

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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AXON ENTERPRISE, INC.,  
Petitioner

v.

DIGITAL ALLY, INC.,  
Patent Owner

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Case PGR2018-00052  
Patent 9,712,730 B2

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**Declaration of Mr. Kurtis P. Keller in Support of a  
Petition for Post Grant Review of U.S. Patent No. 9,712,730**

***Mail Stop "PATENT BOARD"***  
Patent Trial and Appeal Board  
U.S. Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

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## **I. INTRODUCTION**

I, Kurtis P. Keller, declare as follows:

1. I have been retained on behalf of Axon Enterprise, Inc. (“Petitioner”) for the above-captioned Post Grant Review proceeding. I understand that this proceeding involves U.S. Patent No. 9,712,730 (“the ’730 patent”) titled “Portable Video and Imaging System.”

2. I understand that Steve Phillips and Jason Troxel are the named inventors of the ’730 patent. I also understand that the ’730 patent is currently assigned to Digital Ally, Inc. (“Patent Owner”).

3. I have reviewed and am familiar with the specification of the ’730 patent. I understand that the ’730 patent is a continuation of U.S. Patent Application No. 14/575,433 filed on December 18, 2014 (now U.S. Patent No. 9,237,262), which is a continuation of U.S. Patent Application No. 14/040,329 filed on September 27, 2013 (now U.S. Patent No. 9,019,431). I also understand that the ’730 patent claims priority to two provisional applications—Provisional Application Nos. 61/707,326 and 61/707,348—both filed on September 28, 2012. I have reviewed U.S. Patent No. 9,237,262, U.S. Patent No. 9,019,431, and both provisional applications. I understand that U.S. Patent No. 9,237,262 has been provided as Exhibit 1004. I understand that U.S. Patent No. 9,019,431 has been provided as Exhibit 1007. I also understand that U.S. Provisional Patent

Application No. 61/707,326 has been provided as Exhibit 1010 and U.S.

Provisional Patent Application No. 61/707,348 has been provided as Exhibit 1011.

4. I understand that the '730 patent has been provided as Exhibit 1001. I will cite to the specification using the following format: ('730 patent, 1:1-10). This citation points to the specification of the '730 patent at column 1, lines 1-10.

5. I have reviewed and am familiar with the file histories of the '730 patent and of U.S. Patent Application Nos. 14/575,433 and 14/040,329. I understand that the file history of the '730 patent has been provided as Exhibit 1002. I understand that the file history of U.S. Patent Application No. 14/575,433 has been provided as Exhibit 1005. I also understand that the file history of U.S. Patent Application No. 14/040,329 has been provided as Exhibit 1008.

6. The '730 patent describes a “portable video and imaging system” and claims a “portable video and imaging system for law enforcement.” ('730 patent, Title, Claim 1.) I am familiar with the technology described in the '730 patent as of its earliest possible priority date.

7. I have reviewed and am familiar with the following prior art used in the petition for Post Grant Review of the '730 patent:

**U.S. Patent Pub. No. 2009/0276708 A1 to Smith *et al.***, titled “Systems and Methods for Classifying Recorded Information” (“Smith”). Smith was published on November 5, 2009—well

before the earliest possible priority date of the '730 patent. I understand that Smith has been provided as Exhibit 1012.

**U.S. Patent No. 6,563,532 B1 to Strub *et al.***, titled “Low Attention Recording Unit for Use by Vigorously Active Recorder” (“Strub”). Strub was issued on May 13, 2003—well before the earliest possible priority date of the '730 patent. I understand that Strub has been provided as Exhibit 1013.

**International Patent Pub. No. WO 2012/037139 A2 to O'Donnell *et al.***, titled “Portable Digital Video Camera Configured for Remote Image Acquisition Control and Viewing” (“O'Donnell”). O'Donnell was published on March 22, 2012—well before the earliest possible priority date of the '730 patent. I understand that O'Donnell has been provided as Exhibit 1014.

**U.S. Patent Pub. No. 2009/0002491 A1 to Haler**, titled “Vehicle-Mounted Video System with Distributed Processing” (“Haler”). Haler was published on January 1, 2009—well before the earliest possible priority date of the '730 patent. I understand that Haler has been provided as Exhibit 1015.

**U.S. Patent Pub. No. 2011/0018998 A1 to Guzik**, titled “Correlated Media Source Management and Response Control” (“Guzik”). Guzik was published on January 27, 2011—well before the earliest possible priority date of the '730 patent. I understand that Guzik has been provided as Exhibit 1016.

**U.S. Patent Pub. No. 2011/0098924 A1 to Balardeta *et al.***, titled “Method and Device for Determining a Distance” (“Balardeta”). Balardeta was published on April 28, 2011—well before the earliest possible priority date of the ’730 patent. I understand that Balardeta has been provided as Exhibit 1017.

8. I have been asked to provide my technical review, analysis, insights, and opinions regarding the ’730 patent and the above-noted references that form the basis for the grounds of rejection set forth in the Petition for Post Grant Review of the ’730 patent. I reserve the right to supplement this Declaration in response to additional evidence that may come to light.

9. I have reviewed and am familiar with the following documents, many of which I mentioned above:

<b>Exhibit</b>	<b>Description</b>
1001	U.S. Patent No. 9,712,730 to Phillips <i>et al.</i>
1002	Prosecution History of U.S. Patent No. 9,712,730
1003	Original Disclosure of U.S. Patent No. 9,712,730
1004	U.S. Patent No. 9,237,262 to Phillips <i>et al.</i>
1005	Prosecution History of U.S. Patent Application No. 14/575,433

<b>Exhibit</b>	<b>Description</b>
1006	Comparison of Original Disclosure of U.S. Patent No. 9,712,730 to Original Disclosure of U.S. Patent No. 9,237,262.
1007	U.S. Patent No. 9,019,431 to Phillips <i>et al.</i>
1008	Prosecution History of U.S. Patent Application No. 14/040,329
1009	Comparison of Original Disclosure of U.S. Patent No. 9,712,730 to Original Disclosure of U.S. Patent No. 9,019,431.
1010	U.S. Provisional Patent Application No. 61/707,326
1011	U.S. Provisional Patent Application No. 61/707,348
1012	U.S. Patent Pub. No. 2009/0276708 A1 to Smith <i>et al.</i>
1013	U.S. Patent No. 6,563,532 B1 to Strub <i>et al.</i>
1014	International Patent Pub. No. WO 2012/037139 A2 to O'Donnell <i>et al.</i>
1015	U.S. Patent Pub. No. 2009/0002491 A1 to Haler
1016	U.S. Patent Pub. No. 2011/0018998 A1 to Guzik
1017	U.S. Patent Pub. No. 2011/0098924 A1 to Balardeta <i>et al.</i>

<b>Exhibit</b>	<b>Description</b>
1018	U.S. Patent Pub. No. 2010/0060747 A1 to Woodman
1019	U.S. Patent No. 7,421,024 to Castillo
1020	MPEG-4 Coding of Moving Pictures and Audio ISO/IEC JTC1/SC29/WG11 N4668 (March 2002)
1021	U.S. Patent App. No. 14/040,006 to Troxel
1022	U.S. Patent No. 8,520,069 to Haler
1023	U.S. Patent App. No. 13/967,151 to Ross <i>et al.</i>
1024	Original Specification of U.S. Application No. 14/991,607
1025	Original Specification of U.S. Application No. 14/575,433
1026	Original Specification of U.S. Application No. 14/040,329
1027	Declaration of Mr. Kurtis P. Keller
1028	Curriculum Vitae of Mr. Kurtis P. Keller

## **II. QUALIFICATIONS**

10. I am a Research Engineer for the Computer Science Department at the University of North Carolina at Chapel Hill where I have worked for over 25 years. During these 25 years, I have worked on the mechanical / optical design and integration of various mechanical / optical systems. These systems include: Head Mounted Displays (HMDs), including integrated camera versions; tracker systems, including inside-looking-out and outside-looking-in camera systems; and other video and optical integration systems. I have designed or co-designed at least 12 HMDs and other human-centric mounts involving integrated cameras, evaluated many optical systems, and modified commercial and military-grade cameras for special applications. I am currently employed part time at UNC.

11. I am one of three founders of a 3D computer-assisted medical device company, InnerOptic Technology, Inc., located in Hillsborough, NC. I am the COO and mechanical / optical engineer for the company. Our first designed and sold products were camera-integrated HMDs for medical and research use. We currently are developing and selling visualization software and hardware to assist in surgery.

12. My education includes an M.S. in Integrated Manufacturing Systems Engineering from North Carolina State University and a B.S. in Mechanical

Engineering from North Carolina State University. I have designed and implemented advanced electro-mechanical systems since 1988.

13. I have integrated many portable camera systems while at UNC Chapel Hill's Computer Science Department to advance the field and to provide innovative hardware for graduate students and researchers to further research in virtual and augmented reality, including for medical, military, and law-enforcement applications. Developing and implementing these systems also included supporting custom optical tracker systems and custom graphic computers.

14. The projects I have been involved with include: integrating cameras in tracked firearms for recording and sighting assistance; integrating cameras in HMDs, including video see-through HMD designs along with the HMD (with integrated body-centric cameras) used for the very first augmented reality surgery in the world; and designing various "narwhale" body mounted camera systems mounted on headsets that observe both the wearer and the surrounding environment.

15. I have designed (or co-designed) electronic control circuits and electronic devices for various electro-optical cameras, projectors, and computer graphics systems. These stem from complicated design and build of rigid-flex circuit board for: an integrated six camera sensor tracking camera; folded-flex circuit "lipstick" style cameras; 14-layer electronic backplane for graphics super

computer; 18-layer main circuit board design for the Pixel Flow graphics super-computer; and other electronic hardware, circuit designs, and builds. These various electro-mechanical-graphics systems have varied from small 17mm diameter cylinders, 50mm tubes with multiple cameras and integrated computer, HMDs, portable tabletop computer systems to 19” rack 30KW systems.

16. I have also worked on the design of electronic systems that transfer, split, combine, convert, stream and store live, real-time video from multiple sources. This includes conversion to multiple formats and compression to MPEG4 format for storage and the transfer of such data. Inclusion of timestamps on some of these projects in their video streams was also necessary.

17. I am an inventor on twelve issued U.S. patents. Most of these patents deal with integration of computer-assisted visualization systems, content and other 3D display modalities, some with integrated video cameras: U.S. Patent No. 9,792,715, titled “Methods, systems, and computer readable media for utilizing synthetic animatronics”; U.S. Patent No. 9,675,319, titled “Loupe Display” U.S. Patent No. 9,659,345, titled “System and method of providing real-time dynamic imagery of a medical procedure site using multiple modalities”; U.S. Patent No. 9,282,947, titled “Imager focusing based on intraoperative data”; U.S. Patent No. 8,690,776, titled “Systems, methods, apparatuses, and computer-readable media for image guided surgery”; U.S. Patent No. 8,585,598, titled “Systems, methods,

apparatuses, and computer-readable media for image guided surgery”; U.S. Patent No. 8,482,606, titled “System and method of providing real-time dynamic imagery of a medical procedure site using multiple modalities”; U.S. Patent No. 8,350,902, titled “System and method of providing real-time dynamic imagery of a medical procedure site using multiple modalities”; U.S. Patent No. 8,152,305, titled “Methods, systems, and computer program products for full spectrum projection”; U.S. Patent No. 7,728,868, titled “System and method of providing real-time dynamic imagery of a medical procedure site using multiple modalities”; U.S. Patent No. 7,385,708, titled “Methods and systems for laser based real-time structured light depth extraction”; and U.S. Patent No. 6,503,195, titled “Methods and systems for real-time structured Light.” I also have several pending patent applications.

18. My Curriculum Vitae is submitted as Exhibit 1028 and contains further details on my education, experience, publications, and other qualifications to render an expert opinion. My work on this case is being billed at a rate of \$225 per hour, with \$285 for depositions, and with reimbursement for actual expenses. My compensation is not contingent upon the substance of my testimony or the outcome of this case.

### **III. LEVEL OF ORDINARY SKILL IN THE ART**

19. I have been asked to consider the level of ordinary skill in the art that someone would have had at the time of the alleged invention. In deciding the level of ordinary skill, I considered the following:

- the levels of education and experience of persons working in the field;
- the types of problems encountered in the field; and
- the sophistication of the technology.

20. I have been informed that a person of ordinary skill in the art (“POSITA”) is a hypothetical person that has ordinary creativity and is not an automaton. In my opinion, a POSITA would have had a B.S. degree in Mechanical Engineering, or an equivalent field, as well as at least five years of professional experience working with, building, or designing portable and mountable electronic devices, including electronic video cameras that can be mounted on a person. In other words, a POSITA would have had an interdisciplinary engineering background that includes experience and/or education in areas traditionally considered mechanical engineering and in areas traditionally considered electrical or computer engineering (or a related field such as computer science). Additional education could substitute for professional experience, and significant work experience could substitute for formal education. For example, an individual with a doctorate degree in a relevant field would require less experience to qualify as a

POSITA. I apply this definition of a POSITA in rendering my opinions in this Declaration unless I state otherwise.

21. My opinion on the level of ordinary skill in the art is informed by the '730 patent's disclosure and the claims, which describe at a high level of generality the configuration and operation of certain basic computing components (e.g., a memory element, a processor, etc.) as well as various mounting configurations for an electronic device. My opinion is also informed by my experiences over the last 25 years working in academia and in industry on body-mounted camera systems and supervising other engineers working on these systems.

22. As I discuss in more detail below, it is my opinion that the challenged claims are not entitled to the September 28, 2012 filing date of Provisional Application Nos. 61/707,326 and 61/707,348. Accordingly, the opinions I render in this Declaration are from the perspective of a POSITA in the September 2013 timeframe, which encompasses the relevant dates for the '730 patent and its predecessor patents other than Provisional Application Nos. 61/707,326 and 61/707,348. ('730 patent, front page, (63).) That said, I have also considered all relevant documents, including the '730 patent and the asserted prior art, from the perspective of a POSITA in the September 2012 timeframe. Although there were technological advances from September 2012 to September 2013, those advances are not germane to the challenged claims, which recite basic and well-understood

elements, as the prior art demonstrates. Thus, the opinions I render in this Declaration would not change should the Board determine that any of the challenged claims are entitled to the September 28, 2012 filing date of Provisional Application Nos. 61/707,326 and 61/707,348.

#### **IV. LEGAL PRINCIPLES**

##### **A. Claim Construction**

23. I understand from counsel that, during a Post Grant Review, claims of an unexpired patent are given their broadest reasonable construction in light of the specification as read by a POSITA.

##### **B. Written Description**

24. I understand from counsel that 35 U.S.C. § 112(a) includes a written description requirement. I understand that the test for sufficiency of written description is whether the disclosure of the patent or application relied upon reasonably conveys to a POSITA that the inventor had possession of the claimed subject matter as of the filing date. I understand that a description that merely renders the claimed subject matter obvious does not satisfy the written description requirement.

##### **C. Obviousness**

25. Counsel has informed and I understand that a patent claim is invalid if the claimed invention would have been obvious to a POSITA. This means that

even if all of the requirements of the claim cannot be found in a single prior-art reference, the claim can still be unpatentable.

26. To obtain a patent, a claimed invention must have, as of the priority date, been nonobvious in view of the prior art in the field. I understand that an invention is obvious when the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time of the alleged invention.

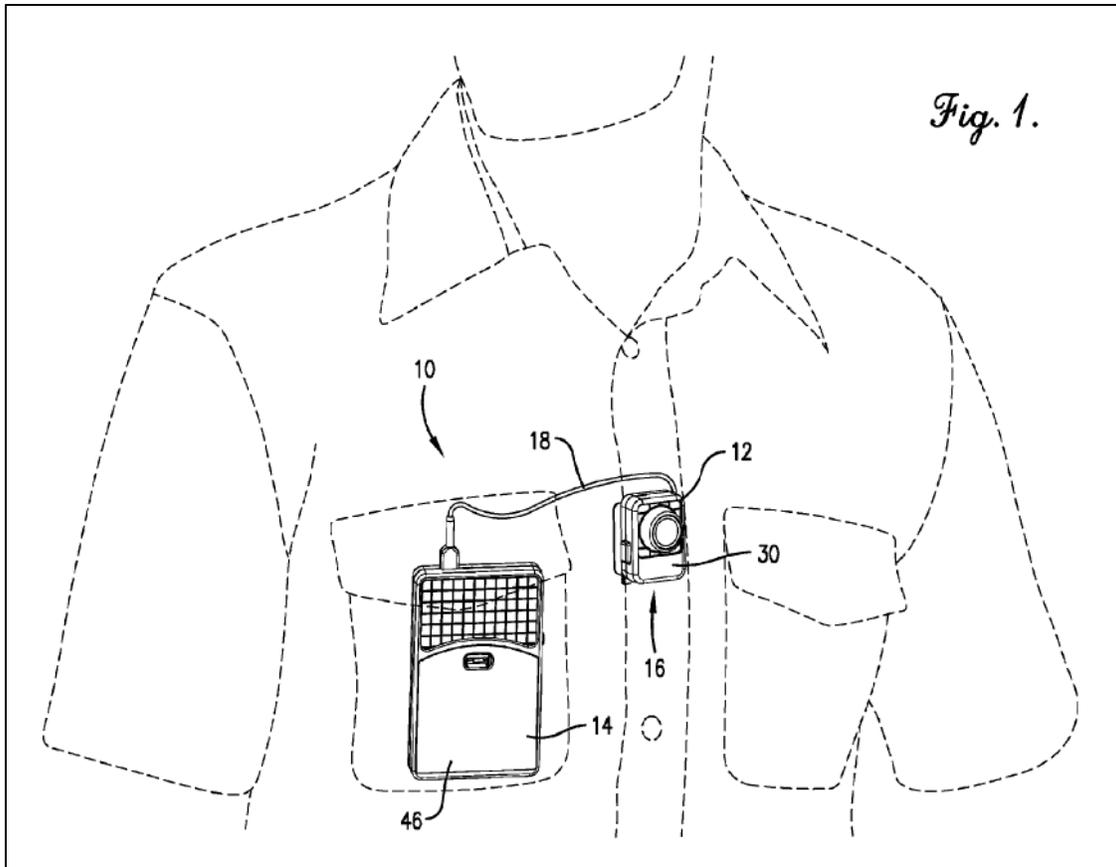
27. I understand that to prove that prior art or a combination of prior art renders a patent obvious, it is necessary to: (1) identify the particular references that, singly or in combination, make the patent obvious; (2) specifically identify which elements of the patent claim appear in each of the asserted references; and (3) explain how the prior art references could have been combined to create the inventions claimed in patent.

28. I understand that certain objective indicia can be important evidence regarding whether a patent is obvious. Such indicia include: commercial success of products covered by the patent claims; a long-felt need for the invention; failed attempts by others to make the invention; copying of the invention by others in the field; unexpected results achieved by the invention as compared to the closest prior art; praise of the invention by the infringer or others in the field; the taking of licenses under the patent by others; expressions of surprise by experts and those

skilled in the art at the making of the invention; and the patentee proceeding contrary to the accepted wisdom of the prior art. I am not aware of any evidence of objective indicia of non-obviousness relevant to the '730 patent. I reserve the right to supplement this Declaration if Patent Owner introduces evidence of objective indicia of non-obviousness.

## **V. OVERVIEW OF THE '730 PATENT**

29. As shown in Figure 1 (reproduced below), the '730 patent discloses a portable video and imaging system mounted on a user's body. ('730 patent, 2:41-43, Fig. 1.) The recording system 10 comprises a camera component 12, a recording component 14, and a mounting assembly 16. ('730 patent, 4:39-42.) The camera component 12 includes a first housing 30. ('730 patent, 5:65-66.) The recording component 14 includes a second housing 46. ('730 patent, 7:13-15.) Cabling 18 communicatively connects the housing 30 to the recording component 14. ('730 patent. 7:4-6.)



'730 patent Figure 1

30. According to the '730 patent, “[t]he camera component 12 is configured to capture video or still images (individually or collectively, ‘video’) and to transmit the captured video to the recording component 14 for storage on a memory of the recording component . . . .” ('730 patent, 5:15-19.) Furthermore, the camera component 12 includes two inputs: a first input that turns the device on and off and a second input that starts and stops the recording. (See '730 patent, 6:20-36.) During recording of an event, the user can also use the second input to mark the captured video. ('730 patent, 6:40-41.) “‘Marking’ of the captured video

provides an indication of a point in time, i.e., the time when the user depresses the second input 34.” (’730 patent, 6:41-43.) “The user can then quickly move to marked locations in the captured video upon viewing of the video using standardized video viewing software.” (’730 patent, 6:43-46.)

31. The ’730 patent, when describing the related art, states that “[a]lthough recording devices for recording video and still images are generally known, *the recording device is commonly housed in a single housing that stores a camera, a memory element, and a processing element.*”<sup>1</sup> (’730 patent, 1:40-44.) To distinguish what the ’730 patent properly recognized as generally known and common systems, the ’730 patent discloses embodiments where “the camera component is in a first housing, and the recording component is in a second housing.” (’730 patent, 2:20-22, Figs. 1, 8, 30.) Accordingly, “[t]he camera and recording components are coupled together, and the housings for the two components *are physically separate housings.*” (’730 patent, 2:22-24.)

32. Separating a camera from a recording component is not inventive. However, the ’730 patent’s statement that the two components are coupled together with two physically-separate housings is not commensurate with the scope of the claims. For example, independent claim 1 (reproduced below) recites a

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<sup>1</sup> All emphasis is added unless otherwise stated.

single housing—both the camera component and the memory element are housed within the same housing. Independent claim 15 likewise recites a single housing.

1. A portable video and imaging system for law enforcement comprising:

- a portable housing configured to be mounted on a body of a law enforcement officer, on a device carried by the law enforcement officer, or in a law enforcement vehicle;
- a camera component housed within the housing and configured to capture video of an event;
- a memory element housed within the housing and configured to record the captured video of the event, wherein said captured and recorded video comprises a plurality of video frames of a video file;
- an input mounted on the housing and configured to be actuated by the law enforcement officer in the field and in response to being actuated, generate an activation signal; and
- a processing element associated with the memory element and the input and configured to:
  - receive said activation signal generated in response to the law enforcement officer actuating the input, and
  - in response to the activation signal, store a mark in the video file for at least one of the plurality of video frames to thereby identify a point in time or location in the video file,
  - wherein said mark in the video file of the at least one of the plurality of video frames enables the processing element to perform the following:
    - upon playback of the video file and in response to receipt from a user request, automatically advance the video file to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input.

33. Accordingly, the claims of the '730 patent recite what the patent characterizes as a generally known and common system—a portable video and

imaging system where the camera component and the recording component are enclosed in a single housing.

