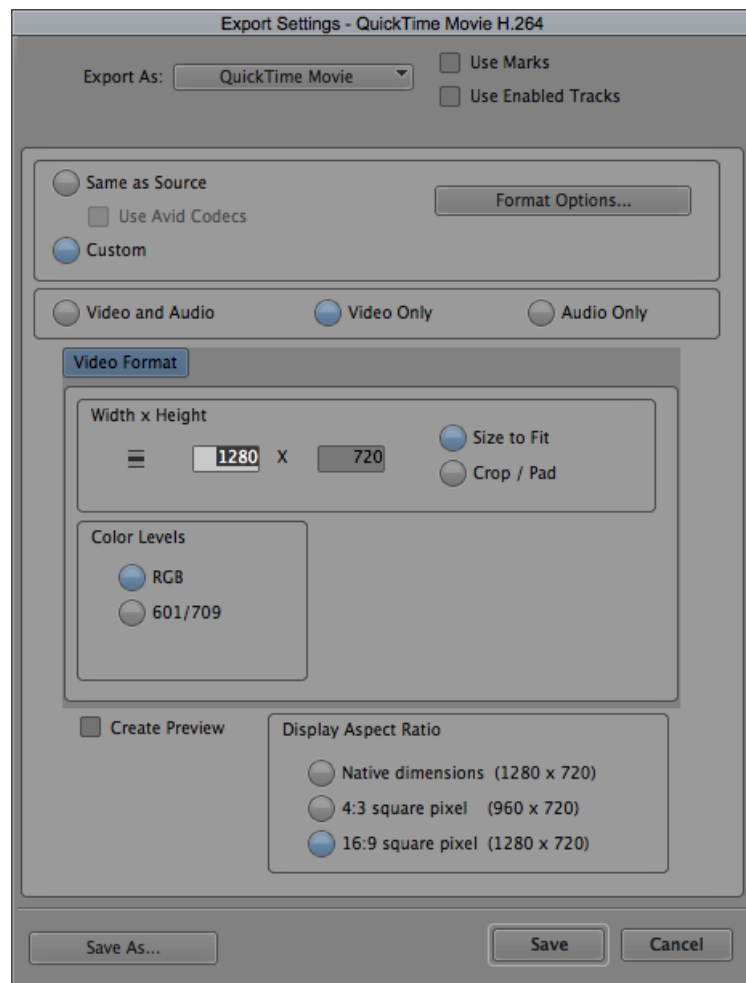
Video and Audio will export both.

Set Width x Height to the same format as the footage in your project, and Size to Fit.

Color Levels are RGB.

Audio Format (click to check) is Stereo.

Display Aspect Ratio is that of your project – usually this is simply listed as 16:9 with the frame size of your footage – in this case, 16:9 (1280x720).



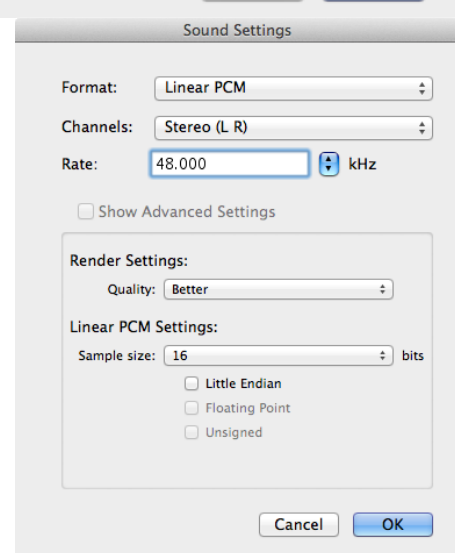
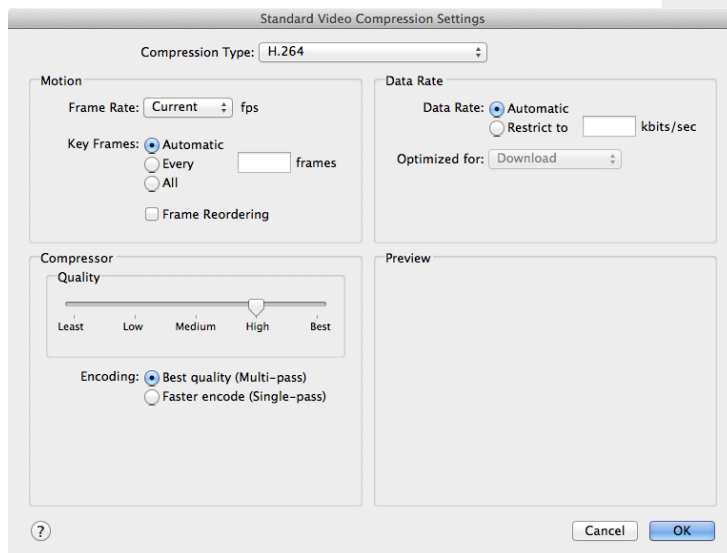
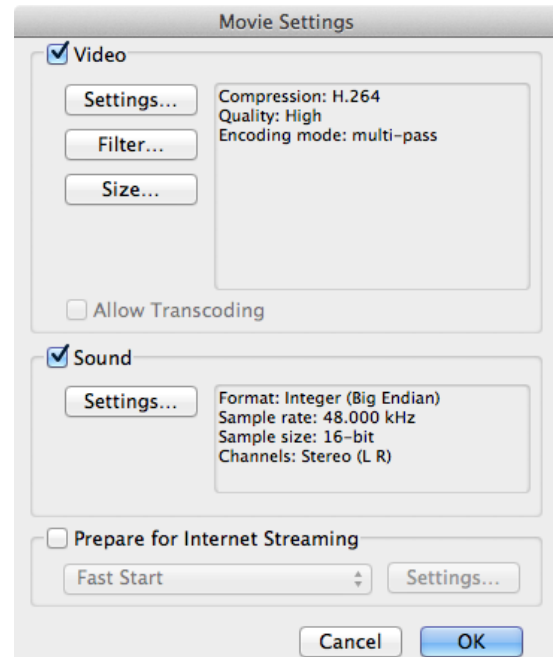
Format Options for Video (click Settings...)

