HARRIER USB SDK
Software Development Kit

- SDK for the development of USB Video Class (UVC) applications for the Harrier product range
- Enables rapid system development and integration
- Provides working example of Windows 10 USB/UVC application

FEATURES

- Live capture and low-latency display of UVC video streams up to 1080p60.
- Simultaneous capture, display and recording of video data.
- Camera resolution/mode control over USB/UVC.
- Supports Harrier UVC compatible products e.g. Harrier SDI Adapter.
- Hardware-accelerated video encoding (H.264) using NVIDIA or Intel hardware.
- Still image capture (JPEG/TIFF).
- Text and image overlay.
- SDK based on Microsoft Media Foundation.
- All source code included.

OVERVIEW

The Harrier USB SDK has been developed for use with USB Video Class (UVC) compatible Harrier products. It provides a library of functions, classes and an example application (with source code) that acquires UVC video/images from UVC compatible Harrier products, e.g. the Harrier SDI Adapter and the Harrier USB/HDMI Camera Interface Board. Harrier UVC compatible devices stream video from their input ports (e.g. 3GSDI/HD-VLC) to their USB 3 output port. The Harrier USB SDK example application acquires video/images (over USB) from Harrier UVC compatible products and can also be used to change the camera video output mode via the USB connection.

The Harrier USB SDK provides the following functionality:

- Live video acquisition from Harrier UVC compatible products up to 1080p60.
- Real-time display of the acquired video.
- Video encoding to H.264 and streaming to disk (MP4).
- Text and image overlay.
- Capture and storage of still images (JPEG and TIFF).
- Selection of camera video output mode over USB/UVC.
With Harrier UVC compatible devices, the application software can use several standard APIs, including Microsoft Media Foundation or DirectShow. The Harrier USB SDK is based on Microsoft Media Foundation. It is a set of modules, classes and example source code designed to enable quick and easy development of UVC based applications that capture video/images from Harrier UVC compatible products. Microsoft Media Foundation enables the development of applications for using digital media on Windows 7 and later versions of the Windows OS. The SDK provides objects that acquire, encode and display video. The classes provided in the SDK can be used as-is in an application, or as an example to develop a custom application based on Media Foundation.

The SDK example of video encoding uses a Media Foundation Transform (MFT) which must be installed on the host machine. The default H.264 MFT available under Windows runs entirely in software and does not use any hardware acceleration. Hardware-accelerated MFTs are available from Intel or NVIDIA; both require the appropriate acceleration hardware to be available (e.g. an Intel CPU with QuickSync support, or an NVIDIA GPU with built-in NVENC support).

**Example Application**

The example application included with the Harrier USB SDK is provided with full source code so developers can see exactly how to use the Active Silicon and Media foundation functions/classes.

![Figure 1: Harrier USB SDK Example Application (showing 1920 x 1080 @ 60FPS test pattern)](image)

**ORDERING INFORMATION**

The Active Silicon Harrier USB SDK is available for free from the Active Silicon website in the Software section and is also available on the product pages of UVC compatible Harrier products, e.g. the downloads sections of the Harrier SDI Adapter and the Harrier USB/HDMI CIB pages.

It can be downloaded directly from:

Harrier UVC Compatible Products

Harrier SDI Adapter - AS-ADP-SDI-001-A
Harrier USB/HDMI Camera Interface Board - AS-CIB-USBHDMI-001-A

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