34. The '730 patent also differentiates its system by stating that prior-art systems were not mountable to a user's body. (*See* '730 patent, 1:44-45.) This statement is false. Many systems at the time of the alleged invention were mountable. Just to name a few, systems disclosed in O'Donnell were mountable to various surfaces, including people (*see* O'Donnell, ¶¶100-03, 123); systems disclosed in Woodman were mountable to various surfaces, including people (*see* Woodman, ¶¶6, 7, 34, 45); and systems disclosed in Smith were mountable to a police officer (*see* Smith, Fig. 2). As this Declaration will later explain in more detail, mounting a video camera onto a person—a body cam—was not a novel or innovative concept at the time of the alleged invention.

## **VI. THE '730 PATENT IS ELIGIBLE FOR POST-GRANT REVIEW**

35. I understand from counsel that a patent is eligible for Post Grant Review if it contains at least one claim that has an effective filing date after March 16, 2013. I understand that eligibility is also established when a patent contains a specific reference under 35 U.S.C. § 120 to a patent or an application that contains at least one claim that has an effective filing date after March 16, 2013.

36. In my opinion, the '730 patent is eligible for Post Grant Review because it contains at least one claim that has an effective filing date after March

16, 2013. Additionally, the '730 patent contains specific references under 35 U.S.C. § 120 to patents that contain at least one claim that has an effective filing date after March 16, 2013, which further demonstrates that the '730 patent is eligible for post grant review.

**A. The '326 and '348 provisional applications lack written-description support for the challenged claims.**

37. I understand that a patent claim is not entitled to the filing date of an earlier-filed application if the earlier-filed application fails to provide written-description support for the claim. I have reviewed both Provisional Application Nos. 61/707,326 (Exhibit 1010, “the '326 provisional”) and 61/707,348 (Exhibit 1011, “the '348 provisional”), and I have not found sufficient written-description support for the claims of the '730 patent. Specifically, the '326 and '348 provisional applications do not reasonably convey to a POSITA that the inventor had possession of the subject matter claimed in at least independent claims 1, 15, and 22, and dependent claim 6 as of September 28, 2012. Because the '326 and '348 provisional applications are the only applications in the '730 patent’s priority chain that pre-date March 16, 2013, the effective filing date of the challenged claims is after March 16, 2013.

**1. Independent Claims 1 and 15.**

38. Independent claims 1 and 15 require a “*processing element*” that performs the following functions: (1) “*receive said activation signal . . .*”; (2) “*in*

*response to the activation signal, store a mark in the video file for at least one of the plurality of video frames . . .*”; and (3) *“upon playback of the video file . . . automatically advance the video file to the marked at least one video frame . . . .”*

After reviewing the provisional applications, I have determined that the provisional applications do not reasonably convey that the inventor had possession of or described a *“processing element”* that performed all of these functions as of September 28, 2012.

39. I first note that the '326 provisional does not use the term *“processing element.”* Rather, it describes a “video system” mounted in a housing that includes “an electronics module” and “input buttons . . . mounted on the console housing.” ('326 provisional, pp. 1, 3-4.) On pages 3-4, the '326 provisional describes various functions of the electronics module, including “receiving video signals from the video camera and . . . transmitting video signals to the monitor” (*id.*, p. 3); “receiv[ing] and execut[ing] instructions stored in internal memory” (*id.*); “receiv[ing] electronic signals” from input connectors and “transmit[ting] electronic signals” to output connectors (*id.*); “receiving audio signals from audio sources . . . and . . . transmitting audio signals to the speaker” (*id.*); and “receiving wireless signals from one or more remote microphones” (*id.*, pp. 3-4). But, in my review of the '326 provisional, I did not come across any disclosure of a

processing element that stores a mark in a video file in response to receiving an activation signal, as required by claims 1 and 15.

40. Rather, the '326 provisional provides very limited disclosure of marking: "A flag button may place a bookmark in the video to mark the location of significant events in a video sequence." ('326 provisional, p. 5.) The '326 provisional also describes "incorporation of electronic watermarks into the recorded video images to prevent tampering or alteration." (*Id.*, p. 6.) However, the '326 provisional does not explain how the system stores the mark (or the watermark), whether a processing element is involved in storing the mark in response to receiving an activation signal, and whether the mark is stored in a video file or in a separate file. Nor does the '326 provisional describe a processing element that automatically advances the video file to the mark during video playback. The '326 provisional therefore does not reasonably convey to a POSITA that the inventor possessed or described, as of September 28, 2012, a system that includes a "*processing element*" that performs the functions recited in claims 1 and 15.

41. The '348 provisional also fails to provide written-description support for the "*processing element*" required by claims 1 and 15. The '348 provisional describes a "camera" that includes "an electronic controller" and "a second button . . . [that] causes the camera to 'bookmark' a video during video recording." ('348

provisional, p. 5.) The '348 provisional does not disclose that the camera's electronic controller "*receive[s] an activation signal.*" Nor does it disclose that the electronic controller stores a mark "*in [a] video file.*" Nor does the '348 provisional disclose that the electronic controller "*automatically advanc[es] the video file*" to the mark during video playback.

42. Rather, the '348 provisional explains that "[t]he bookmark may be useable, for example, by a computer running software that enables a user to view the video *once transferred to the computer* from the base portion. Such software would enable the user to jump to a bookmark or start the video at or near the bookmarked location." ('348 provisional, p. 5.) A POSITA would have understood that the camera's electronic controller is separate from the computer. That is, the computer is a separate device that the video is transferred to and is viewed from. Thus, the '348 provisional's disclosure of a computer running software that can "jump to a bookmark" does not disclose that the same processing element performs all of the functions required in claims 1 and 15. The '348 provisional therefore does not reasonably convey to a POSITA that the inventor possessed, as of September 28, 2012, a system that includes a "*processing element*" that performs the functions recited in claims 1 and 15.

## 2. Independent Claim 22.

43. Independent claim 22 recites “*a video file . . . comprising . . . metadata associated with at least a portion of the plurality of frames, wherein the metadata includes . . . any triggering event that initiated capturing of the video file.*” Neither the ’326 provisional nor the ’348 provisional applications describe metadata that includes “*any triggering event that initiated capturing of the video file.*” The ’326 provisional does disclose the claimed “metadata.” It describes “plac[ing] a bookmark in the video to mark the location of significant events in a video sequence” (’326 provisional, p. 5); incorporating “electronic watermarks into the recorded video images to prevent tampering or alteration” (*id.*, p. 6); and stamping “audiovisual signals . . . with that camera’s identifier” (*id.*, p. 9). But the ’326 provisional does not explain that any of this information represents a “*triggering event that initiated capturing of the video file.*”

44. The ’348 provisional describes a “data storage component [that] stores video and image data generated by the camera portion as well as *metadata* associated with the image and video data” (’348 provisional, p. 3), and that the bookmark is “stored as video metadata [that] indicates a time in the video corresponding to the time when the user depressed the bookmark button” (*id.*, p. 5). But, again, the ’348 provisional does not explain how any of this information represents a “*triggering event that initiated capturing of the video file.*”

45. Further, I note that the '326 and '348 provisional applications say nothing about metadata of any triggering event that initiated capturing of the video file. For at least these reasons, it is my opinion that the '326 and '348 provisional applications do not reasonably convey to a POSITA that the inventor possessed, as of September 28, 2012, a system that uses metadata that identifies or includes a triggering event.

### 3. Dependent Claim 6.

46. Neither the '326 provisional nor the '348 provisional provides written-description support for dependent claim 6, which requires “*a universal mount coupled to or integral with the portable housing;*” “*a first mounting assembly including a first coupler;*” “*a second mounting assembly including a second coupler;*” and other detailed claim elements about the mounting elements:

6. The portable video and imaging system of claim 5, further including:

a universal mount coupled to or integral with the portable housing;  
a first mounting assembly including a first coupler for coupling the first mounting assembly to the universal mount, wherein the first mounting assembly is configured for mounting the portable housing to the law enforcement officer's body, and  
a second mounting assembly including a second coupler for coupling the second mounting assembly to the universal mount, wherein the second mounting assembly is configured for mounting the portable housing in the law enforcement vehicle,  
such that the portable housing may selectively and interchangeably be mounted on the law enforcement officer's body via the first mounting assembly and the law enforcement vehicle via the second mounting assembly, and  
wherein the first mounting assembly and the second mounting assembly are selectively and interchangeably mounted to the portable housing by coupling the respective first coupler or second coupler to the universal mount.

47. The '326 provisional describes a console with an internal camera. ('326 provisional, pp. 2, 5, Figs. 1-2.) The console “may include one or more mounting elements for mounting the console on a vehicle.” (*Id.*, p. 5) The '326 provisional, however, does not describe this mount as a “*universal mount*.” The '326 provisional also does not explain that the mounting elements comprise a first mounting assembly including a first coupler and a second mounting assembly including a second coupler. The '326 provisional is silent about the details recited in dependent claim 6.

48. The '348 provisional also does not provide written-description support for claim 6. The '348 provisional describes how a camera can be mounted to a first location on a user's person, such as a shirt pocket or holster, and a second location also on the user's person, such as a lapel or shirt button. ('348 provisional, p. 1.) But the '348 provisional does not describe a “*universal mount*,” “*a first mounting assembly including a first coupler*,” and “*a second mounting assembly including a second coupler*.” Disclosing a single device that can be removed from a shirt pocket, for example, and re-placed on a second location, such as a lapel or shirt button, does not describe multiple assemblies with multiple couplers. The '348 provisional also does not describe a mount that can mount a housing to both a law enforcement officer and in a law enforcement officer's vehicle, as claim 6 requires.

49. The '326 and '348 provisional applications therefore do not reasonably convey to a POSITA that the inventor possessed, as of September 28, 2012, the universal mount and mounting assemblies recited in dependent claim 6.

**B. U.S. Patent Nos. 9,019,431 and 9,237,262 contain at least one claim that has an effective filing date after March 16, 2013.**

50. The '730 patent contains specific references under 35 U.S.C. § 120 to patents that contain at least one claim that has an effective filing date after March 16, 2013—U.S. Patent Nos. 9,019,431 and 9,237,262. (*See* '730 patent, front page, (63).) Both of these patents have at least one claim that has an effective filing date after March 16, 2013 because, in my opinion, both patents have claims that lack written-description support in the provisional applications.

51. The '431 patent claims “*a lock mechanism . . . operable to selectively enable access to [the] memory located within [the] housing*” (claims 7, 12) and a housing that includes “*a recessed seat*” (claims 1, 8). The '326 and '348 provisional applications, however, fail to reasonably convey to a POSITA that the inventor had possession of systems including these elements because the provisional applications neither describe a lock mechanism that selectively enables access to memory within the housing nor a recessed seat.

52. The '262 patent claims a mating member that is “*a recessed seat*” and that first and second mount mating members are each “*a raised seat*” (claims 3, 4, 19); “*a hat mount assembly*” (claims 7, 20); “*a hook-and-loop mount assembly*”

with “*adhesively-securable hook-and-loop material*” (claims 7, 16, 17, 19); and “*a saddle bracket for securing the first housing to a barrel of a firearm*” (claim 20).

The ’326 and ’348 provisional applications, however, fail to reasonably convey to a POSITA that the inventor had possession of systems including these elements because the provisional applications do not describe a recessed seat, a raised seat, a hat mount assembly, a hook-and-loop mount assembly, hook-and-lock material, or a saddle bracket for securing a housing to a firearm.

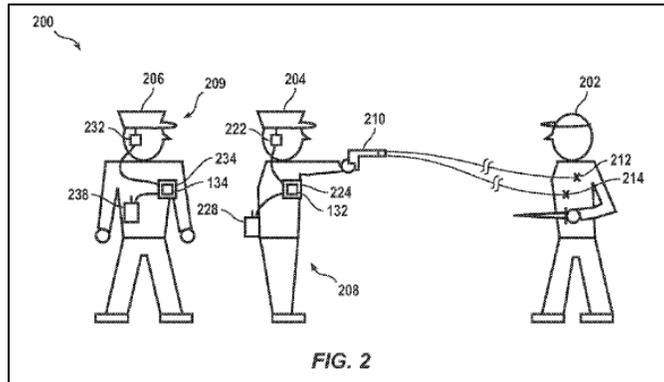
53. For these reasons and the reasons provided above in Section VI, the ’730 patent is eligible for Post Grant Review.

## **VII. SUMMARY OF THE ASSERTED PRIOR ART**

### **A. Smith discloses a wearable video system for law enforcement officers that records and documents incidents.**

54. Smith and the ’730 patent are in the same field of endeavor and customer base, and Smith appears reasonably pertinent to the problems faced by the named inventors of the ’730 patent. Smith, like the ’730 patent, discloses a wearable system for recording video and documenting information for police incident reports. (*Compare* Smith, ¶¶29, 61, Fig. 2, *with* ’730 patent, 4:39-52, Fig. 1.) Smith’s system includes both a primary subsystem that records and documents information for incident reports and a secondary subsystem that facilitates revision, supplementation, and analysis of the incident reports. (*See* Smith, ¶¶28-30.)

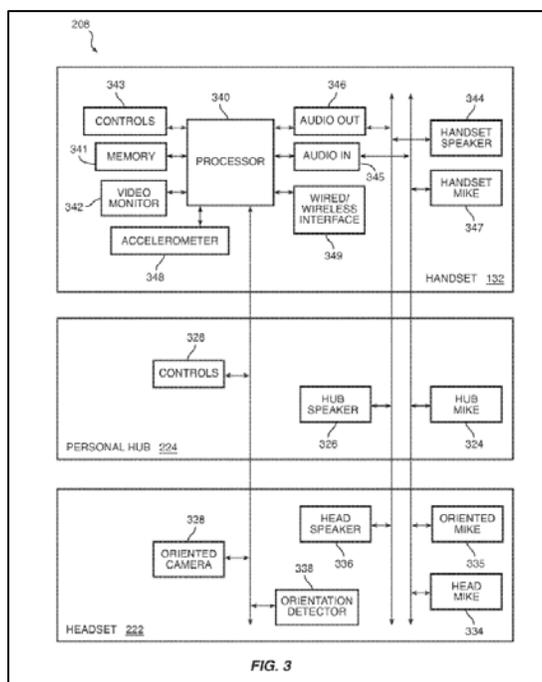
55. Smith's primary subsystems 208 and 209 (also termed incident recorders and shown below in Figure 2) "may include a detector, a recorder, and a user interface for reviewing and managing incident information." (Smith, ¶46.) The detector includes a video camera oriented by the operator for recording the field of view. (Smith, ¶46.) The recorder stores the detected video in memory in the MPEG-4 file format. (Smith, ¶¶47-48.) And the user interface controls the start, stop, and toggle functions of the primary subsystem. (Smith, ¶51.)



Smith Figure 2

56. Figure 2 (reproduced above) "pictorially represents a hypothetical incident involving two law enforcement officers 206 and 204 apprehending a suspect 202 while each officer operates a respective primary subsystem, herein called a system for incident recording 208 and 209 . . . ." (Smith, ¶61.) "Incident recorder 208 worn by officer 204 records a movie . . . during the confrontation." (Smith, ¶62.) "System for incident recording 209 worn by officer 206 also records a movie during the confrontation from a different point of view." (Smith, ¶62.)

57. Each incident recorder “includes a headset 222 (232), personal hub 224 (234), handset 132 (134), and on-duty transceiver 228 (238).” (Smith, ¶63.) As shown in Figure 3 of Smith (reproduced below), the headset 222 has a camera component 337. (Smith, Fig. 3, ¶66.)<sup>2</sup> Personal hub 224 has controls 328. (Smith, ¶66, Fig. 3.) And handset 132 has a processor 340, memory 341, and controls 343 to trigger the video recording of an event. (Smith, Fig. 3, ¶¶66, 69-70, 105, 135.)



Smith Figure 3

58. Smith explains that the configuration of handset 132, personal hub 224, and headset 222 and the respective subparts are customizable: “In another

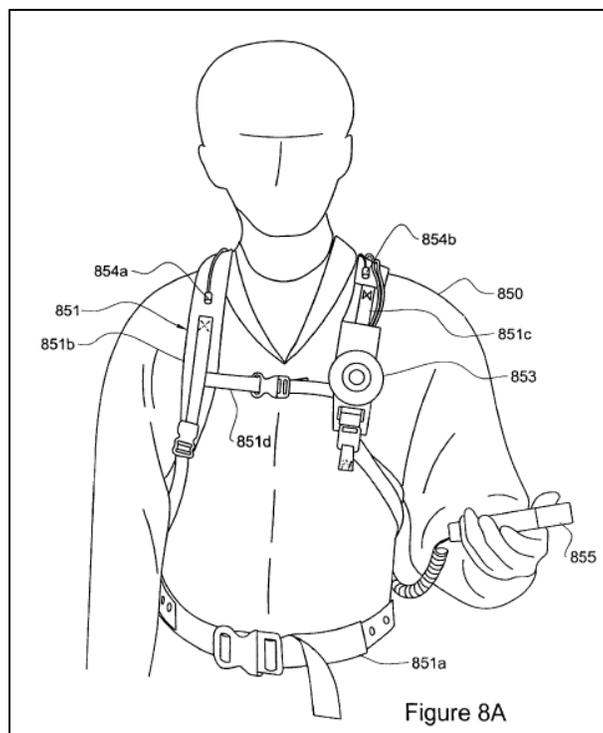
<sup>2</sup> Figure 3 incorrectly labels headset camera as 328, the same number as the controls of personal hub 224.

implementation, personal hub 224 (600) is omitted and handset 132 (700) cooperates directly with headset 222 (500) through a wired interface to convey audio and video signals and to record the signals.” (Smith, ¶70.) Smith continues: “In another implementation, headset 222 is omitted and handset 132 includes a microphone and speaker for use by the author-operator of the handset and an oriented microphone (not shown) and oriented camera (not shown) that are oriented by the author-operator of the handset.” (Smith, ¶70.) Based in part on these teachings, a POSITA would have understood that the system could have a camera component 337 within handset 132, as Smith states above.

**B. Strub discloses a wearable video system that marks video files with location information.**

59. Strub and the ’730 patent are in the same field of endeavor, and Strub is reasonably pertinent to the problems faced by the named inventors of the ’730 patent. Strub, like the ’730 patent, discloses a wearable system for recording video and documenting information for law enforcement personnel. (*Compare* Strub, Abstract, 4:18-29, 39:57-59, 66:24-39, *with* ’730 patent, 4:39-52, Fig. 1.) The system in Strub also marks video recordings with information (e.g., timestamp, biometric data, and position data) to facilitate users to search and display the recording. (*Compare* Strub, 4:8-11, 4:60-5:7, 8:16-27, 9:8-50, 12:4-10, *with* ’730 patent, 6:35-52.)

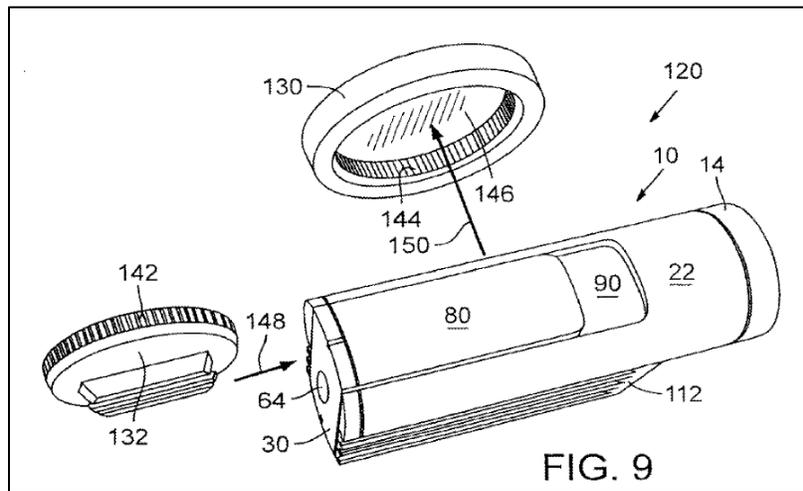
60. As shown in Figure 8A of Strub (reproduced below), a recorder 850 (e.g., a police officer) is wearing a harness 851 that secures a visual data acquisition device 853 (e.g., a camera), audio data acquisition devices 854a and 854b (e.g., microphones), and a control interface device 855 to the recorder 850. (See Strub, 70:9-72:31.) The system also includes a recording unit and a position sensing device (neither shown in Figure 8A) to ascertain the location of the recording unit. (Strub, 12:4-10, 61:51-64:6.) The position data facilitates refined searching of the video data to identify content of interest. (See Strub, 25:37-50.)



Strub Figure 8A



connectors, mounts, and attachment mechanisms. (See O’Donnell, ¶¶15, 26, 94, 100-04, 123.) Shown in more detail in Figure 9 (reproduced below), the versatile mounting system 120 comprises: a rail plug 132 and a base mount 130. (See O’Donnell, ¶98, Fig. 9.) Mount rail cavities 138 (labeled in Figure 10) of rail plug 132 slide onto housing rails 124 of camera housing 22 as indicated by direction arrow 148 in Figure 9. (O’Donnell, ¶102, Fig. 9.) Then, rail plug 132 can be inserted into base mount 130 as indicated by direction arrow 150. (O’Donnell, ¶102, Fig. 9.) The base mount 130 is designed as a flexible mount, attaching to “a variety of surfaces.” (O’Donnell, ¶103.)

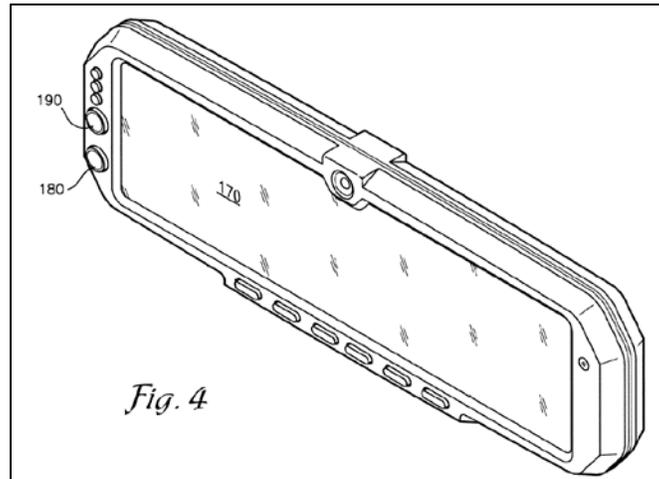


O’Donnell Figure 9

**D. Haler discloses a vehicle-mounted system that triggers a video recording while a police officer is in the vehicle.**

63. Haler and the ’730 patent are in the same field of endeavor, and Haler is reasonably pertinent to the problems faced by the named inventors of the ’730 patent. Haler, like the ’730 patent, discloses a vehicle-mounted system for

recording video and communicating with external devices. (*Compare* Haler, ¶¶2, 24-25, *with* '730 patent, 1:31-39, 2:8-15, Fig. 11.) The system in Haler is mounted in or on the rearview mirror of a law enforcement vehicle. (Haler, ¶¶3, 24, 27, 55, 58.) As shown in Figure 4 (reproduced below), the system includes a mirror 170, a REC button 180, and a MARK button 190 that marks the video data with the current GPS position. (Haler, ¶35.) An officer can trigger a recording when the officer turns on the siren and/or the signal lights. (Haler, ¶30.)



