



Using a Vision Research Phantom v1610 High-Speed Camera with MiDAS DA

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Abstract

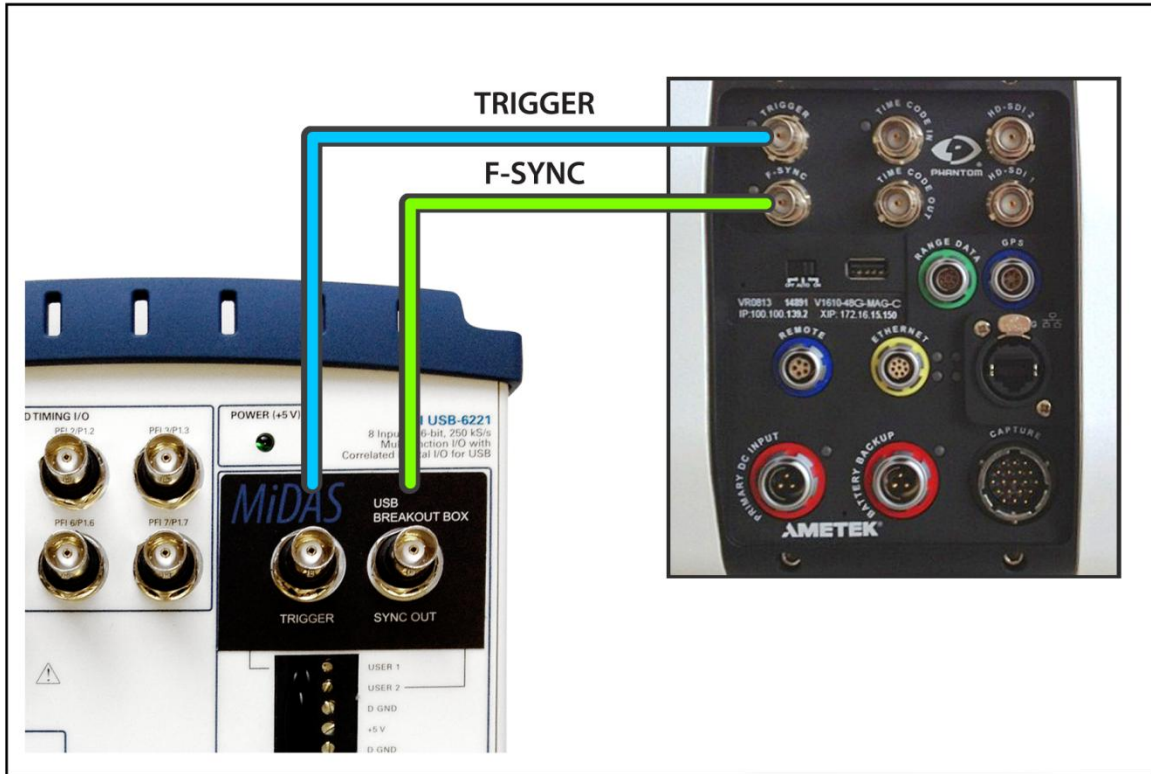
This camera connection guide describes the hardware connections and software settings for using MiDAS DA software with a Vision Research Phantom v1610 high-speed video camera running PCC (Phantom Camera Control) software. This document includes the settings for putting the camera into Slave/External Sync mode.

Instructions

Note: Before connecting your camera, install your data acquisition hardware, MiDAS DA, and Phantom Camera Control (PCC) software. Turn the camera power on. If this is the first time you are using the camera, try it first with the PCC software before attempting to use the camera with MiDAS DA.

Decide your measurement settings in advance, including the video frame rate, data samples/frame (or total data rate), record length and trigger percentage.

1. Locate the MiDAS DA breakout box connector labeled **Sync Out**. Connect a BNC coaxial cable from **Sync Out** to the connector on the Phantom v1610 camera labeled **F-Sync**. Locate the MiDAS DA breakout box connector labeled **Trigger**. Using another BNC cable, connect **Trigger** to the connector on the camera labeled **Trigger**, as shown on the following page.



