IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MONUMENT PEAK VENTURES, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No.
	)	
BOSCH SECURITY SYSTEMS, INC.,	)	JURY TRIAL DEMANDED
	)	
Defendant.	)	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Monument Peak Ventures, LLC ("MPV"), by and through the undersigned counsel, hereby brings this action and makes the following allegations of patent infringement relating to U.S. Patent Nos. 6,282,317 (the "'317 Patent"), 6,654,506 (the "'506 Patent"), 6,654,507 (the "'507 Patent"), 7,035,461 (the "'461 Patent") and 7,148,908 (the "'908 Patent") (collectively the "Asserted Patents") against Defendant Bosch Security Systems, Inc. ("Bosch") and alleges as follows upon actual knowledge with respect to itself and its own acts, and upon information and belief as to all other matters.

The Asserted Patents Come From the Iconic Kodak Patent Portfolio

1. The Asserted Patents claim inventions born from the ingenuity of the Eastman Kodak Company ("Kodak"), an iconic American imaging technology company that dates back to the late 1800s. The first model of a Kodak camera was released in 1888.

2. In 1935 Kodak introduced "Kodachrome," a color reversal stock for movie and slide film. In 1963 Kodak introduced the Instamatic camera, an easy-to-load point-and-shoot camera.

3. By 1976 Kodak was responsible for 90% of the photographic film and 85% of the cameras sold in the United States.

4. At the peak of its domination of the camera industry, Kodak invented the first self-contained digital camera in 1975.

5. By 1986 Kodak had created the first megapixel sensor that was capable of recording 1,400,000 pixels. While innovating in the digital imaging space Kodak developed an immense patent portfolio and extensively licensed its technology in the space. For example, in 2010, Kodak received $838,000,000 in patent licensing revenue. As part of a reorganization of its business, Kodak sold many of its patents to some of the biggest names in technology that included Google, Facebook, Amazon, Microsoft, Samsung, Adobe Systems, HTC and others for $525,000,000.

6. While scores of digital imaging companies have paid to license the Kodak patent portfolio owned by MPV, Bosch has refused to do so without justification.

NATURE OF THE ACTION

7. This is an action for patent infringement. MPV alleges that Bosch has infringed and/or is infringing one or more of the ’317 Patent, the ’506 Patent, the ’507 Patent, the ’461 Patent and the ’908 Patent, copies of which are attached as Exhibits A-E, respectively.

8. On or about February 20, 2018, MPV, a technology licensing company, first contacted Bosch regarding the Asserted Patents and other patents in the portfolio. MPV’s communications highlighted that Bosch would benefit from a license to the portfolio and

expressed its willingness to offer Bosch a license to the iconic Kodak portfolio outside of litigation. Since MPV acquired the Kodak portfolio it has successfully licensed several companies without resorting to litigation and has successfully licensed during litigation when required. Consistent with MPV's overall strategy to use litigation only as a last resort, from the time that MPV first contacted Bosch until the present MPV and Bosch had numerous communications and several meetings but Bosch was unwilling to license the Asserted Patents. When it became clear that Bosch was unwilling to take a license, MPV decided to file suit on a subset of the MPV patents infringed by Bosch.

9. On or about February 20, 2018, MPV informed Bosch of its infringement through a data room that included a full list of all patents owned by MPV and evidence of use presentations detailing Bosch's infringement of ten (10) MPV patents, including the Asserted Patents. The data room has been accessible to Bosch for approximately six months and remains accessible to Bosch as of the filing of the complaint.

10. MPV alleges that Bosch directly and indirectly infringes and/or has infringed the Asserted Patents by making, using, offering for sale, selling, and/or importing various models of security cameras and security systems. MPV seeks damages and other relief for Bosch's infringement of the Asserted Patents.

THE PARTIES

11. Plaintiff MPV is a Texas limited liability company with its principal place of business in Plano, Texas.

12. Upon information and belief, Defendant is a corporation organized and existing under the laws of Delaware, with a principal place of business in Fairport, New York. Upon

information and belief, Defendant may be served process through its registered agent, Corporation Service Company at 251 Little Falls Drive, Wilmington Delaware 19808.

JURISDICTION AND VENUE

13. This action for patent infringement arises under the Patent Laws of the United States, 35 U.S.C. § 1 et. seq. This Court has original jurisdiction under 28 U.S.C. §§ 1331 and 1338.

14. This Court has both general and specific personal jurisdiction over Bosch because Bosch is a Delaware corporation that has committed acts within this District giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Bosch would not offend traditional notions of fair play and substantial justice. Bosch, directly and through subsidiaries and intermediaries (including distributors, retailers, franchisees and others), has committed and continues to commit acts of infringement in this District by, among other things, making, using, testing, selling, importing, and/or offering for sale products that infringe the Asserted Patents.

