

TECH NOTE

To ensure the two cameras can sync correctly:

The Master camera must not have full exposure time (allow 5-8 μ s 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

- Frame Size: 1280 x 864
- Frame Rate: 1000 (Callout 2)
- Exposure Time: 990 (Callout 3)
- Maximal Exposure Time: OFF
- Low Light Mode: OFF

Adjust ROI

Record Settings

- Sequence Size: 6200 [Frames]
- Time Per Sequence: 6.20 [s]
- Autosave: OFF
- Record Mode: Ring
- Sequence Count: 1
- Pre Trigger Frames: 3.10 [s] 3100
- Post Trigger Frames: 3.10 [s] 3100

Image BLITZ

Trigger Control

Trigger Type	Source	Edge	Activation
Record Stop	Software	f \downarrow	<input checked="" type="checkbox"/>
Frame Start (Sync In)	Line 0	f \downarrow	<input type="checkbox"/>
Burst mode	Trigger Button	f \downarrow	<input type="checkbox"/>

Line	State	Function	Edge
Line 0	0	Sync Out (Callout 4)	f \downarrow
Line 1	0	Off	f \downarrow

Slave

Camera Info

Camera Settings

- Frame Size: 1280 x 864
- Frame Rate: 1010 (Callout 5)
- Exposure Time: 988
- Maximal Exposure Time: OFF
- Low Light Mode: OFF

Adjust ROI

Record Settings

- Sequence Size: 6200 [Frames]
- Time Per Sequence: 6.14 [s]
- Autosave: OFF
- Record Mode: Ring
- Sequence Count: 1
- Pre Trigger Frames: 3.07 [s] 3100
- Post Trigger Frames: 3.07 [s] 3100

Image BLITZ

Trigger Control

SYNC IN

Trigger Type	Source	Edge	Activation
Record Stop	Software	f \downarrow	<input checked="" type="checkbox"/>
Frame Start (Sync In)	Line 0 (Callout 6)	f \downarrow	<input checked="" type="checkbox"/>
Burst mode	Trigger Button	f \downarrow	<input type="checkbox"/>

Line	State	Function	Edge
Line 0	0	Off	f \downarrow
Line 1	0	Off	f \downarrow

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 μ 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.