Compression Type: H.264
Frame Rate: Current
Key Frames: Automatic
DO NOT CHECK Frame Reordering
Compressor: High
Encoding: Best Quality (multi-pass)
Data Rate: Automatic
Do not turn on any Filters
Make sure Size is Compressor Native

Format Options for Sound (click Settings...)

Format: Linear PCM
Channels: Stereo (L R)
Rate: 48.000 kHz
Render Settings Quality: Better
Linear PCM Settings: Sample Size 16

Do Not Check Prepare for Internet Streaming



Once you have verified these settings, click **OK** in each window and then **Save** to return to the Export As... dialog box, and then click **Save** to begin the exporting process. An H.264 conversion export will take a long time to export – roughly 10x real-time. So if you have a 5 minute sequence, it will take at least 50 minutes to convert and export. In most cases, you may find that Adobe Media Encoder can do the H.264 compression, and many other compressions, much faster than Avid if you simply export with Option 1 (Same As Source) and load this source in Adobe Media Encoder for processing (details to follow).

- 16) No matter which export option you've gone with, always load the exported file in a player application for viewing outside of Avid, to verify proper playback. Check your audio and video levels and lip sync, and make sure the tracks you selected for export were exported, and the area you marked for export (or the entire sequence) was exported. We have found that the best player for testing Avid exports is **VLC Media Player**. Some QuickTime format files will not natively play in QuickTime Player under OSX 9. If you try to open a QuickTime file and QuickTime Player attempts to convert it, cancel/close the player and open with VLC instead. *Note that playback may stutter or have other problems if the Avid application is still open in the background.*
- 17) If you encountered any problems in exporting, or the exported file isn't quite right, go back into Avid, re-edit and fix the areas that need fixing, and re-export. The "Use Marks" option in exporting is especially useful if you only need to check that a certain area or section of your sequence can be exported properly – this way you needn't export the entire sequence to see if what you fixed in editing will be fixed in the export.

Once you have successfully exported your sequence into a QuickTime movie that exists outside of Avid, you can do whatever you need to do to submit it for your class and archive it for your own purposes. This may involve one or more of the following:

- Submit the QuickTime movie export to the TV Data Server DropBox (instructions on the following page)
- Upload the movie to YouTube, Vimeo, or another online service (if you didn't export at H.264, this will require compression using Adobe Media Encoder, instructions on the following pages)
- Burn the movie to DVD or Blu-Ray Disc (instructions on the following pages)

If you are satisfied with your export, save your project and completely QUIT Avid before moving on. And don't forget to copy your project file from the local computer system you your own hard drive so you can take it with you!

ACCESSING THE TV DATA SERVER

Depending on your project, you may need to access source files from or save your exported files to the TV Data Server. For most major TV projects, you are required to submit your final export QuickTime movie file or compressed H.264 file to the TV Data Server DropBox. Individual lab assignments or practice work may not need to be copied to the server – check with your Instructor or Lab Assistant to confirm.

If you are working on a PC, check the Rowan TV Production Resources website for the current login instructions.

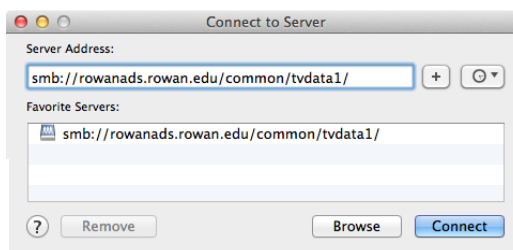
On a Mac, with the Finder menu bar active, click on the **Go** menu and choose “**Connect to Server...**” In the list should already be the correct path. If not, type in:

smb://rowanads.rowan.edu/common/tvdata1/

Then click **Connect**. A new Finder window will open showing the contents of the TV Data Server. Also, the server volume will be mounted on the desktop. If you have



been instructed to download files from the server, browse to the appropriate folder and copy/paste the files from the server to a folder on your hard drive.