15. Venue is proper in this District and division under 28 U.S.C. §§1391(b)-(d) and 1400(b) because Bosch is incorporated in this District, transacts business in this District and has committed and continues to commit acts of direct and indirect infringement in this District.

COUNT I: INFRINGEMENT OF THE ’317 PATENT

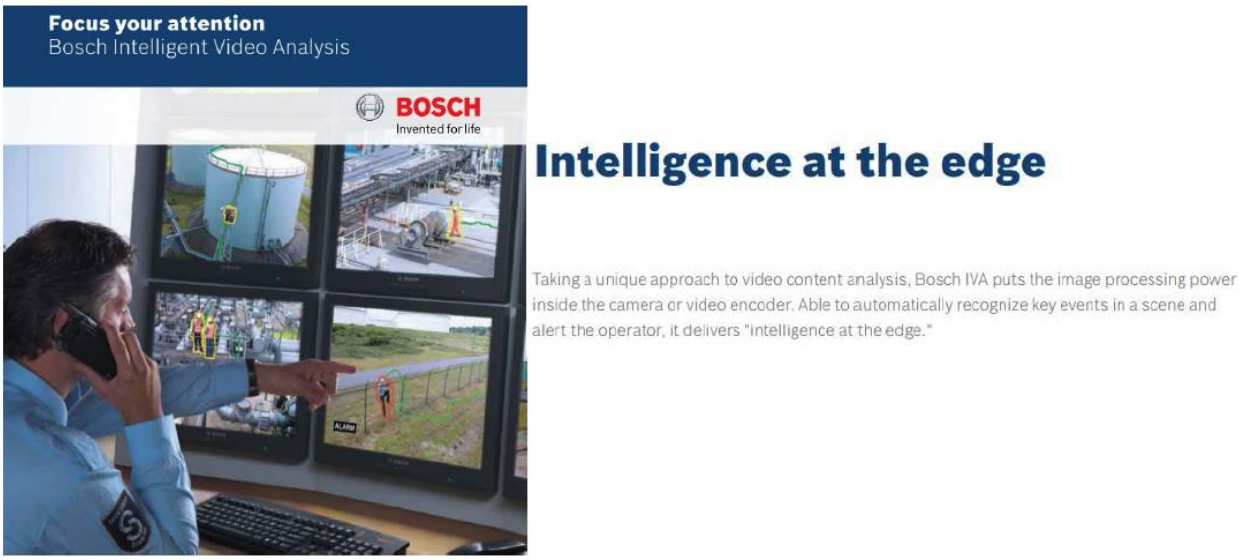
16. The allegations of paragraphs 1-15 of this Complaint are incorporated by reference as though fully set forth herein.

17. MPV owns by assignment the entire right, title, and interest in the ’317 Patent.

18. The ’317 Patent was issued by the United States Patent and Trademark Office on August 28, 2001 and is titled “Method for Automatic Determination of Main Subjects in Photographic Images.” A true and correct copy of the ’317 Patent is attached as Exhibit A.

19. Upon information and belief, Bosch has directly infringed at least claim 1 of the ’317 Patent by making, using, testing, selling, offering for sale, importing and/or licensing in the United States without authority devices such as the Bosch IP security cameras equipped with Intelligent Video Analysis (IVA) that perform a method for detecting a main subject in an image (collectively “the Accused Infringing Devices”) in an exemplary manner as described below.

20. The Accused Infringing Devices perform a method for detecting a main subject in an image.

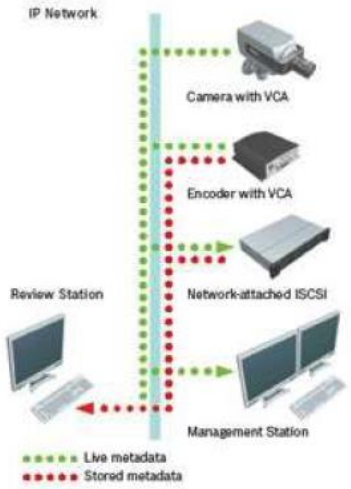


Source:http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539

Take action with Bosch Intelligent Video Analysis

No matter how few or how many cameras your system uses, monitoring everything effectively presents a serious challenge. Even observing just a single screen for long periods pushes concentration to the limit – after only 20 minutes, an operator can miss as much as 90% of the activity in a scene.

