

# SAP-AN0005 – Sopera LT Plugin for ImageJ for Teledyne DALSA Frame Grabbers and GigE Cameras

## Overview

This application note describes how to install the Sopera LT plugin for ImageJ under Windows® operating system. ImageJ is an open source Java image processing program. The Sopera LT plugin allows image acquisition from Teledyne DALSA frame grabbers and GigE cameras in the ImageJ application on systems with Sopera LT. Note that the plugin is only available in 64 bits.

## Requirements

- Sopera LT 8.60 or later installed.
- Corresponding frame grabber driver if acquiring from a frame grabber.

## Installing/Updating Sopera LT

**Sopera LT SDK (full version)**, the image acquisition and control SDK for Teledyne DALSA cameras and frame grabbers, is available for download from the Teledyne DALSA website:

<https://www.teledynedalsa.com/en/support/downloads-center/software-development-kits/>

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# Downloads

## 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.

[Go back to support downloads](#)

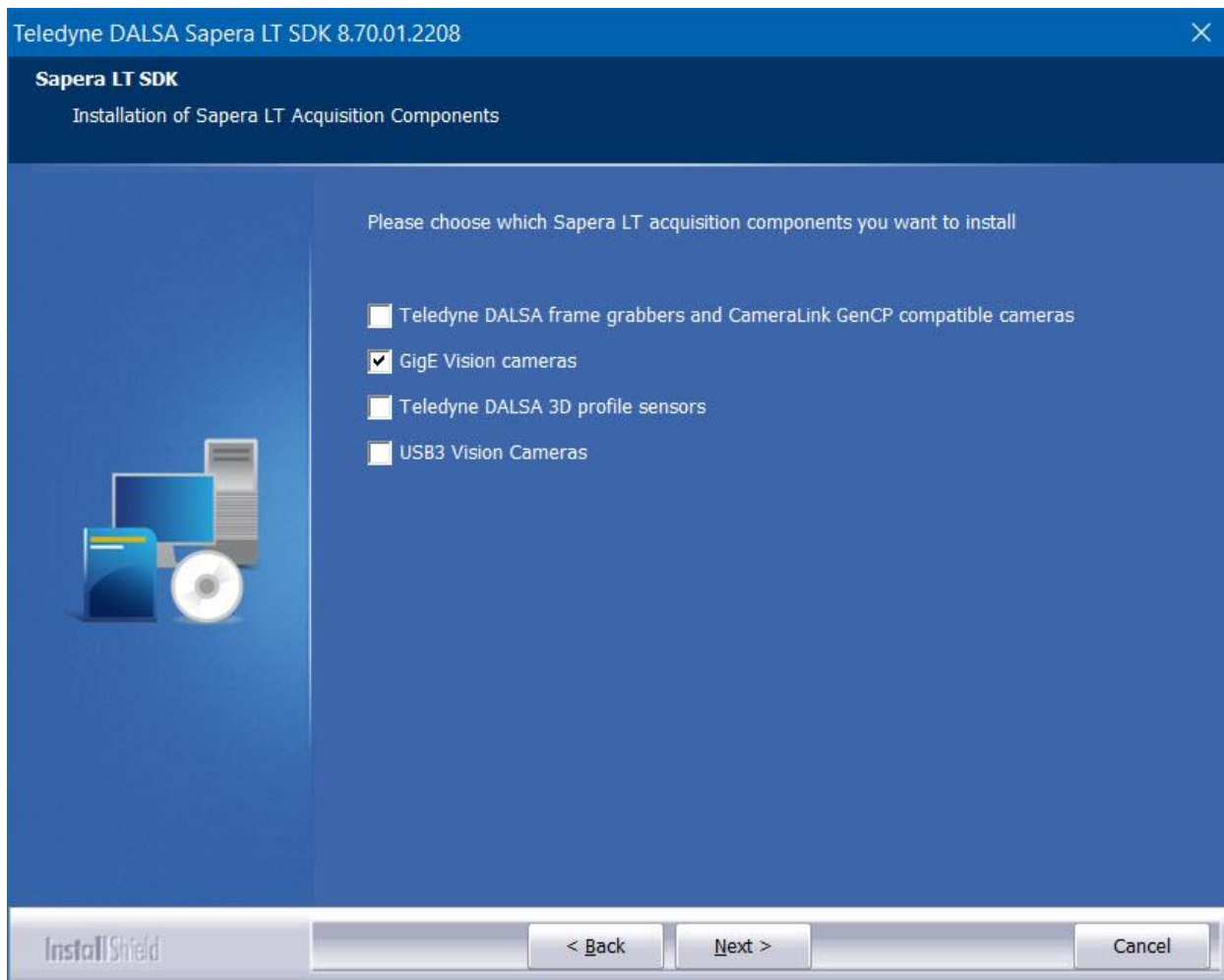
Description	Version	Release date
<a href="#">Sopera LT SDK (full version) - Free Download</a>	8.73	2023-06-05

**NOTE**

Sapera LT installation or update requires administrative privileges.