If you are uploading files, locate the **DropBox** folder. ***You can't click on it, open it, or see what's in it – this is normal.*** Click and drag your exported and/or compressed files to this folder location – make sure you are dragging them to the DropBox folder and not another nearby folder. This will copy and submit your files to a secure location.

If you attempt to re-copy a file, you will get an access denied error. Simply rename the file with a different name and you'll be able to drop it in the box again. If you submit multiple files, your instructor will only save and grade the most recent file version of each file type required. Once a file has been copied into the DropBox, only staff and faculty with access permissions can get to your file – no tampering by other students!

When uploading a file to the TV Data Server DropBox, be sure to include your class, name/group, and project title. Do not simply put “My Project”!!!

COMPRESSING WITH ADOBE MEDIA ENCODER

You will most likely need to compress or “squeeze” your exported QuickTime movie into a different compression format for easier sharing and online use, and/or if you plan on making a DVD or Blu-Ray disc. For most operations, you will find that Adobe Media Encoder is faster and provides more options than Avid. Keep in mind that Avid is a video editing application that happens to have compression capabilities, but Adobe Media Encoder’s sole purpose is compression – and it does it well!

- ***IMPORTANT! If you are using an online service for your video uploads and internet playback, you may need to experiment with settings to determine which compression format(s) your choice of online service likes best. Consult the video uploading / help information for your service to find specifications for file formats and compression types, data rates, and if there are any file size limitations or daily/weekly upload limits for your account. Not all services are created equal.***



Launch Adobe Media Encoder by single-clicking its icon in the dock.

In the upper left corner of the encoder window, click the **Add (+)** button to add files to the encoding queue, or drag files directly into the window from a Finder window.

Next, you need to specify the compression format. Click the format drop-down to change to the format you want to use. Then you’ll choose a specific preset from a pre-existing template and verify the settings, or create a new one with custom settings.

You can add additional files for compression, and also add additional export formats for each file. When ready to compress, hit the green arrow **Play** button in the upper right corner of the window to start the compression job. The process will run and indicate “Complete” or “Done” when finished. **As compression is computer processor-intensive, do not run any other applications or do anything else on the computer while the compression process is running.** Different compressions will take different amounts of time to complete.

The recommended settings for different compressions are on the following pages.

RECOMMENDED H.264 COMPRESSION

This will make a standalone, self-contained file with both video and audio, ideal for sharing or uploading to an online video service such as Vimeo or YouTube.

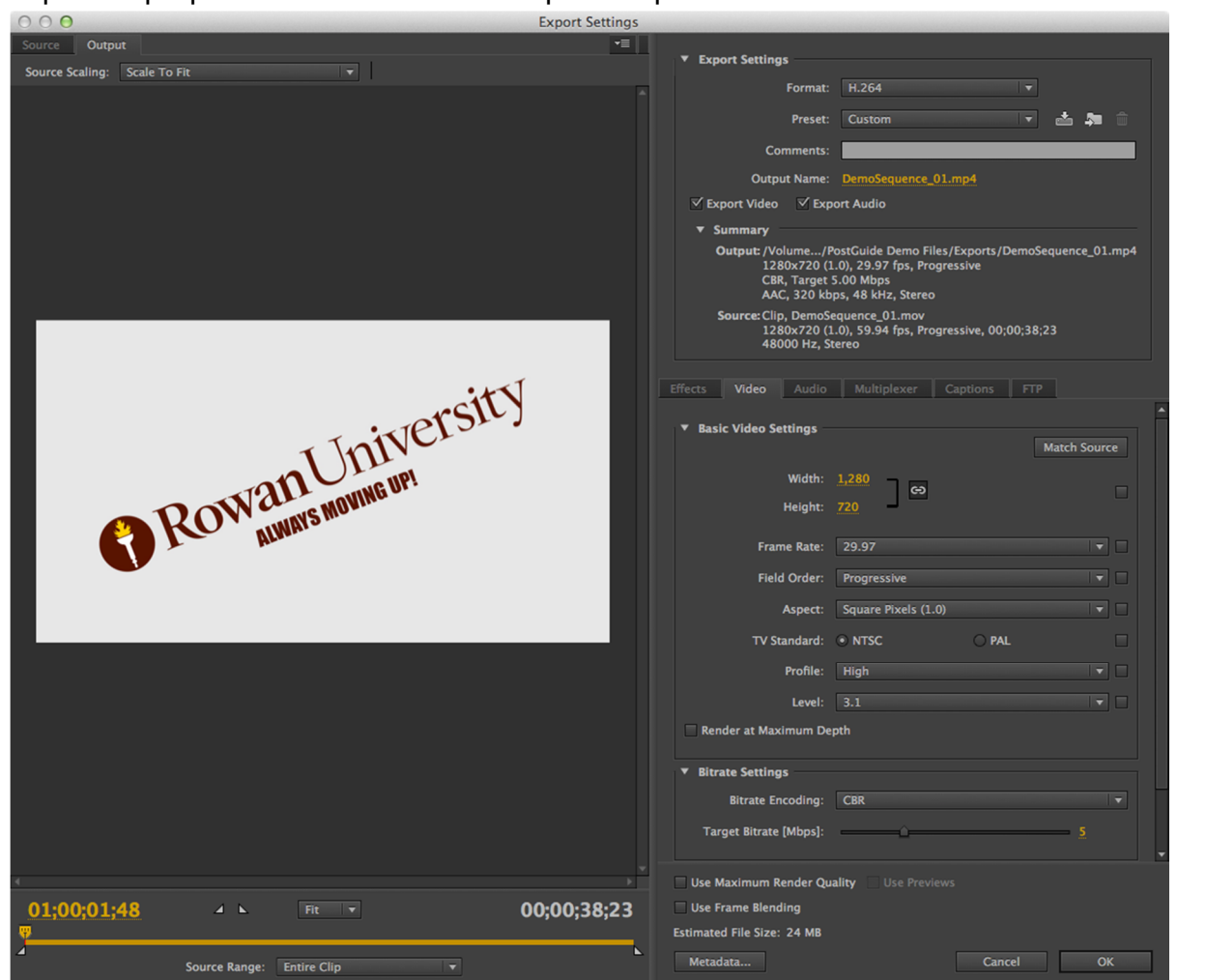
In the Format drop-down, choose **H.264**.