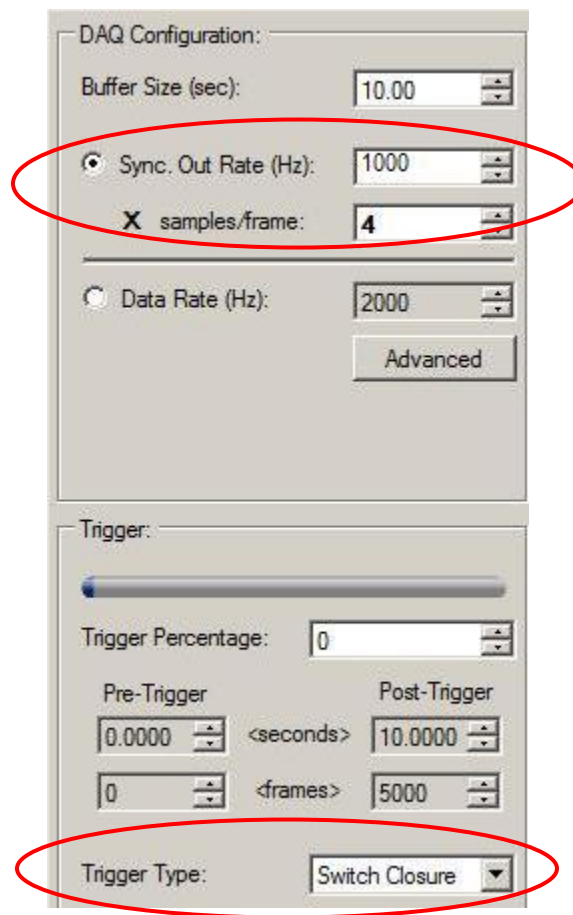
2. Launch MiDAS DA and configure the number and type of sensor input channels.


Note: For more information on configuring data channels, please refer to the MiDAS DA User Guide.

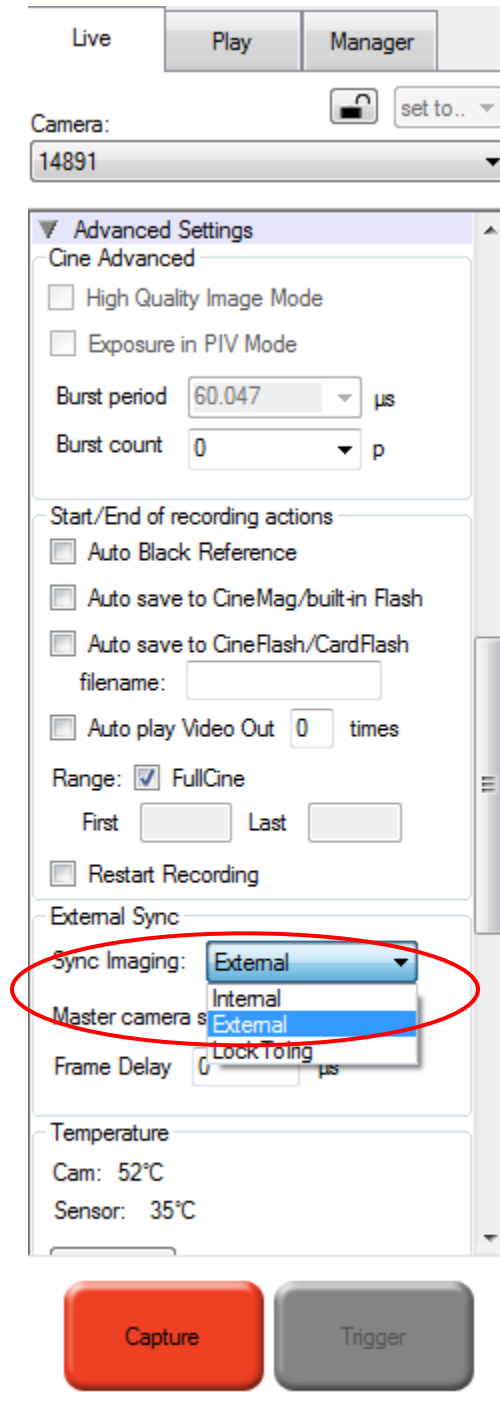
3. In MiDAS DA, enter the video rate into the Sync Out Rate (Hz) field, and the samples per frame in the samples/frame field. In the example below, the Sync Out Rate is set to **1000** Hz.
4. Next, use the slider bar or the Trigger Percentage field to set your trigger percentage. Select a Trigger Type from the dropdown menu at the bottom of the screen.

