

Synchronizing Two i-SPEED 230 cameras

TECH NOTE

To ensure the two cameras can sync correctly:

The Master camera must not have full exposure time (allow 5-8µs lower than max value).

This ensures the output has sufficient duration to act as a sync to the Slave.

The Slave camera must be set more than 5 fps faster than the Master.

This ensures the Slave's timings are capable of taking the input frequency without skipping frames.

The Master's Digital Output Line 0 set to Sync Out. Allows the Master to output syncs (note currently there is a mismatch in the labels).

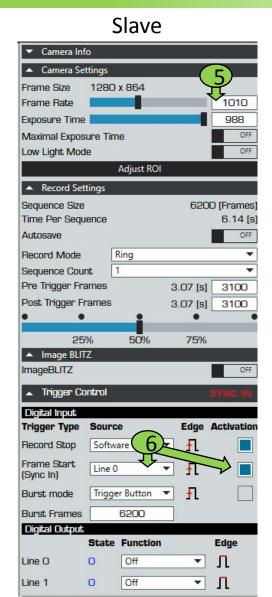
The Slave's Frame Start needs to be set to Line 0 and activated.

Allows the Slave to wait for a sync.

Connect Master Digital out 4 to Slave Digital in 0 with a BNC cable.

For an example of the settings for 1000 fps, see the steps to the right.

Master ▼ Camera Info ▲ Camera Settings 1280 x 864 Frame Size Frame Rate 1000 Exposure Time 990 Maximal Exposure Time OFF Low Light Mode Adjust ROI Record Settings Sequence Size 6200 (Frames Time Per Sequence 6.20 [s] Autosave Record Mode Ring Sequence Count Pre Trigger Frames 3.10 [s] 3100 Post Trigger Frames 3.10 [s] 3100 25% 50% 75% ▼ Image BLITZ ▲ Trigger Control Digital Input Trigger Type Source **Edge Activation** Record Stop Software Frame Start £ Line 0 (Sync In) £ Trigger Button Burst mode 6200 **Burst Frames** Digital Output State Function Edge Sync Out Line O 0 Off Line 1



1000 fps example:

- 1. Power on both cameras using Control VM.
- 2. Set Master camera to 1000 fps.
- 3. Ensure Master exposure time is more than $5\mu s$ lower than max.
- 4. Set digital output 'Line 0' to 'Sync Out'.
- 5. Set Slave camera to 1010 fps.
- 6. Set digital input to Frame Start to 'Line 0' and activate.
- 7. Connect Digital Out 4 on the Master I/O cable to the Digital In 0 on the Slave I/O cable.

The cameras should both display a live image. If the Slave camera is not live, ensure that the Control VM software is up to date.