In the Preset drop-down, choose the **YouTube HD** preset that best matches your project size and rate.

Note that most online video services

support 29.97 fps as the highest frame rate, so even if your project is 59.94 fps, choose 29.97. For projects at the recommended 720/60p (59.94fps), the best preset to start with is **YouTube HD 720p 29.97**.

Single-click on the yellow preset listed (in this case, YouTubeHD 720p 29.97) and a full export settings window will open, listing all properties of the source file as well as the expected properties of the file to be output/compressed.



If you make any changes to the parameters, the indicated Preset will change from what you selected to “Custom” – this is fine. Look for the following info and check settings:

Format: H.264

Preset: What you selected, or Custom

Comments: [blank]

Output Name: You can choose to keep the file name or change it by clicking on it.

Export video and export audio should both be checked.

In the Summary section, the frame size parameters (i.e., 1280x720) should match.

In the Video tab...

Width & Height should match source.

Frame rate should match source or be 29.97 maximum.

Field order should match source (interlaced or progressive).

Aspect should match source (usually Square Pixels (1.0) for HD content).

TV Standard should be NTSC

Profile & Level are dependent upon other settings and help the compressed video conform to certain standards. Unless you know what you’re doing, leave these alone.

Bitrate Settings – this is where you can make some adjustments to control the size and quality of the compressed file. Encoding options include Constant Bit Rate (CBR) and Variable Bit Rate (VBR) with pass count options. If you are trying for the smallest file size but best quality possible, you’ll want VBR. However, this mode takes the longest. If you need to compress quickly and want a constant quality throughout, choose CBR. It is recommended that for H.264 destined for online services, you use a minimum of 5 Mbps for the rate. For better quality, increase this number but that will also increase the overall file size, which the program estimates for you at the bottom of the window. For standard course projects going to a shared service account, use 5 Mbps. For files being hosted on your personal account, you can go higher.

In the Audio tab...

Audio Format & Codec should be AAC, with 48000 Hz as the sample rate, in Stereo. Leave Audio Quality at High and the Bitrate at 320 kbps.

After verifying these settings, you can click **OK** to close the export settings window and either add more presets, add more files and presets, or click the green play button to begin the compression process.

RECOMMENDED MPEG-2 HD COMPRESSION FOR BLU-RAY DISC

This will make two elementary stream media files, one for audio and one for video, that you can load into your Blu-Ray authoring program (i.e., Adobe Encore) and burn a playable Blu-Ray disc. The files may not be playable outside of the authoring program.

As of this writing, the appropriate presets for MPEG2 HD BR and MPEG 2 DVD are not properly installed on systems. Once these presets are installed, these pages will be updated with the appropriate screenshots and settings to be verified.

This page is intentionally blank as a space holder for MPEG2 HD BD compression settings.

RECOMMENDED MPEG-2 SD COMPRESSION FOR DVD

This will make two elementary stream media files, one for audio and one for video, that you can load into your DVD authoring program (i.e., Adobe Encore) and burn a playable DVD. The files may not be playable outside of the authoring program.

As of this writing, the appropriate presets for MPEG2 HD BR and MPEG 2 DVD are not properly installed on systems. Once these presets are installed, these pages will be updated with the appropriate screenshots and settings to be verified.

This page is intentionally blank as a space holder for MPEG2 compression settings.

DVD OR BLU-RAY DISC BURNING WITH ADOBE ENCORE

As of this writing, Adobe Encore is not installed on lab machines, but will be by mid-semester. These pages and screenshots will be updated accordingly.

