Digitizing Your Archive

Converting Audio and Video

Use for: recordings on cassette tape, VHS or VHS-C (Camcorder VHS)

You Will Need to Have:

1. A device on which to play your source audio or video that has output connections. For audio, this could be a cassette deck from an old stereo component system (would need to have audio outputs, which small cassette players usually don't have). For video, this could be a VCR. If you have VHS-C cassettes (Camcorder VHS), you can play them on a VCR, utilizing a VHS-C cassette adapter to VHS (many available on Amazon, as for example the Konig VHS-C cassette adapter listed here: http://www.amazon.com/Konig-VHS-C-cassette-adapter-KN-VHS-C-ADAPT/dp/B00QV2T6II/ref=sr_1_2?s=electronics&ie=UTF8&qid=1436366754&sr=1-2&keywords=vhs-c+adapter). If you do not still have a cassette deck or VCR, you can find working devices at your local thrift store, Habitat ReStore or pawn shop. When buying at these locations, take a cassette with you to try out (to at least test power and playback) and also inquire if the device can be attached to a TV or speakers to test output.
2. A desktop or laptop PC or Mac computer to connect to the device for recording.
3. An analog-to-digital adapter to connect your device to a computer. For video, I would recommend Roxio Easy VHS to DVD which comes in both PC and Mac versions and has easy-to-use recording software. For audio, I would recommend Behringer U-Phono UFO202, which can connect directly to your computer via USB and has RCA inputs to connect to your audio device (Behringer's website also has Audacity editing and recording software for free download with purchase of the adapter).
4. Additional cables to make connections from the devices to the adapters. For VCRs, this would be S-Video or composite video cable. For cassette decks, this would be RCA L/R cable.

Step-by-Step Instructions:

1. Install the recommended recording software for your analog-to-digital adapter on your PC or Mac.
2. Connect the analog-to-digital adapter to your playback device (cassette deck or VCR) and to your computer or laptop. Make sure that you are connecting from the outputs on your playback device to the inputs on your adapter (i.e. that the signal is traveling *out* from the playback device and *in* to your computer or laptop).
3. Put your recording into the playback device: cassette into cassette deck, VHS tape into VCR, or VHS-C tape into VHS-C cassette adapter into VCR. Rewind your recording to the beginning of the tape.
4. Open the recording application on your computer or laptop. From this point, you will need to follow the user manual instructions that are specific to the application to go through the recording process, but each application has the same basic process to follow as listed below:
    a. Create a new project or file. This is where you will tell the application to save your new digital files and choose the format in which to save the new version of your recording. For audio, you should choose uncompressed WAV (for PCs) or AIFF (for Macs) file format, which gives the highest frequency and bits-per-channel quality possible. For video, optimal archival format is AVI. This is very storage-intensive (10-15 gigabytes per hour of recorded time), so you are recording initially in AVI for editing and storage, but then later converting to MPEG4/mp4 format with the best quality pixel dimensions (i.e., screen playback resolution, sometimes given as pixel sizes like 740x480 or labeled HD for High-Definition or STD for Standard) for use. NOTE: Be careful when choosing video pixel resolution, as this can also refer to your actual screen playback ratio, which could be 4:3/standard or widescreen. Most VHS recordings are at 4:3 screen ratio, which is equivalent to 720x540 pixel dimensions. If you have the incorrect screen ratio, you might accidentally crop out some of the top and bottom information from your original recording.
    b. Hit "Record" on the application software and then "Play" on your playback device. This will record from the beginning of your tape until you decide to stop the recording in the application software.

You will be able to see or hear the recording process on your computer or laptop and can note problems with quality or separation between clips for later editing. As you gain more experience with the process, you could hit “Play” or “FF” on your playback device to go to a specific place on your recording from which to then start the conversion by hitting “Record” on the application software. In general, you want to record/convert everything you can first and then use editing software later to shorten or break up your converted materials into segments. Often the application software will identify breaks in the source recording (i.e. the space between 2 song tracks on a cassette) and will automatically create separate files based upon those breaks.

c. At this point, you can use the application software to playback the new file to check for quality as well as use the built-in editing tools to trim and cut clips, improve sound quality, and, for video, edit together clips with titles, transitions and more for burning to DVD. Once you have your recorded files, you can also use such built-in software on your computer or laptop like Windows Media Player and Movie Maker (PCs) or iTunes and iMovie (Macs) to do similar editing tasks.
d. For video, follow the instructions in your application software to convert AVI to MPEG4/mp4 file format or to burn to DVD.

Storing and Accessing Your Files:

1. Give your recordings descriptive file names that will help you identify them, such as “20010226-interview-NPR.wav.” Dates in YYYYMMDD format can help you remember when you made the original recording, but mostly use what works for you and be consistent.
2. Create a folder-within-folder structure on your computer to organize your files. For example: C: drive\Audio Recordings\Interviews\2001\20010226-interview-NPR.wav.
3. Create at least two copies of your digital collection. Save one on your computer and other copies on portable hard drives (best choices), thumb drives, or online storage (such as Dropbox). Store the copies in different locations, as far apart as practical. If disaster strikes one location, the other copies should be safe. Transfer your collection to a new storage medium every five to seven years to prevent file decay and loss. Set up your computer to automatically create backups of your collection, using built-in utilities like Time Machine (Macs) or Windows Backup (PC).