Haler Figure 4

64. The vehicle-mounted system communicates with both internal and external cameras to record video images when an officer leaves the vehicle, such as during a traffic stop. (Haler, ¶27, Fig. 1.) The internal camera is built into the rearview mirror. (Haler, ¶26.) The external camera is a camera that uses wireless technology to communicate with the system. (*See* Haler, ¶30.) And, intended for use in law enforcement, the system includes security measures, such as biometric

identification, to verify a law enforcement officer's identity before the system is used. (Haler, ¶¶58-59.)

**E. Guzik discloses a wearable video system that marks files with metadata about time, location, and the event.**

65. Guzik and the '730 patent are in the same field of endeavor, and Guzik is reasonably pertinent to the problems faced by the named inventors of the '730 patent. Guzik, like the '730 patent, discloses a system for law enforcement that associates and stores metadata in video files. (Guzik, ¶¶11, 34, 46, 110-12, 211, *with* '730 patent, claims 11, 13, 18, 19, 22; *see also* '730 patent, 9:41-45.) In Guzik, “[c]ommon metadata may includes [sic], but is not limited to, date/time stamp and location metadata.” (Guzik, ¶36.) “For example, a video clip may have date/time information stored for each frame . . . .” (Guzik, ¶37.) For location metadata, the system can use Global Positioning System (GPS) metadata or triangulate signal strength from cell towers. (Guzik, ¶110.) “Yet another form of metadata is text, generally entered by a user pushing buttons.” (Guzik, ¶112.) Metadata can also include an Officer ID. (Guzik, ¶269.)

66. The system can associate a video with a unique Event ID or Incident ID, which corresponds to a unique event / incident. (Guzik, ¶¶47, 211.) This Event ID / Incident ID can later be associated with officers proximate to the event. (Guzik, ¶211.) In this way, video associated with the Event ID / Incident ID may be easily identified. (Guzik, ¶211; *see also* ¶¶243-44, 250-55, Fig. 13 (explaining

how video recordings from multiple officers can be automatically tagged with the Event ID for a robbery).)

**F. Balardeta discloses that devices with a camera, processor, memory, and GPS components were compact.**

67. Balardeta and the '730 patent are in the same field of endeavor, and Balardeta is reasonably pertinent to the problems faced by the named inventors of the '730 patent. Balardeta, like the '730 patent, discloses a system that includes a housing 40 containing a camera component 15, a processor 12, a memory component 20, a battery 28, a GPS component 14, a display component 18, and a user-input device 16. (*Compare* Balardeta, ¶34, Figs. 1A, 2A-E, *with* '730 patent, 7:10-8:61, Fig. 30.) The device in Balardeta also has a “pocket-sized form factor.” (*Compare* Balardeta, ¶¶11, 14, 46, *with* '730 patent, 8:16-22, Fig. 1.) The form factor for device 10 can be: “a height 44 of about 4 inches or less, a width 46 of 1.9 inches or less and a thickness 42 of 0.6 inches or less.” (Balardeta, ¶46.)

**VIII. GROUND 1: CLAIMS 1-21 LACK WRITTEN-DESCRIPTION SUPPORT**

68. Independent claims 1 and 15 require a “*processing element*” that performs the following functions: (1) “*receive said activation signal . . .*”; (2) “*in response to the activation signal, store a mark in the video file for at least one of the plurality of video frames . . .*”; and (3) “*upon playback of the video file . . . automatically advance the video file to the marked at least one video frame . . .*”

69. As explained in Section VI.A, the '326 and '348 provisional applications lack written-description support for the claimed “*processing element*.”

70. As explained above in Section VI.B, the '730 patent claims priority to U.S. Patent Nos. 9,237,262 and 9,019,431. I have compared the '730 patent's original disclosure (Exhibit 1003) to the original disclosures of the '262 and '431 patents. (Exhibits 1006 and 1009.) Based on these comparisons, I confirm that the '730 patent's original disclosure is substantively the same as that of the original disclosure in the '262 patent and the '431 patent. Thus, the discussion that follows with respect to the '730 patent's original disclosure applies equally to the '262 and '431 patents.

71. The '730 patent's original disclosure does not disclose a processing element that performs the claimed functions. It describes and illustrates “processing element 38” in paragraphs 56-58 and 60 and Figure 30. This processing element 38 is disposed in a “recording component” that is separate from the camera and user interface elements disposed in housing 30, and performs generic processing functions, such as execute, process, or run instructions. (Exhibit 1003, ¶¶56-57, Fig. 30.) But the '730 patent's original disclosure does not disclose that processing element 38 is involved, in any way, with marking the video, which is described in paragraphs 52 and 67. That is, the '730 original description does not disclose that processing element 38 “*receive[s] said activation signal*,” “*store[s] a*

*mark in the video file*” in response to receiving the activation signal, and “*automatically advance[s] the video file to the marked*” video frame. Nor did I see the ’730 original description describe any connection between user interface elements 24 and processing element 38, describe any interaction between second input 34 and processing element 34, or explain whether processing element 38 is involved with storing the video file. For at least these reasons, it is my opinion that the ’730, ’262, and ’431 patents (and original disclosures) fail to reasonably convey to a POSITA that the inventor had possession of the claimed “*processing element*.”

72. The ’730 patent incorporates by reference U.S. App. Nos. 14/040,006 (Exhibit 1021, “the ’006 application”) and 13/967,151 (Exhibit 1023, “the ’151 application”), and U.S. Patent No. 8,520,069 (Exhibit 1022, “the ’069 patent”). (’730 patent, 4:18-37.) I have reviewed each of the ’006 application, the ’151 application, and the ’069 patent and find them also lacking written-description support for the claimed “*processing element*.”

73. The ’006 application describes a “video system” that includes “an electronics module,” similar to the ’326 provisional. (’006 application, ¶23.) It discloses that “the module 140 may mark recorded video with real-time position data,” and further discloses a separate “flag button 240 [that] may place a bookmark in the video to mark the location of significant events in a video

sequence.” (*Id.*, ¶¶32, 34.) But the ’006 application fails to disclose that the electronics module “*receive[s] an activation signal*” causing it to “*store a mark in [a] video file.*” Nor does the ’006 application disclose that the electronics module performs the “*automatically advance[ing]*” function. For at least these reasons, it is my opinion that the ’006 application fails to reasonably convey to a POSITA that the inventor had possession of the claimed “*processing element.*”

74. The ’151 application describes a recording device manager and a personal recording device carried by a police officer. (’151 application, ¶18.) The recording device manager can generate timestamps for recorded video, and the recording device can generate metadata associated with the recording. (*Id.*, ¶¶18-19, 28, 33-34.) But the ’151 application does not disclose that either the recording device manager or the recording device includes a processing element. At most, the ’151 application states, “[t]he recording device manager 12 may also include other controllers, circuitry, computer hardware, and software for performing algorithms, handling, managing, and sorting data, and generating and interpreting signals.” (*Id.*, ¶39.) This disclosure is very limited and is merely a generic disclosure of internal computing components. For at least these reasons, it is my opinion that the ’151 application fails to reasonably convey to a POSITA that the inventor had possession of the claimed “*processing element.*”

75. Similar to the '006 application, the '069 patent describes a “video system” that includes “electronics module 50.” ('069 patent, 3:32-40.) It discloses that “module 50 may mark recorded video with real-time position data,” and describes a separate “MARK button 190 [that] sets a place for the current GPS position in the video data.” (*Id.*, 4:62-63, 5:33-34.) But the '069 patent does not disclose that electronics module 50 receives a signal from the MARK button or that it stores a mark in the video file. Nor does it disclose that electronics module 50 performs the “*automatically advance[ing]*” function. For at least these reasons, it is my opinion that the '069 patent fails to reasonably convey to a POSITA that the inventor had possession of the claimed “*processing element.*”

## **IX. GROUND 2: CLAIMS 1, 4, 7, AND 9 ARE OBVIOUS OVER SMITH**

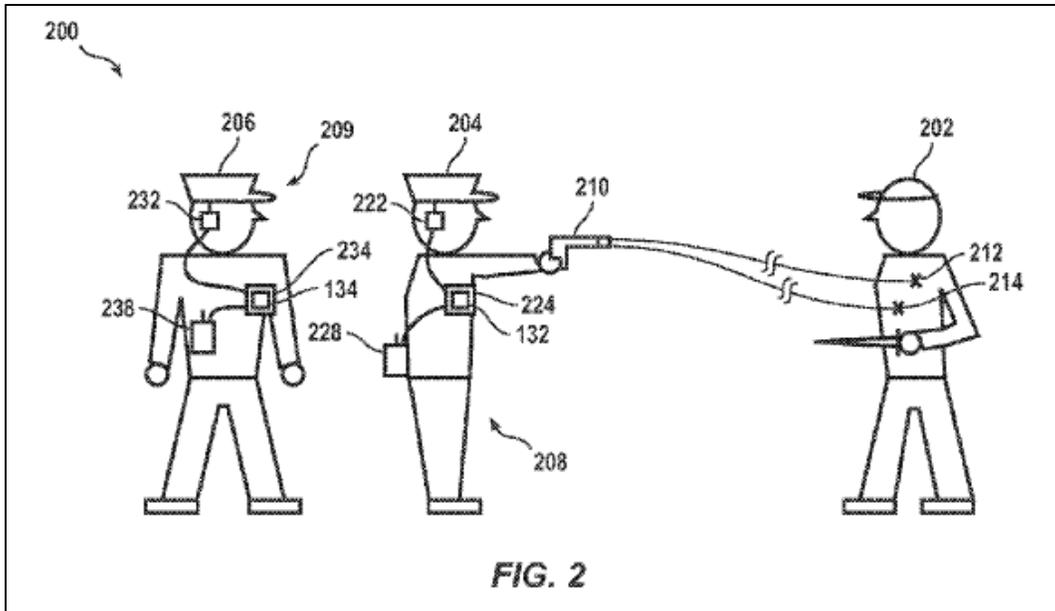
### **A. Independent Claim 1.**

76. Claim 1 recites the following elements. As explained below, Smith discloses these elements and renders claim 1 obvious.

#### **1. Smith teaches or suggests “[a] portable video and imaging system for law enforcement.”**

77. Claim 1 of the '730 patent recites “[a] portable video and imaging system for law enforcement.” Smith teaches or suggests this element.

78. As shown in Figure 2 (reproduced below), Smith discloses systems 208 and 209 for recording incidents (Smith calls each system a primary subsystem or an incident recorder). (Smith, ¶¶61-63.)



Smith Figure 2

79. Each primary subsystem / incident recorder is “*for law enforcement*” and includes a video camera. (Smith, ¶¶23, 42-43, 45-48, 61-64, 66-67, 77, 96, 149, Figs. 2, 3.) For example, Smith states:

FIG. 2 pictorially represents a hypothetical incident involving two law enforcement officers 206 and 204 apprehending a suspect 202 while each officer operates a respective primary subsystem, herein called a system for incident recording 208 and 209 (herein also called an incident recorder), according to various aspects of the present invention.

(Smith, ¶61.)

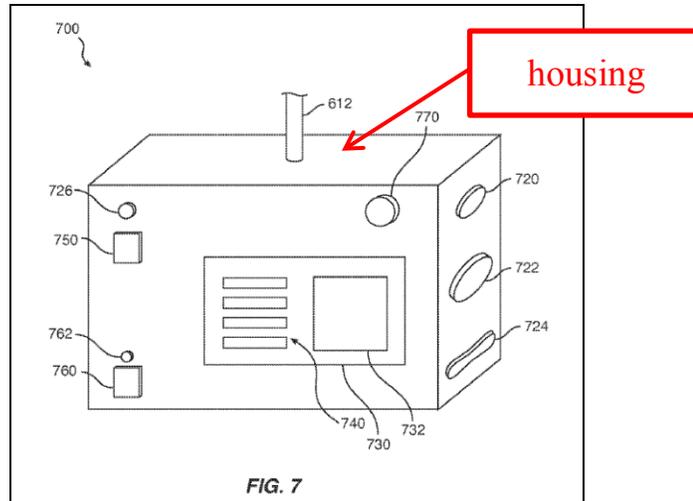
80. Each primary subsystem / incident recorder is “*portable*” because law enforcement officers 204 and 206 wear and transport a primary subsystem /

incident recorder during ordinary law enforcement activities (e.g., a traffic stop, responding to a burglary, and patrol). (See Smith, ¶¶35, 61-62, Fig. 2.) Smith also states that each primary subsystem / incident recorder “records a movie during the confrontation from a different point of view.” (Smith, ¶62.) Smith’s system is also an “*imaging system*” because “[v]ideo images may be cropped, panned, and/or zoomed.” (Smith, ¶53.)

**2. Smith teaches or suggests “*a portable housing configured to be mounted on a body of a law enforcement officer, on a device carried by the law enforcement officer, or in a law enforcement vehicle.*”**

81. Claim 1 of the ’730 patent recites “*a portable housing configured to be mounted on a body of a law enforcement officer, on a device carried by the law enforcement officer, or in a law enforcement vehicle.*” Smith teaches or suggests this element.

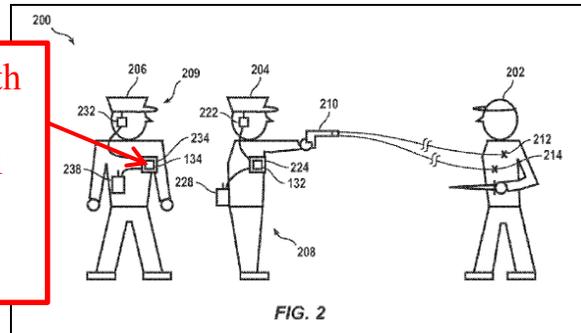
82. Each of Smith’s primary subsystems / incident recorders 208 and 209 comprises a handset 132, 134—also identified as 700 in Figure 7 (reproduced below). (Smith, ¶¶63, 66, 70, 72, 135, Figs. 3, 7.) A primary subsystem / incident recorder includes “processor 340, memory 341, video monitor 342, controls 343, handset speaker 344, accelerometer 348, and wired/wireless interface 349.” (Smith, ¶66, Fig. 3.) As shown in Smith’s Figure 7 (annotated below), handset 700 has a “*housing*” that encloses components such as the processor, memory, accelerometer, and speaker.



Smith Figure 7 (annotated)

83. Each handset’s housing is “portable” because law enforcement officers 204 and 206 wear and transport the handset during ordinary law enforcement activities (e.g., a traffic stop, responding to a burglary, and patrol). (See Smith, ¶¶35, 61-62, Fig. 2.) The handset’s housing is “configured to be mounted . . . on a device carried by the law enforcement officer” because, as Figure 2 shows (annotated below), handset 134 is coupled to personal hub 234, which is worn by officer 204. (See Smith, ¶¶62, 71, 84, Fig. 2.) The handset’s housing is also “configured to be mounted on a body of a law enforcement officer” because the incident recorder 209 is worn on the chest of officer 206 and the incident recorder 208 is worn on the chest of officer 204. (See Smith, ¶62, Fig. 2; see also ¶70 (describing an embodiment where the personal hub 224, 234 (600) is omitted, indicating that the handset’s housing is mounted directly on the officer’s body).)

housing of handset 134 mounted on both officer 206 and a device (i.e., personal hub 234) carried by the officer 206



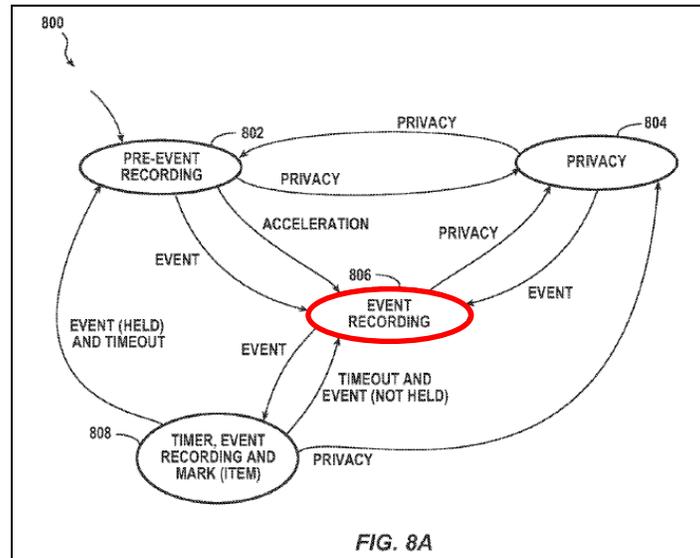
Smith Figure 2 (annotated)

**3. Smith teaches or suggests “a camera component housed within the housing and configured to capture video of an event.”**

84. Claim 1 of the ’730 patent recites “a camera component housed within the housing and configured to capture video of an event.” Smith teaches or suggests this element.

85. Smith discloses “a camera component”: “Headset 222 (500) includes oriented microphone 335 (520) *and oriented camera 337 (510)* for continuously detecting audio and visual (or infrared) information from the direction facing the operator.” (Smith, ¶¶77; *see also* ¶¶63, 70, Figs. 3 and 5 (also identified as 510 in Figure 5).) Smith’s camera 337 (510) is “*configured to capture video of an event*” because the controls 343 on handset 132 include “event switch 750 (630)” that both starts and stops the recording of incident information. (Smith, ¶¶84, 105.) As shown in Figure 8A (annotated below), “[w]hile in event recording state 806, handset 132 (700) captures original audio and video information about an

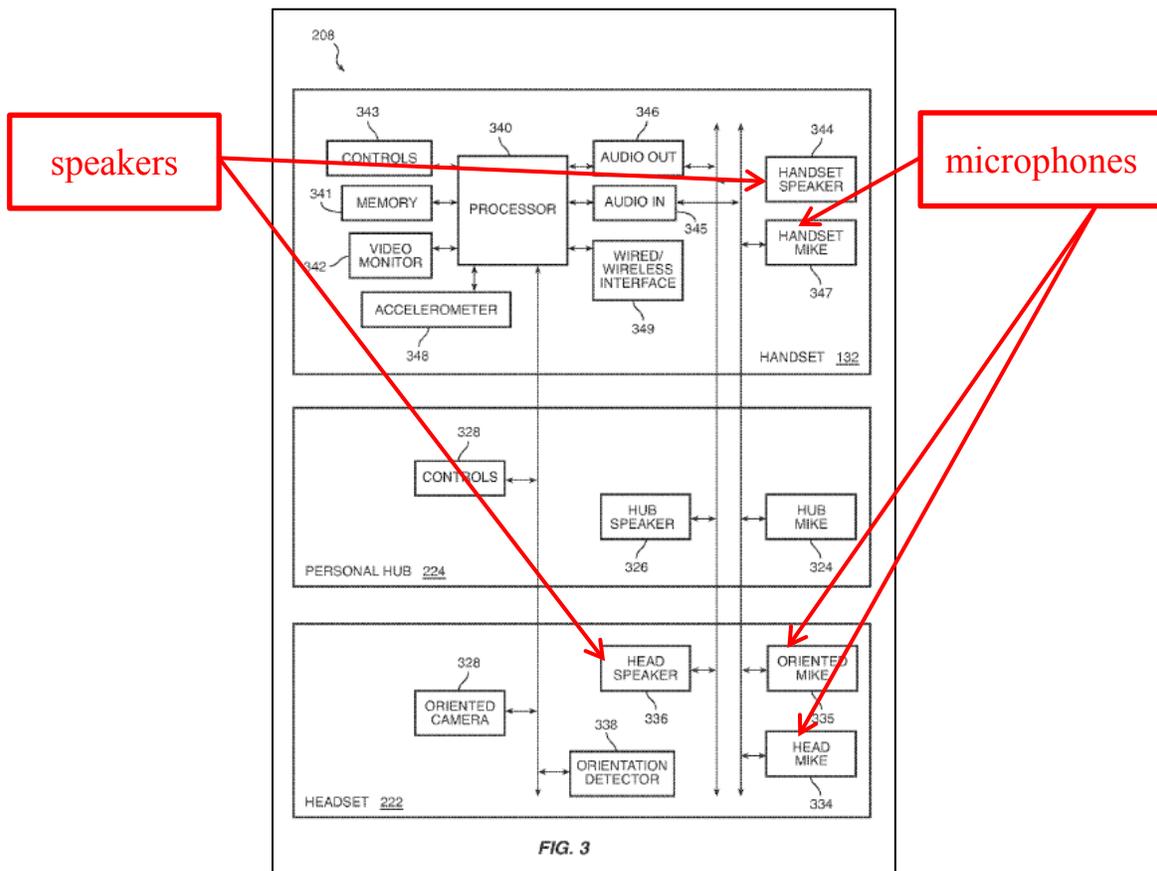
incident.” (Smith, ¶138.) “Event recording state 806 captures video information from oriented camera 510.” (Smith, ¶138.)



Smith Figure 8A (annotated)

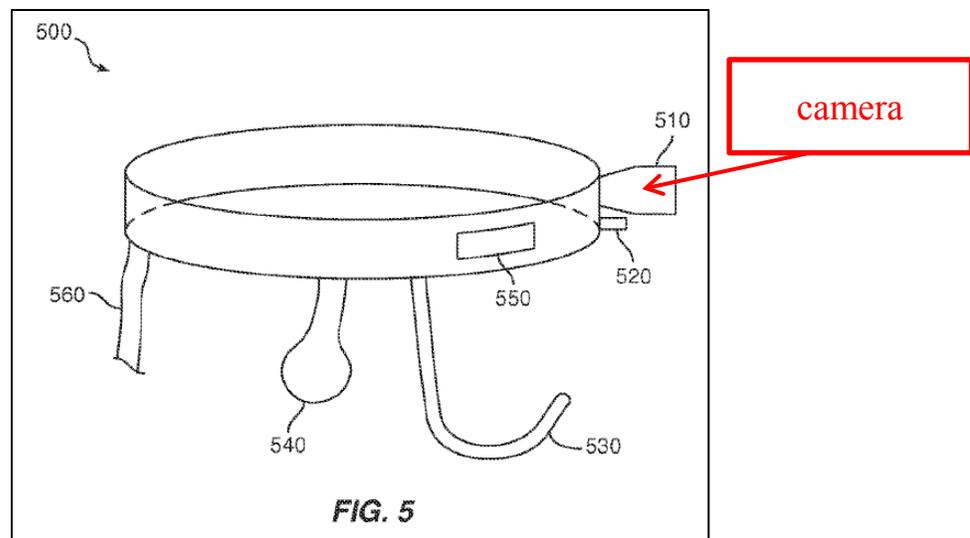
86. In one embodiment, Smith discloses a camera component configured to capture video of an event, but Smith does not explicitly disclose a camera component housed within “*the housing*,” as recited in independent claim 1. However, a POSITA would have found it obvious, in view of Smith’s teachings, to enclose camera 337 (510) in the housing of handset 132, 134 (700). Indeed, Smith discloses an embodiment where “headset 222 (500) is omitted and handset 132 includes a microphone and speaker for use by the author-operator *and oriented camera* (not shown) that are oriented by the author-operator of the handset.” (Smith, ¶70.)