Adobe Encore is just one of the many disc authoring applications on the market, but this one is installed on each Avid lab system. As it provides you with many options for creating a playable disc of your project, only the very basic procedures are detailed here. Consult Help menus, online resources, and Lynda.com for advanced techniques and additional options.

For rough cuts, personal copies, and most festival/contest submissions you should make DVDs. For final screening versions and your own master copy, you can make a Blu-Ray. The College will archive your final project to DVD or Blu-Ray for archiving, and you can make copies using your own blank discs. However, often you will want to author your own disc, include other projects, special features, etc. Note that blank Blu-Ray discs are usually twice as expensive as blank DVDs.

Prior to using Adobe Encore, you should compress your file to MPEG-2 SD (DVD) or MPEG-2 HD (Blu-Ray) specifications using Sorenson Squeeze and the instructions on the previous pages. Though Encore does have its own built-in encoding software, Sorenson Squeeze does the job both faster and better.

If you are making a DVD, you will use the burner already installed in the computer. If you are making a Blu-Ray, you will need to obtain and connect a Blu-Ray drive burner to your computer using the supplied USB cable, and power-on the drive unit. Some software may auto-load and the hardware will initialize, and you may receive notifications of this on the computer screen. Once the unit is online and ready, you can start Adobe Encore. Always make sure the Blu-Ray drive unit is connected and running BEFORE launching the Encore software!

Launch the Adobe Encore software (you can find it in the Adobe CS5.5 folder on the desktop) and at the splash screen, choose to create a **New Project**. You will need to save the project (with a logical name, and to your own hard drive) and choose the **authoring mode**. Also go to the **Default Transcode Settings...** option and verify:

FOR DVD: Automatic Transcoding Max. Bitrate = 8.0 Mbps
 Video Transcoding (grayed out, specified by source file)
 Audio Transcoding: Dolby Digital

FOR B-R: Automatic Transcoding Max. Bitrate = 25.0 Mbps
 Codec: MPEG-2
 Dimensions: (match your source – most likely 1280x720)
 Frame Rate: (match your source – most likely 59.94)
 Audio Transcoding: Dolby Digital

After verifying file name, save location, and all settings, click OK to save and open your new project.

In the project window, click the **Build** tab to verify basic settings. **Format** should be DVD or Blu-Ray, and **Output** should be the respective Disc option. The **Destination** option should be the appropriate recorder. Use the internal DVD burner for DVDs, and the external Blu-Ray drive for Blu-Rays (yes, the Blu-Ray drive will burn DVDs, but the internal drive will be faster). You can also verify disc info, set copy protection, and change other options.

Click the **Project** tab and then go to the **File** menu and choose **Import As... Timeline**. Then browse to find the VIDEO file you made using Sorenson – it will have the file extension of **.m2v**. Click **Open** to open and import the file, automatically creating an Encore timeline in the process. Be patient as it opens. When it comes in, you will see the timeline and video file loaded in your project. Since this is the first file you've loaded, Encore automatically sets it as the "First Play" item for your disc – you can see the play icon over the timeline icon.



You need to bring in the AUDIO file separately – when using elementary streams, both the audio and video files will not be imported together. Go back to the File menu and this time, choose **Import As... Asset**. Browse to find and click on the file with the audio extension – for HD/Blu-Ray, it'll be **.ac3**. For SD/DVD, it'll be **.m2a**. Click **Open**, and the file will be added to your project – but not the previously created timeline. You will need to do this manually. **Click and drag** the audio file **to the Audio 1 track** in the timeline. This audio clip should be the same length as the video clip. You can play the timeline to verify proper audio-video sync. In Encore, each audio file is treated as a different track, no matter how the audio file is formatted – mono, stereo, or surround sound – you'll only see one file and one track. If you had a second audio file for producer/director commentary, you'd put this on Audio 2.

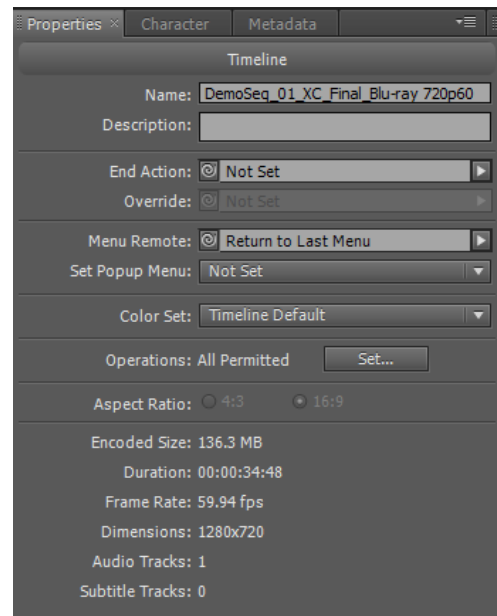
If you want to add other files, repeat the previous procedure to add VIDEO files as Timelines and AUDIO files as Assets, remembering to drag-and-drop each audio file into a timeline to match with its video file.