Notes: a) Make sure that the Trigger Type (Rising Edge, Falling Edge, Switch Closure, etc.) is the **same** in both MiDAS DA and the PCC software.

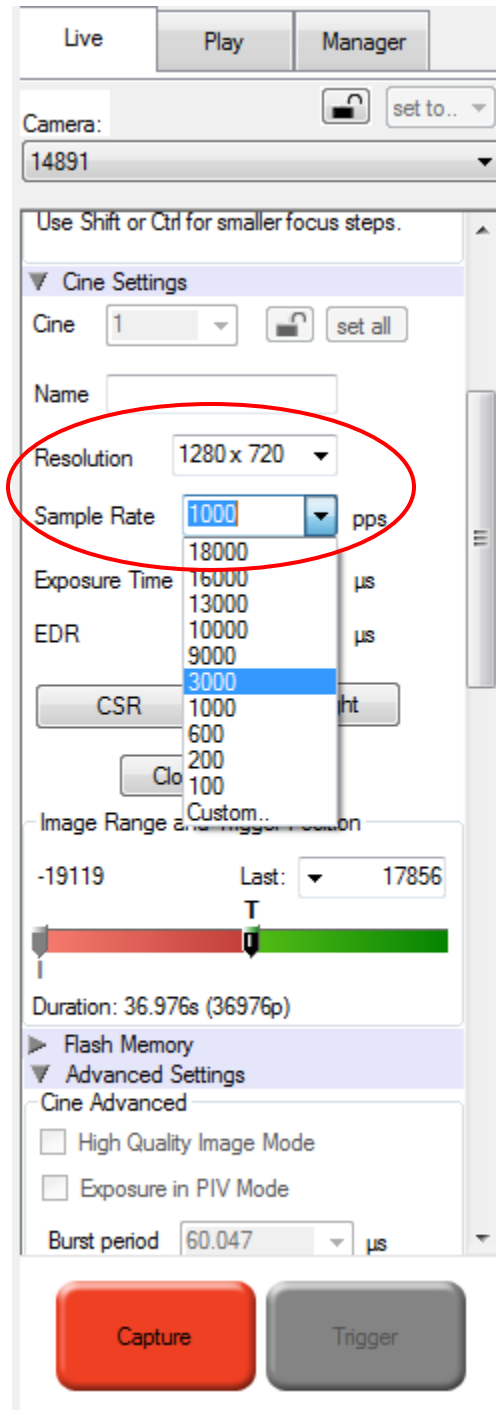
b) Make sure that the Post-Trigger time in MiDAS DA is **greater than** the Post-Trigger time in the PCC software.

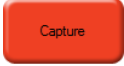



5. Click the green **Record**  button at the bottom of the window. MiDAS DA will start the data acquisition and also begin sending sync pulses to the camera.
6. Launch the PCC software. Under Sync Imaging, select **External**.




7. Select the Resolution and Sample Rate as shown below.



8. Click the red **Capture**  button at the bottom of the window to start recording video.

9. In MiDAS DA, trigger your data recording either by clicking the **Trigger**  button in MiDAS DA or by using an external trigger.

Note: For more information on triggering in MiDAS DA, consult the MiDAS DA User Guide.

10. After recording, use the PCC software to trim the video to the specific frames that you wish to use with MiDAS DA. Save the video to a hard drive.
11. Import your video into MiDAS DA either by dragging and dropping it into the MiDAS DA workspace or by clicking **Project ► Add Video** from the menu bar. Once your video is imported, the Playback window will appear. Click the **Play**  button to simultaneously play your synchronized video and data.

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