VIRXCam PLATFORM
Combination of visible and thermal spectrums for outdoor video monitoring

Keywords: outdoor surveillance camera, infrared thermal imaging, IR camera, video camera

TECHNOLOGY
INO's VIRXCam camera combines a 324 x 256 thermal sensor and a 1024 x 768 color sensor to generate 440 x 332 color/thermal (4 channels: RGB-T) images. Accurate pixel-by-pixel registration of thermal and color camera is performed on an embedded PC. Integrated within a rugged enclosure, the camera is optimized for outdoor imaging. It comes with an Ethernet output format, and its TCP/IP client/server interface allows user friendly remote access to images and camera settings.

APPLICATIONS
The VIRXCam platform has been designed for outdoor video monitoring applications. Thanks to the combination of visible and thermal spectrums, it is perfectly suited for detection and tracking of persons and/or vehicles in all illumination and weather conditions. The VIRXCam camera is ideal for perimeter surveillance or motion monitoring at public infrastructures, borders, prisons, banks, and airports.

STATE OF DEVELOPMENT
Two prototypes of the VIRXCam platform have been permanently installed on INO's building roof since 2008. They have been used to grab numerous image sequences in all weather conditions for various development studies related to video monitoring and image fusion. With its video analytics library (AWARE), INO demonstrated that a suitable combination of visible and thermal spectrums leads to an increase in the probability of detection, and a reduction of the false alarm rate in all illumination conditions.

INTELLECTUAL PROPERTIES
Trade secret

COMPETITIVE ADVANTAGES
Contrarily to most hybrid color / thermal cameras, the VIRXCam offers an accurate pixel-by-pixel registration of color and thermal images over a wide depth-of-field and large fields of view. To achieve such alignment, INO designed a new active calibration jig and developed an original calibration-based approach allowing fast image registration. Such precise alignment of color and thermal images greatly simplifies the fusion of information from both spectrums for subsequent video analytics processing.

With its side by side configuration of sensors, the VIRXCam requires a lower production cost and a lower manufacturing and assembly complexity than hybrid cameras using a beamsplitter to superpose optical axes.

BUSINESS OPPORTUNITY
INO may build and sell a few samples of the current VIRXCam prototype. INO may also help in designing a multispectrums acquisition platform that will meet the requirements of your application.

VIRXCam camera

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