



Using a Fastec HiSpec 3 High-Speed Camera with MiDAS DA

Date Published: May 2013

Abstract

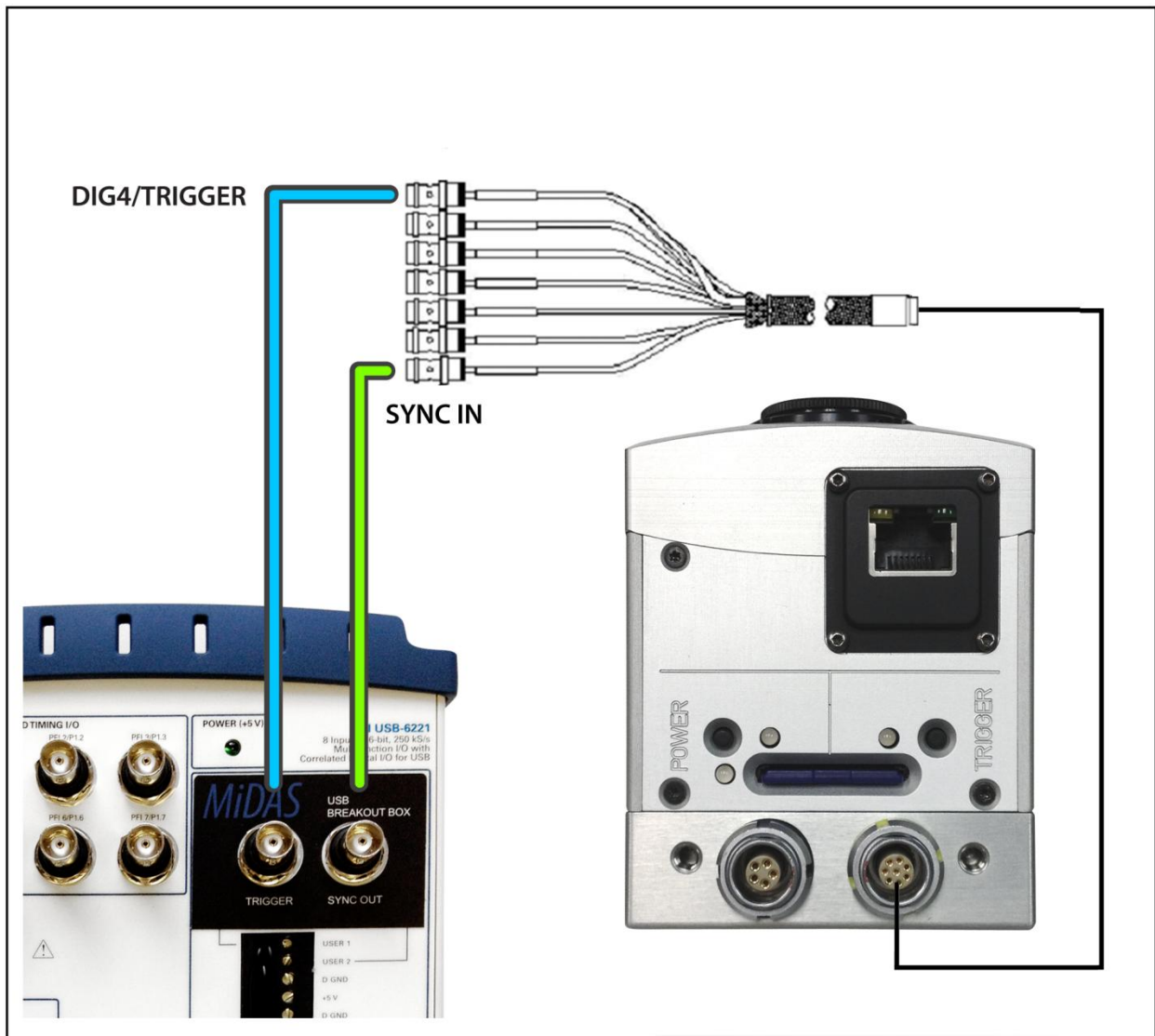
This camera connection guide describes the hardware connections and software settings for using MiDAS DA software with a Fastec HiSpec 3 model high-speed video camera running HiSpec Director 2 camera control software. This document includes the settings for putting the camera into Slave/External Sync mode.

Instructions

Note: Before connecting your camera, install your data acquisition hardware, MiDAS DA, and HiSpec Director 2 software. Turn the camera power on. If this is the first time you are using the camera, try it first with the HiSpec Director 2 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.