87. A POSITA would have been motivated to house camera 337 (510) within the handset's housing to further decrease the size and weight of the incident recorder. Such a motivation is directly supported by Smith's contemplation of combining the microphone, speaker, and camera as stated above. In the embodiment shown in Figure 3 of Smith (annotated below), both the headset and the handset include a speaker and at least one microphone. (Smith, ¶166, Fig. 3.) Combining the headset and the handset into one unit would eliminate redundant components such as duplicative speakers and microphones, making the single unit more compact and less cumbersome than the embodiment shown in Figure 3.



Smith Figure 3 (annotated)

88. A POSITA would have been motivated to house the camera component in a housing, within the headset or handset, to protect the camera component from external forces, particularly in dynamic law enforcement environments. In the embodiment shown in Figure 5 of Smith, (annotated below), the camera 510 is not within a housing. (See Smith, ¶77, Fig. 5.) Instead, as shown in Figure 5, the camera protrudes from the headset, which makes the component susceptible to external forces. (See Fig. 5.)



Smith Figure 5 (annotated)

89. A POSITA would have understood that placing the camera element inside the handset's housing would better protect the component from snagging and external rigors law enforcement officers encounter during their daily duties (e.g., traffic stops, responding to burglaries, and patrol). A POSITA would have also understood that placing a camera element within the handset's housing would

provide protection from external elements, such as water, dust, etc. (*See* Woodman, ¶36.)

90. A POSITA would have understood that placing the camera within the handset's housing would have led to predictable results because, as the '730 patent admits, camera components were commonly housed in the same housing as memory elements. (*See* '730 patent, 1:58-62; *see also* Woodman, ¶¶5, 6, 27, 29, 31, 32, 56, Figs. 1a-3, 5a-9b (housing camera components and memory components in a single housing to assist in protecting the components from external forces, to improve manufacturability (less wires), to shrink the system for a more compact form factor, and to ruggedize the camera system for fast-paced physical activities).) For these reasons, a POSITA would have been motivated to house camera 337 (510) “*within the housing*” of Smith's handset.

**4. Smith teaches or suggests “*a memory element housed within the housing and configured to record the captured video of the event, wherein said captured and recorded video comprises a plurality of video frames of a video file.*”**

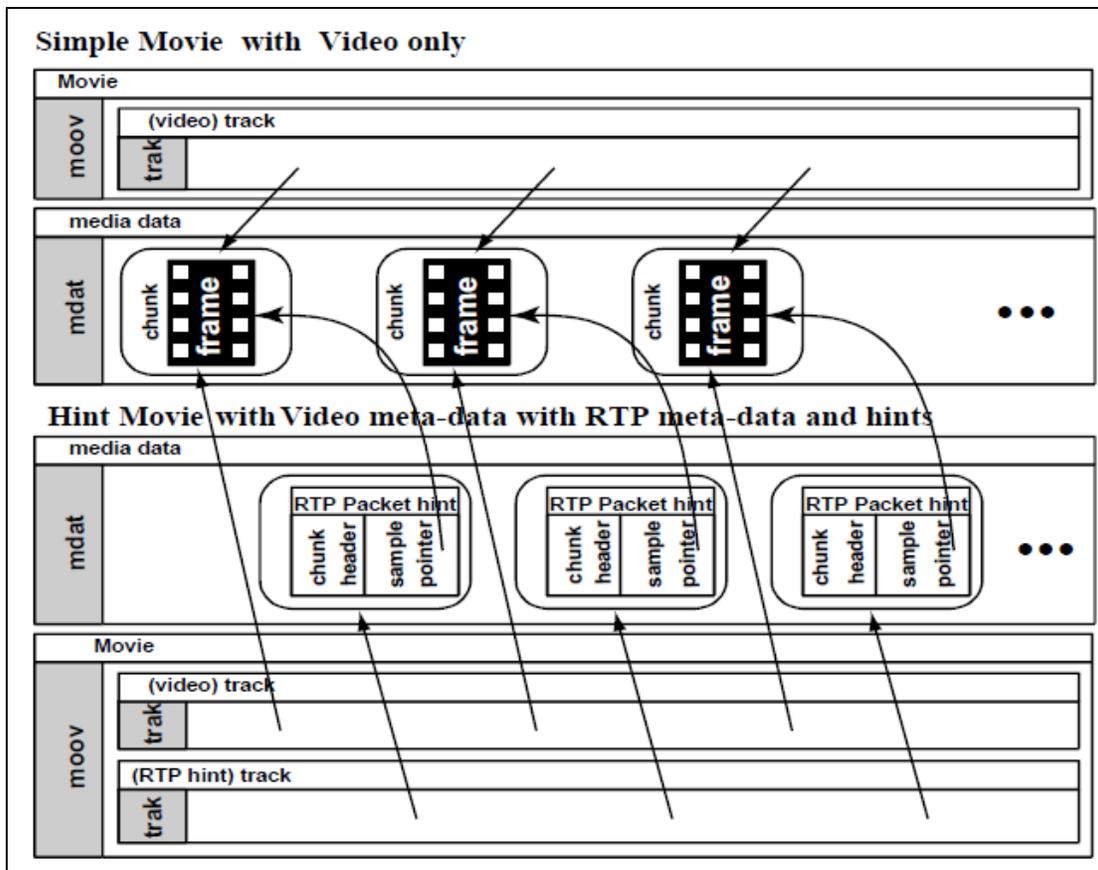
91. Claim 1 of the '730 patent recites “*a memory element housed within the housing and configured to record the captured video of the event, wherein said captured and recorded video comprises a plurality of video frames of a video file.*” Smith teaches or suggests this element.

92. Smith discloses “*a memory element housed within the housing*” of handset 132: “Handset 132 includes processor 340, **memory 341**, video monitor

342, controls 343, handset speaker 344, audio in circuit 345, audio out circuit 346, handset mike 347, accelerometer 348, and wired/wireless interface 349.” (Smith, ¶¶66; *see also* ¶¶80, 97, Figs. 3, 7.) Memory 341 is “*configured to record the captured video of the event*” because, while in event recording state 806, processor 340 stores captured information from camera 510 in memory 341. (Smith, ¶138; *see also* ¶¶97, 101, Fig. 4 (showing that video oriented camera streams are stored in memory 341).) A POSITA would have understood that storing video information in memory 341 “records” the captured video. Indeed, Smith states that “a record of an incident is stored” in MPEG-4 file format. (*See* Smith, ¶43.)

93. Smith teaches that the “*captured and recorded video comprises a plurality of video frames of a video file.*” Smith teaches that “[h]andset 132 stores the audio and video information in MPEG-4 format in memory 341.” (Smith, ¶¶42-43, 70.) A POSITA would have been familiar with MPEG-4, which was a well-known standard by the time of the alleged invention. (*See* Castillo, Ex. 1019, 2:20-26 (“MPEG-4 Coding of Moving Pictures and Audio ISO/IEC JTC1/SC29/WG11 N4668 March 2002 ‘(MPEG-4)’ are examples of well-known video encoding standards”).) A POSITA would have known that the MPEG-4 standard defines compression of audio and visual information. (*See* MPEG-4 Standard Overview, Ex. 1020, p. 11. (“MPEG-4 defines a toolbox of advanced compression algorithms for audio and visual information.”).) A POSITA would have understood that

MPEG-4 data, including video data, is stored in a file in the “MP4 file format.” (*Id.*, pp. 11, 48-51; *see also id.*, 47 (explaining that “[t]he media data itself . . . can be in the MP4 file, contained in one or more ‘mdat’ or media data atoms . . . .”).) A POSITA would have also understood that video information in MPEG-4 format comprises a plurality of video frames. (*See, e.g., id.*, pp. 49 (“key-frames”), 50 (illustrating frames of video) 57 (illustrating the MPEG-4 video image coding scheme, including “Frame Store”).) Figure 16 of the MPEG-4 Standard Overview (reproduced below) confirms my opinion, illustrating video media data as a plurality of frames. (*Id.*, p. 50.) Smith also confirms my opinion, explaining that the video has frames. (Smith, ¶42 (“one or more frames of video”).) For at least these reasons, it is my opinion that a POSITA would have understood (or at least it would have been obvious) that Smith’s “video information in MPEG-4 format” (Smith, ¶43) “*comprises a plurality of video frames of a video file.*”



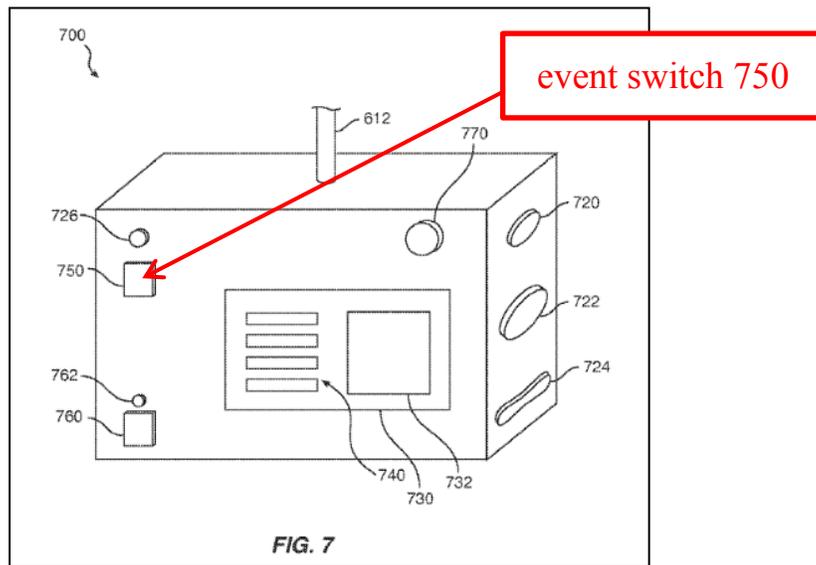
MPEG-4 Standard Overview Figure 16

5. **Smith teaches or suggests “an input mounted on the housing and configured to be actuated by the law enforcement officer in the field and in response to being actuated, generate an activation signal.”**

94. Claim 1 of the '730 patent recites “an input mounted on the housing and configured to be actuated by the law enforcement officer in the field and in response to being actuated, generate an activation signal.” Smith teaches or suggests this element.

95. As shown in Figure 7 of Smith (annotated below), “an input [is] mounted on the housing” of handset 132, 134 (700): “Handset 700 includes power

switch 720, handset speaker 722, volume 724, handset mike 726, display 730, picture-in-picture 732 portion of display 730, legends 740, **event switch 750**, privacy switch 760, privacy indicator 762, display toggle switch 770, and conductor 612.” (Smith, ¶67.) The event switch 750 is an “input” because event switch 750 is one of Smith’s “controls 343” of Figure 3, and “operation of event switch 750 . . . starts the recording of incident information by handset 132 . . . .” (Smith, ¶84.) Event switch 750 is also used to stop the recording and to trigger event recording from the privacy state. (Smith, ¶¶85, 105, 137, Fig. 8A.) When event switch 750 triggers event recording, processor 340 “records a mark in the video and audio streams to indicate that event switch 750 (630) was operated at that time during data collection.” (Smith, ¶140.)



Smith Figure 7 (annotated)

96. Smith's event switch 750 is "*configured to be actuated by the law enforcement officer in the field*" because event switch 750 is a control mounted on a handset 132, 134 (700), and the law enforcement officer 204, 206 uses her or his "fingers or thumbs" to operate the event switch 750 "*in the field*," such as during traffic stops, responding to burglaries, and general patrol, to trigger video recording. (See Smith, ¶¶35, 61, 69, 84-85, 129-30, 135, 137, Fig. 2; see also ¶82 ("A control may be operated as a consequence of any muscle contraction by the operator" and "may provide analog or binary information to a processor.").)

97. "[I]n response to being actuated," Smith's event switch 750 "*generates an activation signal*": "an operation of event switch 750 . . . produces EVENT signal . . . ." (Smith, ¶129.) When processor 340 detects the EVENT signal, the incident recorder changes states (e.g., from the pre-recording state or the privacy state to the event recording state). (Smith, ¶¶128-29.)

**6. Smith teaches or suggests "*a processing element associated with the memory element and the input.*"**

98. Claim 1 of the '730 patent recites "*a processing element associated with the memory element and the input.*" Smith teaches or suggests this element.

99. A POSITA would have understood that Smith's processor 340 in handset 132, 134 (700) is a "*processing element.*" (See Smith, ¶¶66, 78-79, 89, 102, 128, Fig. 3.) Processor 340 is "*associated with the memory element*" (i.e., memory 341) because processor 340 stores information in memory 341, and

processor 340 accesses the data stored in memory 341. (Smith, ¶¶97, 138, 151.)

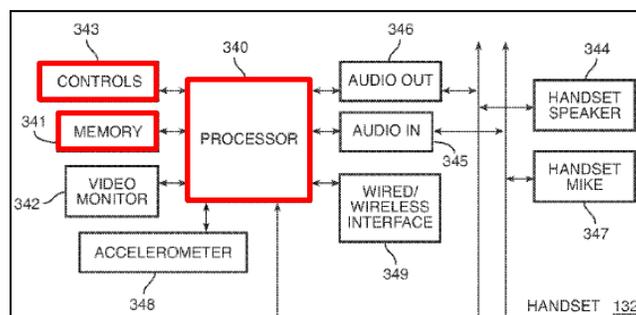
Processor 340 is also “associated with . . . the input” (i.e., event switch 750)

because “processor 340 records a mark in the video and audio streams to indicate

that event switch 750 . . . was operated at that time during data collection.” (Smith,

¶140.) Indeed, as shown below in an annotated excerpt of Figure 3, processor 340

is associated with controls 343 (e.g., event switch 750) and memory 341.



Smith Figure 3 (reproduced-in-part and annotated)

**7. Smith teaches or suggests that the processing element is configured to “receive said activation signal generated in response to the law enforcement officer actuating the input.”**

100. Claim 1 of the ’730 patent recites that the processing element is configured to “receive said activation signal generated in response to the law enforcement officer actuating the input.” Smith teaches or suggests this element.

101. Processor 340 is configured to “receive said activation signal” (i.e., the EVENT signal) “generated in response to the law enforcement officer actuating the input” (i.e., event switch 750). As previously explained, toggling event switch 750—a control—generates an EVENT signal. Smith explains that

“[a] control [(e.g., event switch 750)] . . . is a part of a user interface that provides input to a processor in response to an action by an author-operator.” (Smith, ¶82.)

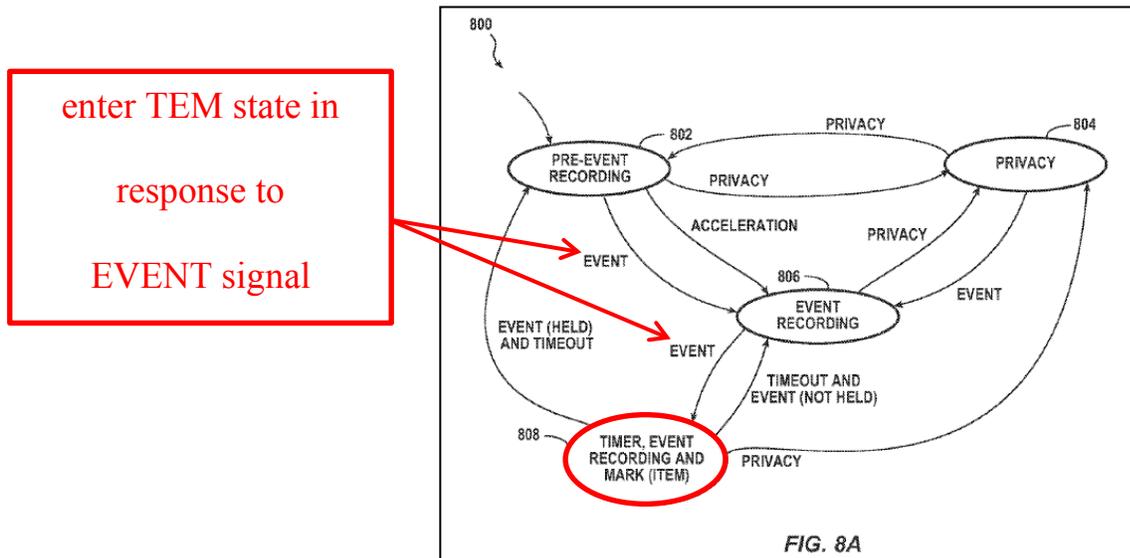
Based on these teachings, a POSITA would have understood that Smith’s processor 340 receives the EVENT signal (i.e., the activation signal) because, when operation of event switch 750 produces an EVENT signal, “the processor detects the signal.” (See Smith, ¶¶128-29.)

**8. Smith teaches or suggests that the processing element is configured to “*in response to the activation signal, store a mark in the video file for at least one of the plurality of video frames to thereby identify a point in time or location in the video file.*”**

102. Claim 1 of the ’730 patent recites that the processing element is configured to “*in response to the activation signal, store a mark in the video file for at least one of the plurality of video frames to thereby identify a point in time or location in the video file.*” Smith teaches or suggests this element.

103. “[I]n response to the activation signal” (i.e., the EVENT signal), Smith’s processor 340 “store[s] a mark in the video file for at least one of the video frames.” Smith teaches that “[f]unctions performed by operation of a control may include . . . mark selection.” (Smith, ¶51.) Smith teaches that the EVENT signal causes Smith’s system to enter the “time, event recording and mark (TEM state), as illustrated in annotated Figure 8A below. (Smith, ¶¶130, 139, Fig. 8A.) Smith further teaches that “upon entering TEM state 808, **processor 340 records a mark**

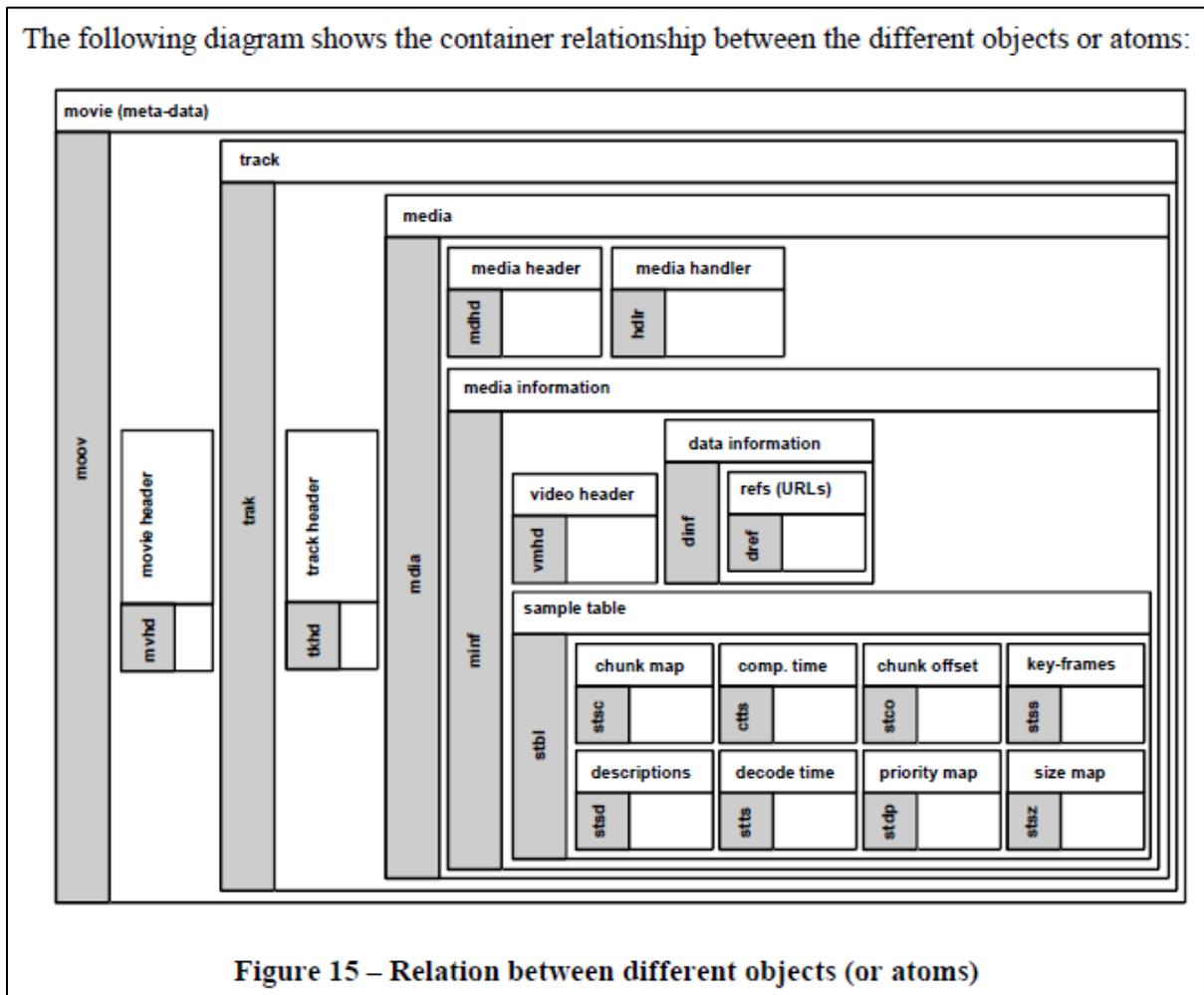
*in the video and audio streams . . . .*” (Smith, ¶140.) Thus, “*in response to the activation signal*” (i.e., the EVENT signal), Smith’s processor 340 “*store[s] a mark.*”



Smith Figure 8A (annotated)

104. Smith teaches that the mark is stored “*in the video file.*” Smith discloses that “[a] mark may be stored *within a video or audio stream (e.g., same MPEG-4 container, different container, but related by time)* or separately with information to provide a correlation between the mark and the video or audio streams at the time the mark was made.” (Smith, ¶140.) Smith explains that “[i]nformation in MPEG-4 format is contained in containers, defined by the format.” (*Id.*, ¶43.) A POSITA would have understood that an MPEG-4 file is a container file that includes various multimedia objects of information, as illustrated in Figures 13 and 15 of the MPEG-4 Standard Overview. (MPEG-4 Standard

Overview, pp. 47 (describing the mp4 file as “a simple interchange file”); 49 (“show[ing] the *container relationship* between the different objects or atoms” in the MPEG-4 file); *see also* Smith, ¶47 (explaining that “[c]ontainers may be arranged in hierarchy for applying a classification of a parent container to all of its children”).) I reproduced Figure 15 below.