During installation, you are prompted to choose the Sapera LT acquisition components to install.

- For GigE cameras: select option **GigE Vision cameras**.
- For frame grabber: select option **Teledyne DALSA frame grabbers and CameraLink GenCP compatible cameras**.



## Installing ImageJ

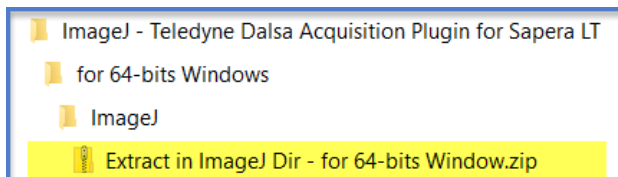
- Download **ImageJ** (1.53g or greater) from the ImageJ website <https://imagej.net/Downloads>.
- Delete any existing installation of ImageJ, including any TDalsaAcqDevice.dll file in the Windows/System32 directory.
- Follow the installation instructions for ImageJ.

### NOTE

Depending on the ImageJ distribution, the ImageJ installation folder may use a different name. For example, the Fiji distribution directory structure uses `<install-directory>\Fiji.app\`.

## Installing the Sapera LT Plugin for ImageJ

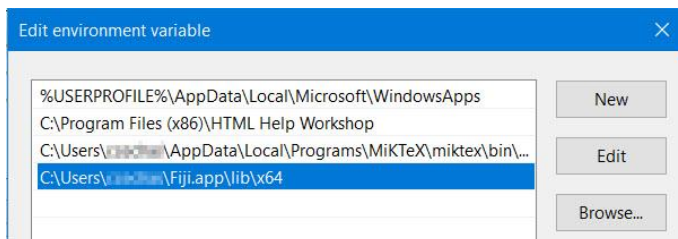
- Download the Sapera LT Plugin for ImageJ from the Teledyne DALSA website: <https://www.teledynedalsa.com/en/support/downloads-center/device-drivers/>
- Extract the files from the .zip file. You will find a subfolder for the 64-bits Windows platform containing another .zip file.



- Extract the 64-bits Windows .zip file in folder `<install-directory>\ImageJ\` (or other distribution name used – see Note above).

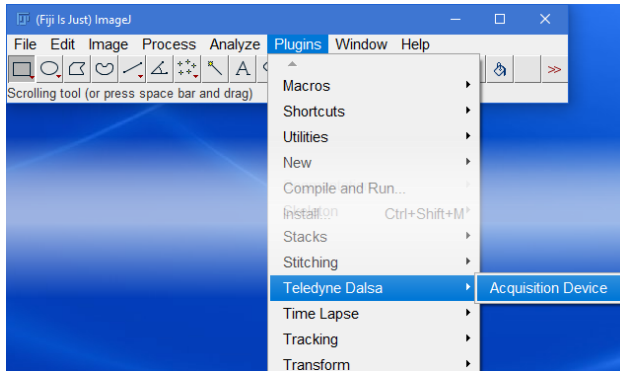
The following files are automatically put in the proper subfolders:

- \ImageJ.cfg,
  - \lib\x64\TDalsaAcqDevice.dll
  - \plugins\Teledyne Dalsa\Teledyne\_Dalsa.jar
- Add a path to the TDalsaAcqDevice.dll in your Path environment variable (e.g., `<install-directory>\Fiji.app\lib\x64`).

