

How to test a BallTracker camera

1) Detect your camera model

Two different camera models may be provided with a SAM Studio.

Model A: Blue camera housing



Model B: Black camera housing



If you have Model A (blue) then just continue with [chapter 2](#)

If you have Model B (black) then continue at [chapter 4](#)

2) Model A: Check if camera is connected in Windows Device Manager

You may skip this check and directly try to run the camera, see chapter 3).

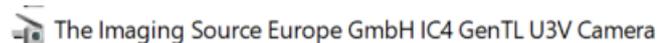
If your Windows is in English language type in “device manager” in the Windows search. If “Device Manager” is listed in the search results then click on it.

Another way to open the Device Manager is to press the Windows plus “x” keys together. This will open a menu and Device Manager should be one item on the list. (name of Device Manager can be different if your language is not English)

In the Device list the camera is listed under the “imaging devices” entry, not under cameras:



or:



If the camera is not listed please check if the drivers are installed properly. The driver should have been installed during the initial setup for the SAM Studio.

Another reason why the camera is not detected can be the USB cable or the port. The camera needs to be connected to a USB 3/3.1 or compatible port. If you are unsure please try different ports and check if the you hear the USB connection sound and the camera shows up in the device list.

3) **Model A: Test the camera with live image**

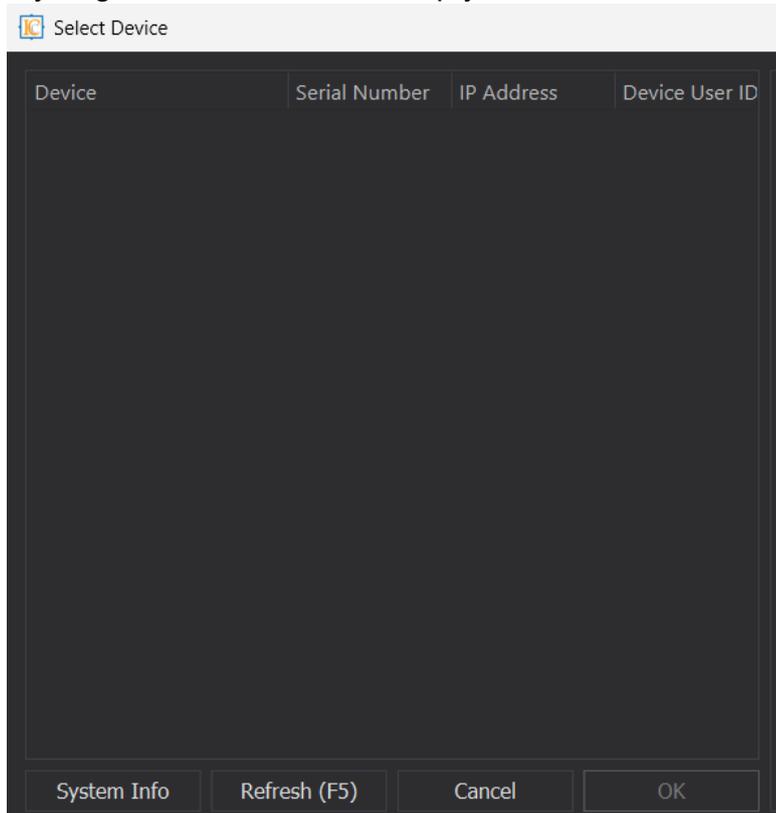
A camera test software is installed on your computer. Search for the program IC Capture, on the desktop (icon):



If you cannot find it search for “IC Capture” in the Windows search or browse the Windows program list.

Start the program, it will search for connected cameras.

If you get a screen with an empty device list the camera is not detected.



Reasons for not detected camera:

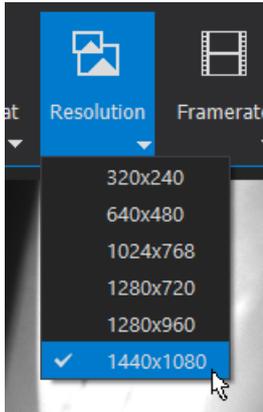
- USB cable not connected or defect – check the cable
- USB cable connected to wrong USB port – needs to be connected to a USB 3 port
- Driver not installed – please contact Science & Motion for support
- camera is defect – please contact Science & Motion for support

If a camera is detected it will automatically load the live image screen (or you need to click the camera in the list):

In the live view window you will see some additional information:

- set camera pixel resolutions

To test the camera it is recommended to use the following setting:

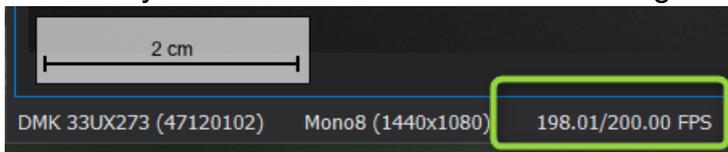


- set frame rate (FPS) of the camera

Now click on the Framerate list and select 200fps in the list:

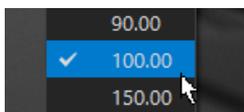
(the camera live image may get very dark but that is not a problem here, please ignore that)

The camera now runs with high speed. At the lower border of the application window you see some information about the delivered images and if there are error during image transfer. This tells you if the camera can deliver all images correctly at full speed:



In the bottom status line you see the currently delivered FPS, ideally the first number should be very close to the second number (target FPS). A difference of up to 5 frames is allowed if you see a live image and no error messages coming up.