Bosch Intelligent Video Analysis (IVA) helps operators stay focused by introducing a new level of automation to CCTV monitoring. Edge-based, real-time processing identifies alert conditions, giving your security team the information it needs to react swiftly and take action.



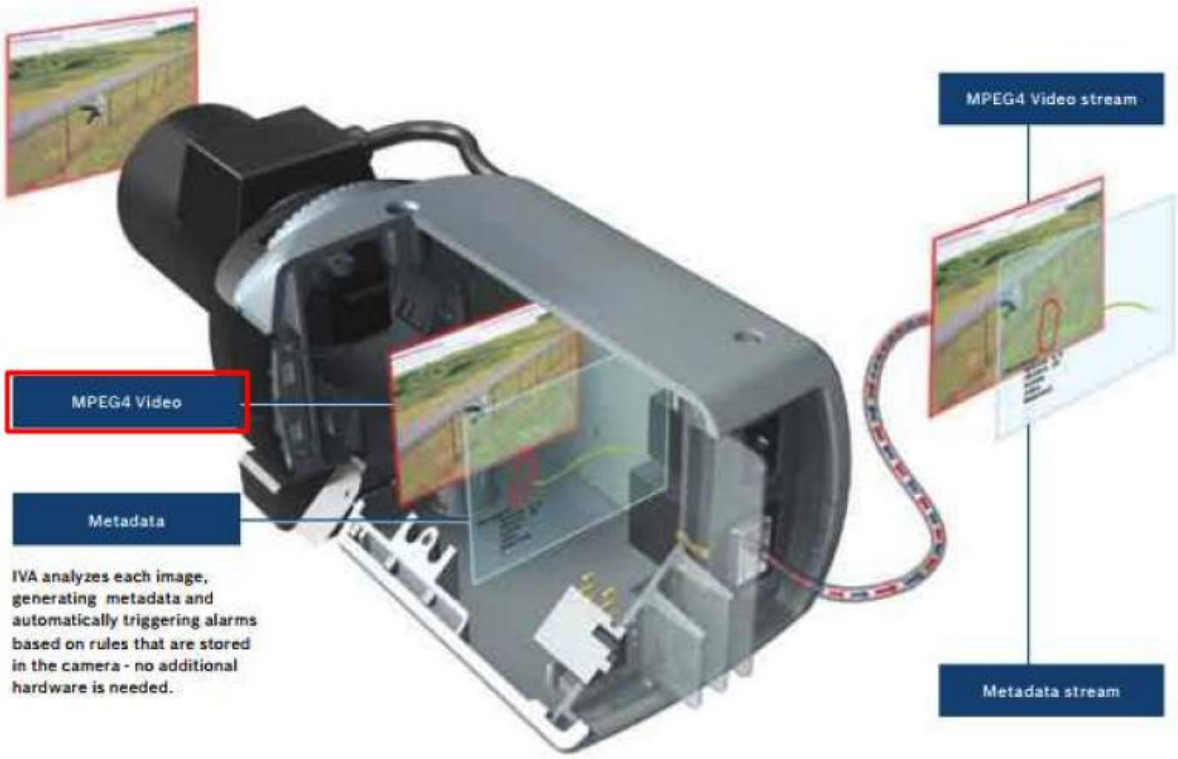
CCTV surveillance re-invented

A major asset to overall surveillance, Bosch IVA technology supports your security personnel with a comprehensive and efficient event detection and alarm system. This next-generation, intelligent digital image processing system greatly improves security and safety, keeping a constant, unblinking eye on any scene.

Working independently on each camera, Bosch IVA operates without a central analytics server. You can choose a wide variety of advanced detection functions, ranging from idle object to trajectory tracking. Live images are analyzed instantly and the resulting data stream accompanies the video feed.

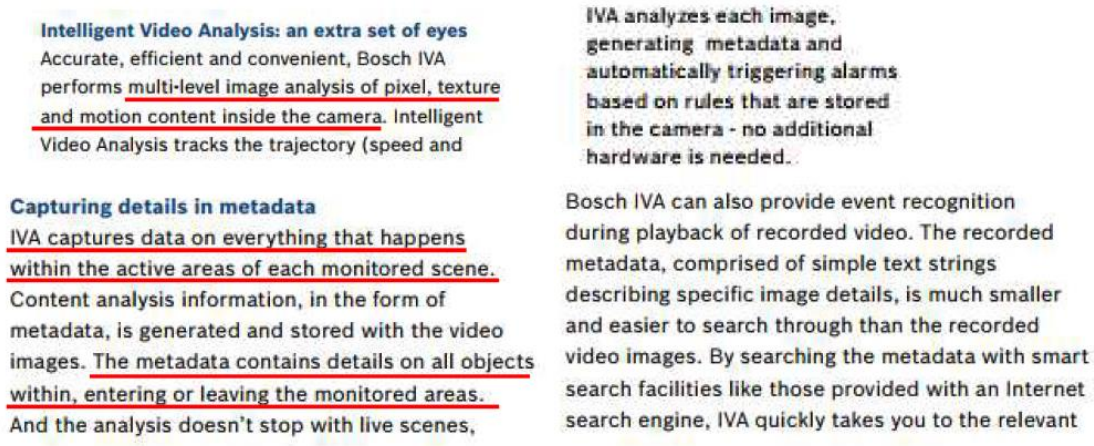
Source: https://us.boschsecurity.com/en/05_news_and_extras_2/01_productnews_2/03_productnews_video_1/video_content_analysis/video_content_analysis

