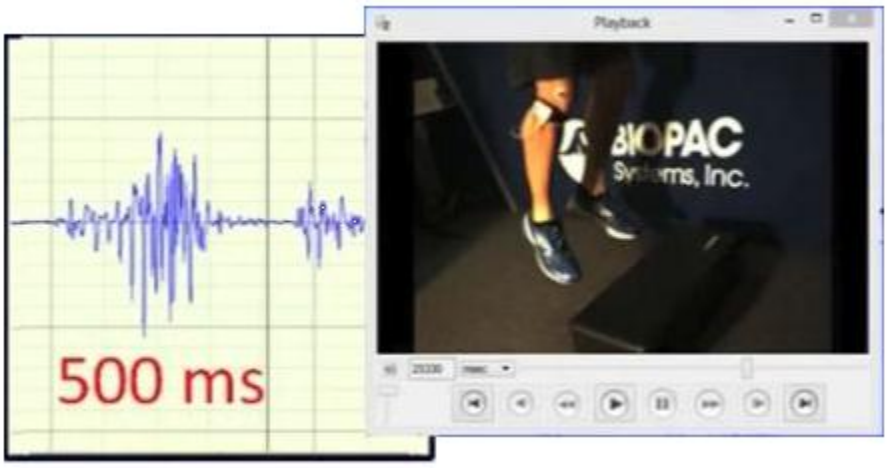
Video Sync Webinar Follow Up Q&A

The following Q&A was made in response to questions we received in the live Video Synchronization Webinar. Click here to watch the full recording of the webinar.



1. What is the best method to synchronize Video with equipment and signals such as:
    a. Synchronizing to EEG in mice?
    b. EMG?
    c. COP?
    d. BioHarness?
    e. Noldus Observer System?

    For most of these signals the LED synchronization cable that was demonstrated in the webinar will work well. However, for the BioHarness, I would recommend shaking the unit in front of the camera because the BioHarness has an accelerometer built-in that will pick up the shaking in the physiological data. The same also applies to the BioNomadix Logger. And finally, the following link will provide additional information about importing Observer event marks into Acq*Knowledge*.
    https://www.biopac.com/video/?video_category=data-integration&v=noldus-observer-xt-importexport-in-acqknowledge

2. What would be the best video monitoring techniques for animal experiments.

    It is very easy to mount the cameras above the animal cage so that you have full view of the cage. The cameras will work in low light conditions and the LED sync cable can be used to synchronize the video with the physiology data. The following link will provide additional information about our multicamera systems.
    https://www.biopac.com/product/mult-subject-camera-systems/

3. What is the most affordable equipment available for physiology experiment for undergraduate medical students in Physiology?

    The Biopac Student Lab system is designed for under graduate teaching purposes and includes the media functionality that was show in the video. The following link will provide you with additional information. https://www.biopac.com/education/
4. Multiple animals sync at msec level with video

See the answer to question 2.

5. Motion analysis

   The BIOPAC media functionality does not include motion analysis software.

6. Just interested in the way BIOPAC is handling it. We are running a Mangold observation lab.

   If you are interested in integrating physiological monitoring with observational data, you should consider the Noldus Observer system. BIOPAC has an automatic import and export tool between the two products. See the answer to question 1 for further information.

7. I'm interested in challenges of capturing videos of infant subjects (in risk for developmental disorders).

   It is hard to provide specific information without knowing the specifics of the application, but generally, using a multicamera setup will allow you to capture data from different angles and ensure that you are not missing anything. The following link will provide you with additional information about our multicamera systems.
   https://www.biopac.com/product/mult-subject-camera-systems/

8. How to synchronize the physiological data with the person's vision of its functioning, as possible autotherapy?

   BIOPAC can interface with a range of eye tracking systems and can also record EOG data. This allows you to combine physiological signals, eye tracking information and video. The following link will provide additional information.
   https://www.biopac.com/application/eye-tracking/

9. How to synchronize multiple cameras?

   If you use one of our multi-camera setups, you can use the LED synchronization cable that I demonstrated in the webinar. The following link will provide further information about the camera system and the LED sync cable.
   https://www.biopac.com/product/led-video-sync-cable-3-m/
   https://www.biopac.com/product/mult-subject-camera-systems/

10. how to synchronize and timestamp electrophysiological or optophotometric recordings with events recorded in video

    I would recommend contacting our support team with the specifics for your application. We should be able to synchronize and bring in the video, but I would need additional information to provide a detailed answer.