If the first number does not reach the 195 at least try to set the FPS to 120 and check if that works.



If no more frames drop that may be good enough as the SAM Studio software can use 100 FPS as standard frame rate.

If anything unusual happens or error messages showing up please try to do a screenshot (Windows Key + Shift + S) or a photo of the message and send this to: support@scienceandmotion.com with a description of the problem.

4) Model B: Check if camera is connected in Windows Device Manager

You may skip this check and directly try to run the camera, see chapter 3).

If your Windows is in English language type in “device manager” in the Windows search. If “Device Manager” is listed in the search results then click on it.

Another way to open the Device Manager is to press the Windows plus “x” keys together. This will open a menu and Device Manager should be one item on the list. (name of Device Manager can be different if your language is not English)

In the Device list the camera is listed as a root entry “FLIR USB Camera” (not under the Cameras category):



If the camera is not listed please check if the drivers are installed properly. The driver should have been installed during the initial setup for the SAM Studio.

Another reason why the camera is not detected can be the USB cable or the port. The camera needs to be connected to a USB 3/3.1 or compatible port. If you are unsure please try different ports and check if the you hear the USB connection sound and the camera shows up in the device list.

5) Model B: Test the camera with live image

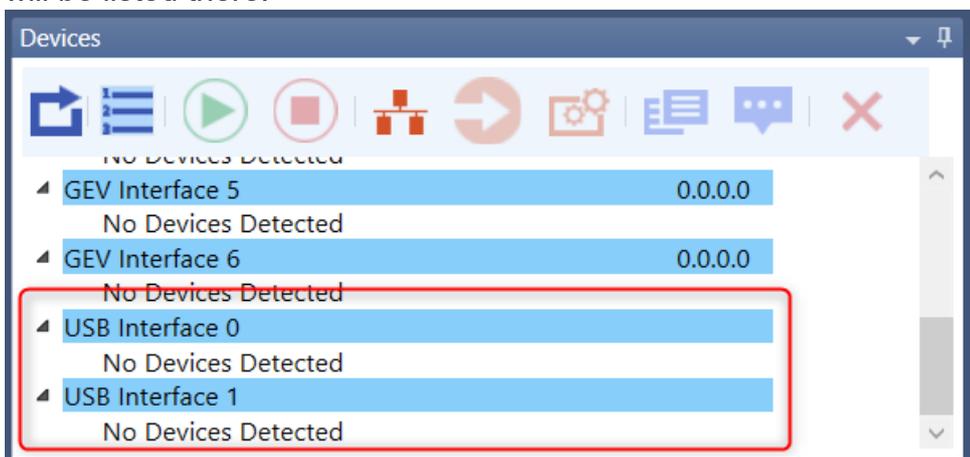
A camera test software is installed on your computer. Search for the program “SpinView”:



If you can not find it search for “SpinView” in the Windows search (Windows key + S) or browse the Windows program list.

Start the program, it will search for connected cameras.

In the “Devices” window on the upper left scroll down to USB devices. If a camera is detected it will be listed there.

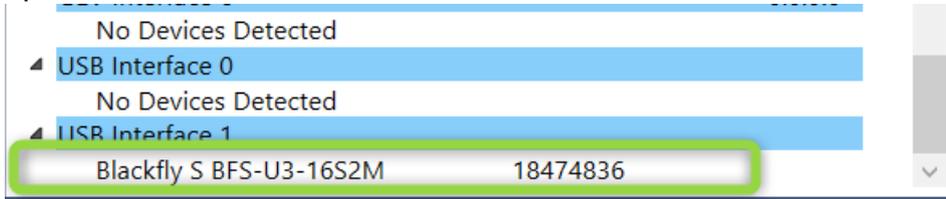


If there are no devices detected the window looks like this.

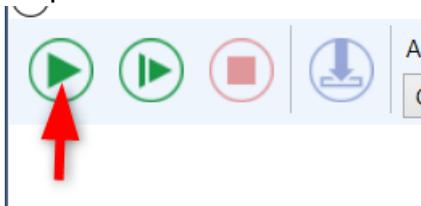
Reasons for not detected camera:

- USB cable not connected or defect – check the cable
- USB cable connected to wrong USB port – needs to be connected to a USB 3 port
- Driver not installed – please contact Science & Motion for support
- camera is defect – please contact Science & Motion for support

