

Sensor Development Environment Setup Guide

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Revision History

| Revision | Date | Author | Reason for Changes |
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| 0.1 | 10/19/2017 | Xiaochun Shi | Initial draft |
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## Development Environment Setup

### Install Microsoft Visual Studio 2015

Download and install Visual Studio 2015 with the default or following:

* Select the custominstallation.
* To install C++, go to Program Languages > Visual C++ > Common Tools for Visual C++ 2015
* Install the Microsoft .Net Framework 4.5
* Install latest Windows 10 SDK & tools under “Universal Windows App Development Tools” (This package includes the Windows SDK for Windows 10)
* Click Next to continue and follow the prompts to complete the installation.

Link: <https://developer.microsoft.com/zh-cn/windows/hardware/windows-driver-kit>

### Install Microsoft Windows Driver Kit (WDK) 10

* Download and install Windows Driver Kit (WDK) 10 with the default

Link: <https://developer.microsoft.com/zh-cn/windows/hardware/windows-driver-kit>

## Check driver development environment

* Run visual studio 2015
* Click [**File**]→[**New**]→[**Project**]
* Pop up the [**New Project]** dialog
* Select [**Installed**]→[**Templates**]→[**Visual C++**]→[**Windows Drivers**] of 【**New Project**】dialog and click it
* If there are WDF in the [windows driver] than development environment install is successful

## DDK Package Instruction

Unzip DDK zip file to PC. DDK should include following folders

* Documentation: setup & development guides.
* Include: Required header files to compile sensor driver code
* Lib: vcm, nvram, common static libraries
* Sensor: Common source files and example code (just a skeleton)
* Platform: Build script
* Test: Camera Test Cases

## Driver Visual Project Setup

### New project setup

* Run visual studio 2015
* Click [**File**]→[**New**]→[**Project**]
* Pop up the【**New Project**】dialog
* Select [**Installed**]→[**Templates**]→[**Visual C++**]→[**Windows Drivers**]→ [**WDF**]
* of【**New Project**】dialog and click it
* Select the “Kernel Mode Driver, Empty (KMDF)”
* Set the path of the project file to “Sensor” catalog of DDK Package
* Click [**OK**]

### Import common source files for all platform

* Right click Solution of Solution Explorer and pop up the dialog
* Select [**Add**]→[**Existing Item**] and click it
* Select common files of DDK Package and click [**Add**]

The common files for CHT Platform are following:

* common\sensor.c
* common\vcm\vcm\_map.c
* common\nvram\nvram\_map.c

### Import common source files for SKC

Manually modify the project file (\*.vcxproj) to include common\skc\_sensor.c. Please refer to example code file (Sensor\sample\sample.Vcxproj).

### Additional Include Directories

* Right click Solution of Solution Explorer and pop up the dialog
* Click [**Properties**] and pop up the dialog
* Select the [**Configuration Properties**]→[**C/C++**]→[**General**]
* Set “Additional Include Directories” to values of the following

.\skc;

..\common\;

..\common\inc;

..\common\libiss\libinc;

..\common\libiss\src\nvram;

..\common\libiss\src\vcm;

..\..\include;..\..\include\Skycam;

### Add dependencies for each platform

In link sub property page:

|  |  |
| --- | --- |
| Lib Files: | Lib Path: |
| ntstrsafe.lib;  common.lib;  vcm.lib;  nvram.lib | ..\..\Lib\$(PLAT\_FORM)\$(Configuration)\$(Platform); |

## Build Driver

Execute batch file \Platform\BuildCameraSensor.bat to generate sample driver binary. Also you can modify this batch to add your own driver project.

Example**:**

Build SKL & CNL sensor driver: BuildCameraSensor.bat

Build SKL sensor driver: BuildCameraSensor.bat SKL

Build CNL sensor driver: BuildCameraSensor.bat CNL