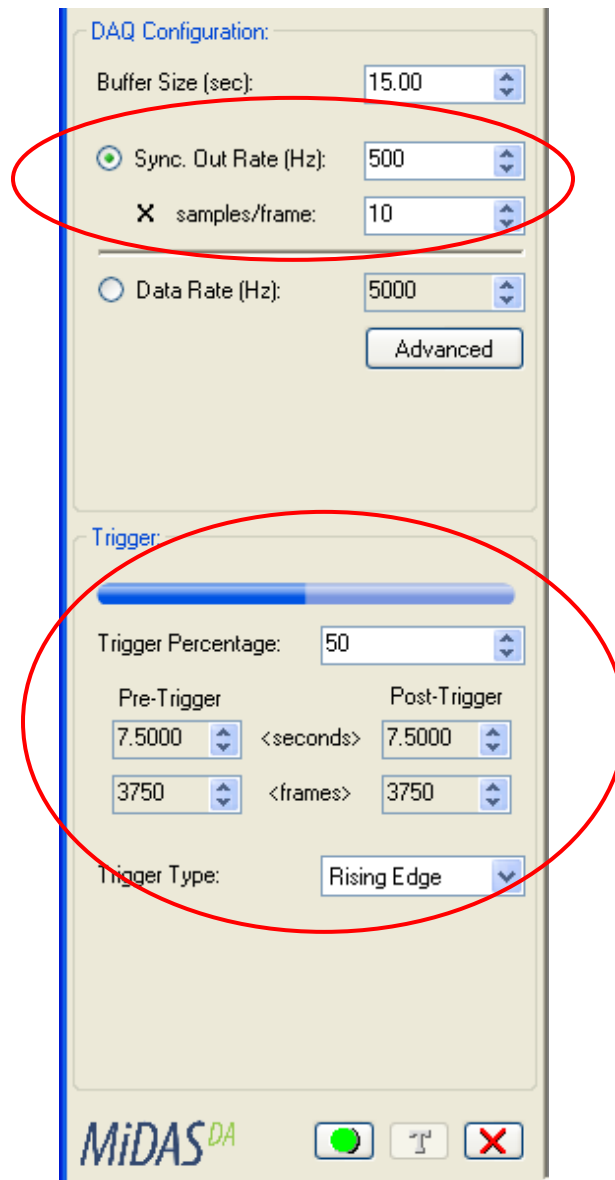
1. Connect the Fastec HiSpec 3 camera cable to the back of the camera. Locate the MiDAS DA breakout box connector labeled **Sync Out**. Connect **Sync Out** to the camera cable connector labeled **Sync In**. Locate the MiDAS DA breakout box connector labeled **Trigger**. Connect **Trigger** to the camera cable connector labeled **Dig4/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.

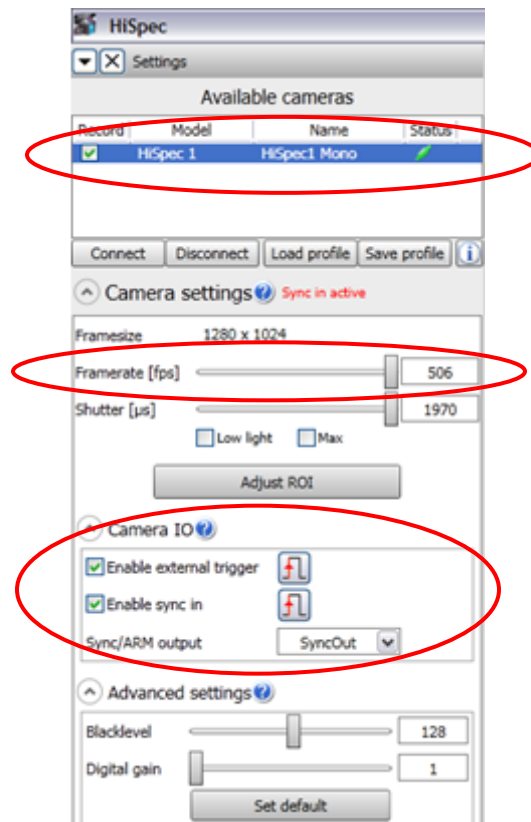
3. In MiDAS DA, enter the video rate into the Sync Out Rate (Hz) field, and the samples per frame in the samples/frame field. Next, use the slider bar or the Trigger Percentage field to set your trigger percentage. Select a Trigger Type from the dropdown menu. In this example, the Sync Out Rate is set to **500**, a few frames lower than in HiSpec Director 2.





4. 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.
5. Launch the HiSpec Director 2 software. On the left side of the screen under Available Cameras, double-click on the camera name to connect.
6. Under Camera Settings, select the frame rate for the camera.


*Note: The HiSpec camera frame rate must be at least **2 fps higher** than the Sync Out rate in MiDAS DA.*

7. Expand the choices under Camera IO. Check the boxes for **Enable external trigger** and **Enable sync in**, as shown below.



8. Click the red **Record**  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 HiSpec Director 2 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.

*Note: When importing the video, MiDAS DA will display an error message indicating incorrect frame rate settings. Click **Yes** to adjust the frame rate to the correct setting.*

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