NUSTL
NATIONAL URBAN SECURITY TECHNOLOGY LABORATORY

SAVER TechNote

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AUTOMATIC ACTIVATION OF BODY CAMERAS

First responders use body cameras to record interactions with other responders and the public while on duty. These cameras may be used by all responder disciplines to ensure transparency, deter aggressive behavior, preserve evidence, monitor personnel, document interactions, support the accuracy of written reports, provide a training tool, and aid in improving standard operating procedures. Body cameras fall under AEL Number 13LE-00-SURV.

Overview

Body cameras are digital video and audio recording devices that capture an objective view of the incident. They are commonly used by first responders, especially law enforcement, to record interactions between the wearer and the public. The overall findings of several studies conducted on the efficacy of body cameras in policing support that using cameras increases officer productivity, decreases complaints against officers, and reduces use of force incidents [1].

Figure 1. Body Camera
Courtesy Alexander Lutensko/ Adobe Stock

Body cameras intended for use by first responders often have software that authenticates data, manages user rights, and ensures chain-of-custody record keeping. They may also have tools for organizing large amounts of video, such as the ability to tag important sections of the video for review. Body camera features also include battery life, data storage, mounting hardware, software, video resolution, frame rate, low light performance and automatic activation.

Feature Highlight: Automatic Activation

Due to the difficulty of storing large quantities of video footage on a compact device and video's impact on battery life, most body cameras do not record at all times. Prior to new technology developments, the responsibility of activating the camera often fell on the wearer, who is often occupied with other duties and may forget or be unable to activate it. To solve this problem, many body cameras can automatically start recording when they sense certain triggers. Many body cameras also have a short buffer of video stored from before the recording begins, allowing the recording device to often capture what caused the trigger, not just what happens after. The wireless protocol used to trigger recording varies by manufacturer; common options include Bluetooth, Wi-Fi, and proprietary protocols.

Manufacturers who sell both body cameras and in-vehicle camera systems often integrate the systems, so a manual or trigger-based activation of one camera will start the other, and the videos will be time-synced. This allows capturing multiple camera angles of an incident, increasing the probability of the camera capturing critical information. The functionality of this feature depends on the compatibility between the two camera systems.

The U.S. Department of Homeland Security (DHS) established the System Assessment and Validation for Emergency Responders (SAVER) program to help emergency responders improve their procurement decisions.

Located within the Science and Technology Directorate, the National Urban Security Technology Laboratory (NUSTL) manages the SAVER program and conducts objective operational assessments of commercial equipment and systems relevant to the emergency responder community.

The SAVER program gathers and reports information about equipment that falls within the categories listed in the DHS Authorized Equipment List (AEL).

SAVER publications focus on answering two main questions: "What equipment is available?" and "How does it perform?"

SAVER knowledge products are created for the nation's first responders and made available to help them make operational and procurement decisions.

To explore the full reports library and to learn more, visit SAVER online at www.dhs.gov/science-and-technology/SAVER.

For additional information on the SAVER program, email NUSTL at NUSTL@hq.dhs.gov.

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Types of Activation Triggers

There are two main categories of auto activation triggers: those relating to a responder's vehicle, and those relating to their person. Examples of the range of different trigger options are shown in Figure 2.

In systems where proximity to an activated and recording camera causes the arriving person's body camera to activate, the already activated camera serves as the trigger. Any other camera in the system that comes within in a particular range of recording video camera also activates.

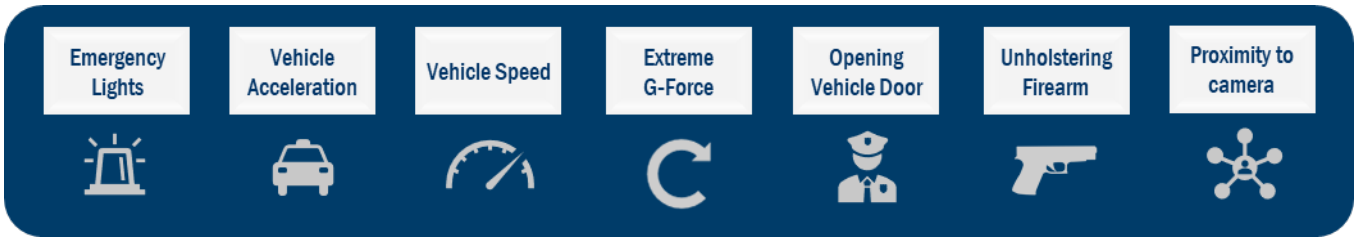

Figure 2. Examples of Automatic Activation Triggers

Vehicle Triggers

Vehicle triggers include activated emergency lights/sirens, sudden acceleration, high speed or extreme gravitational force equivalent (commonly, "g-force"), and an open vehicle door. Implementing any of these triggers requires installation of a communication hub by wiring into the vehicle's onboard computer and existing sensors, such as those already used to detect an open or closed vehicle door. When an appropriate sensor reading is received, the signal to activate the camera is transmitted. Depending on the device manufacturer, more advanced triggering logic may be used. For example, a system could trigger when the door opens (for a user to exit the vehicle) but only if the emergency lights also recently turned on or off.

On-Person Triggers

Triggers related to the wearer include drawing a firearm or conducted energy weapon or coming into proximity of another camera that is recording.

Some manufacturers sell special holsters to detect when a firearm is drawn. Others offer sensors that can be mounted to currently owned holsters. Holster sensors may detect the firearm's being drawn via a physical actuator (like moving a retention strap), an optical sensor, or a sensor for metal that detects the presence of the firearm.

This trigger option provides a layer of redundancy, ensuring that every system camera on the scene records. If one responder enables their camera or if their body camera is activated by another trigger, all nearby cameras will begin to record.

Compliance

Body camera footage often contains criminal justice information under Criminal Justice Information Services (CJIS) Security Policy. Therefore, organizations subject to CJIS must ensure body camera footage is stored and disseminated in accordance with CJIS policy [2]. These requirements apply to recordings on both local infrastructure and any cloud service provided by the manufacturer or a third party. Additionally, organizations that are covered entities under the Health Insurance Portability and Accountability Act (HIPAA) must ensure recordings that contain protected health information are stored in accordance with the HIPAA security rule.

References

[1] Chapman, Brett, "Body-Worn Cameras: What the Evidence Tells Us," 14 November 2018. [Online]. Available: https://nij.ojp.gov/topics/articles/body-worn-cameras-what-evidence-tells-us. [Accessed 02 April 2021].

[2] Criminal Justice Information Services Division, "Criminal Justice Information Services (CJIS) Security Policy v.5.9," Federal Bureau of Investigation , 01 June 2020. [Online]. Available: https://www.fbi.gov/file-repository/cjis_security_policy_v5-9_20200601.pdf/view. [Accessed 02 April 2021].