Teledyne DALSA • 880 Rue McCaffrey • St-Laurent, Québec, H4T 2C7 • Canada
http://www.teledynedalsa.com/Genie-Nano

G3-ANCL01-V1: Genie Nano-CL Application Note

Getting Started with the Genie Nano-CL and 3rd Party Frame Grabbers

For Nano-CL models with P/N: G3-Cxxx-xxxxx

Overview

Genie Nano-CL (CameraLink) cameras require a connection to a frame grabber to acquire images. This application note describes how to connect a Genie Nano-CL with a 3rd party frame grabber.

The Genie Nano-CL is GenCP compliant; its features are defined using an XML file and can be accessed using software that supports the GenCP protocol.

The Teledyne DALSA Sapera LT SDK is an application programming interface (API) for Teledyne DALSA cameras and frame grabbers. It is available in 2 versions:

Sapera LT SDK (full version): image acquisition and control SDK for Teledyne DALSA cameras and frame grabbers; refer to application note G3-ANCL02-Vx.pdf.

GenCP Sapera Camera SDK: a subset of the full SDK (without image acquisition support) for Teledyne DALSA cameras connected to 3rd party frame grabber boards. It allows camera configuration and control to be integrated with imaging applications written using 3rd party APIs.

Software Development Kits

Access to certain drivers and SDK updates are restricted to Teledyne DALSA customers that have registered their development package (SDK). If you have not yet done so, please register your software before proceeding.

Description	Version	Release Date
Sapera LT SDK (full version) - Free Download	8.20	10/28/2016
Gen CP Camera SDK (Sapera SDK for Gen CP compliant Camera Link cameras only) for Win 7/8/10	8.20	11/14/2016

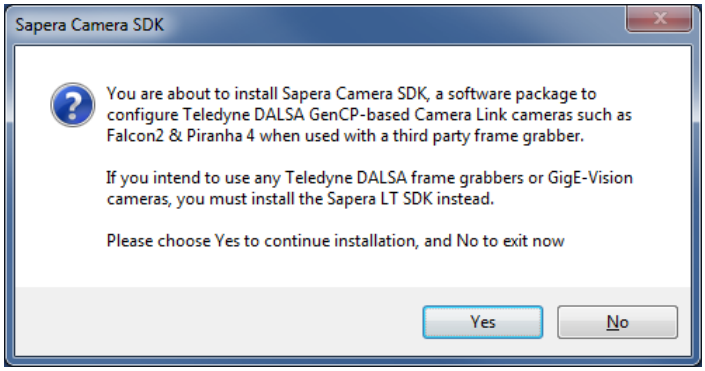
1. Install the GenCP Sapera Camera SDK

The GenCP Sapera Camera SDK is available as from the Teledyne DALSA website:

Gen CP Camera SDK (Sapera SDK for Gen CP compliant Camera Link cameras only) for Win 7/8/10)

(http://teledynedalsa.com/imaging/support/downloads/sdks/)

Follow the instructions provided during installation.



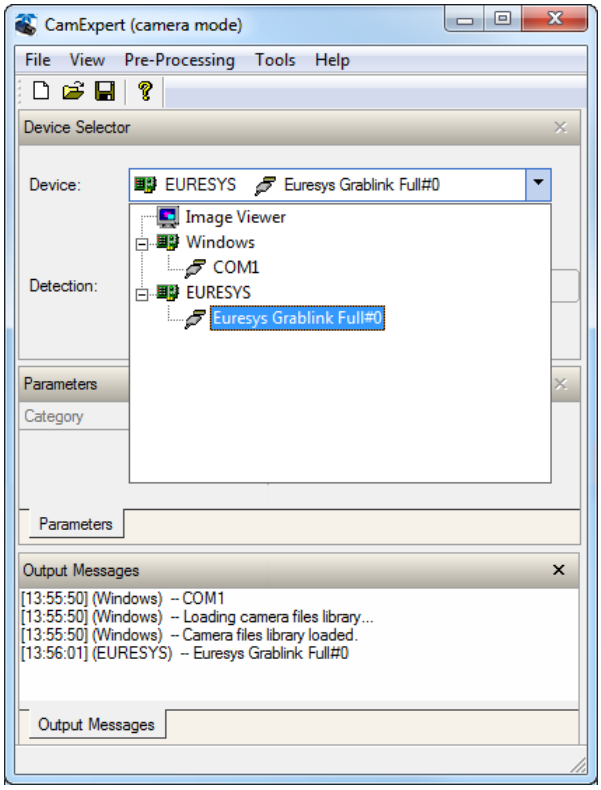
2. Start the Sapera CamExpert Application

The Sapera CamExpert application is included as part of the GenCP Sapera Camera SDK. It is Teledyne DALSA's camera and frame grabber interfacing tool that allows you to quickly validate hardware setup, change parameter settings, and test image acquisition. It is available from the Windows Start Menu or desktop shortcut.