11. How to set events markers, how to handle with multiple stop and restarts; implications for data analysis?

    The following link will provide you with a screencast that describes the Event Mark system and the Focus Areas functionality in Acq*Knowledge*.
    https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=event-marks
    https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=focus-areas-acqknowledge-tutorial
    It is possible to start and stop data collection multiple times and the system will automatically add Append event marks with time stamps. When you analyze the data, you should analyze within the appended segments because of the non-continuous nature of the data. It is easy to handle this by using the Focus Areas feature and analyzing or measuring data within each Focus Area. The camera system and the LED synchronization pulse will start at the bringing of each individual segment and alignment can be managed through the media function.

12. How to efficiently classify different behaviors in video files

If you are only looking for a few behaviors, you can do this with the event marking system in Acq*Knowledge*. We also have a scripting option that helps to make this a little more efficient. However, if you are making many different types of observations, we would recommend interfacing with the Observer system. Acq*Knowledge* can import all the Observer event marks, see the video link in Q1.
https://www.biopac.com/application-note/scripting-video-scoring-with-biopac-basic/

13. How do I import synchronized videos from Noldus Observer to Acq*Knowledge*?

    See the answer to question 1. Also, if you use the LED sync cable you can use that as the synchronization marker between the two systems. The media import feature will allow you to bring the video into the system. The following link will provide you with additional information about the media import feature. https://www.biopac.com/?app-advanced-feature=camera-systems-multi-subject-monitoring

14. Is there any synchronization solution also for wireless systems like BioHarness respectively do you have idea how to synchronize the BioHarness and video in an elegant way?

    See the answer to question 1.

15. Hi, if I have a separate camera set up independent from Biopac, but the recorded video has scenes that I can match with the event marker in Acq*Knowledge*, is there any way that I can sync the recorded video with recorded physio data in Acq*Knowledge*? Thank you!

    Yes, you can import the video from another camera, providing that the format is acceptable. Acq*Knowledge* support AVI and WMV file formats. The two systems can be synchronized using the LED sync camera that was demonstrated in the webinar.
    https://www.biopac.com/product/led-video-sync-cable-3-m/

16. at which frame rate can you record and what is the video compression? What is the level of sync (1 msec) or depends on camera?

    The most accurate camera system is the high frame rate camera and the following link will provide you with further information. However, the synchronization with the general camera system is also quite tight. The specific details can be found in the second video.
    https://www.biopac.com/?app-advanced-feature=camera-systems-multi-subject-monitoring
    https://www.biopac.com/product/camera-system-high-frame-rate/

17. When using Video in combination with Physio and for instance e-prime. Can you do the Delta T sync with each Channel individually or only once?

    The Delta-T measurement is taken between the pulse signal that was used to illuminate the LED and the video image. It isn't between the physiological signal and the image, which means that you can only adjust for the global file and not the individual channels, but that is not an issue for the MP150 and MP160 hardware.

18. How to get the data segment of coughing/yawning i.e. t1 to t2?

    The measurement system in Acq*Knowledge* is very flexible and you can manually take measurements, or you can use the find cycle peak detector to automatically take measurements. It is important to use the even marks to mark events of interest and then you can locate them and use the Event list to jump to the appropriate sections of data. Events can be added in real time, or after the fact while analyzing the data. The following videos will provide you with additional information about the measurements system and the Fin cycle system.
    https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=introduction-to-acqknowledge-measurements

https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=acqknowledge-find-cycle-peak-detector-part-1
https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=acqknowledge-find-cycle-peak-detector-part-2
https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=acqknowledge-find-cycle-peak-detector-part-3
https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=acqknowledge-find-cycle-peak-detector-part-4
https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=acqknowledge-find-cycle-peak-detector-part-5
https://www.biopac.com/video/?video_category=acqknowledge-tutorials&v=acqknowledge-find-cycle-peak-detector-part-6