MPEG-4 Standard Overview Figure 15

105. Accordingly, a POSITA would have understood—based on Smith’s disclosure that the “mark may be stored within a video . . . stream” in the “same

MPEG-4 container” or in a “different container, but related by time”—that the mark may be stored in a container in the MPEG-4 file (MP4 file) (“*in the video file*”).

106. Smith further discloses that “upon entering TEM state 808, processor 340 records a mark *in the video and audio streams*” and that “[a]n operator may *insert a mark into a data stream* during recording of the incident.” (Smith, ¶140.) These additional disclosures would have further confirmed (or at least suggested) to a POSITA that the mark is stored in the same location as the video information, and thus “*in the video file.*” For example, a POSITA would have understood that, in MPEG-4, the media data (e.g., video) “can be in the MP4 file, contained in one or more ‘mdat’ or media data atoms,” as illustrated below in Figure 13 of the MPEG-4 Standard Overview. (MPEG-4 Standard Overview, pp. 47-48.) A POSITA would have understood that by inserting the mark into the data itself (e.g., in a media data atom (mdat)), as Smith discloses, the mark would be “*in the video file.*”

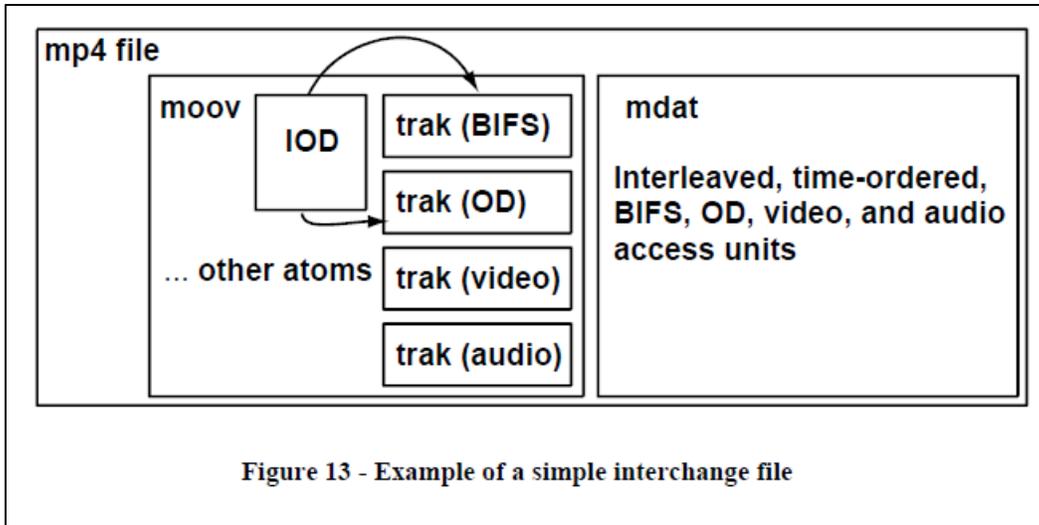


Figure 13 - Example of a simple interchange file

MPEG-4 Standard Overview Figure 13

107. Additionally, Smith’s mark is stored “*for at least one of the plurality of video frames*” and *identif[ies] a point in time or location<sup>3</sup> in the video file.*”

Smith teaches that “upon entering TEM state 808, processor 340 records a mark in the video and audio streams to indicate that event switch 750 (630) was operated **at that time during data collection.**” (Smith, ¶140.) Smith further teaches that “[e]ach entry into TEM state 808 records a new mark **associated with the video and audio data being recorded at the time of entry.**” (Smith, ¶141.) A POSITA would have understood that digital video, such as MPEG-4 video, is captured and stored as a

<sup>3</sup> During prosecution then-applicant made clear that “location” refers to a location in the video file, not a geographic location. (Ex. 1002, 307 (arguing “but the geographical location of the user is not the same as a location in the video *when the marking occurred*” (emphasis in original)).)

sequence of video frames, as I described in Section IX.A.4. Thus, a POSITA would have understood that Smith's mark is stored for the one or more video frames that are being captured at the time that the TEM state is entered, which corresponds to both a point in time and a location in the video file.

108. Smith also explains that marks may be used to “skip (e.g., fast forward, fast reverse, hypertext link) from a scene of a movie associated with one mark to a scene of a movie associated with another mark to speed access to information.” (Smith, ¶141.) A POSITA would have understood that “a scene of a movie” corresponds to at least one video frame, further confirming that Smith's mark is stored *for at least one of the plurality of video frames*” and that the mark *identif[ies] a point in time or location in the video file.*”

9. **Smith teaches or suggests “*wherein said mark in the video file of the at least one of the plurality of video frames enables the processing element to perform the following: upon playback of the video file and in response to receipt from a user request, automatically advance the video file to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input.*”**

109. Claim 1 of the '730 patent recites “*wherein said mark in the video file of the at least one of the plurality of video frames enables the processing element to perform the following: upon playback of the video file and in response to receipt from a user request, automatically advance the video file to the marked at least one video frame representing the point in time or location in the video file at which the*

*law enforcement officer actuated the input.*” Smith teaches or suggests this element.

110. In Smith, processor 340 performs video playback. Smith refers to video playback as “reviewing state 902.” (Smith, ¶147, Fig. 9; *see also* ¶47 (referring to review of MPEG-4 files as “playback”).) For review, Smith explains that “processor 340 includes . . . a microcontroller for supporting video display . . . .” (Smith, ¶79; *see also* ¶81, Fig. 3 (describing and showing processor 340 associated with the video monitor 342).) During this review, processor 340 also converts audio information from MPEG-4 format to analog format. (*See* Smith, ¶89.)

111. In Smith, the mark enables processor 340 to “*automatically advance the video file to the marked at least one video frame*” “*upon playback of the video file*”: “Information presented for review may skip (e.g., fast forward, fast reverse, hypertext link) from a scene of a movie associated with one mark to a scene of a movie associated with another mark to speed access to information.” (Smith, ¶141; *see also* ¶147 (explaining that a user can select marks from a legend).) These video frame(s), as previously explained, *represent[] the point in time or location in the video file at which the law enforcement officer actuated the input.*” *Supra*, Section IX.A.8. The mark also enables processor 340 to automatically advance the video file “*in response to receipt from a user request*” because users use a user interface

on the primary subsystem to operate playback functions, such as fast forward. (*See* Smith, ¶¶33 (“author-operators” review recorded information), 46 (“A primary subsystem may include . . . a user interfacing for reviewing and managing incident information (e.g., preparing supplemental information, selecting, classifying), 51 (describing controls of the user interface), 64 (“[r]eviewing is accomplished by watching previously recorded information on the display of the handset.”), 146-50 (describing the “reviewing state” and operation of an event switch to trigger the reviewing state), claims 1-3, 9 (using controls for reviewing).) In other words, reviewers use marks “as an index to the video” and to search, sort, and/or arrange the video frames to facilitate review. (Smith, ¶141.)

112. Thus, in my opinion, Smith teaches or suggests each and every element of claim 1.

**B. Dependent Claim 4.**

113. Claim 4 depends on claim 1 and recites that “*said mounting on the law enforcement officer’s body includes mounting on an article of clothing worn by the law enforcement officer.*” Smith teaches or suggests this element.

114. As explained in Section IX.A.2, the handset’s housing is configured to be mounted on the body of a law enforcement officer because, as shown in Figure 2, incident recorder 209 is worn on the chest of officer 206 and incident recorder 208 is worn on the chest of officer 204. Figure 2 also shows that the handset’s

housing is mounted on the officers' uniforms—“*an article of clothing worn by the law enforcement officer.*” (Smith, Fig. 2; *see also* ¶¶82-83 (explaining that components of an incident recorder can be “incorporated into clothing worn by the operator (e.g., gloves, sleeves, shoes).”).)

115. Thus, Smith teaches or suggests this element and renders claim 4 obvious.

### **C. Dependent Claim 7.**

116. Claim 7 depends on claim 1 and recites that “*the processing element is configured to wirelessly transmit the video file to a remote device.*” Smith teaches or suggests this element.

117. In Smith, handsets 132, 134 transmit data to a secondary subsystem via “wired/wireless interface 349.” (Smith, ¶¶55-56, 66, 98, Figs. 1, 3.) The data wirelessly transferred from handset 132, 134 to the secondary subsystem includes “incident reports,” which includes the captured video files. (Smith, ¶¶21, 44, 54-55, 57, 60.) Smith also discloses that any function ascribed to handsets 132, 134, which includes wireless transmission of video files via wired / wireless interface 349, is accomplished by processor 340. (Smith, ¶102.)

118. Smith's processor 340 transmits video files to the “ad hoc transceiver 124” of the secondary subsystem. (*See* Smith, ¶56.) The sending of files to an ad hoc transceiver of the central hub can facilitate additional personnel to evaluate

and respond to the situation if needed; additionally the saving and/or backup of these files is safer when not on the portable system. A POSITA would have understood that Smith's transceiver 124 is a "*remote device*" because the transceiver 124 is located in a separate, centralized location distant from the location where law enforcement officers operate their respective incident recorders. (See Smith, ¶56 ("Such a network is 'ad hoc' because candidates of the network may enter and members of the network may exit (e.g., moved by humans).")) Further, the incident recorders (primary subsystems) are remote from the secondary subsystem because primary subsystems are used at the time and place of the incident, whereas the secondary subsystem is not used at the time and place of the incident. (Smith, ¶28.)

119. A POSITA would have also understood that Smith's processor 340 is configured to wireless transmit video files to the station hub 110 because data transfer to station hub 110 and its evidence manager 112 may wirelessly occur via ad hoc transceiver 124. (See Smith, ¶60, Fig. 1.) Accordingly, processor 340 is configured to wirelessly transmit the video file via the ad hoc transceiver 124 to station hub 110, which is also a "*remote device*." Further, the video files are also transmitted to various other remote devices because the secondary subsystem includes various computer systems, including the server network that stores and manages the database of video files. (See Smith, ¶¶30, 54-55, 59.)

120. Thus, Smith teaches or suggests this element and renders claim 7 obvious.

**D. Dependent Claim 9.**

121. Claim 9 depends on claim 1 and recites that “*the processing element is configured to instruct capturing of the plurality of video frames by the camera component for recording the event in response to receiving information indicative of a triggering event.*” Smith teaches or suggests this element.

122. As explained in Section IX.A.7, processor 340 is configured to instruct camera 337 to capture video frames for recording the event in response to a law enforcement officer actuating event switch 750. In such instances, actuating event switch 750 sends processor 340 “*information*” (e.g., a bit) “*indicative of a triggering event*”: “an operation of event switch 750 . . . produces EVENT signal.” (See Smith, ¶128; see also Smith, ¶82 (“A control may provide analog or binary information to a processor.”).) Accordingly, processor 340 is configured to instruct capturing of the plurality of video frames for recording the event in response to receiving information (e.g., a bit) indicative of a triggering event.

123. In addition to recording in response to a law enforcement officer actuating an input and receiving an EVENT signal, processor 340 also instructs camera 337 to capture video for recording of an event in response to accelerometer data. (See Smith, ¶135, Fig. 3.) Specifically, the accelerometer 348 within handset

132 reports sudden acceleration forces to processor 340. (See Smith, ¶135, Fig. 3.)

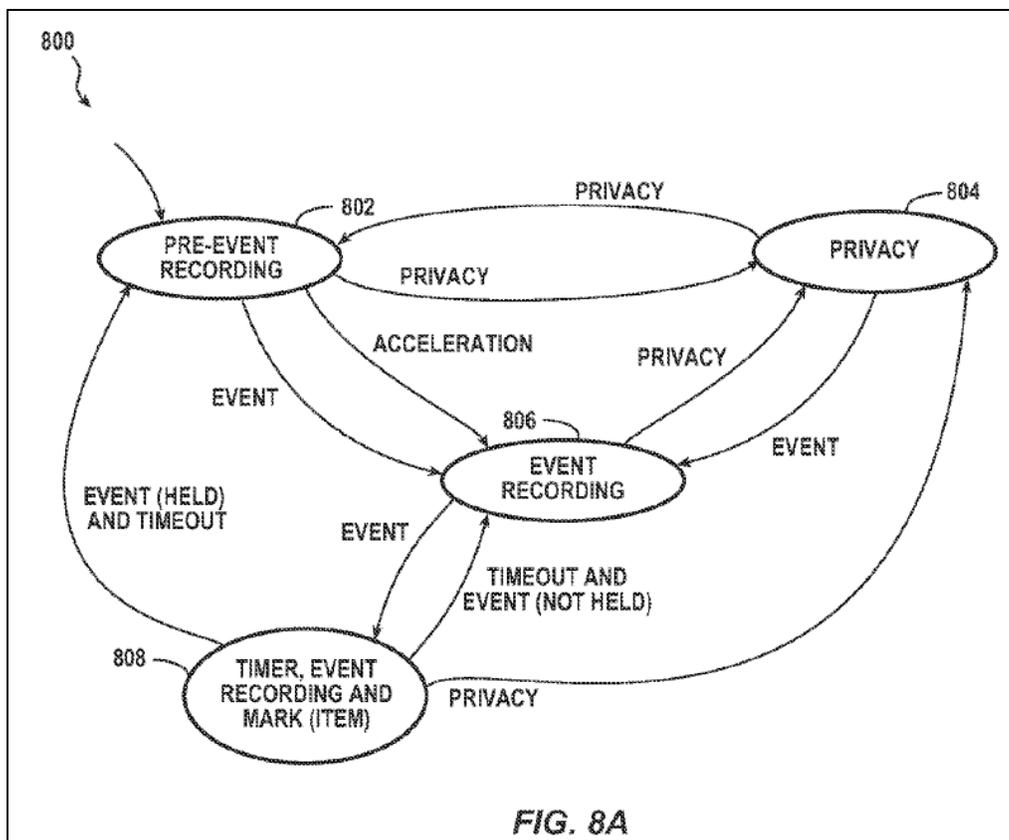
Sudden acceleration is indicative of a triggering event. (Smith, ¶135.) In response to receiving information about sudden acceleration, the processor instructs camera 337 to capture the plurality of video frames for recording the event. (Smith, ¶135.)

Smith states:

*A transition from pre-event recording state 802 to event recording state 806 may also occur upon detecting a sudden acceleration of handset 132 (700).* Generally, handset 132 (700) is worn or held by a user. *Sudden acceleration of handset 132 (700) may indicate that an event has occurred that should be recorded.* Events that may produce a sudden acceleration may include the operator rapidly accelerating from a stop and a force applied to the operator (e.g., physical blow, struck by a bullet). A sudden acceleration of the handset may indicate a situation in which the user would like to operate event switch 720 (630), but physically cannot. Acceleration may be detected and reported by accelerometer 348.

(Smith, ¶135.)

124. Figure 8A of Smith (reproduced below) illustrates transitioning from the pre-event recording state 802 to the event recording state 806 in response to the EVENT signal or to detecting acceleration.



Smith Figure 8A

125. Thus, Smith teaches or suggests this element and renders claim 9 obvious.

**X. GROUND 3: CLAIMS 2 AND 3 ARE OBVIOUS OVER SMITH IN VIEW OF STRUB**

**A. Dependent Claim 2.**

126. Claim 2 depends on claim 1 and recites “*wherein the mark in the video file of the at least one of the plurality of video frames further records a geographical location of at least one component of the system when the law enforcement officer actuated the input.*” Smith in view of Strub teaches this claim element.

127. As explained in Section IX.A.8, Smith discloses a portable video and imaging system that marks recorded video files with a timestamp when the law enforcement officer actuates the input. Also explained in Section IX.A.8, Smith discloses a portable video and imaging system that stores a mark in the video file for at least one of the plurality of video frames (e.g., with a timestamp) when the law enforcement officer actuates the input. However, Smith does not “*record a geographical location of at least one component of the system when the law enforcement officer actuated the input.*”

128. Using a mark to record a geographical location would have been obvious in view of Strub. A POSITA would have understood that Smith’s system records video at the location of an incident for incident reports. (Smith, Abstract, ¶¶23-24, 27.) A POSITA would have also understood that incident reports commonly include location information to identify where the event took place. (Smith, ¶3 (explaining that information about the location of an incident may be gathered and used in an incident report).) In Smith’s system, a law enforcement officer would manually input location information after an event and before leaving the location of the event. (Smith, ¶27.) However, staying at an event location to manually input information for an incident report needlessly consumes law enforcement officers’ time and extends the amount of time law enforcement officers are not performing their regular duties or patrols. To reduce the time

required to complete accurate incident reports, a POSITA would have been motivated to seek solutions to automatically mark video files with additional information. This would have led the POSITA to Strub.

129. Like Smith, Strub discloses a wearable system for recording video and documenting information for law enforcement personnel. (Strub, Abstract, 4:18-29, 39:57-59, 66:24-39.) Also like Smith, Strub’s system documents information by marking recorded video files with data. (Strub, 3:44-54, 4:60-61, 5:1-5.) To document the location of the recording unit when recording a video file, Strub’s system marks frames of a video file with “position data.” (Strub, 5:1-5, 12:4-10, 25:37-46, 50:32-37, 61:51-64:6.)

130. The position data Strub uses to mark frames of a video file “*records a geographical location*” because “[t]he location can be specified in global coordinates (i.e., relative to earth), local coordinates (i.e., relative to a fixed region or object on earth), or relative coordinates (e.g., relative to other recording units).” (Strub, 61:63-66; *see also* 62:7-63:13 (describing an implementation of a GPS receiver to obtain global coordinates).) Additionally, the mark records the geographical location “*of at least one component of the system*” because “[t]he ‘position’ of a recording unit includes the location *of the recording unit* and/or the orientation of the recording unit.” (Strub, 61:61-63.) Further, in the Smith / Strub system, the mark would record the geographical location “*when the law*

*enforcement officer actuates the input*” because in Strub the position sensing device “enable[s] the position of the recording unit to be ascertained at any point in time” (e.g., “at the time the recording data was obtained”) and in Smith the TEM state occurs when the law enforcement officer actuates the input (i.e., event switch 750). (Strub, 32:64-33:7, 61:52-57; Smith, ¶¶135, 139-41, Fig. 8A.)

131. A POSITA would have been motivated to implement Straub’s position sensing device into Smith’s system to reduce the amount of time law enforcement officers need to manually fill out details for incident reports. Moreover, implementing the position sensing device would auto populate certain fields of a standard incident report, ensuring detailed and uniform entry of location information. (*See* Smith, ¶8 (“Increased accuracy and greater completeness of incident reports are needed . . . .”).) A POSITA would have found it desirable to have greater flexibility in marking video files because different markings can better facilitate searching and/or display of video recordings. (*See* Smith, ¶141; Strub, 3:66-4:15; *see also* O’Donnell, ¶5 (“The inclusion of GPS technology introduces a new level of context to any video, making location, speed, time, and outside world conditions as important as the scene recorded.”).) Also, when an officer has a long duration between recorded events, determining where each recorded event took place becomes increasingly-important information. (Strub, 50:32-37; *see also*

56:29-37.) A POSITA would have therefore been motivated to modify Smith's system as proposed.

132. Thus, Smith in view of Strub teaches or suggests this element and renders claim 2 obvious.

**B. Dependent Claim 3.**

133. Claim 3 depends on claim 2 and recites "*wherein the processing element receives, from a global positioning system, information indicative of the geographical location of the at least one component of the system.*" Smith in view of Strub teaches or suggests this claim element.

134. In Strub, the position sensing device uses "*a global positioning system*" (GPS) receiver. (Strub, 62:37-41.) "[W]hen the position sensing device is a GPS receiver . . . location is specified in global coordinates." (Strub, 62:11-13.) These global coordinates are "*information indicative of the geographical location of the at least one component of the system*" because the coordinates specify the location of the recorder on Earth at a specific time. (Strub, 61:52-66.)

135. In the Smith / Strub system described above for claim 2, a POSITA would have understood, or it at least would have been obvious, that Smith's processor 340 would receive the global coordinates from the GPS system because in Straub the position sensing device provides location information to the system controller and in Smith processor 340 includes a microcontroller "for performing

all other functions of handset 132.” (Strub, 11:29-38, 13:16-25, Fig. 3; Smith, ¶79.) Furthermore, Smith’s processor 340 would receive the global coordinates from the GPS system because processor 340 is responsible for storing the data (including marks associated with frames of video files) in memory 341. (Smith, ¶¶97, 102, 138, 140, 151, Fig. 4.)

136. Thus, Smith in view of Strub teaches or suggests this element and renders claim 3 obvious.

## **XI. GROUND 4: CLAIMS 5, 6, AND 8 ARE OBVIOUS OVER SMITH IN VIEW OF O’DONNELL**

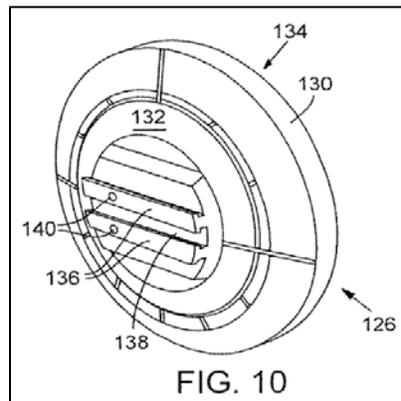
### **A. Dependent Claim 5.**

137. Claim 5 depends on claim 1 and recites “*wherein the housing is configured to be selectively mounted on the law enforcement officer’s body and in the law enforcement vehicle.*” Smith in view of O’Donnell teaches or suggests this claim element.

138. As explained in Section IX.A.2, the housing of Smith’s handset is configured to be “*mounted on a law enforcement officer’s body.*” Smith, however, does not explicitly disclose the mechanism that secures the housing to the body of a law enforcement officer or that the housing is configured to be “*selectively mounted . . . in the law enforcement vehicle.*” Because Smith discloses mounting a handset on a law enforcement officer’s body, but does not explicitly disclose the mechanism used to mount the handset’s housing onto the body of the law



140. Figure 10 (reproduced below) shows base mount 130 and rail plug 132 connected to form “versatile mount 126.” (O’Donnell, ¶94.) O’Donnell also calls versatile mount 126 an application mount 126. (O’Donnell, ¶123.)



O’Donnell Figure 10

141. In the Smith / O’Donnell system, the housing of Smith’s handset would remain configured to be mounted “*on the law enforcement officer’s body*” because O’Donnell explains that its versatile mount 126 can be used for a wearable camera: “Digital camera 10 is wearable and designed for rugged environments (water, heat, cold, extreme vibrations), and the Contour 1080P™ system includes application mounts 126 *to attach to any person, equipment, or vehicle.*” (O’Donnell, ¶123.) O’Donnell teaches, for example, that base mount 130 can attach to various surfaces (e.g., a law enforcement officer’s uniform) via an adhesive pad or a strap. (O’Donnell, ¶¶100, 108-09, 111, 119.) O’Donnell further teaches that base mount 130 could also use Velcro to attach to various surfaces (e.g., a law enforcement officer’s uniform). (O’Donnell, ¶¶101, 105 (using Velcro

to secure base mount 130 to rail plug 132).) A POSITA would have understood that using O'Donnell's versatile base mount 130, a rail plug 132 coupled to or integral with the handset's housing would allow the housing to be mounted on the law enforcement officer's body—just as O'Donnell intended the mounting system to function.