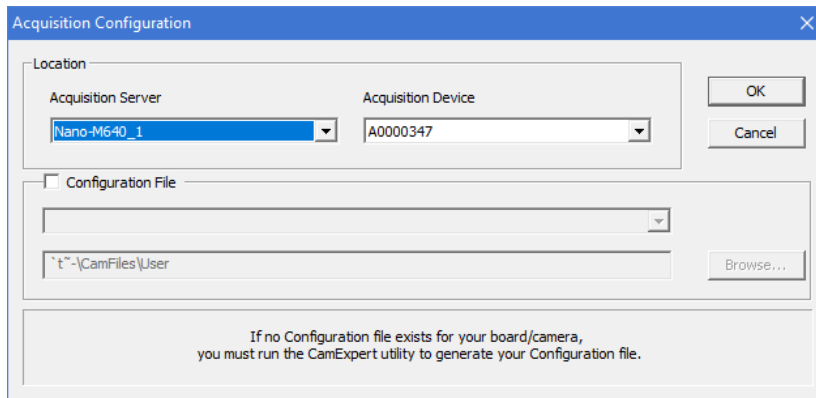


## Using ImageJ with the Sopera LT Plugin

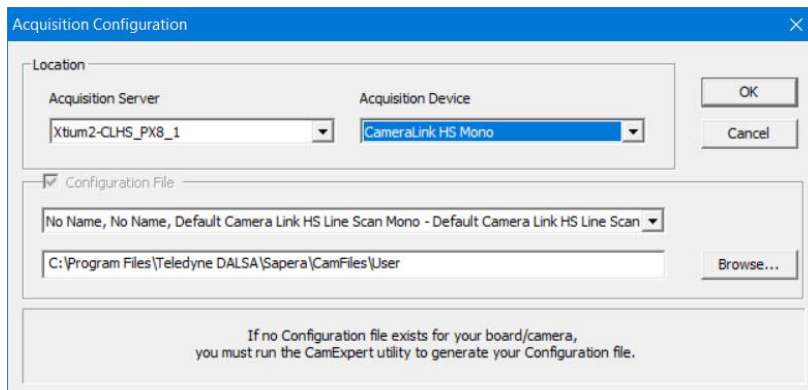
- Start the ImageJ application by running the ImageJ-win64.exe file found in the root of the installation directory.
- Select **Plugins > Teledyne Dalsa > Acquisition Device**. The Acquisition Configuration dialog opens.



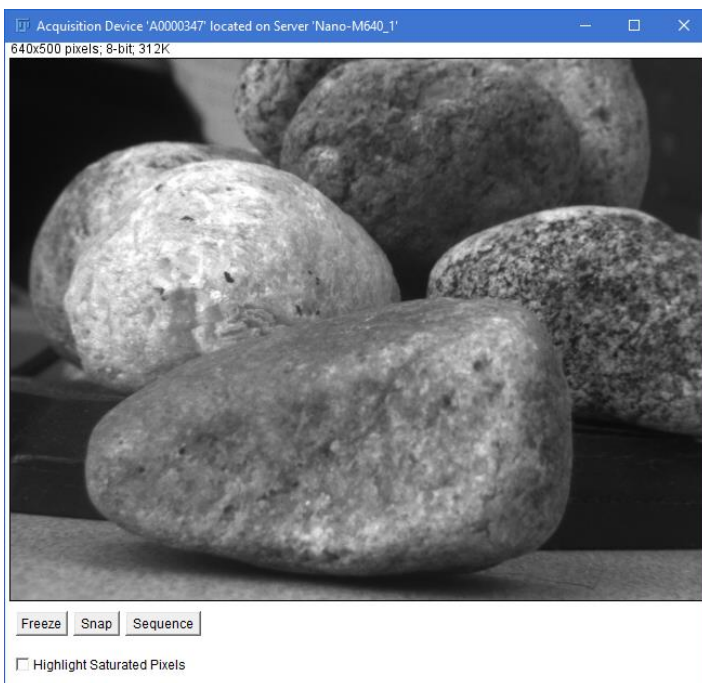
- Depending on whether you use a GigE camera or a frame grabber:
  - **GigE camera:** select the device from the **Acquisition Server** list. To use a specific configuration, select **Configuration File** and choose a .ccf file.



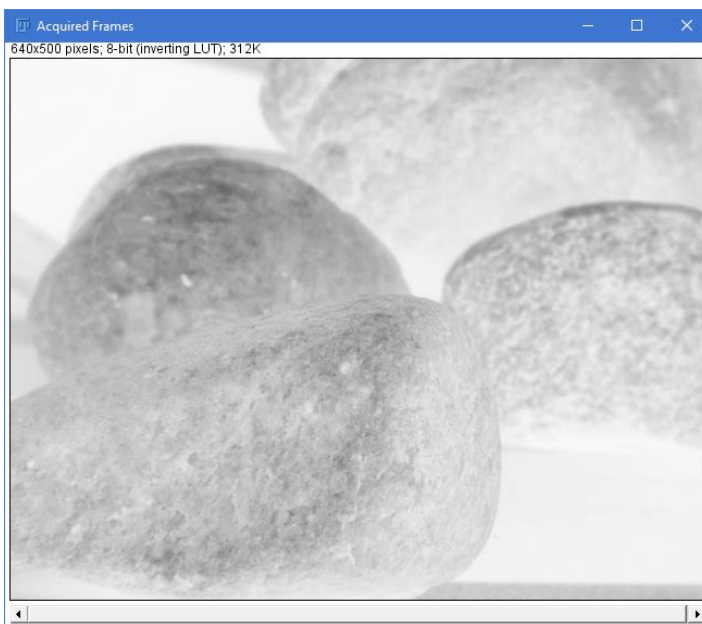
- **Frame grabber:** select an **Acquisition Server** and an **Acquisition Device**. Make sure a **Configuration File** is selected. If you don't have one, create one using CamExpert – see section below.



