Seek Thermal SDK Quick Start Guide

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Introduction

The Seek Thermal SDK allows developers to interface with Seek Thermal devices easily, flexibly, and efficiently. This document gives the details for installing the SDK on your host system and getting the prebuilt examples up and running with our thermal camera cores.

Examples

Jump in by running any of the SDK's prebuilt example applications. All examples work on USB based camera cores. This section describes the examples and the next five sections detail the exact steps to run any example on your host.

Table 1. Examples

Name	Description
seekcamera-sdl	Demonstrates how to use the SDK to render ARGB frames. Supports multiple cameras. Shutter control in this example is not applicable for the shutterless Micro Core devices.
seekcamera-simple	Demonstrates how to use the SDK to log thermography data to a CSV. Supports multiple cameras.
seekcamera-probe	Demonstrates how to use the SDK to probe the camera connection information. Supports multiple cameras.
seekcamera-fw-update	Demonstrates how to use the SDK to update firmware on the device. Supports single camera.
seekcamera-fsc	Demonstrates how to use the SDK to store and delete flat scene corrections (FSC). Supports USB and SPI. Supports single camera.

NOTE Along with prebuilt examples, the SDK includes the source code and makefiles to rebuild the examples. Please refer to Next Steps... for more details.

Step 1: Unplug camera

- First make sure the Seek Thermal camera is not connected to the host device via USB.

Step 2: Installation

The next step is to install the SDK on your host device.

NOTE Please refer to the README to make sure you have a supported host architecture. Please refer to Determine Architecture if you need help with determining your architecture.

Installation steps

Linux installation

The recommended method of installing and upgrading the SDK on Linux varies depending on the OS flavor. For Debian based systems (e.g. Raspberry Pi 3), the recommended installation method is via a `.deb` package. For other systems, the recommended installation method is manual.

Debian installation

- Unzip the SDK download.
- Install the `.deb` by using the command line and OS package manager. For example, here is the command when using a Rasberry Pi:

```
<SDK>$ sudo apt-get install ./seekthermal-sdk-dev-4.2.0.0_armhf.deb
```

- Reboot or reload the udev rules if this is the first time this version of the SDK has been installed.
```
<SDK>$ sudo udevadm control --reload
```

NOTE	The SDK can be uninstalled via apt.

Manual installation

- Unzip the SDK download
- Install SDL support.
```
<SDK>$ sudo apt-get install libsdl2-dev
```
- From the root of the SDK, determine which architecture you need and move into that directory.
```
<SDK>$ cd <arch>
```
- Copy the libraries for the appropriate build architecture to the host system.
```
<SDK/arch>$ sudo cp lib/libseekcamera.so /usr/local/lib
```
- Copy the headers to the host system.
```
<SDK/arch>$ sudo cp -r include/* /usr/local/include
```
- Install the driver udev rules.
```
<SDK/arch>$ sudo cp driver/udev/10-seekthermal.rules /etc/udev/rules.d
```
- Reboot or reload the udev rules if this is the first time this version of the SDK has been installed.
```
<SDK>$ sudo udevadm control --reload
```
- Change the permissions of the pre-built sample application.
```
<SDK/arch>$ sudo chmod u+x bin/*
```

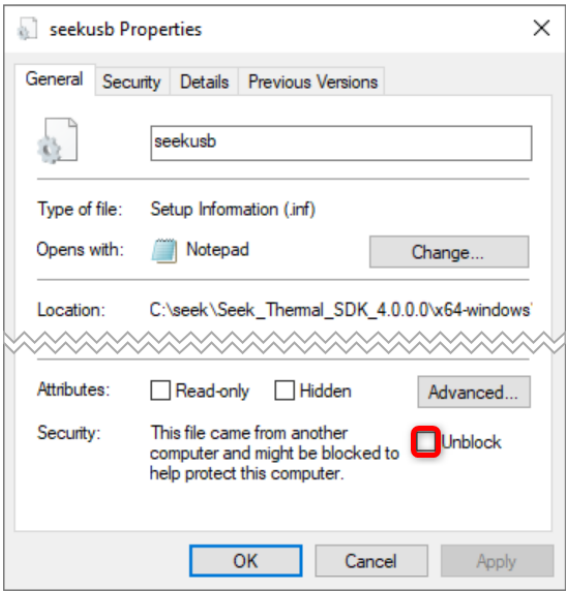
Windows installation

Manual installation

- Unzip the SDK download.
- Install the driver by right click `<SDK>\x64-windows\driver\seekusb.inf` and selecting "Install".

NOTE

Depending on the extraction tool you use to unzip the SDK and the security settings you have on your Windows machine, you may get an **"Unknown Publisher" warning** when installing the driver. You can either **safely ignore** it or select the properties of the SDK zip file and **check the "Unblock" field**. Alternatively you can check the "Unblock" on the `seekusb.inf` once the SDK is unzipped.



Step 3: Connecting the Hardware

- Connect the USB cable to the Starter Kit and your host device.

Step 4: Micro Core Pairing

Micro Core devices must be paired with the host before some of the the prebuilt examples can execute successfully. The `seekcamera-sdl` example has pairing automatically built in. Please run the `seekcamera-sdl` example first in step 5.

Step 5: Running the Examples

Manually installed SDK

- From the command line, run any of the pre-built examples in `<SDK/arch>/bin`.

Debian installed SDK

- The pre-built examples are placed in `/usr/bin` by the Debian installation. Assuming this in on your path, you can just run examples from the command line.

Next Steps…

- **Rebuilding the SDK examples and your own applications**: please refer to the SDK C Programming Guide for more details.
- **Datasheets, CAD drawings, Application Notes, Support Tickets, Forums, etc.**: https://developer.thermal.com