Getting Started with the Spinnaker SDK on the MacOS

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Applicable products

All FLIR machine vision USB3 and GigE cameras

Application note description

This application note describes how to install and use the Spinnaker® SDK in MacOS High Sierra (10.13.0) or above.

Preparing for use

Before you use your camera, we recommend that you are aware of the following resources available from our website:

- **Camera Reference for the camera**—HTML document containing specifications, EMVA imaging, installation guide, and technical reference for the camera model. Replace <PART-NUMBER> with your model's part number:
  http://softwareservices.ptgrey.com/<PART-NUMBER>/latest/Model/Readme.html
  For example:
  http://softwareservices.ptgrey.com/BFS-PGE-27S5/latest/Model/Readme.html
- ***Getting Started Manual* for the camera**—provides information on installing components and software needed to run the camera.
- ***Technical Reference* for the camera**—provides information on the camera's specifications, features and operations, as well as imaging and acquisition controls.
- **Firmware updates**—ensure you are using the most up-to-date firmware for the camera to take advantage of improvements and fixes.
- **Tech Insights**—Subscribe to our bi-monthly email updates containing information on new knowledge base articles, new firmware and software releases, and Product Change Notices (PCN).

Install the required libraries

You must install some dependencies before installing Spinnaker for MacOS. These dependencies are available through a package manager called Homebrew. Homebrew is not available by default in MacOS so you may have to install it first.

To install the dependencies:

1. If Homebrew is not already installed, in terminal run the following:

```
user$: /usr/bin/ruby -e "$(curl -fsSL
https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. If prompted, enter your password.
3. Wait until you see "Next Steps". Homebrew is now installed.
4. In terminal run the following:

```
user$: brew install pkg-config ffmpeg@2.8 libomp libusb
```

This installs all the required dependencies.

Install Spinnaker

If you already have a different version of Spinnaker installed on your macOS, you need to uninstall this prior to installing the new version. See Uninstall Spinnaker

1. Download the Spinnaker SDK from our website at: https://www.flir.com/products/spinnaker-sdk/
2. In the download folder for Spinnaker-1.xx.x.xx, double-click the Spinnaker.pkg file to launch the installer.
3. Follow the install wizard.

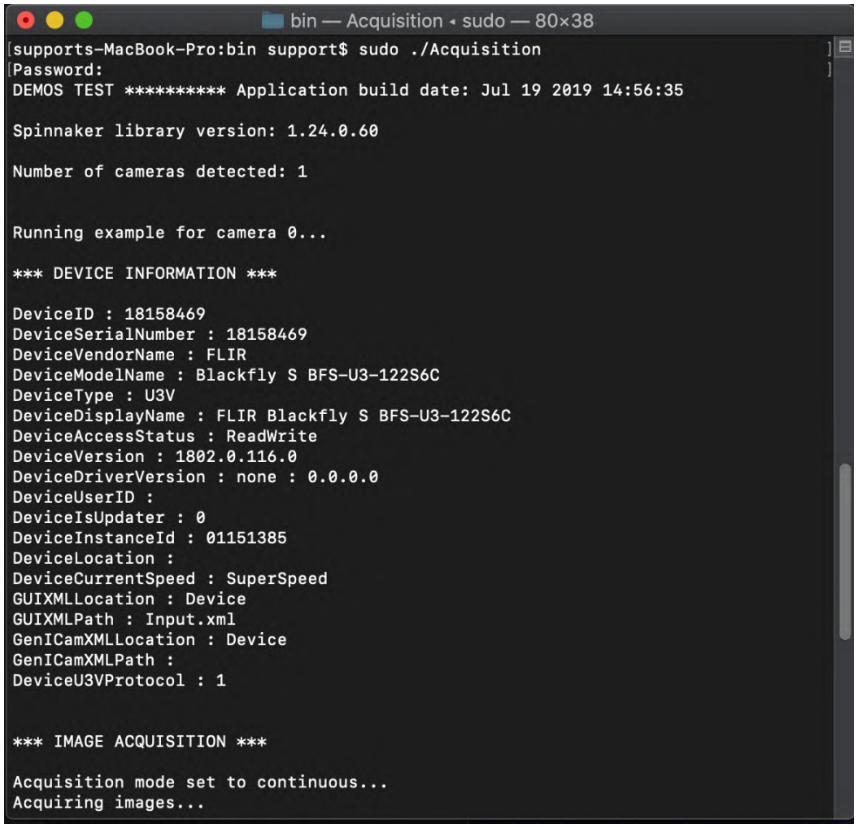
The installation generates the following directory structures:

- /Applications/Spinnaker/lib
- /Applications/Spinnaker/include
- /Applications/Spinnaker/examples
- /Applications/Spinnaker/PySpin

In addition, Spinnaker libraries are copied to /usr/local/lib and Spinnaker headers are copies to /usr/include for system-wide reference.

Run examples

The Spinnaker SDK comes with several precompiled C++ examples. These are found in /Applications/Spinnaker/bin. You can run an example by double-clicking on the file in the bin folder or through a command line as sudo.



The source for the examples is found in /Applications/Spinnaker/src/.

To modify an example:

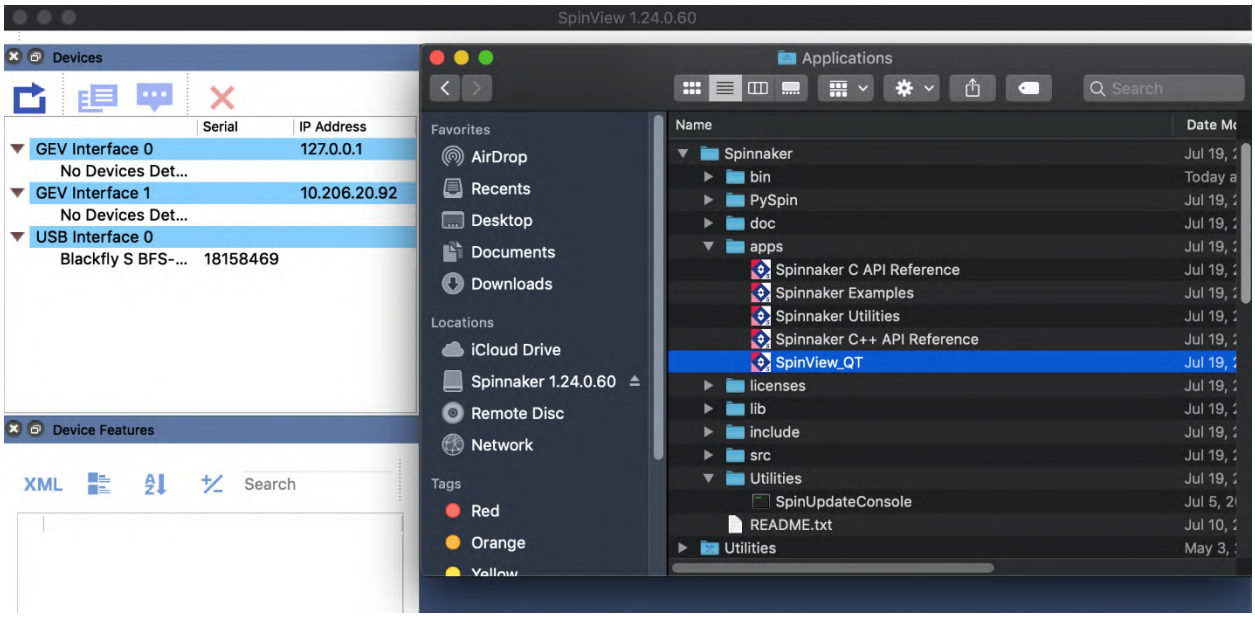
1. Copy the /Spinnaker/ folder (and subfolders) from the /Applications/ folder to a location where you have write permissions.
2. With a text editor, edit the source file in the /src/ folder.
3. Compile the updated file.
4. Run the updated example from the /bin/ folder.

Run SpinView

SpinView is a GUI application that you can use to stream, save, or record images. You can also access or modify Spinnaker nodes to control the camera settings.

> **Note:** For a detailed explanation of Spinnaker nodes, see Spinnaker Nodes.

To run SpinView, from the /Applications/Spinnaker/apps folder double-click SpinView_QT.

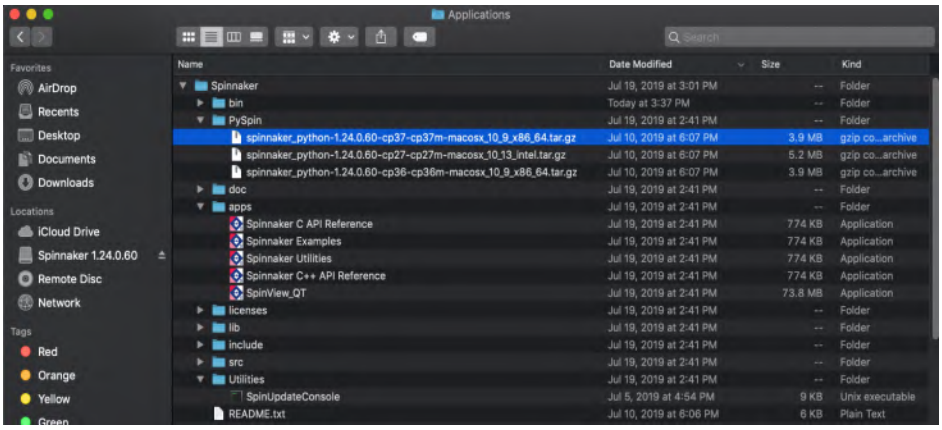


> **Note:** SpinView_QT is packaged as an .app file. It is self-contained and can be moved anywhere on the system and still function normally.

Install PySpin

PySpin is a wrapper for the Spinnaker library to allow you to code your application in python. Detailed installation instructions are in the README file. You can find this file after you double click on one of the PySpin installation files located at /Applications/Spinnaker/PySpin.

Choose the package that corresponds to your python version and Spinnaker version. For example, spinnaker_python-1.24.0.60-cp37-cp37m-macosx_10_9_x86_64.tar.gz represents PySpin version 1.24.0.60 and it is for python version 3.7.