142. The housing of Smith's handset would also be configured to be "*mounted in a law enforcement vehicle,*" such as on a dashboard or internal windshield of a patrol car. O'Donnell explains, "Because base mount 130 can be flexible, it can be attached to a variety of surfaces such as, for example, the surfaces of helmets, snowboard decks, skis, fuel tanks, windows, doors, and vehicle hoods." (O'Donnell, ¶103; *see also* ¶¶104, 123.) A POSITA would have understood that these surfaces include surfaces inside a law enforcement vehicle.

143. The housing of Smith's handset would be configured to be "*selectively*" mounted because in O'Donnell, "[t]he versatile mounting system 120 provides for ease of mounting and orientation of digital video camera 10 with ease of detachment of digital video camera 10 with retention of the mounted orientation." (O'Donnell, ¶100.) After the handset's housing is mounted to the body of the law enforcement officer, for example, the handset along with rail plug 132 may be disengaged from base mount 130. (O'Donnell, ¶104.) The rail plug 132 with the attached handset may then be engaged to a second base mount 130 in

the law enforcement vehicle (e.g., on the dashboard or internal windshield of a patrol car). (O'Donnell, ¶98-102, Fig. 9.) Because mounting system 120 is versatile, the housing of Smith's handset would be configured to be "*selectively mounted on the law enforcement officer's body and in the law enforcement vehicle.*"

144. A POSITA would have been motivated to utilize O'Donnell's versatile mounting system to mount Smith's handset to the law enforcement officer, as Smith intends, and to ensure law enforcement officers can direct the incident recorder to record the desired field of view. For example, Smith's system may be used to record traffic stops. (Smith, ¶35.) However, the incident recorder's handset, mounted on the chest of the law-enforcement officer, would not sufficiently record the start of the traffic stop while the law enforcement officer was sitting in the patrol car—the incident recorder might instead record the steering wheel. To ensure that the camera is pointed at the correct field of view at the start of the event, a POSITA would have been motivated to place the recorder on a mount in the patrol car (e.g., on the dashboard or windshield). A POSITA would have also been motivated to use O'Donnell's mounting system because O'Donnell's mounting system is versatile, includes a quick-release mechanism to enable a fast and smooth transition between a mount in a vehicle and a mount on a law enforcement officer's body, and does not require readjustment during

reattachment. (See O’Donnell, ¶¶29, 94, 100, 104.) For at least these reasons, a POSITA would have been motivated to combine the systems of Smith and O’Donnell.

145. Thus, Smith in view of O’Donnell teaches or suggests this element and renders claim 5 obvious.

**B. Dependent Claim 6.**

146. Claim 6 depends on claim 5 and recites the following elements. As explained below, Smith in view of O’Donnell teaches or suggests these elements and renders claim 6 obvious.

**1. Smith in view of O’Donnell teaches or suggests “*a universal mount coupled to or integral with the portable housing.*”**

147. Claim 6 recites “*a universal mount coupled to or integral with the portable housing.*” Smith in view of O’Donnell teaches or suggests this element.

148. Smith in view of O’Donnell teaches a “*universal mount.*” I understand that during prosecution of the ’730 patent the applicant argued that “[t]he universal mount as claimed allows for the portable housing to quickly and easily be attached to various types of mounting assemblies.” (Exhibit 1002, p. 1816.) In my opinion, O’Donnell’s system 120 more than meets the applicant’s characterization. O’Donnell’s system 120 has versatile components that can attach, detach, and reattach *quickly and easily* to a variety of surfaces. (O’Donnell, ¶100.)

149. O'Donnell's versatile mounting system includes a base mount 130 and a rail plug 132. (O'Donnell, ¶100, Fig. 9.) "After base mount 130 has been attached to a surface, rail plug 132 can be detached from base mount 130." (O'Donnell, ¶100; *see also* ¶104.) Then, "rail plug 132 can be inserted or re-inserted into base mount 130 . . . ." (O'Donnell, ¶102.) A POSITA would have understood that rail plug 132 would be configured to attach, detach, and reattach to any number of base mounts. (*See* O'Donnell, ¶¶103-04, 123 (describing that rail plug 132 can mount the camera to a base mount 130 attached to a variety of surfaces such as helmets, handlebars, windows, doors, and vehicles).) In this sense, O'Donnell's rail plug 132, being able to accept a multitude of different attachments, is a universal mount.

150. Rail plug 132 is "*coupled to and integral with the portable housing*" because rail plug 132 is attached to and mated with the digital video camera 10. O'Donnell explains that rail plug 132 is attached to the digital video camera 10. (O'Donnell, ¶¶100, 104.) Additionally, "rail plug 132 contains one or more mount rail cavities 138 that are adapted to mate with housing rails 124 on camera housing 22." (O'Donnell, ¶98; *see also* ¶102, Fig. 11 (describing and showing rail plug 132 mated with digital video camera 10); Claim 11, (claiming "[a]n integrated point of view digital video camera, comprising . . . a rotatable plug mount").) In view of

these teachings, a POSITA would have understood that the rail plug 132 would be “coupled to and integral with” the handset’s housing.

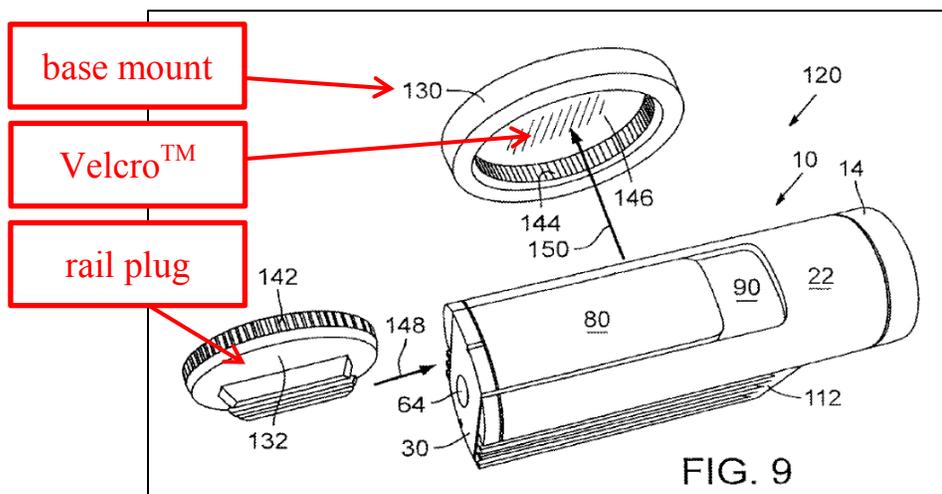
151. Thus, Smith in view of O’Donnell teaches or suggests this element.

2. **Smith in view of O’Donnell teaches or suggests “a first mounting assembly including a first coupler for coupling the first mounting assembly to the universal mount, wherein the first mounting assembly is configured for mounting the portable housing to the law enforcement officer’s body.”**

152. Claim 6 recites “a first mounting assembly including a first coupler for coupling the first mounting assembly to the universal mount, wherein the first mounting assembly is configured for mounting the portable housing to the law enforcement officer’s body.” Smith in view of O’Donnell teaches or suggests this element.

153. Smith in view of O’Donnell teaches a “first mounting assembly”—i.e., a first base mount 130 disposed on the law enforcement officer’s body. As explained in Section XI.A, the housing of Smith’s handset would remain “configured for mounting the portable housing to the law enforcement officer’s body” because in O’Donnell the digital video camera 10 is wearable and can attach to any person, equipment, or vehicle. (O’Donnell, ¶123.) To mount camera 10 to the law enforcement officer, the housing of Smith’s handset would be configured to be mounted on a base mount 130 attached to the law enforcement officer’s uniform.

154. The base mount 130 includes a “*first coupler for coupling the first mounting assembly to the universal mount.*” For example, “double-toothed Velcro™ may be used instead of or in addition to a compression fit technique to further secure rail plug 132 within base mount 130.” (O’Donnell, ¶101; *see also* ¶105 (“Rail plug 132a may be attached to base mount 130a through the use of an adhesive mounting, through the use of Velcro™, through the use of a screw, through the use of other conventionally known means, or combinations thereof.”).) Figure 9 (annotated below) shows Velcro™ configured to couple the first mounting assembly (i.e., base mount 130) to the universal mount (i.e., rail plug 132). Further, in the Smith / O’Donnell system, the base mount 130 is configured for mounting the portable housing of Smith’s handset to the law enforcement officer’s body because “rail plug 132 can be inserted or re-inserted into base mount 130 as indicated by a direction arrow 150 (FIG. 9).” (*See* O’Donnell, ¶102.)



O’Donnell Figure 9 (annotated)

155. Thus, Smith in view of O'Donnell teaches or suggests this element.

3. **Smith in view of O'Donnell teaches or suggests “*a second mounting assembly including a second coupler for coupling the second mounting assembly to the universal mount, wherein the second mounting assembly is configured for mounting the portable housing in the law enforcement vehicle.*”**

156. Claim 6 recites “*a second mounting assembly including a second coupler for coupling the second mounting assembly to the universal mount, wherein the second mounting assembly is configured for mounting the portable housing in the law enforcement vehicle.*” Smith in view of O'Donnell teaches or suggests this element.

157. Smith in view of O'Donnell teaches a “*second mounting assembly*”—i.e., a second base mount 130 disposed in the law enforcement vehicle. As explained in Section XI.A, the housing of Smith's handset would be “*configured to be mounted in a law enforcement vehicle,*” such as on a dashboard or internal windshield of a patrol car. To mount camera 10 in the law enforcement vehicle, the housing of Smith's handset would be configured to be mounted on a base mount 130 attached to the law enforcement vehicle. That is, a first base mount 130 would be attached to the law enforcement officer's body (as discussed above) and a second base mount 130 would be attached to the law enforcement vehicle.

158. It would have been obvious to a POSITA to use more than one of O'Donnell's base mounts 130. O'Donnell explains that the base mount 130 is

designed as a flexible mount, attaching to “a variety of surfaces such as, for example, the surfaces of helmets, snowboard decks, skis, fuel tanks, windows, doors, and vehicle hoods.” (O’Donnell, ¶103.) Instead of moving the base mount 130 every time the user wanted to capture a different field of view, such as changing from a helmet to a snowboard deck, it would have been obvious to a POSITA to use more than one base mount to quickly attach / detach the camera to different locations using, for example, Velcro.

159. The base mount 130 includes a “*second coupler for coupling the second mounting assembly to the universal mount*” because “double-toothed Velcro™ may be used instead of or in addition to a compression fit technique to further secure rail plug 132 within base mount 130.” (O’Donnell, ¶101; *see also* ¶105 (“Rail plug 132a may be attached to base mount 130a through the use of an adhesive mounting, through the use of Velcro™, through the use of a screw, through the use of other conventionally known means, or combinations thereof.”).) Figure 9 (annotated below) shows Velcro™ configured to couple the second mounting assembly (i.e., base mount 130) to the universal mount (i.e., rail plug 132). Further, in the Smith / O’Donnell system, the base mount 130 is configured for mounting the portable housing of Smith’s handset to the law enforcement vehicle because “rail plug 132 can be inserted or re-inserted into base mount 130 as indicated by a direction arrow 150 (FIG. 9).” (*See* O’Donnell, ¶102.)



body via a first base mount 130 (i.e., the first mounting assembly) attached to the law enforcement officer's uniform, and the handset would be mounted in the law enforcement vehicle via a second base mount 130 (i.e., the second mounting assembly) attached to the law enforcement vehicle (e.g., on the dashboard or inside windshield of a patrol car). Using these two base mounts, the housing of Smith's handset could be "*selectively and interchangeably be mounted to the law enforcement officer's body via the first mounting assembly and the law enforcement vehicle via the second mounting assembly*" because O'Donnell discloses a versatile mounting system 120 that has a quick-release mechanism to enable the camera to attach and reattach to a variety of surfaces such as windows, doors, vehicle hoods, and people. (O'Donnell, ¶¶15, 26, 94, 100-04, 123.) That is, a POSITA would have understood that the officer may select which base mount 130 (body or vehicle) to affix the camera to, and may interchange which base mount 130 the camera is affixed to (body mount-to-vehicle mount or vehicle mount-to-body mount).

163. Thus, Smith in view of O'Donnell teaches or suggests this element.

**5. Smith in view of O'Donnell teaches or suggests “*wherein the first mounting assembly and the second mounting assembly are selectively and interchangeably mounted to the portable housing by coupling the respective first coupler or second coupler to the universal mount.*”**

164. Claim 6 recites “*wherein the first mounting assembly and the second mounting assembly are selectively and interchangeably mounted to the portable housing by coupling the respective first coupler or second coupler to the universal mount.*” Smith in view of O'Donnell teaches or suggests this element.

165. As explained above for the first and second mounting assemblies, the first base mount 130 attached to the law enforcement officer's body and the second base mount 130 attached to the law enforcement vehicle both include Velcro<sup>TM</sup> (i.e., the first coupler and the second coupler) within the respective base mount cavity 146. (See O'Donnell, ¶¶101, 105, Fig. 9.) The Velcro<sup>TM</sup> is used to secure each base mount 130 to rail plug 132 (i.e., the universal mount), which is coupled to or integral with the housing. (See O'Donnell, ¶¶101, 105; see also *supra* Section XI.A (explaining why rail plug 132 is coupled to and integral with the housing).) By coupling rail plug 132 to the Velcro<sup>TM</sup> of either the base mount 130 on the law enforcement officer's body or the base mount 130 in the law enforcement vehicle, “*the first mounting assembly and the second mounting assembly are selectively and interchangeably mounted to the portable housing by coupling the respective first coupler or second coupler to the universal mount*” on Smith's handset. That is, the

officer may select which base mount 130 (body or vehicle) to affix the camera to, and may interchange which base mount 130 the camera is affixed to (body mount-to-vehicle mount or vehicle mount-to-body mount).

166. Thus, Smith in view of O'Donnell teaches or suggests this element and renders claim 6 obvious.

### **C. Dependent Claim 8.**

167. Claim 8 depends on claim 7 and recites “*wherein the remote device is a mobile communications device configured for viewing the video file on the mobile communications device.*” Smith in view of O'Donnell teaches or suggests this element.

168. As explained in Section IX.C, Smith's processor 340 is configured to wirelessly transmit video files to remote devices (e.g., via the “ad hoc transceiver” of the shift hub). Smith's secondary subsystem (including shift hub 120) may also include “any computer system (e.g., personal computer, server, network of servers)” that can display the incident reports (including the captured video) received from incident recorder 208. (*See* Smith, ¶30.) A POSITA would have understood that “personal computer” at the time of the alleged invention included a “*mobile communications device,*” such as a laptop computer, a tablet computer, or a mobile phone that would have been “*configured for viewing the video file on the mobile communications device.*”

169. To the extent that Smith does not explicitly state that any one of the remote devices is a “*mobile communications device configured for viewing the video file on the mobile communications device,*” this feature would have been obvious in view of O’Donnell. O’Donnell discloses that its camera 10 communicates with a viewer / controller 510 via a Bluetooth wireless connection. (O’Donnell, ¶¶144, 146, 148-49, 154, 156, 160-62, Figs. 31, 33-35, 37-39.) The viewer / controller 510 can be a device implementing iOS, such as an iPhone, iPod, or iPad. (O’Donnell, ¶¶144, 151, 156, Fig. 37.) The viewer / controller 510 is also “*configured for viewing the video file on the mobile communications device*” because a display screen of an iPhone / iPod / iPad shows user observation camera images. (O’Donnell, ¶¶146, 152, 154, Fig. 36.)

170. A POSITA would have been motivated to combine Smith and O’Donnell such that processor 340 wirelessly communicates with a mobile communications device, like a mobile phone, configured for viewing the video file on the mobile communications device. A POSITA would have been motivated to make this modification to eliminate the need for display 730 on Smith’s handset 700, making the handset more compact. A POSITA would have been motivated to make this modification to facilitate both convenient review of recorded video files and easy additions of secondary incident information. (See Smith, ¶33 (“[w]hile reviewing incident information . . . an author-operator may record supplemental

information or classify previously recorded information”), ¶46 (“A primary subsystem may include . . . a user interface for reviewing and managing incident information (e.g., preparing supplemental information, selecting, classifying.”) A POSITA would have also been motivated to make this modification to allow law enforcement officers to view and edit video qualities (e.g., color balance, brightness, and contrast) for improved video quality across variable-lit environments. (See O’Donnell, ¶¶148-49, Fig. 34 (disclosing a manual lighting level and color adjustment procedure).) A POSITA would have therefore been motivated to modify Smith’s system as proposed.

171. Thus, Smith in view of O’Donnell teaches or suggests this element and renders claim 8 obvious.

## **XII. GROUND 5: CLAIMS 10 AND 12 ARE OBVIOUS OVER SMITH IN VIEW OF HALER**

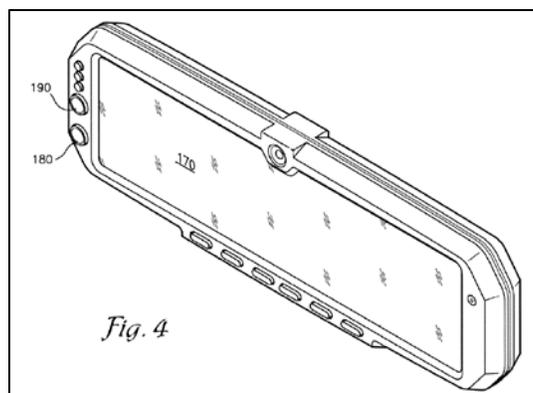
### **A. Dependent Claim 10.**

172. Claim 10 depends on claim 9 and recites “*wherein the triggering event is a signal from the law enforcement vehicle.*” Smith in view of Haler teaches or suggests this element.

173. As explained in Sections IX.A.3 and IX.D (claims 1 and 9), Smith discloses a portable video and imaging system that records an event when receiving information (e.g., an EVENT signal) indicative of a triggering event. Smith also discloses that a law enforcement officer can trigger an event “*from the*

*law enforcement vehicle*”—by actuating event switch 750 when sitting in the patrol car. (See Smith, ¶35 (using its system for traffic stops).) To the extent that Smith does not explicitly disclose that the triggering event is a signal “*from*” the vehicle, a POSITA would have been motivated to use a “*signal from the law enforcement vehicle*” to trigger an event for recording.

174. Using a “*signal from the law enforcement vehicle*” to trigger an event for recording was well known at the relevant timeframe. Haler, for example, discloses a vehicle-mounted system for triggering video recordings. (Haler, ¶¶2, 3, 24-27, 55, 58, Fig. 1.) Haler explains that the vehicle-mounted system wirelessly communicates with external cameras because an external camera “is useful, for example, to record video when an officer leaves the vehicle, such as during a traffic stop.” (Haler, ¶27.) As shown in Figure 4 (reproduced below), the system includes a rearview mirror 170, a REC button 180, and a MARK button 190 that marks video recordings with the current GPS position. (Haler, ¶35.)



Haler Figure 4

175. A law enforcement officer presses the REC button to trigger a recording. (Haler, ¶35.) Haler also explains that the rearview-mirror housing can have input connectors “for receiving signals to trigger operation of the system.” (Haler, ¶30.) “These triggers may include, for example, turning on the vehicle’s siren and/or signal lights.” (Haler, ¶30.) When a law enforcement officer triggers one of these inputs, a signal is wirelessly transmitted to the system. (Haler, ¶30.) A POSITA would have thus understood that Haler uses a “*signal from the law enforcement vehicle*” to trigger an event for recording

176. A POSITA would have been motivated to modify Smith’s primary subsystem / incident recorder to receive select signals from Haler’s inputs (e.g., siren and/or signal lights) and a REC button to trigger an event from the law enforcement vehicle because these triggers would not require additional intervention by the law enforcement officer. For example, utilizing at least one of Haler’s inputs to trigger events (e.g., siren and/or signal lights) would automatically capture video without requiring additional intervention from the law enforcement officer. The system would also record video whenever law enforcement officers use sirens and signal lights, providing additional video for detailed incident reports.

177. Implementing at least one of Haler’s inputs to trigger an event for Smith’s primary subsystem / incident recorder would have combined prior art

elements according to known methods to yield predictable results. Smith's primary subsystem / incident recorder also has a wireless interface, which can use conventional IR, radio, or wireless network channels. (See Smith, ¶¶45, 56, 66, 71, 98, Fig. 3.) Modifying Smith's handset to receive an input signal from at least one of Haler's inputs would have been straight forward to implement. Further, using a device to send signals to Smith's handset would have been "inexpensive to manufacture and easy to use" and would have been "fully integrated into a small, easily installable and replaceable package that requires minimal space inside the vehicle." (See Haler, ¶43.)

178. For at least these reasons, a POSITA would have been motivated to modify Smith's system as proposed, and Smith in view of Haler renders claim 10 obvious.

**B. Dependent Claim 12.**

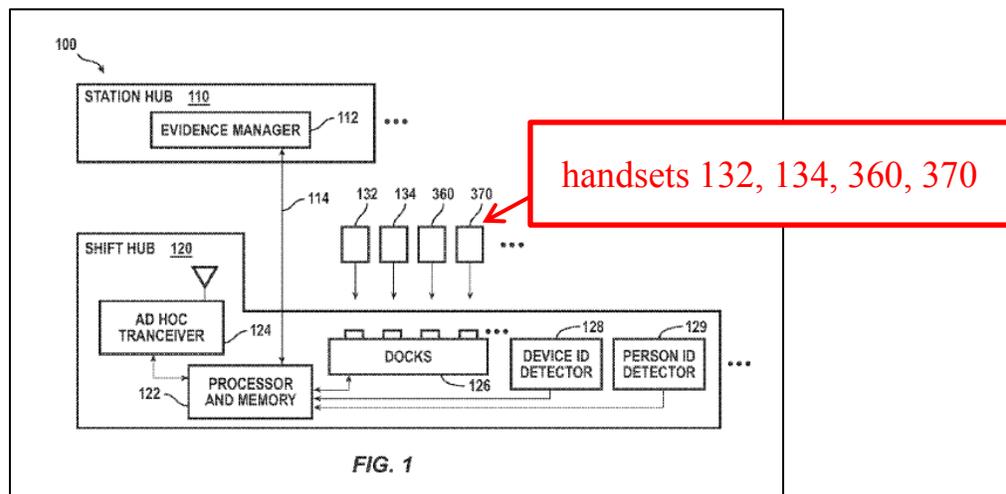
179. Claim 12 depends on claim 1 and recites "*an identification sensor associated with the law enforcement officer's person and configured to determine an identity of the law enforcement [officer].*" Smith in view of Haler teaches or suggests this element.

