CenturyArks Co., Ltd.

An event-based vision sensor is designed to emulate how the human eye senses light. The sensor detects the luminance changes in each pixel and extracts only those that exceed the preset threshold value then outputs the event "coordinate, polarity, and time". This operation is performed independently and asynchronously for each pixel.

Event × Frame

Event & Frame Sensors in One Camera

Refined

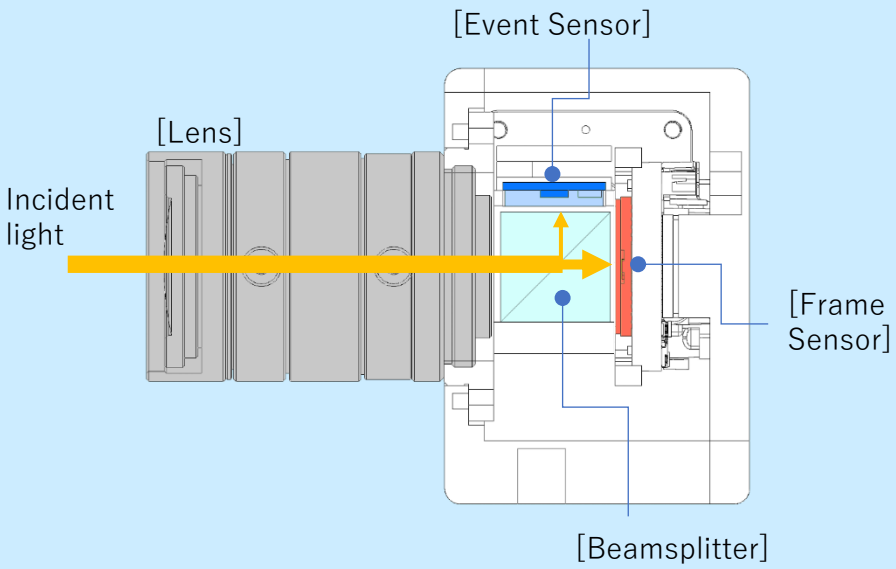
BothView

SilkyEvCam BothView C-mount model – ***Improved, Now with Two Types to Choose from!***

SilkyEvCam BothView is a product that combines an event sensor and a frame sensor. By using a beam splitter to divided light and pass it through both sensors, it allows for simultaneous acquisition of event and frame images.

Since the images are captured by a single eye, identical images can be captured, eliminating the parallax that is inevitable when cameras are placed in parallel. In addition, data can be synchronized by sending timing signals from the frame camera to the event camera.

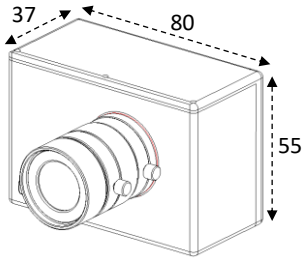
Specification Summary	
Feature	• This device allows the event camera and frame camera to capture the same image by bringing in external light through a single lens. • Align the optical axes of the event camera and the frame camera, and align the flange backs. • A beam splitter is used to split the external light to each camera. • The devise has built-in cameras (event camera and frame camera) synchronization functionality. (Inner Sync) • Synchronization is possible by connecting two BothViews or BothView-SilkyEvCam devices. (Multi-device Sync)
Event camera	SilkyEvCam HD (IMX636) (CenturyArks Co., Ltd.)
Frame camera	Alvium1800 U-240c (IMX392) (Allied Vision)
Beamsplitter	Ration T90:R10 (Frame camera: 90%、Event camera: 10%) Unpolarizing type (EvB4AS-C) Ration T50:R50 (Frame camera: 50%、Event camera: 50%) Unpolarizing type (EvB4BS-C) (Two models are available, differing in the spectral ratio of the beamsplitter.)
Lens	C-mount (included lens: VY-1214 (f=12mm))
Interface	USB3.0 (for both cameras)
Resolution	max 1800 x 1012pixel (Effective resolution when two images acquired by both cameras are overlaid and combined.)



This product allows event and frame images to be acquired simultaneously and without parallax by directing divided by a beam splitter to both the event and frame sensors. The frame camera and the event camera are connected by internal wiring, and timing signals emitted from the frame data are recorded in the event data.

Software Specification Summary

Software	Event camera	Metavision® SDK (For more information, please visit Prophesee's website.)
	Frame camera	Vimba X SDK (For more information, please visit Allied Vision's website.)
	Sample code	Event camera settings (various bias values, etc.) Frame camera settings (exposure, white balance, gain, fps etc.) Recording of both camera images (recorded separately) Inner sync via GPIO connection between event camera and frame camera Multi-device sync by connecting two BothViews or BothView-SilkyEvCam devices
Inner Sync	Outputs a trigger signal synchronized with the frame camera from the frame camera, puts the signal into the external input of the event camera, and records it as an external input event in EVT3 format.	
Mult-device Sync	BothView (master) can synchronize with another BothView or with event cameras (SilkyEvCam) as the slave. Synchronizing frame cameras between BothViews and event cameras between BothView and SilkyEvCam.	
Other	The synchronization information recorded in the raw data of the event camera (external trigger events from the frame camera) is the exposure timing (start and end of exposure) for each frame.	
	Synchronization cable is not included with the product.	



[Image Overlay]

BothView can output images from the event sensor and the frame sensor superimposed. But due to the difference in pixel count and pixel size between the two sensors, this is not an exact match at the pixel level.

For the details of BothView

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