Note: Ensure that Python and the corresponding version of the Spinnaker SDK is installed before installing PySpin.

Uninstall Spinnaker

To uninstall Spinnaker, run the supplied “uninstall_spinnaker.sh” included in the Spinnaker-1.xx.x.xx.dmg file. This script removes all installed Spinnaker files and removes Spinnaker from your Mac’s list of installed applications.

Downloads and support

FLIR endeavors to provide the highest level of technical support possible to you. Most support resources can be accessed through your product's Support page. From the FLIR machine vision page, click on your product family and then click the **Go to Support Page** link.

The **Overview** tab contains links to:

Spinnaker SDK download

Application notes

Knowledge base articles

White papers

Warranty information

The **Resources** tab contains links to:

- EMVA Imaging Performance specification PDFs
- Camera References (HTML)
- Datasheets
- Drawings
- Firmware
- Getting Started manual PDFs
- Product Change Notifications (PCN)
- Technical Reference manual PDFs

The **Media** tab contains links to videos about sensor technology and camera use.

Finding information

Spinnaker SDK—The Spinnaker SDK provides API examples and the SpinView camera evaluation application. Available from our Spinnaker SDK page.

API Documentation—The installation of the Spinnaker SDK comes with API references for C++, C#, and C code. A Programmer's Guide is included in each of the references. Available from:

- Start Menu→All Programs→Point Grey Spinnaker SDK→Documentation
- The SpinView application Help menu

Getting Started with SpinView—A quick guide to using the SpinView camera evaluation application provided in the Spinnaker SDK. Available from:

- Start Menu→All Programs→Point Grey Spinnaker SDK→Documentation
- The SpinView application Help menu
- Camera Reference zip package

Contacting technical support

Before contacting Technical Support, have you:

1. Read the product documentation?
2. Searched the knowledge base?
3. Downloaded and installed the latest version of software and/or firmware?

If you have done all the above and still can't find an answer to your question, contact our Technical Support team.

Additional resources

GenICam—A programming interface for cameras and devices. More information available on the EMVA.org website.

USB3 Vision—A vision standard for the USB 3.1 interface that uses GenICam. More information available on the AIA Vision Online website.