180. As explained in Section IX.A, Smith discloses a portable video and imaging system that records events. Smith also discloses, and shows in Figure 1 (annotated below), "[a] person identification detector [that] detects an identity of a

person associated or to be associated with a primary subsystem.” (Smith, ¶58.)

“For example, on check-in of primary subsystem to shift hub 120, the person that plugs components of the primary subsystem into docks 126 may be identified by person identification detector 129 for association to the incident reports transferred from the primary subsystem for purposes of evidence validation.” (Smith, ¶58.)

“On checkout of a primary subsystem from shift hub 120 (e.g., removal from docks 126), the person that removes components of the primary subsystem may be identified to the primary subsystem so that incident reports are recorded in association with that person’s identification, again for purposes of evidence validation.” (Smith, ¶58.) The officer’s identity remains with the device for the officer’s entire shift. In turn, the system associates with the officer any video, audio, metadata, or other streams recorded on the device during this shift.



Smith Figure 1 (annotated)

181. To the extent Smith does not explicitly disclose an “*identification sensor associated with the law enforcement officer’s person*,” Haler provides the teaching. Haler’s system “may also include additional components to establish the security and evidentiary value of the audiovisual data recorded thereby.” (Haler, ¶59.) For example, Haler’s system includes a biometric identification component (e.g., a fingerprint sensor) to verify the identity of the law enforcement officer before using the system. (Haler, ¶58.) Such a component is associated with the “*law enforcement officer’s person*” because the sensor reads information about the officer’s body.

182. Haler’s system also utilizes other security peripherals, such as a dongle carried by the law enforcement officer, to verify the law enforcement officer’s identity. (Haler, ¶58.) A POSITA would have understood that a dongle is a “*sensor*,” such as an RFID sensor, because a dongle is a device that connects to a processing element to allow access to protected software. A POSITA would have also understood that the dongle is utilized as a “*sensor*” because the dongle in Haler is “presented to the system” and “adapted to interface with the video system.” (Haler, ¶58, claim 26.) A dongle is also “*associated with the law enforcement officer’s person*” because a law enforcement officer carries and “possess[es]” her or his respective dongle. (Haler, ¶58, claim 26.)

183. A POSITA would have been motivated to incorporate Haler's security measures into Smith, namely the biometric identification component and/or the dongle. A POSITA would have recognized that security is important for law enforcement implementations. (*See* Haler, ¶58.) A POSITA would have also recognized that Smith's system does not have sufficient measures to verify that the operator of the incident recorder is the correct law enforcement officer—the only security verification occurs when law enforcement officers dock the incident recorders at the secondary subsystem. To provide more secure verification in the field, a POSITA would have been motivated to implement the security measures disclosed in Haler, such as the biometric identification component and a dongle for each law enforcement officer. A POSITA would have therefore been motivated to modify Smith's system as proposed.

184. Thus, Smith in view of Haler teaches or suggests this element and renders claim 12 obvious.

### **XIII. GROUND 6: CLAIMS 11 AND 22 ARE OBVIOUS OVER SMITH IN VIEW OF GUZIK**

#### **A. Dependent Claim 11.**

185. Claim 11 depends on claim 1 and recites the following elements. As explained below, Smith in view of Guzik teaches or suggests these elements and renders claim 11 obvious.

1. Smith teaches “*wherein the plurality of video frames is associated with metadata.*”

186. Claim 11 recites “*wherein the plurality of video frames is associated with metadata.*” Smith teaches or suggests this element.

187. In Smith, the plurality of video frames captured by the camera are “*associated with metadata*” because when the incident recorder is in the TEM state, “processor 340 records a mark in the video . . . to indicate that event switch 750 (630) was operated at that time during data collection.” (Smith, ¶140.) Additionally, “[a]n operator may insert a mark into a data stream during recording of the incident . . . .” (Smith, ¶140.) “A mark may be stored *within a video* or audio stream (e.g., *same MPEG-4 container*, different container, but related by time) or separately with information to provide a correlation between the mark and the video or audio streams at the time the mark was made.” (Smith, ¶140.) A POSITA would have understood that metadata are ancillary information that can be added to the video file or container, so metadata can be on and off, synchronized time, GPS location data, event marks, etc. Because the marks are data that provide information about the time the video frames were captured and recorded, a POSITA would have understood that these marks are a form of metadata associated with the plurality of video frames in the MPEG-4 file. (See also Smith, ¶43 (“Metadata describing a container may identify whether or not one or more

categories (possibly further identifying which categories) have been associated with the content of the container.”.)

188. Thus, Smith teaches or suggests this element.

2. **Smith in view of Guzik teaches or suggests “*wherein the metadata includes a geographical location of at least one component of the system when at least some of the plurality of video frames was captured, a time or date of when at least some of the plurality of video frames was captured, and any triggering event that initiated capturing of at least some of the plurality of video frames.*”**

189. Claim 11 recites “*wherein the metadata includes a geographical location of at least one component of the system when at least some of the plurality of video frames was captured, a time or date of when at least some of the plurality of video frames was captured, and any triggering event that initiated capturing of at least some of the plurality of video frames.*” Smith in view of Guzik teaches or suggests this element.

190. The system in Smith associates the plurality of video frames with metadata to indicate the time when at least some of the video frames were captured, but Smith does not explicitly disclose that the metadata includes a geographical location, a date, or a triggering event. However, including a geographical location, a date, and a triggering event in the metadata would have been obvious in view of Guzik.

191. A POSITA would have understood that Smith’s system records video for incident reports. (*See* Smith, Abstract, ¶¶23-24.) A POSITA would have also understood that incident reports commonly require location information to identify where the event took place. (*See* Smith, ¶3.) In Smith’s system, a law enforcement officer would manually input location information after an event and before leaving the location of the event. (Smith, ¶27.) However, staying at an event location to manually input information for an incident report needlessly consumes law enforcement officers’ time and extends the amount of time law enforcement officers are not performing their regular duties or patrols. To reduce the time required to complete accurate incident reports, a POSITA would have been motivated to seek solutions to automatically add metadata to video files. This would have led the POSITA to Guzik.

192. Like Smith, Guzik discloses a system for law enforcement that associates and stores metadata in video files. (Guzik, ¶¶11, 34, 46, 110-12, 211.) In Guzik, the metadata includes a “*geographical location*” because Guzik explains that common metadata includes location metadata. (Guzik, ¶36.) Location metadata may be collected by a location service receiver. (Guzik, ¶110.) “Geolocation metadata may include Global Positioning System (‘GPS’) metadata.” (Guzik, ¶110.) “[G]eolocation metadata may alternatively be determined by triangulating signal strength or weakness from different cell towers with known

locations.” (Guzik, ¶110.) In each instance, the geographical location is a “*location of at least one component of the system*” because “[d]uring the recording, [mobile clients] store metadata identifying the date/timestamp and location *of the recording*.” (Guzik, ¶74.) Further, “[t]he correlating metadata may include geolocation data regarding the location *of the client device . . .*” (Guzik, ¶163; *see also* ¶¶76, 81, 168, 258.)

193. In the Smith / Guzik system, the metadata would include a geographical location of a component of the system “*when at least some of the plurality of video frames was captured*” because in Guzik the location is correlated with video frames during capture, and the respective devices may store date / time stamp information or location service tracking location data such as GPS with the file. (Guzik, ¶¶37-38, 46, 74, 81, 180.) Accordingly, a map may display the location of the video. (Guzik, ¶238.) “For example, if the video is by a police car in hot pursuit, the map may show a point rendering geolocation of the path of the pursuit itself.” (Guzik, ¶238.)

194. Guzik uses metadata that includes “*a time or date of when at least some of the plurality of video frames was captured*” because “a video clip may have date/time information stored for each frame . . .” (Guzik, ¶37; *see also* ¶¶12, 74, 111.) Indeed, date / time stamp metadata was common. (Guzik, ¶36 (“Common

metadata may includes, but is not limited to, date/time stamp and location metadata.”.)

195. Guzik also uses metadata that includes “*any triggering event that initiated capturing of at least some of the plurality of video frames.*” Guzik explains that its system can respond to triggering events (e.g., a vehicle collision) by turning on the camera for recording. (Guzik, ¶¶109,114, 245.) The system can also associate a unique Event ID or Incident ID with the recording. (Guzik, ¶¶47, 211.) In this way, data associated with the Event ID / Incident ID may be easily identified. (Guzik, ¶211; *see also* ¶¶243-44, 250-55, Fig. 13 (explaining how video recordings from multiple officers can be automatically tagged with the Event ID for a robbery).) Users of Guzik’s system can also manually enter metadata via a software application. (Guzik, ¶111.) A POSITA would have understood that a user could use this software application to enter metadata to identify any triggering event that initiated capturing of at least some of the video frames (e.g., by entering the police transmissions use code associated with the event).

196. A POSITA would have been motivated to implement Guzik’s use of location metadata, date / time metadata, and metadata including any triggering event that initiated video recording into Smith’s primary subsystem / incident recorder to reduce the amount of time law enforcement officers need to manually fill out details for incident reports. Moreover, detailed metadata would be used to

auto populate a standard incident-report, ensuring detailed and uniform entry of location information. (See Smith, ¶8 (“Increased accuracy and greater completeness of incident reports are needed . . .”).) A POSITA would have found it desirable to have greater flexibility in associating metadata with video files because different metadata can better facilitate searching and/or display of video recordings. (See Smith, ¶141; see also Strub, 3:66-4:15; O’Donnell, ¶5 (“The inclusion of GPS technology introduces a new level of context to any video, making location, speed, time, and outside world conditions as important as the scene recorded.”).) Also, when an officer has a long duration between recorded events, determining where each recorded event took place becomes increasingly-important information. (See Strub, 50:32-37; see also 56:29-37.) A POSITA would have therefore been motivated to modify Smith’s system as proposed.

197. Thus, Smith in view of Guzik teaches or suggests this element and renders claim 11 obvious.

**B. Independent Claim 22.**

198. Claim 22 recites the following elements. As explained below, Smith in view of Guzik teaches or suggests these elements and renders claim 22 obvious.

22. A non-transitory computer readable medium storing a video file of a law enforcement event, said video file comprising:

a plurality of frames, each frame including video data of an event,

wherein said video data is captured by a portable video and imaging system

information indicative of a mark of at least one of the plurality of frames of the video file to thereby identify a point in time or location in the video file,

wherein said mark is initiated by the law enforcement officer actuating an input on a housing of the portable video and imaging system,

wherein said mark in the video file of the at least one of the plurality of video frames enables, during playback of the video file, automatically advancing the video file

to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input; and metadata associated with at least a portion of the plurality of frames,

wherein the metadata includes a geographical location of at least one component of the portable video and imaging system when at least one of the plurality of frames was captured, a time or date of when at least one of the plurality of frames was captured, and any triggering event that initiated capturing of the video file.

**1. Smith teaches or suggests “[a] non-transitory computer readable medium storing a video file of a law enforcement event.”**

199. Claim 22 recites “[a] non-transitory computer readable medium storing a video file of a law enforcement officer.” Smith teaches or suggests this element.

200. As explained in Section IX.A.4, Smith discloses memory 341. Smith’s memory 341 is a “non-transitory computer readable medium” storing a video file of a law enforcement event in MPEG-4. (See Smith, ¶¶43, 47, 61, 70, 80.)

201. Thus, Smith in view of Guzik teaches or suggests the preamble.

**2. Smith teaches or suggests that the video file comprises “a plurality of frames, each frame including video data of an event.”**

202. Claim 22 recites that the video file comprises “*a plurality of frames, each frame including video data of an event.*” Smith in view of Guzik teaches or suggests this element.

203. As explained in Section IX.A.8, Smith discloses that the video file (i.e., an MPEG-4) comprises a plurality of frames. Each frame includes “*video data of an event*” because each frame is a plurality of pixels forming an image from the event (e.g., a traffic stop or burglary). (See Smith, ¶42.) “Video images may be cropped, panned, and/or zoomed.” (Smith, ¶53.)

204. Thus, Smith in view of Guzik teaches or suggests this element.

**3. Smith teaches or suggests “wherein said video data is captured by a portable video and imaging system.”**

205. Claim 22 recites “*wherein said video data is captured by a portable video and imaging system.*” Smith teaches or suggests this element.

206. As explained in Section IX.A.3, Smith discloses a camera 337 configured to capture video data and images. Also, as explained in Sections IX.A.1 and IX.A.3, the camera is a component of a portable video and imaging system. Smith likewise discloses a “*portable video and imaging system*” that captures the video data.

207. Thus, Smith teaches or suggests this element.

**4. Smith teaches or suggests that the video file comprises “*information indicative of a mark of at least one of the plurality of frames of the video file to thereby identify a point in time or location in the video file.*”**

208. Claim 22 recites that the video file comprises “*information indicative of a mark of at least one of the plurality of frames of the video file to thereby identify a point in time or location in the video file.*” Smith teaches or suggests this element.

209. As explained in Section IX.A.8, Smith discloses a processor 340 that stores a mark in the video file for at least one of the plurality of video frames. Likewise, Smith discloses that processor 340 stores “*information indicative of a mark of at least one of the plurality of frames of the video file.*” Also, as explained in Section IX.A.8, Smith discloses that the marks “*identify a point in time or location in the video file.*”

210. Thus, Smith teaches or suggests this element.

**5. Smith teaches or suggests “*wherein said mark is initiated by the law enforcement officer actuating an input on a housing of the portable video and imaging system.*”**

211. Claim 22 recites “*wherein said mark is initiated by the law enforcement officer actuating an input on a housing of the portable video and imaging system.*” Smith teaches or suggests this element.

212. As explained in Section IX.A.7, Smith discloses a processor 340 that receives an activation signal generated in response to a law enforcement officer

actuating an input on a handset. Also, as explained in Section IX.A.7, the mark is stored in the video file in response to the activation signal. Accordingly, the mark begins to be stored in the video file (“*is initiated*”) by the law enforcement officer actuating an input. Also explained in Section IX.A.5, the input is “*on a housing of the portable video and imaging system.*”

213. Thus, Smith teaches or suggests this element.

6. **Smith teaches or suggests “*wherein said mark in the video file of the at least one of the plurality of video frames enables, during playback of the video file, automatically advancing the video file to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input.*”**

214. Claim 22 recites “*wherein said mark in the video file of the at least one of the plurality of video frames enables, during playback of the video file, automatically advancing the video file to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input.*” Smith teaches or suggests this element.

215. As explained in Section IX.A.9, Smith discloses “*wherein said mark in the video file of the at least one of the plurality of video frames enables the processing element to . . . upon playback of the video file and in response to receipt from a user request, automatically advance the video file to the marked at least one*

*video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input.”*

216. Thus, Smith likewise teaches or suggests this element.

**7. Smith in view of Guzik teaches or suggests that the video file comprises “*metadata associated with at least a portion of the plurality of frames.*”**

217. Claim 22 recites that the video file comprises “*metadata associated with at least a portion of the plurality of frames.*” Smith in view of Guzik teaches or suggests this element.

218. As explained in Section XIII.A.1, Smith in view of Guzik teaches or suggests that “*the plurality of video frames is associated with metadata.*” Smith likewise teaches or suggests metadata associated with at least a portion of the plurality of frames.

**8. Smith in view of Guzik teaches or suggests “*wherein the metadata includes a geographical location of at least one component of the portable video and imaging system when at least one of the plurality of frames was captured, a time or date of when at least one of the plurality of frames was captured, and any triggering event that initiated capturing of the video file.*”**

219. Claim 22 recites “*wherein the metadata includes a geographical location of at least one component of the portable video and imaging system when at least one of the plurality of frames was captured, a time or date of when at least one of the plurality of frames was captured, and any triggering event that initiated*

*capturing of the video file.*” Smith in view of Guzik teaches or suggests this element.

220. As explained in Section XIII.A.2, Smith in view of Guzik teaches or suggests “*wherein the metadata includes a geographical location of at least one component of the system when at least some of the plurality of video frames was captured, a time or date of when at least some of the plurality of video frames was captured, and any triggering event that initiated capturing of at least some of the plurality of video frames.*” Smith in view of Guzik likewise teaches or suggests this element.

221. Thus, Smith in view of Guzik renders claim 22 obvious.

#### **XIV. GROUND 7: CLAIMS 13 AND 23 ARE OBVIOUS OVER SMITH IN VIEW OF HALER, FURTHER IN VIEW OF GUZIK**

##### **A. Dependent Claim 13.**

222. Claim 13 depends on claim 12 and recites “*wherein the video file is associated with metadata, and the metadata includes an identity of the law enforcement officer associated with the system as provided by the identification sensor.*” Smith in view of Haler, further in view of Guzik teaches or suggests this element.

223. As explained in Sections IX.A.1 and XII.B, Smith in view of Haler teaches or suggests a portable video and imaging system that includes an identification sensor configured to determine an identity of the law enforcement

officer. However, the Smith / Haler system does not explicitly state that “*an identity of the law enforcement officer associated with the system*” is included in metadata associated with the video file. Guzik cures this deficiency.

224. Guzik discloses “a metadata tag to store an Officer ID and a metadata tag to store a timestamp . . . . When the police video is stored, the tag stored [is] the Officer ID of the owner of the mobile client.” (Guzik, ¶269.) In other words, when a video is recorded and stored in memory, the system associates the video file with metadata (i.e., tags the video), and the metadata includes “*an identity of the law enforcement officer associated with the system*” (i.e., the Officer ID of the law enforcement officer associated with the handset).

225. A POSITA would have been motivated to include the Officer ID tag in the metadata already saved in the Smith / Haler system to document the identity of the law enforcement officer associated with the system. For example, a POSITA would have understood that police video captured for incident reports would have been used as evidence at trial. (See Guzik, ¶269.) A POSITA would have also understood that evidence must have an unbroken chain of custody to be admissible. (See Guzik, ¶269.) With the Smith / Haler system, if the video file does not identify the law enforcement officer that captured and recorded the video, questions about tampering and authenticity of testimony might arise. (See Guzik, ¶269.) Adding the Officer ID into the metadata would alleviate these potential

concerns. (*See* Guzik, ¶269.) And adding the Officer ID into the metadata would be straight forward to implement because the system would already be capable of identifying the law enforcement officer's identity when the law enforcement officer provides identifying information (e.g., a fingerprint or officer tag number) to the identification sensor. *Supra* Section XII.B. A POSITA would have therefore been motivated to modify the Smith / Haler system as proposed.

226. Thus, Smith in view of Haler, further in view of Guzik teaches or suggests this element and renders claim 13 obvious.

**B. Dependent Claim 23.**

227. Claim 23 depends on claim 22 and recites “*wherein the triggering event is a signal from a law enforcement vehicle.*” Smith in view of Haler, further in view of Guzik teaches or suggests this element.

228. As explained above in Section XIII.B, Smith in view of Guzik renders claim 22 obvious. Smith in view of Guzik, however, does not teach “*wherein the triggering event is a signal from a law enforcement vehicle.*” However, a POSITA would have been motivated to combine the Smith / Guzik system with Haler's use of a “*signal from the law enforcement vehicle*” to trigger an event for similar reasons as explained in Section XII.A. The same rationales provided in Section XII.A equally apply to this ground because using Guzik's metadata to store

information about the video file is unrelated and does not impact the rationale for triggering an event inside a law enforcement vehicle.

229. A POSITA would have still been motivated to modify Smith's primary subsystem / incident recorder to receive select signals from Haler's inputs (e.g., siren and/or signal lights) and a REC button to trigger an event from the law enforcement vehicle. For example, utilizing at least one of Haler's inputs to trigger events (e.g., siren and/or signal lights) would automatically capture video without requiring additional intervention from the law enforcement officer. The system would also record video whenever law enforcement officers use sirens and signal lights, providing additional video for detailed incident reports.

230. Implementing at least one of Haler's inputs to trigger an event for Smith's primary subsystem / incident recorder in the Smith / Guzik system would have combined prior art elements according to known methods to yield predictable results. Smith's primary subsystem / incident recorder also has a wireless interface, which can use conventional IR, radio, or wireless network channels. (*See* Smith, ¶¶45, 56, 66, 71, 98, Fig. 3.) Modifying the handset to receive an input signal from at least one of Haler's inputs would have been straight forward to implement. Further, using a device to send signals to the handset would have been "inexpensive to manufacture and easy to use" and would have been "fully integrated into a small, easily installable and replaceable package that requires

minimal space inside the vehicle.” (See Haler, ¶43.) A POSITA would have therefore been motivated to modify the Smith / Haler system as proposed.

231. Thus, Smith in view Haler, further in view of Guzik teaches or suggests this element and renders claim 23 obvious.

**XV. GROUND 8: CLAIM 14 IS OBVIOUS OVER SMITH IN VIEW OF BALARDETA**

232. Claim 14 depends on claim 1 and recites “*wherein the housing has a width of approximately 0.25 inches to approximately 5 inches and a height of approximately 0.5 inches to approximately 5 inches.*” Smith in view of Balardeta teaches or suggests this element.

233. As explained in Section IX.A.2, Smith’s handset includes a housing. Smith also states that the handset is a size wearable by a user. (Smith, ¶135, Fig. 2.) However, Smith does not provide the dimensions of the housing. When building and implementing Smith’s system, a POSITA would have therefore sought references that describe the sizing of these components. This would have led the POSITA to Balardeta.

234. Balardeta describes a device that includes a processor, a memory component, a battery component, a GPS component, a camera component, and display components (e.g., controls)—similar components to the components in Smith’s handset. (See Balardeta, ¶¶13-16, 34-40, 46, Figs. 1, 1A, 2A-E.) The device also has a housing. (Balardeta, ¶34.) And for portability, the device is self-

contained, compact, and lightweight. (Balardeta, ¶14; *see also* ¶46 (“the entire device has a very compact, thin, and lightweight form factor.”).) Indeed, the housing has a width of 1.9 inches or less and a height of 4 inches or less to “fit comfortably in a pocket of a user’s clothing.” (Balardeta, ¶46.) Because Balardeta’s device is a size that can be wearable, can fit in a pocket, and is portable, a POSITA would have been motivated to use a housing with these dimensions—“*a width of approximately .25 inches to approximately 5 inches and a height of approximately .5 inches to approximately 5 inches.*” A POSITA would have therefore been motivated to modify Smith’s system as proposed.

235. Thus, Smith in view Balardeta teaches or suggests this element and renders claim 14 obvious.

**XVI. GROUND 9: CLAIMS 15, 17, AND 20 ARE OBVIOUS OVER SMITH IN VIEW OF O’DONNELL, FURTHER IN VIEW OF HALER**

**A. Independent Claim 15.**

236. Claim 15 recites the following elements. As explained below, Smith in view of O’Donnell, further in view of Haler teaches or suggests these elements and renders claim 15 obvious.

