

Device Streaming with Andor Cameras

Abstract

Considerations for Device Streaming with Andor Cameras

Discussion

Beginning with Meta Imaging Series 7.1.4, Andor cameras can perform *device streaming*, as long as various requirements are met. Device Streaming is a patented method available for MetaMorph and MetaFluor which allows microscope peripherals such as illumination sources or focus devices to be moved as each frame of a stream acquisition is acquired. This allows for optimal speed of acquisition of multi-dimensional experiments.

Requirements

- MetaMorph Premier is required; or MetaMorph Basic or MetaFluor along with the purchase of the Z/Wavelength Stream Option and appropriate Z and/or Illumination device drivers.
- Meta Imaging Series 7.1.4 or later.
- Andor “CCI-23” PCI card. Earlier than 2006, many Andor cameras were installed with CCI-22 cards; the CCI-22 card cannot participate in a device stream and must be upgraded to a CCI-23 card.
- The CCI-23 card needs camera firmware (called the COF File) of version 276 or later.
- Andor library file version 2.78.5 or later. Typically this will be found on a CD provided by Andor that is included with the camera.
- Andor Windows driver file version 4.28 or later. Typically this is installed during the Andor CD installation process

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PRODUCTS
MetaMorph®
MetaFluor®

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Verification

MetaMorph 7.1.4 or later provides a mechanism to verify that the above requirements have been met. Open the Acquire dialog box, choose the Special Tab, and press the “Info...” button that appears on the Special Tab. Below are two examples showing a configuration where the requirements have not been met, and another where they have.

Figure 1 (requirements not met)

The screenshot shows the 'Andor Camera Driver' dialog box with the following information:

- Camera S/N: 0
- Controller Card: CCI-23
- Software Version Information
 - EPROM Version: 0
 - COF File Version: 283
 - VXD Driver Version: 4.27
- Hardware Version Information
 - PCB Version: 0
 - Flex Version: 38
 - SerPar Version: 0
 - Clocks Version: 0
- Driver Version Information
 - SDK Driver Version: 2.78.5.0
 - DLL Driver Version: 2.78.5.0
- Capability Information
 - Device Streaming: NO (system driver needs to be updated to 4.28 or greater)

Annotations on the right side of the dialog:

- CCI-23 is correct PCI card (checkmark icon)
- COF 283 is sufficient (checkmark icon)
- Problem! Driver is not at least 4.28 (red X icon)
- SDK of 2.78.5 is good (checkmark icon)
- Because one of the requirements was not met, Device Streaming is not possible. The text explains how to correct the situation (red X icon)

Figure 2 (requirements met)