For each timeline you will need to specify some properties. Click on the timeline in your Project window tab, and then note the Properties window to the right (if it doesn't appear, go to the **Window** menu and choose **Properties** to show it. You need to check/set:

End Action: What happens when the timeline ends? You can choose to loop, go to a menu, play another timeline, or do something else.

Menu Remote: While watching this timeline, if the user pushes "Menu" on the remote control, you can specify what happens.

You can explore other options as well, but if either of these are not set, Encore will not let you burn the disc.



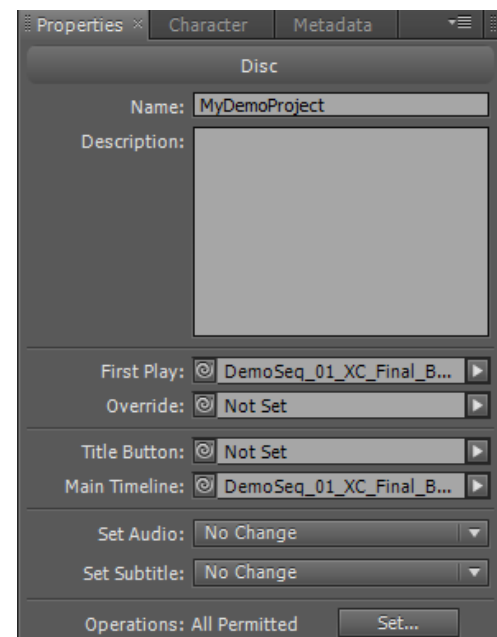
A similar set of options exists for the project/disc itself. If you go back to the project window and click on the **Build** tab, this **Properties** window will change and show you the properties of what will be the actual playable disc. Check/set:

Name: This will be the name of the disc.

First Play: When the disc is inserted in a player, what will play first? You can specify a menu, a timeline, or something else.

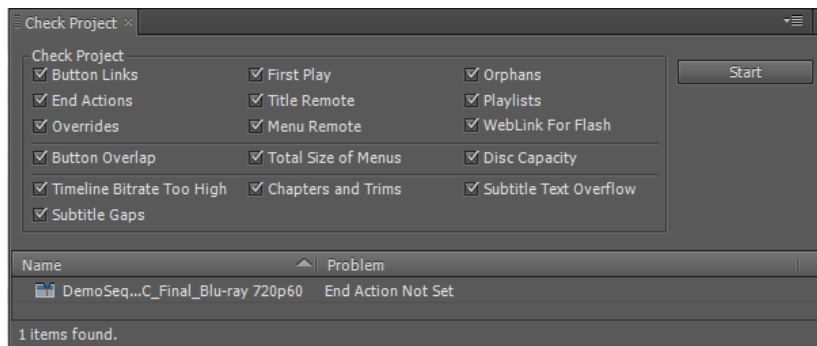
Title Button: While playing any part of the disc, if the user pushes "Title" on the remote control, you can specify what happens.

You can explore other options as well, but if either of these are not set, Encore will not let you burn the disc. You can change and verify all of these settings at any point before you burn your disc.



You may want to add menus, submenus, other media, and customize a lot of features of your disc. It'll take some time, practice and poking around in the program to learn how to do this and get comfortable with everything.

When you are ready to burn your project to a playable disc, re-verify all the previously checked settings and options, including the type of disc that you are going to create. Then, go to the **File** menu and choose **Check Project...** and click **Start**. This will examine all parts of your project to make sure that links are properly set, all timeline



functions and disc functions are set, and the user won't encounter any operational problems when playing your disc. If you are not sure what a reported problem means, check the Help menus and documentation for the software.

Make changes to your project and continue to run the **Check Project...** tool until no problems are found. Then you can go to **File** and choose **Build... Disc...** You have one last chance to verify settings. Load a blank disc in the recorder you will use and make sure it appears and is selected in the **Destination** section. Then click **Build** to begin the build and burning process. Depending on the size of your project and type of disc, this will take some time.

When the build and burn are complete, the completed disc should self-eject – if not, you will be notified that the disc was or was not able to burn completely with a message on the screen. Consult Help menus and other resources to determine the appropriate solution to your problem.

As previously stated, there are many options and features of Adobe Encore that you will want to explore, but this instruction set should be sufficient enough to get you burning a simple playable disc.

BACKING UP ALL YOUR WORK

Hard drives crash. Files are corrupted. People make mistakes. Your project and its associated media could be lost at any time.

We do our best to maintain the systems and keep them in a healthy status, but every once in a while something bad can happen. In that event, it's good to have a backup copy of your project. YOU and YOU ALONE are responsible for backing up your projects, media, and supporting files, and though it takes some time and should be done frequently, it is highly recommended.

Before you back up anything, SAVE your project and QUIT the Avid software.