**15.** A portable video and imaging system for law enforcement comprising:  
a portable housing configured to be selectively mounted on a body of a law enforcement officer and in a law enforcement vehicle;  
a first mounting assembly configured for mounting the housing to the law enforcement officer's body;

a second mounting assembly configured for mounting the housing in the law enforcement vehicle, such that the housing may selectively and interchangeably be mounted on the law enforcement officer's body via the first mounting assembly and the law enforcement vehicle via the second mounting assembly;  
a camera component housed within the housing and configured to capture video of an event;  
a memory element housed within the housing and configured to record the captured video of the event, wherein said captured and recorded video comprises a plurality of video frames of a video file;  
an input mounted on the housing and configured to be actuated by the law enforcement officer in the field and in response to being actuated, generate an activation signal; and  
a processing element associated with the memory element and the input and configured to:  
receive said activation signal generated in response to the law enforcement officer actuating the input,  
in response to the activation signal, store a mark in the video file for at least one of the plurality of video frames to thereby identify a point in time or location in the video file,  
upon playback of the video file and in response to receipt from a user request, automatically advance the video file to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input,  
wirelessly transmit the video file to a mobile communications device configured for viewing the video on the mobile communications device, and  
instruct capturing of video by the camera component for recording the event in response to receiving information indicative of a triggering event, wherein the triggering event is a signal from the law enforcement vehicle.

**1. Smith teaches or suggests “[a] portable video and imaging system for law enforcement.”**

237. Claim 15 recites “[a] portable video and imaging system for law enforcement.” As explained in Section IX.A.1, Smith teaches or suggests this preamble.

**2. Smith in view of O'Donnell teaches or suggests “a portable housing configured to be selectively mounted on a body of a law enforcement officer and in a law enforcement vehicle.”**

238. Claim 15 recites “a portable housing configured to be selectively mounted on a body of a law enforcement officer and in a law enforcement vehicle.”

Smith in view of O'Donnell teaches or suggests this element.

239. As explained in Section IX.A.2, Smith discloses a portable housing configured to be mounted on the body of a law enforcement officer. Also explained in Section XI.A, a POSITA would have been motivated to modify Smith's system such that the housing is configured to be selectively mounted on the law enforcement officer's body and in a law enforcement vehicle.

240. Thus, Smith in view of O'Donnell teaches or suggests this element.

**3. Smith in view of O'Donnell teaches or suggests “a first mounting assembly configured for mounting the housing to the law enforcement officer's body.”**

241. Claim 15 recites “a first mounting assembly configured for mounting the housing to the law enforcement officer's body.” Smith in view of O'Donnell teaches or suggests this element.

242. As explained in Section XI.B.2, a POSITA would have been motivated to modify Smith's system such that the system comprises “a first mounting assembly . . . wherein the first mounting assembly is configured for mounting the portable housing to the law enforcement officer's body.”

243. Thus, Smith in view of O'Donnell teaches or suggests this element.

4. **Smith in view of O'Donnell teaches or suggests “*a second mounting assembly configured for mounting the housing in the law enforcement vehicle.*”**

244. Claim 15 recites “*a second mounting assembly configured for mounting the housing in the law enforcement vehicle.*” Smith in view of O'Donnell teaches or suggests this element.

245. As explained in Section XI.B.3, a POSITA would have been motivated to modify Smith's system such that the system comprises “*a second mounting assembly . . . wherein the second mounting assembly is configured for mounting the portable housing in the law enforcement vehicle.*”

246. Thus, Smith in view of O'Donnell teaches or suggests this element.

5. **Smith in view of O'Donnell teaches or suggests that the housing “*may selectively and interchangeably be mounted on the law enforcement officer's body via the first mounting assembly and the law enforcement vehicle via the second mounting assembly.*”**

247. Claim 15 recites that the housing “*may selectively and interchangeably be mounted on the law enforcement officer's body via the first mounting assembly and the law enforcement vehicle via the second mounting assembly.*” As explained in Section XI.B.4, Smith in view of O'Donnell teaches or suggests this element.

**6. Smith teaches or suggests “a camera component housed within the housing and configured to capture video of an event.”**

248. Claim 15 recites “a camera component housed within the housing and configured to capture video of an event.” As explained in Section IX.A.3, Smith teaches or suggests this element.

**7. Smith teaches or suggests “a memory element housed within the housing and configured to record the captured video of the event, wherein said captured and recorded video comprises a plurality of video frames of a video file.”**

249. Claim 15 recites “a memory element housed within the housing and configured to record the captured video of the event, wherein said captured and recorded video comprises a plurality of video frames of a video file.” As explained in Section IX.A.4, Smith teaches or suggests this element.

**8. Smith teaches or suggests “an input mounted on the housing and configured to be actuated by the law enforcement officer in the field and in response to being actuated, generate an activation signal.”**

250. Claim 15 recites “an input mounted on the housing and configured to be actuated by the law enforcement officer in the field and in response to being actuated, generate an activation signal.” As explained in Section IX.A.5, Smith teaches or suggests this element.

**9. Smith teaches or suggests “*a processing element associated with the memory element and the input.*”**

251. Claim 15 recites “*a processing element associated with the memory element and the input.*” As explained in Section IX.A.6, Smith teaches or suggests this element.

**10. Smith teaches or suggests that the processing element is configured to “*receive said activation signal generated in response to the law enforcement officer actuating the input.*”**

252. Claim 15 recites that the processing element is configured to “*receive said activation signal generated in response to the law enforcement officer actuating the input.*” As explained in Section IX.A.7, Smith teaches or suggests this element.

**11. Smith teaches or suggests that the processing element is configured to “*in response to the activation signal, store a mark in the video file for at least one of the plurality of video frames to thereby identify a point in time or location in the video file.*”**

253. Claim 15 recites that the processing element is configured to “*in response to the activation signal, store a mark in the video file for at least one of the plurality of video frames to thereby identify a point in time or location in the video file.*” As explained in Section IX.A.8, Smith teaches or suggests this element.

- 12. Smith teaches or suggests that the processing element is configured to “*upon playback of the video file and in response to receipt from a user request, automatically advance the video file to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input.*”**

254. Claim 15 recites that the processing element is configured to “*upon playback of the video file and in response to receipt from a user request, automatically advance the video file to the marked at least one video frame representing the point in time or location in the video file at which the law enforcement officer actuated the input.*” As explained in Section IX.A.9, Smith teaches or suggests this element.

- 13. Smith in view of O’Donnell teaches or suggests that the processing element is configured to “*wirelessly transmit the video file to a mobile communications device configured for viewing the video on the mobile communications device.*”**

255. Claim 15 recites that the processing element is configured to “*wirelessly transmit the video file to a mobile communications device configured for viewing the video on the mobile communications device.*” Smith in view of O’Donnell teaches or suggests this element.

256. As explained in Section IX.C, Smith teaches or suggests that the processor 340 is configured to wirelessly transmit the video file to a remote device. Also explained in Section XI.C, a POSITA would have been motivated to combine Smith and O’Donnell such that the processor is configured to wirelessly transmit

the video file to a mobile communications device configured for viewing the video file on the mobile communications device.

257. Thus, Smith in view of O'Donnell teaches or suggests this element.

**14. Smith teaches or suggests that the processing element is configured to “*instruct capturing of video by the camera component for recording the event in response to receiving information indicative of a triggering event.*”**

258. Claim 15 recites that the processing element is configured to “*instruct capturing of video by the camera component for recording the event in response to receiving information indicative of a triggering event.*” Smith teaches or suggests this element.

259. As explained in Section IX.D, Smith discloses that the processor 340 is configured to “*instruct capturing of the plurality of video frames by the camera component for recording the event in response to receiving information indicative of a triggering event.*” Smith likewise captures “*video.*” (*Supra* Section IX.D; *see also* Smith, ¶42 (frames are from video).)

260. Thus, Smith teaches or suggests this element.

**15. Smith in view of O'Donnell, further in view of Haler teaches or suggests “*wherein the triggering event is a signal from the law enforcement vehicle.*”**

261. Claim 15 recites “*wherein the triggering event is a signal from the law enforcement vehicle.*” Smith in view of O'Donnell, further in view of Haler teaches or suggests this element.

262. Smith in view of O'Donnell fails to disclose "*wherein the triggering event is a signal from the law enforcement vehicle.*" Haler cures this deficiency for the same reasons in Section XII.A. The same rationales provided in Section XII.A equally apply to this ground because using O'Donnell's versatile mounting system is unrelated and does not impact the rationale for triggering an event inside a law enforcement vehicle.

263. A POSITA would have still been motivated to modify Smith's primary subsystem / incident recorder to receive select signals from Haler's inputs (e.g., siren and/or signal lights) and a REC button to trigger an event from the law enforcement vehicle. For example, utilizing at least one of Haler's inputs to trigger events (e.g., siren and/or signal lights) would automatically capture video without requiring additional intervention from the law enforcement officer. The system would also record video whenever law enforcement officers use sirens and signal lights, providing additional video for detailed incident reports.

264. Implementing at least one of Haler's inputs to trigger an event for Smith's primary subsystem / incident recorder in the Smith / O'Donnell system would have combined prior art elements according to known methods to yield predictable results. Smith's primary subsystem / incident recorder also has a wireless interface, which can use conventional IR, radio, or wireless network channels. (See Smith, ¶¶45, 56, 66, 71, 98, Fig. 3.) Modifying the handset to

receive an input signal from at least one of Haler's inputs would have been straight forward to implement. Further, using a device to send signals to the handset would have been "inexpensive to manufacture and easy to use" and would have been "fully integrated into a small, easily installable and replaceable package that requires minimal space inside the vehicle." (See Haler, ¶43.) A POSITA would have therefore been motivated to modify the Smith / O'Donnell system as proposed.

265. Thus, Smith in view O'Donnell, further in view of Haler teaches or suggests this element and renders claim 15 obvious.

**B. Dependent Claim 17.**

266. Claim 17 depends on claim 15 and recites "*wherein said mounting on the law enforcement officer's body includes mounting on an article of clothing worn by the law enforcement officer.*" As explained in Section IX.B, Smith teaches or suggests this element. Thus, Smith in view of O'Donnell, further in view of Haler renders claim 17 obvious.

**C. Dependent Claim 20.**

267. Claim 20 depends on claim 15 and recites "*an identification sensor associated with the law enforcement officer's person and configured to determine an identity of the law enforcement [officer].*" Smith in view of O'Donnell, further in view of Haler teaches or suggests this element.

268. Smith in view of O'Donnell fails to disclose “*an identification sensor associated with the law enforcement officer's person and configured to determine an identity of the law enforcement [officer].*” Haler cures this deficiency for the same reasons in Section XII.B. The same rationales provided in Section XII.B equally apply to this ground because using O'Donnell's versatile mounting system is unrelated and does not impact the rationale for using an identification sensor associated with the law enforcement officer's person. A POSITA would have still been motivated to incorporate, in the Smith / O'Donnell system, Haler's security measures. A POSITA would have recognized that security is important for law enforcement implementations. (*See Haler, ¶158.*) A POSITA would have also recognized that Smith / O'Donnell system does not have sufficient measures to verify that the operator of the incident recorder is the correct law enforcement officer—the only security verification occurs when law enforcement officers dock the incident recorders in the secondary subsystem. To provide more secure verification in the field, a POSITA would have therefore been motivated to implement Haler's security measures into the Smith / O'Donnell system. A POSITA would have therefore been motivated to modify the Smith / O'Donnell system as proposed.

269. Thus, Smith in view O'Donnell, further in view of Haler teaches or suggests this element and renders claim 20 obvious.

**XVII. GROUND 10: CLAIM 16 IS OBVIOUS OVER SMITH IN VIEW OF O'DONNELL AND HALER, FURTHER IN VIEW OF STRUB**

270. Claim 16 depends on claim 15 and recites “*wherein the mark in the video file of the at least one of the plurality of video frames further records a geographical location of at least one component of the system when the law enforcement officer actuated the input.*” Smith in view of O’Donnell and Haler, further in view of Strub teaches or suggests this element.

271. Smith in view of O’Donnell, further in view of Haler fails to disclose “*wherein the mark in the video file of the at least one of the plurality of video frames further records a geographical location of at least one component of the system when the law enforcement officer actuated the input.*” However, Strub cures this deficiency for the same reasons in Section X.A. Moreover, a POSITA would have been motivated to combine the Smith / O’Donnell / Haler system with Strub’s use of a GPS receiver to mark frames of a video file with “position data” when an event is marked. *Supra* Section X.A. The same rationales provided in Section X.A equally apply to this ground because O’Donnell’s versatile mounting system and triggering an event inside a law enforcement vehicle are unrelated and do not impact the rationale for recording a geographical location of a component of the system. A POSITA would have still been motivated to implement, in the Smith / O’Donnell / Haler system, Straub’s position sensing device to reduce the amount of time law enforcement officers need to manually fill out details for incident

reports. Moreover, implementing the position sensing device could auto populate a standard incident report, ensuring detailed and uniform entry of location information. (See Smith, ¶8 (“Increased accuracy and greater completeness of incident reports are needed . . . .”).) A POSITA would have found it desirable to have greater flexibility in marking a video file because different markings can better facilitate searching and/or display of video recordings. (See Smith, ¶141; Strub, 3:66-4:15; see also O’Donnell, ¶5 (“The inclusion of GPS technology introduces a new level of context to any video, making location, speed, time, and outside world conditions as important as the scene recorded.”).) Also, when an officer has a long duration between recorded events, determining where each recorded event took place becomes increasingly-important information. (See Strub, 50:32-37; see also 56:29-37.) A POSITA would have therefore been motivated to implement Straub’s position sensing device into the Smith / O’Donnell / Haler system.

272. Thus, Smith in view of O’Donnell and Haler, further in view of Strub teaches or suggests this element and renders claim 16 obvious.

**XVIII. GROUND 11: CLAIMS 18 AND 19 ARE OBVIOUS OVER SMITH IN VIEW OF O'DONNELL AND HALER, FURTHER IN VIEW OF GUZIK**

**A. Dependent Claim 18.**

273. Claim 18 depends on claim 15 and recites the following elements. As explained below, Smith in view of O'Donnell and Haler, further in view of Guzik teaches or suggests these elements and renders claim 18 obvious.

**1. Smith teaches or suggests “*wherein the plurality of video frames is associated with metadata.*”**

274. Claim 18 recites “*wherein the plurality of video frames is associated with metadata.*” As explained in Section XIII.A.1, Smith teaches or suggests this element.

**2. Smith in view of O'Donnell and Haler, further in view of Guzik teaches or suggests “*wherein the metadata includes a geographical location of at least one component of the system when at least some of the plurality of video frames was captured, a time or date of when at least some of the plurality of video frames was captured, and any triggering event that initiated capturing of at least some of the plurality of video frames.*”**

275. Claim 18 recites “*wherein the metadata includes a geographical location of at least one component of the system when at least some of the plurality of video frames was captured, a time or date of when at least some of the plurality of video frames was captured, and any triggering event that initiated capturing of at least some of the plurality of video frames.*” Smith in view O'Donnell and Haler, further in view of Guzik teaches or suggests this element.

276. Smith in view of O'Donnell, further in view of Haler does not explicitly disclose this element. However, Guzik cures this deficiency for the same reasons in Section XIII.A.2. Moreover, a POSITA would have been motivated to combine the Smith / O'Donnell / Haler system with Guzik's use of metadata. *Supra* Section XIII.A.2. The same rationales provided in Section XIII.A.2 equally apply to this ground because using O'Donnell's versatile mounting system and triggering an event inside a law enforcement vehicle are unrelated and do not impact the rationale for using Guzik's location metadata, date / time metadata, and metadata including any triggering event that initiated capturing of at least some of the video frames. A POSITA would have still been motivated to use this metadata in the Smith / O'Donnell / Haler system to reduce the amount of time law enforcement officers need to manually fill out details for incident reports. Moreover, detailed metadata could be used to auto populate a standard incident-report, ensuring detailed and uniform entry of location information. (*See* Smith, ¶8 (“Increased accuracy and greater completeness of incident reports are needed . . . .”).) A POSITA would have found it desirable to have greater flexibility in marking a video file because different markings can better facilitate searching and/or display of video recordings. (*See* Smith, ¶141; *see also* Strub, 3:66-4:15; O'Donnell, ¶5 (“The inclusion of GPS technology introduces a new level of context to any video, making location, speed, time, and outside world conditions as

important as the scene recorded.”.) Also, when an officer has a long duration between recorded events, determining where each recorded event took place becomes increasingly-important information. (*See* Strub, 50:32-37; *see also* 56:29-37.) A POSITA would have therefore been motivated to modify the Smith / O’Donnell / Haler system as proposed.

277. Thus, Smith in view O’Donnell and Haler, further in view of Guzik teaches or suggests this element and renders claim 18 obvious.

**B. Dependent Claim 19.**

278. Claim 19 depends on claim 18 and recites “*wherein the captured video is associated with metadata, and the metadata includes an identity of the law enforcement officer associated with the system as provided by the identification sensor.*” Smith in view of O’Donnell and Haler, further in view of Guzik teaches or suggests this element.

279. Smith in view of O’Donnell, further in view of Haler does not explicitly disclose this element. However, Guzik cures this deficiency for the same reasons in XIV.A. Moreover, a POSITA would have been motivated to combine the Smith / O’Donnell / Haler system with Guzik’s use of metadata. *Supra* Section XIV.A. The same rationales provided in Section XIV.A equally apply to this ground because using O’Donnell’s versatile mounting system and triggering an event inside a law enforcement vehicle are unrelated and do not impact the

rationale for using Guzik's Officer ID tag in the metadata. A POSITA would have still been motivated to include the Officer ID tag in the metadata already saved in the Smith / O'Donnell / Haler system to document the identity of the law enforcement officer associated with the system. For example, a POSITA would have understood that police video captured for incident reports would have been used as evidence at trial. (*See* Guzik, ¶269.) A POSITA would have also understood that evidence must have an unbroken chain of custody to be admissible. (*See* Guzik, ¶269.) With the Smith / O'Donnell / Haler system, if the video file does not identify the law enforcement officer that captured and recorded the video, questions about tampering and authenticity of testimony might arise. (*See* Guzik, ¶269.) Adding the Officer ID into the metadata would alleviate these potential concerns. (*See* Guzik, ¶269.) And adding the Officer ID into the metadata would be straight forward to implement because the system would already be capable of identifying the law enforcement officer's identity when the law enforcement officer provides identifying information (e.g., a fingerprint or officer tag number) to the identification sensor. *Supra* Section XI.A. A POSITA would have therefore been motivated to modify the Smith / O'Donnell / Haler system as proposed.

280. Thus, Smith in view of O'Donnell and Haler, further in view of Guzik teaches or suggests this element and renders claim 19 obvious.

**XIX. GROUND 12: CLAIM 21 IS OBVIOUS OVER SMITH IN VIEW OF O'DONNELL AND HALER, FURTHER IN VIEW OF BALARDETA**

281. Claim 21 depends on claim 15 and recites “*wherein the housing has a width of approximately 0.25 inches to approximately 5 inches and a height of approximately 0.5 inches to approximately 5 inches.*” Smith in view of O’Donnell and Haler, further in view of Balardeta teaches or suggests this element.

282. Smith in view of O’Donnell, further in view of Haler does not explicitly disclose this element. However, Balardeta cures this deficiency for the same reasons in Section XV. Moreover, a POSITA would have been motivated to combine the Smith / O’Donnell / Haler system with Balardeta’s housing dimensions. *Supra* Section XV. The same rationales provided in Section XV equally apply to this ground because using O’Donnell’s versatile mounting system and triggering an event inside a law enforcement vehicle are unrelated and do not impact the rationale for using a housing with an easily-portable unit having a width of approximately 0.25 inches to approximately 5 inches and a height of approximately 0.5 inches to approximately 5 inches. A POSITA would have therefore been motivated to modify the Smith / O’Donnell / Haler system as proposed.

283. Thus, Smith in view O’Donnell and Haler, further in view of Balardeta teaches or suggests this element and renders claim 21 obvious.

**XX. GROUND 13: CLAIM 24 IS OBVIOUS OVER SMITH IN VIEW OF GUZIK, FURTHER IN VIEW OF STRUB**

284. Claim 24 depends on claim 22 and recites “*wherein the mark in the video file of at least one of the plurality of video frames further records a geographical location of at least one component of the system when the law enforcement officer actuated the input.*” Smith in view of Guzik, further in view of Strub teaches or suggests this element.

285. Smith in view of Guzik fails to disclose this element. However, Strub cures this deficiency for the same reasons in Section X.A. Moreover, a POSITA would have been motivated to combine the Smith / Guzik system with Strub’s use of a GPS receiver to mark frames of a video file with “position data.” *Supra* Section X.A. The same rationales provided in Section X.A equally apply to this ground because using Guzik’s metadata to store information about the video file is unrelated and does not impact the rationale for recording a geographical location of a component of the system. A POSITA would have still been motivated to implement, in the Smith / Guzik system, Straub’s position sensing device to reduce the amount of time law enforcement officers need to manually fill out details for incident reports. Moreover, implementing the position sensing device could auto populate a standard incident report, ensuring detailed and uniform entry of location information. (*See* Smith, ¶8 (“Increased accuracy and greater completeness of incident reports are needed . . . .”).) A POSITA would have found it desirable to

have greater flexibility in marking a video file because different markings can better facilitate searching and/or display of video recordings. (See Smith, ¶141; Strub, 3:66-4:15; *see also* O'Donnell, ¶5 (“The inclusion of GPS technology introduces a new level of context to any video, making location, speed, time, and outside world conditions as important as the scene recorded.”).) Also, when an officer has a long duration between recorded events, determining where each recorded event took place becomes increasingly-important information. (See Strub, 50:32-37; *see also* 56:29-37.) A POSITA would have therefore been motivated to implement Straub’s position sensing device into the Smith / Guzik system.

286. Thus, Smith in view of Guzik, further in view of Strub teaches or suggests this element and renders claim 24 obvious.

## **XXI. CONCLUSION**

287. The findings and opinions set forth in this declaration are based on my work and analysis to date. I may continue my analysis. I may also receive additional documentation and other factual evidence over the course of this proceeding that will allow me to supplement and/or refine my opinions. I reserve the right to add to, alter, or delete my opinions and my declaration upon discovery of any additional information. I reserve the right to make such changes as may be deemed necessary.

288. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the allotted time for cross-examination.

289. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed this 19th day of March, 2018 in Hillsborough, North Carolina.

Respectfully submitted,

A handwritten signature in black ink that reads "Kurtis P. Keller". The signature is written in a cursive style with a large initial 'K'.

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Mr. Kurtis P. Keller