3. Select the Frame Grabber

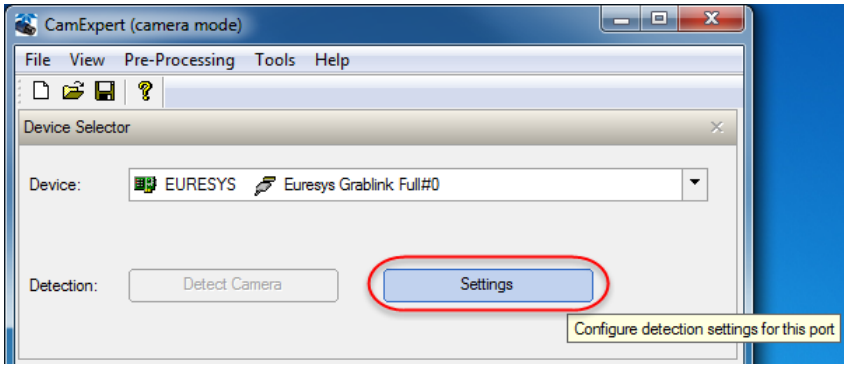
In the Device Selector panel, use the Device drop-down menu to select the frame grabber the Genie Nano-CL is connected to.

Note, 3rd party frame grabbers may appear mapped to a Windows COM port if the frame grabber has not implemented the CameraLink serial port .dll (CLser*xxx*.dll); refer to the frame grabber documentation for more information.

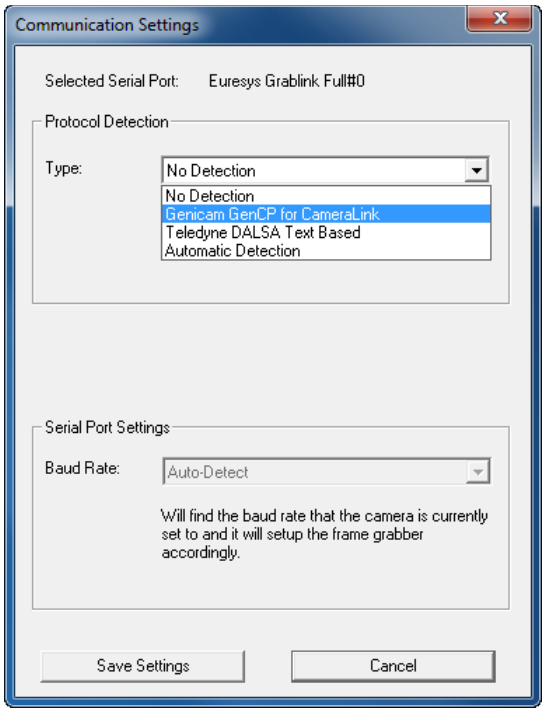


4. Specify the Communication Settings

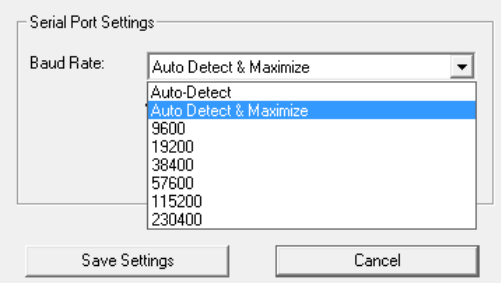
In the Detection section of the Device Selector panel, click **Settings** to open the Communication Settings dialog.



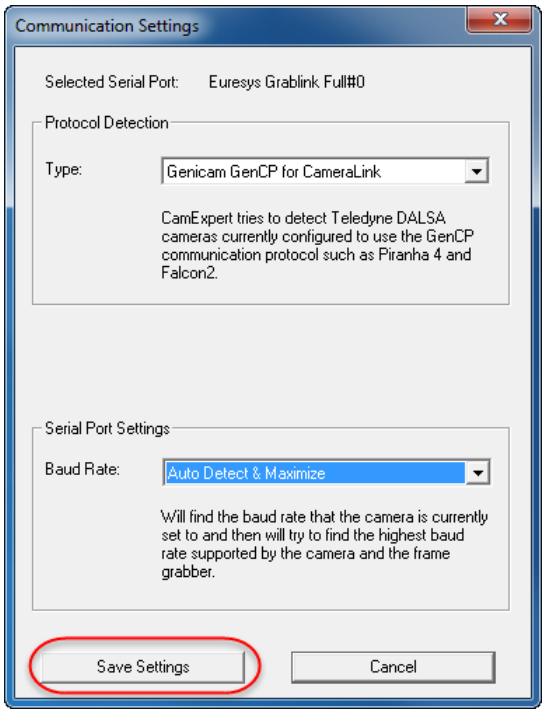
Specify the Protocol Detection Type as either *Genicam GenCP for CameraLink* or *Automatic Detection*.