THE PROJECT FILE

Your project file, actually a *folder* containing several files, contains all of the information for your project – bins, clip information (names, time codes, ins and outs), sequence data, etc. Think of this as the blueprints for your work. If the project file is lost, you cannot put things back together exactly the way they were. The project file is relatively small in size, so it is easy to back up and even save multiple back up versions.

All project files saved to the Shared location within Avid actually save to:

Macintosh HD → Users → Shared → AvidMediaComposer → Shared Avid Projects

Browse to this folder location and copy the entire folder that is named the same as your project, and paste it into the backup location of your choice. You may want to consider keeping multiple versions of your project file (folder) on your personal hard drive. An easy way to do this is to create a folder on your hard drive called “My Avid Project”, then a separate subfolder for each version – you could use a naming convention that expresses the date/time a version was saved, or use a version number.

That's it! Every time you make major changes to your project, it's a good idea to make a backup. You can keep as many backups as you'd like, or have room to save. Make it part of your editing procedure to save a backup copy of your project on a regular basis.

SOURCES & OTHER FILES

You should already have a backup copy of all of your raw footage source files from SD or CF cards, backed up on your backup drive. But it's also a good idea to keep a backup copy of all your other sources and related files in their original formats, such as audio files (WAV, MP3), graphics and images (PSD, PNG, JPG), scripts, transcriptions, logs, or any other non-media files that you need for your project (DVD project files, compressed file versions). Where you store these files is entirely up to you, but the point is that you should keep them all while engaged in active post-production. If you

can use a file and folder structure identical to the one used on your primary editing drive, you will be able to reconnect to these files much faster in the event that your primary editing drive fails. As long as the files exist somewhere, you can get them reloaded into your project.

IMPORTED / RENDERED / TRANSCODED MXF MEDIA FILES

If the project file is the blueprint for your work, then the media files are the bricks and mortar. They can exist without blueprints but are better suited with them. Your media files are the actual audio and video files you have imported, transcoded, captured, created, and rendered within your Avid project and exist as native MXF files within the Avid MediaFiles folder.

If the media files are lost, but you have all of the information in the project file that indicated where they came from (tapes, other source files, etc.), it is relatively simple to restore them through a process known as Relinking (AMA), Batch Importing (source files), and Batch Capturing (tape). There is plenty of documentation through the Avid help menus to walk you through these processes.

If you have imported media from numerous sources, or transcoded a lot of media after AMA linking, you may consider backing up all of your media files to an external location. Depending on the amount of media, this process can take a long time and take up a lot of space.

- ***IMPORTANT! Check the format type of your backup hard drive before proceeding. Drives formatted with FAT32 have a 4 GB file size limitation. If any of your individual media files exceed 4 GB, the copy process will fail. See the previous guide section on Hard Drives and Operating Systems.***

To back up your Avid-native MXF media files, first make absolutely certain that the Avid program is NOT running. Next, connect your personal backup drive to the system and create a folder in which to save the backup media. DO NOT name it Avid MediaFiles, otherwise Avid will attempt to use it as a media creation/save folder. Instead, call it something like Avid MediaFilesBackup. Next, copy all of the files from the Avid MediaFiles folder on your main editing drive to this new backup folder on your backup drive. Depending on how many files you have, the size of files, and the type of connection (USB, FW, TB) this will take some time.

If you only want to copy the files specific to a certain project, you will need to use the Avid Media Tool to sift out the files pertaining to a certain project. Search the online resources and help menus for information about using the Media Tool, or make an appointment with the TV Production Coordinator to help you with this advanced-level process.

SYSTEM AUTO-LOCK

If you do not touch the mouse or keyboard for a period of 20 minutes, the computer system will auto-lock and the screen saver will come on. You must strike any key on the keyboard to disable the screen saver (moving the mouse will have no effect). Then you will be prompted to enter your password to unlock the system.

In the event that a user leaves the system and forgets to log out, another user can log in. However, the previously logged in user will stay logged in with all processes running. This can cause system instability so it is bad practice to leave a system without logging out. Only a system administrator can force a computer restart or shutdown if another user is still logged in.

ENDING YOUR COMPUTER SYSTEM SESSION

When you're all finished, close any open programs. Make sure that none of your personal files exist on the desktop of the computer (if they do, move them to your own hard drive). Empty the Trash. Then, eject and power-off/disconnect your personal hard drives, USB thumb drives, CD/DVD discs, or any other devices connected to the computer. **Log Out** of your account on the computer (do not shut down) and leave the workstation area clean and tidy.

IF YOU NEED POST-PRODUCTION HELP

There are a variety of ways to get help with Avid Media Composer and other post-production software applications. Please be advised that while the Rowan Avid systems are currently running version 8 of the software, videos featuring version 7 or even 6 are still relevant. Version 8 is a new release that remains functionally similar to these previous versions, with only major changes to licensing options and advanced AMA capabilities.

