VIDEO DATA WORKFLOW FOR THE JVC GY-HM100

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Abstract The standard video equipment for this year is the JVC GY-HM100 camera. This camera records full HD footage on high capacity SD memory cards. The video files produced by this camera need some post-processing to be usable for transcription. In this document we describe how you should handle data from this setup. This is not a manual for using the camera.

1. Before you start recording

1. Always make sure the camera contains two 32Gb SD cards that are empty and unlocked.
2. Check which slot is selected for recording (should be A). Switch with the A/B button found left of the slots.

2. After recording: backing up and processing files

After completing a recording, you have SD cards with raw video files. These files are 14-minute long chunks in a JVC-specific MP4 format. Two things need to be done: (A) backup the files, (B) process the files. You backup the files so that the TG can later create long sessions and archival copies of the data. You process the files if you want to start working on the recordings in the field.

Note. Make this a habit: flip the little yellow "LOCK" switch on SD cards that contain new data. This not only protects the data from being overwritten, it also serves as a marker that the card needs to be processed.

A. Backing up

1. Connect the SD card and connect your primary external hard drive (HD1) to the computer. Go to Windows Explorer or your file manager of choice.
    - *Only the first time*: on HD1, create a folder called *Video*. Within it, create another folder called *Originals*.
2. On the SD card, do a search for all MP4 files and copy them to the *Originals* folder on HD1.[1]
3. Repeat this procedure for every SD card.
4. When all files are copied, remove the SD card, unlock it (yellow switch) and put it back in the camera. Format it using the camera (see §3 below).
5. Now, within the *Originals* folder on HD1, create folders that uniquely represent the sessions recorded. So if you recorded multiple sessions in one day, you will create multiple session folders.

[1] Searching for all MP4's on the card is easier than traversing all subfolders. (But if you must know: the SD card contains a folder structure that looks like this: \PRIVATE\JVC\BPAC\CLPR\ . The sessions are in subfolders in the CLPR folder.)

- Only use alphanumeric characters, underscore (_) and dashes (-) in session names. *No spaces or other funny characters.*
- Choose session names that are meaningful and not too long. Including the date in the session name is useful for sorting. (Example: 20110204_Compound, 20110209_Pounding.)

6. Drag the MP4 files for the different sessions from the *Originals* root folder to their own session subfolders. Files belong to one session if the four-digit session number in the original file name is the same.[2]
7. That's it! You now have a transparent folder structure that stores the original files session by session. It should look like this:

HD1 [external harddisk 1]
Video [folder]
Originals [folder]
20110209_Pounding [folder]
263_0014_01.MP4 [original chunk 1 from session 0014]
263_0014_02.MP4 [original chunk 2 from session 0014]

Important. Every day, make a backup copy of HD1 itself on your secondary external hard drive (HD2). You can use a synchronizing tool like SyncToy for this. HD1 and HD2 should always be fully redundant to prevent data loss.

B. Processing the files [only necessary if you need to work on them in the field]
If you want to work on your recordings in the field, the video files have to be processed. The raw video files are 14-minute long chunks in a JVC-specific MP4 format. The *JVC batch converter tool* can convert these chunks into a readable format and merge them into a long session. Here's how:

1. Start the *JVC batch converter* tool. You will find a shortcut to it on your desktop.
   - Only the first time: tell the *JVC batch converter* where the output should go. Check the option "Destination Directory" and select a folder for the output files.
   - Suggestion: use *HD1\Video\Working_copies* as the output folder.
2. Specify the session name. If you have backed up the right way you already created session names — see instructions under A above. (Example session name: 20110209_Pounding. You can only do this session by session.)
3. Select the type of output. "Medium size video" is perfect for creating working copies of manageable size.
4. Go to Windows Explorer or your file manager of choice. Drag the MP4 files to be merged (or the session folder containing them) from within your Originals folder onto the "MP4 files" field in the JVC batch converter tool.

[2] The MP4 files all have names like this: 263_**0013**_*01*.mp4, 263_**0014**_*01*.mp4, 263_**0014**_*02*.mp4. The middle four digits identify **sessions** (0013 and 0014 in this example). The last two digits identify session *chunks* (01 and 02 for the second session in this example). So these three files represent two sessions, one that consists of one chunk and one that consists of two chunks. The first goes in the 20110204_Compound folder, while the latter two go in the 20110209_Pounding folder to be merged later.

5. Click “Start”. Now the JVC batch converter will go through the steps indicated on the right to process and concatenate the MP4 files in the order listed. It will create mpeg and wav files that ELAN can work with.
    - The concatenating process may take quite a long time. Best to do this at the end of the day and to leave it running overnight.
6. That’s it! You now have a working copy of your session. If a session consists of more than one 14-minute chunk, these chunks will have been merged. At this point, your file and folder structure should look like this:

HD1
- Video [folder]
  - Originals [folder]
    - 20110209_Pounding [folder]
      - 263_0001_01.MP4 [original file]
      - 263_0001_02.MP4 [original file]
  - **Working_copies** [folder]
    - **20110209_Pounding_720.mpeg** [merged video file, ELAN-ready]
    - **20110209_Pounding.wav** [merged audio file, ELAN-ready]

What if I use another camera?
The JVC batch converter tool can only process files from the JVC camera. While that should be your main camera in the field, perhaps you use another model as a backup camera. In that case you can use two separate software tools to process and merge the video files: FfmpegBatch and ConcatMpeg. FfmpegBatch takes the MP4 files and turns them into separate video and audio files. ConcatMpeg can merge these video and audio files into working copies of whole sessions. If you use another camera, make sure you can work with these tools before leaving for the field.

3. On re-using SD cards

You probably won’t have enough SD cards to use them as your main data carrier. Always make sure you have made a backup of the source files in your “*Originals*” folder on HD1 and a redundant backup of the whole of HD1 on HD2. Then you can reformat the SD cards. Never reformat them on the computer! The camera will lose track of the sequential numbering of your recording sessions.

1. Insert the SD cards in the camera, push the MENU button and navigate to MEDIA SETTINGS.
2. There, choose FORMAT and select the slot of the card to be formatted (e.g. SLOT A).
3. In the next menu choose “FILE” (do not format “file + management no.”). A warning appears. Select YES to erase all data. Repeat this procedure for any other cards.

Note. You cannot format a card in slot B while the camera is writing to slot A. So always make sure you have two empty cards before starting a session for which you might need both cards.