- Click **OK**. The Acquisition Device window opens.
- Click **Freeze**, **Snap** or **Sequence** to acquire images.



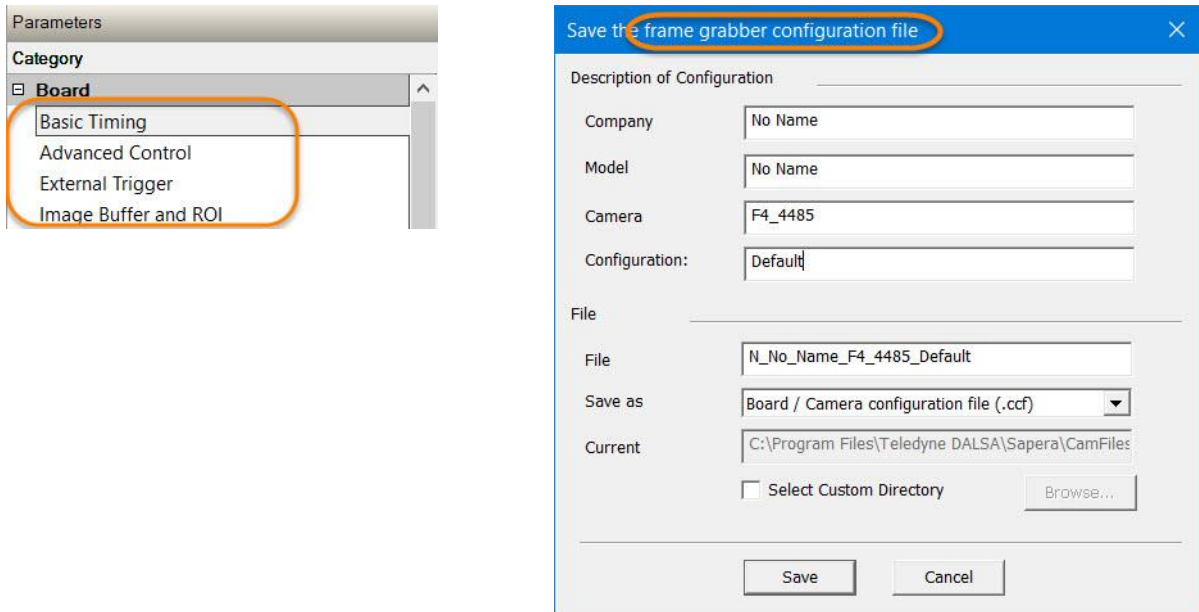
Supported ImageJ functions can be executed on individual acquired images. For example, the following image has an inverting LUT applied.



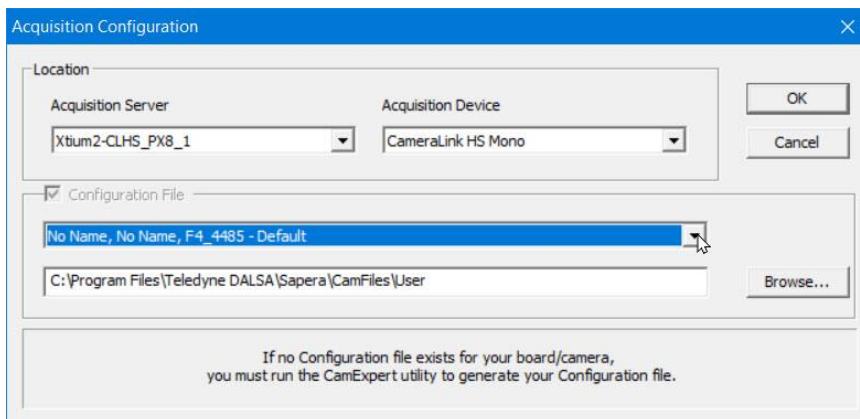
## Creating a Configuration File for the Frame Grabber

If you don't have a configuration file for the frame grabber (board), use CamExpert to generate one. Make sure that you can acquire images using that configuration.

- In CamExpert, select any Board category (not a camera category), then select **File > Save Configuration** from the menu bar. A dialog opens.



- Change the different elements in **Description of Configuration** for your frame grabber (the **File** name below changes accordingly).
- From the **Save as** list, select *Board / Camera configuration file (.ccf)*.
- (Optional) Choose a custom directory where to save the file.
- Click **Save**.
- In ImageJ, select that configuration file in the Acquisition Configuration dialog.



### FOR MORE INFORMATION ON OUR FRAME GRABBER, CXP, CL, AND CLHS AREA SCAN CAMERAS AND GIGE, CL, AND CLHS LINE SCAN CAMERAS:

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