- Use Lynda.com to view tutorial videos – login with your Rowan username and password at <http://www.rowan.edu/lynda> and search for Avid Media Composer. It is strongly recommended that anyone new to Avid software watch the Lynda.com tutorial called “Avid Media Composer 7 Essential Training” by Ashley Kennedy.
- Avid hosts a blog called “Getting Started Fast with Avid Media Composer 7” that contains several tutorial videos. View everything at <http://www.avidblogs.com/mc7fast/>, hosted by award-winning Avid editor Kevin P. McAuliffe, for free! He even has a series of videos for Apple Final Cut Pro editors making the transition to Avid Media Composer.
- Go online to the Avid Community User Forums for Mac users at <http://community.avid.com/forums/48.aspx>. Pinned at the top of the discussions list under *Announcements and FAQs* should be a posted titled “Tutorials and Guides.” This links to lists of user videos and tutorials that will walk you through hundreds of Avid features and capabilities. While they may indicate a previous version of the Avid software, most are still applicable to the current version.
- Go to the “Help” menu within Avid Media Composer and keyword search for what you want to find, or browse topics.
- Ask a classmate or person at a computer in the lab with you. They may have already found the solution to your question, as they’re learning too!
- Ask your class lab assistant or Professor.*
- Ask the TV Production Coordinator or Engineer.*

**If the question is deemed basic or answerable via watching tutorials, reading this guide, or searching a help menu, these people will refer you to those methods for solving your problem. Learning the Avid software is a process – you can’t do it overnight and your instructors can’t tell you everything. By doing a little research you might find out more than you needed to know, but it will help you more than you think!*

ROWAN UNIVERSITY
COLLEGE OF COMMUNICATION & CREATIVE ARTS

TV POST-PRODUCTION GUIDE - NOTES

September 2014 Edition

Written and Prepared by
Christopher J. Winkler, TV Production Coordinator

This guide features instruction based on the following software and hardware:
Avid Media Composer 8.0.1, Adobe Creative Suite 6 / Creative Cloud 2014 Edition installed on a 27" iMac
running OSX 10.9.4 (Rowan-configured image), Intel Core i7 3.40GHz and 8 GB RAM.

Changes appearing in this edition, since 2012R1:

- New cover art.
- Table of Contents: Fixed page numbering inconsistencies due to page wrap in printing non-PDF versions of the document. All released and hard copy versions are now PDF.
- Hard Drives & Operating Systems - now includes considerations for exFAT formatting.
- Media Technical Formats - now includes considerations for GoPro Hero 3+ Silver HD cameras.
- All information re-written and screenshots updated, specific to Macintosh computers (specifications above) adhering to Rowan computer network security policies, implemented in all labs in summer 2014. This includes updates pertaining to system login credentials, timeouts, and network server access procedures. Materials pertaining to Windows PC-specific programs and procedures have been removed, except for areas involving videotape and related procedures.
- iMacs in Lab 154 do not have external hard drives. Students can use a designated folder on the Macintosh HD to save their files outside of Avid, if they do not have their own external hard drive at the beginning of the semester, or for lab exercises. The path is *Macintosh HD → Users → Shared → RTFUSERSHARE*.
- Added information that explains how to find and access card-content media files within the "private" card folder when OSX disguises subfolders folders as playable QuickTime media files.
- The Shared save location for Avid projects is now recommended over Private due to likely changes in user Documents folders on the Rowan network, which would cause the Private location to save to a user's networked H drive folder. It is highly problematic to edit a project file saved on a network volume. The Shared save location will remain on the local computer.
- There is no format restriction due to system technical capabilities. Previously, PC systems could not handle 1920x1080 footage in long format projects. 720/60p is still the format being recommended and used for examples in this guide, but it is not required. Users will have no problem using other standard NTSC/ATSC formats.
- Avid transcoding now offers an option to transcode only AMA linked media within a sequence; previously, choosing to transcode a sequence forced all media to be (re-)transcoded whether it was AMA or not.
- Transcoding can now be done as a background service with status monitoring (this is different from background rendering, which is still not available in Avid software). However recent testing on Rowan systems was intermittent in the ability of the system to successfully complete the transcoding for all files in the queue. Non-background (normal) transcoding of the same files completed 100% of the time, without errors. As a result, it is being recommended that background transcoding NOT be selected at this time.

- Added a section that explains batch importing, which is preferred over re-importing materials changed outside the Avid application.
- Added a section introducing the basics of the Title Tool application.
- Sorenson Squeeze licensing was outdated and the program could not be installed on iMacs with the current operating system. Adobe Media Encoder CS6 / CC has replaced Squeeze as the compression software for system users, and all reference to Sorenson Squeeze has been removed.
- MPEG2 DVD and MPEG2 HD BR encoding formats are not currently installed on the lab machines for use with Adobe Media Encoder. When this is resolved, the sections of the guide explaining these compression settings will be updated with a mid-semester version update.
- Adobe Encore is not installed for DVD or BR burning on the lab machines. When this is resolved, the sections of the guide explaining this software will be updated with a mid-semester version update.
- Added information about system and account auto-lock feature requiring user password entry after 20 minutes of inactivity.
- Updated and added new links to online Avid tutorial videos.