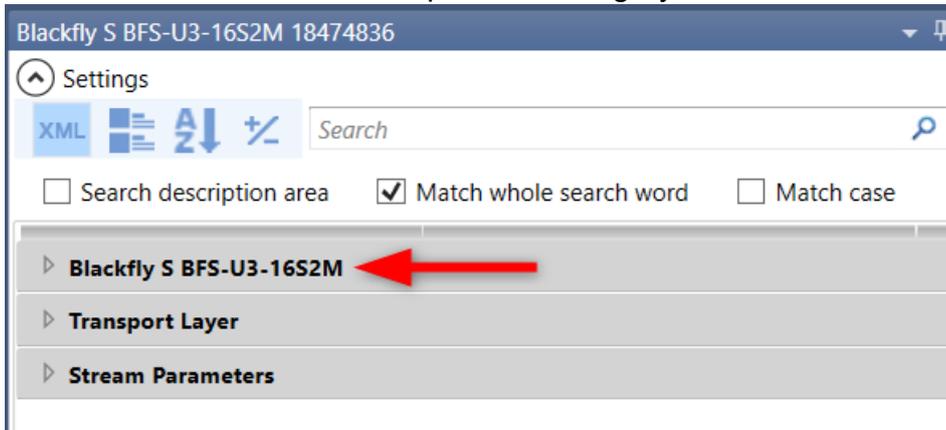
If a camera is detected you will see it in the window, please double-click on the camera entry to open a live view:



Or press the start button:



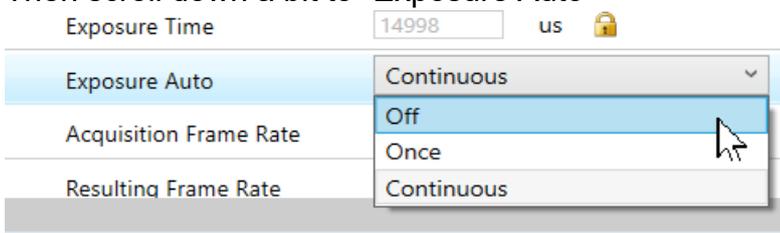
To do some further testing on the camera go to the camera properties section on the left and there click on the camera to open that category:



Next click on acquisition control:

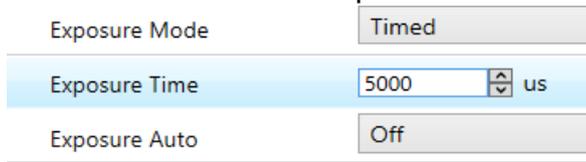


Then scroll down a bit to "Exposure Auto"



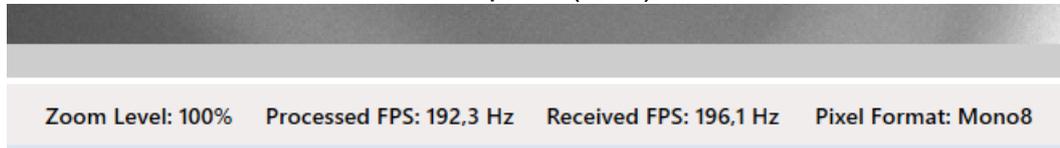
and set this to "Off".

Then enter “5000” in “Exposure Time” and press enter:



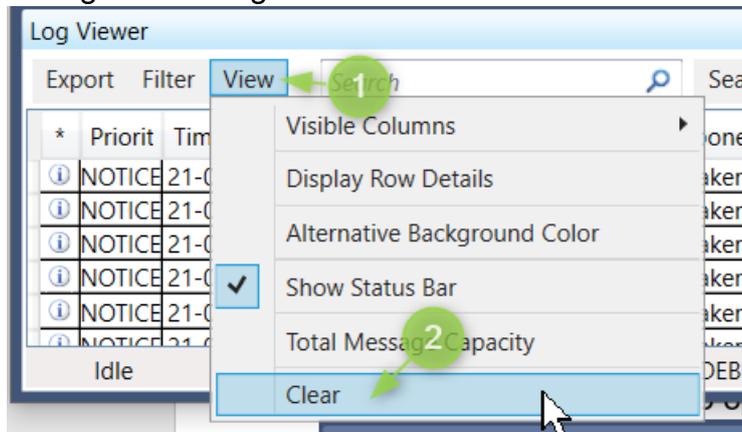
By doing this the camera will now run at full speed.

You can see the current camera speed (FPS) on the bottom text line of the live view:



The FPS number for both entries should be between 180 and 200 Hz.

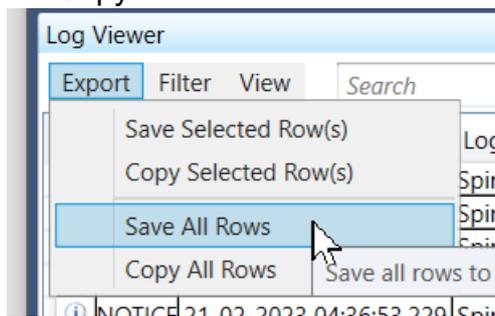
Now go to the Log Viewer window at the bottom and click on View (1) and then on Clear (2):



The log view will be cleared and if any errors come up they will be listed in the view.

Let the camera run at full speed for few minutes and check if the log window shows any error lines. If not the camera works fine and you can close the SpinView software.

If errors show up please go to the Log Viewer and click on “Export” and then on “Save all rows” or “Copy all Rows”.



Please send an email to support@scienceandmotion.com and attach the text file or paste the copied rows to the email.