



## Using an IDT Redlake HS-4 High-Speed Camera with MiDAS DA

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### Abstract

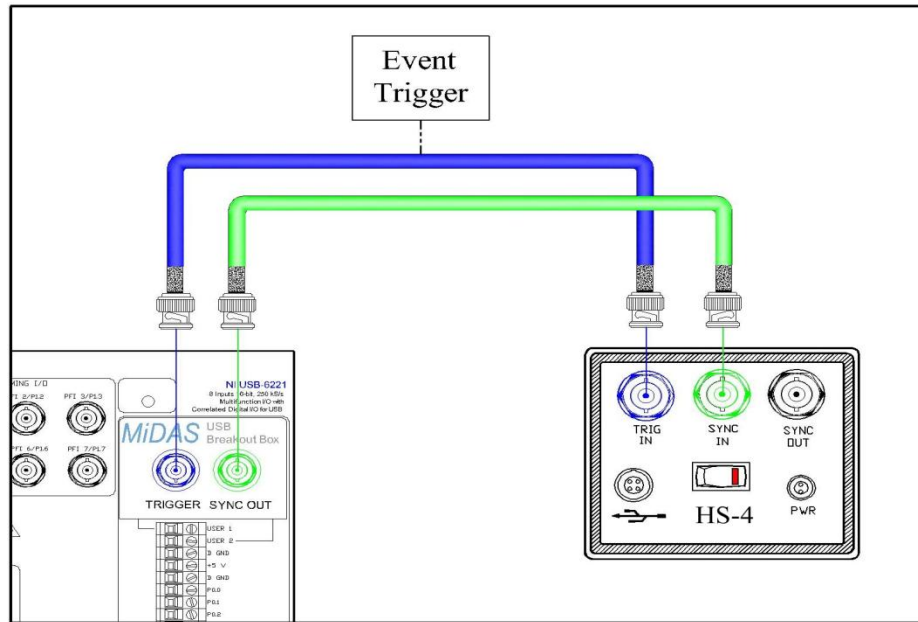
This camera connection guide describes the hardware connections and software settings for using MiDAS DA software with an IDT/Redlake HS-4 model high-speed video camera running IDT MotionPro X Studio software. This document includes the settings for putting the camera into Slave/External Sync mode.

### Instructions

*Note: Before connecting your camera, install your data acquisition hardware, MiDAS DA, and MotionPro X Studio software. Turn the camera power on. If this is the first time you are using the camera, try it first with the MotionPro X Studio software before attempting to use the camera with MiDAS DA.*


*Note: 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 IDT/Redlake HS-4 camera labeled **Sync In**. Next, locate the MiDAS DA breakout box connector labeled **Trigger**. Connect a BNC cable from **Trigger** to the connector on the camera labeled **Trig In**, 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, 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. Next, use the slider bar or the Trigger Percentage field to set your trigger percentage. Select a Trigger Type from the dropdown menu.
4. Click the green **Record**  button at the bottom left-hand corner of the window. MiDAS DA will start the data acquisition and also begin sending sync pulses to the camera.
5. Launch the IDT MotionPro X Studio software. Under the Camera tab, input your video rate, exposure and any other settings.
6. In the MotionPro X Studio software, under the Record tab, set Record Mode to **Circular**. Set the number of Frames to adjust the record length. Set the Frame Sync to **External**. Set the Sync Cfg to **Pulse High** and the Trigger Cfg to match your Trigger Type setting in MiDAS DA.

*Note: The value entered for the Buffer Size (in seconds) setting in the MiDAS DA **must be greater** than the number of Frames (in seconds) in the MotionPro X Studio software. Also, the value entered for Post-Trigger in MiDAS DA **must be greater** than the entry for Post-Trigger in MotionPro X. If not, the camera may not receive enough sync pulses and will not complete a recording.*

7. In the MotionPro X Studio software, click the red **Record**  button to start recording video.
8. Trigger your recording either by clicking the **Trigger**  button in MiDAS DA or by using an external trigger.

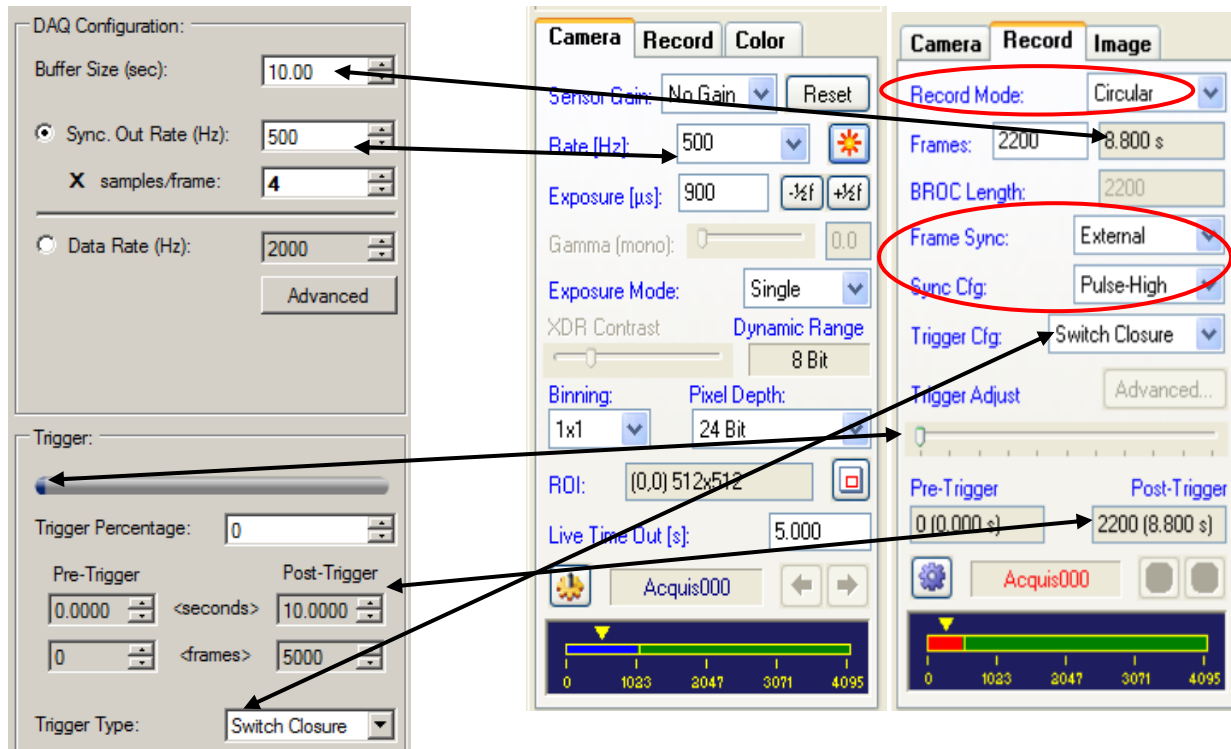
*Note: For more information regarding triggering in MiDAS DA, consult the MiDAS DA User Guide.*

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

*Note: The MiDAS DA and MotionPro X Studio software settings are summarized on the following page.*

## MiDAS DA Settings

## IDT MotionPro X Studio Settings



MiDAS DA / IDT MotionPro X Studio Settings	Relationship
Buffer Size (sec) / Frames (determines recording length for MiDAS DA and camera)	MiDAS DA must be greater than the camera.
Sync Out Rate (Hz) / Frame Rate (Hz)	Must be equal
Post-Trigger	MiDAS DA must be greater than the camera.
Trigger Type / Trigger Cfg	Must be the same
Trigger Percentage / Trigger Adjust	We recommend that these settings match.

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