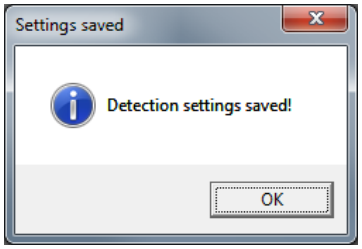
The serial port baud rate can be set manually to a specific baud rate supported by the frame grabber or you can use the *Auto-Detect* or *Auto-Detect & Maximize* (recommended) settings. The *Auto-Detect & Maximize* setting automatically sets the baud rate to the highest value supported by both devices.



Click **Save Settings**.

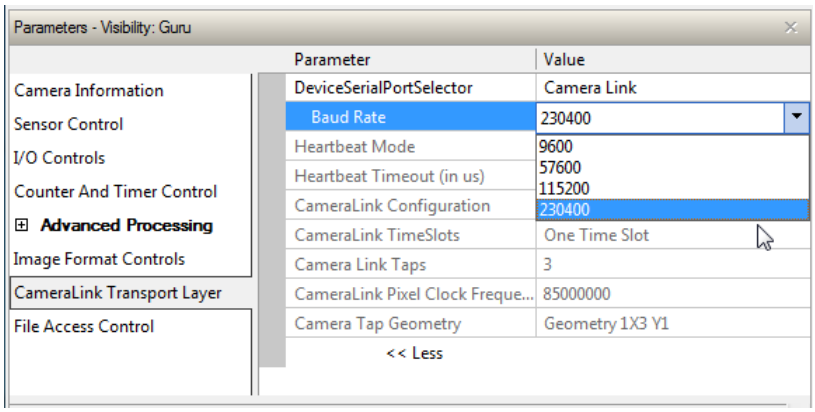


A message box confirmation is displayed:



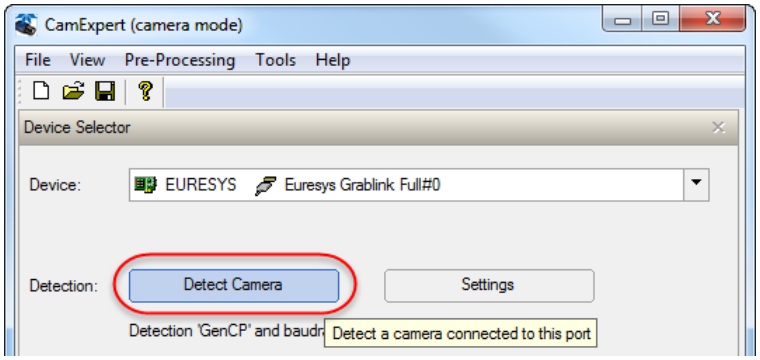
Considerations for Manual Baud Rate Setting

When the baud rate on the frame grabber is set manually, ensure that the Genie Nano-CL's baud rate is set to the same value; otherwise the camera will not be detected. The Genie Nano-CL's factory setting is 9600 baud. Therefore, to use a manual setting, you have to connect to the camera first (for example, using a frame grabber baud rate setting of *Auto-Detect*, *Auto-Detect & Maximize, or 9600*), change the camera baud setting (and save this as the Power-up configuration), disconnect the camera, and then change the frame grabber baud rate to match that of the camera.

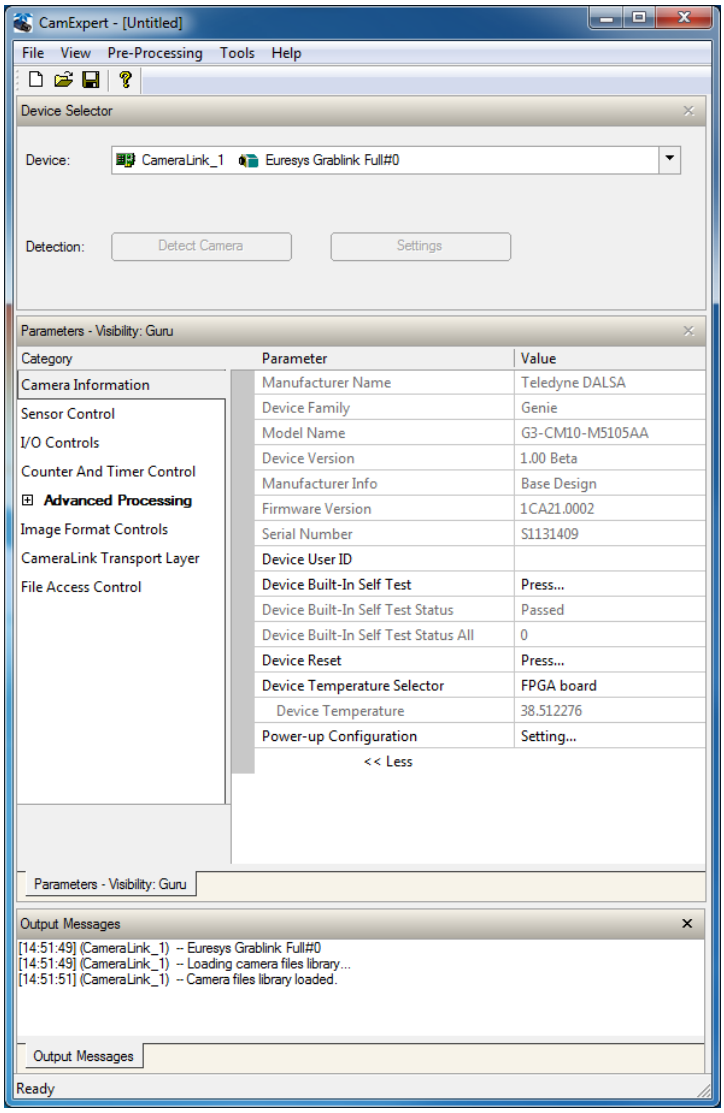


5. Detect the Genie Nano-CL Camera

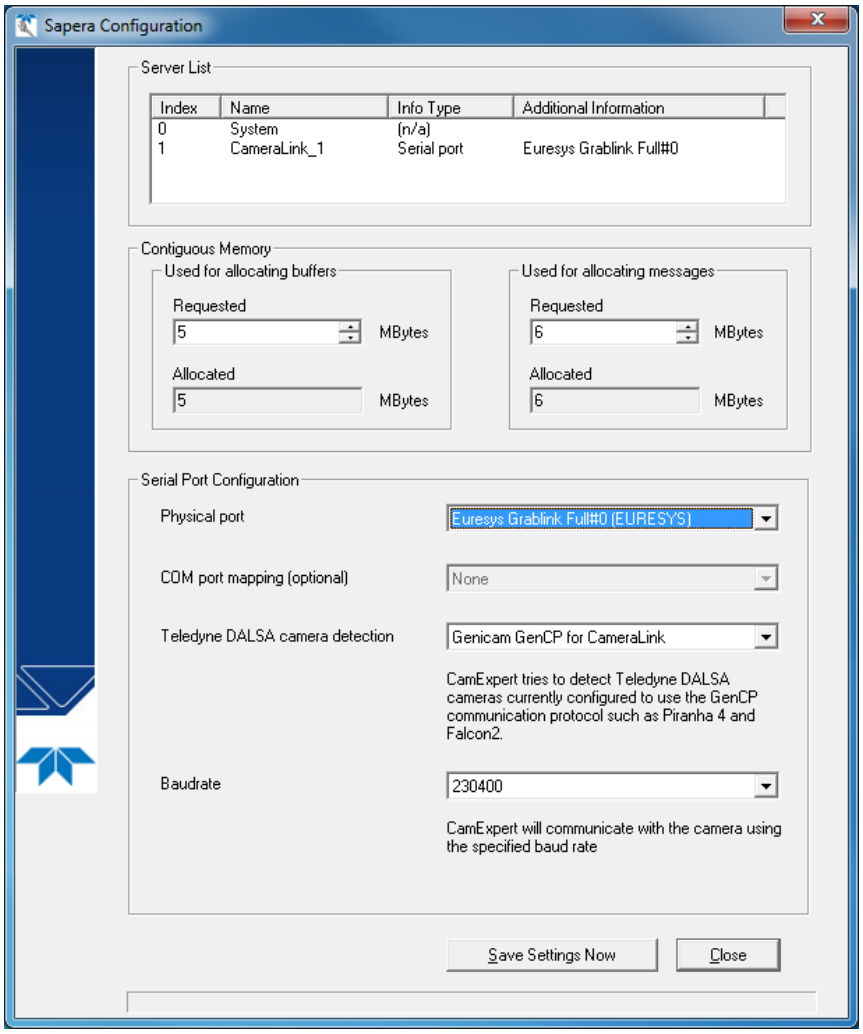
With the Genie Nano-CL powered and properly connected to the frame grabber, click **Detect Camera**.



The camera parameters are displayed:



When connected to a camera, the communication settings cannot be accessed in CamExpert; the Sapera Configuration utility (available through the Start menu) can be used to verify current serial port communication settings.



For more information, refer to the Sapera LT 8.30 Camera SDK User's Manual for GenCP CL Cameras.