21. The Accused Infringing Devices receive a digital image.



Source:http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539.pdf

22. The Accused Infringing Devices extract regions of arbitrary shape and size defined by actual objects from the digital image.



Source: http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539.pdf

23. The Accused Infringing Devices extract for each of the regions at least one structural saliency feature and at least one semantic saliency feature.

Source: http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539.pdf

Basics for Intelligent and Essential Video Analytics

This chapter describes basic information when using Intelligent Video Analytics and Essential Video Analytics.

Camera image

A camera image is that part of a area which is monitored by the camera.

Objects

Objects are typically people or vehicles moving within the area seen by the camera. Objects can be filtered according to certain properties (size, aspect ratio, direction of movement, speed, location, color). An alarm event can be generated if objects match certain parameters. Objects that do not match the criteria you define are filtered out and do not generate an alarm event.

In general the base point of an object is relevant for generating an alarm event. Some tasks allow you to make another selection.

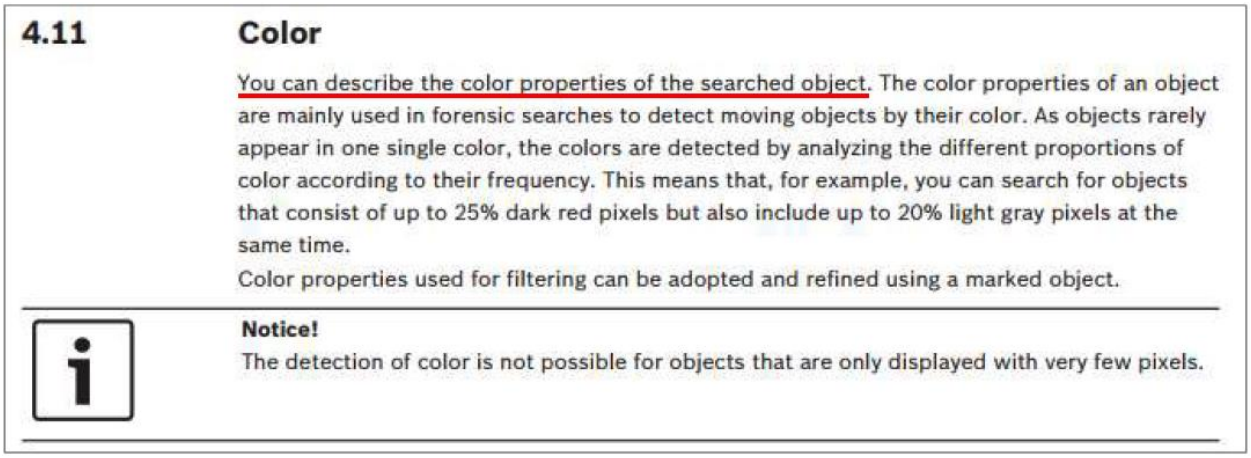
Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf

Metadata

Metadata are the collected information from video content analysis algorithms. For Essential Video Analytics and Intelligent Video Analytics this includes all information about detected and tracked objects in the monitored area as follows:

- Alarm and counting events
- Object position and trajectory
  - In the image (2D)
  - Geolocation / ground plane coordinates (3D)
- Object shape
  - Bounding box
  - Outline
- Object properties
  - Object classification (**Upright persons**, **Cars**, **Trucks**, **Bikes**)
  - Object size (in the image and in reality)
  - Object speed and orientation
  - Object color histogram
  - Object ID

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf



4.11 Color

You can describe the color properties of the searched object. The color properties of an object are mainly used in forensic searches to detect moving objects by their color. As objects rarely appear in one single color, the colors are detected by analyzing the different proportions of color according to their frequency. This means that, for example, you can search for objects that consist of up to 25% dark red pixels but also include up to 20% light gray pixels at the same time.

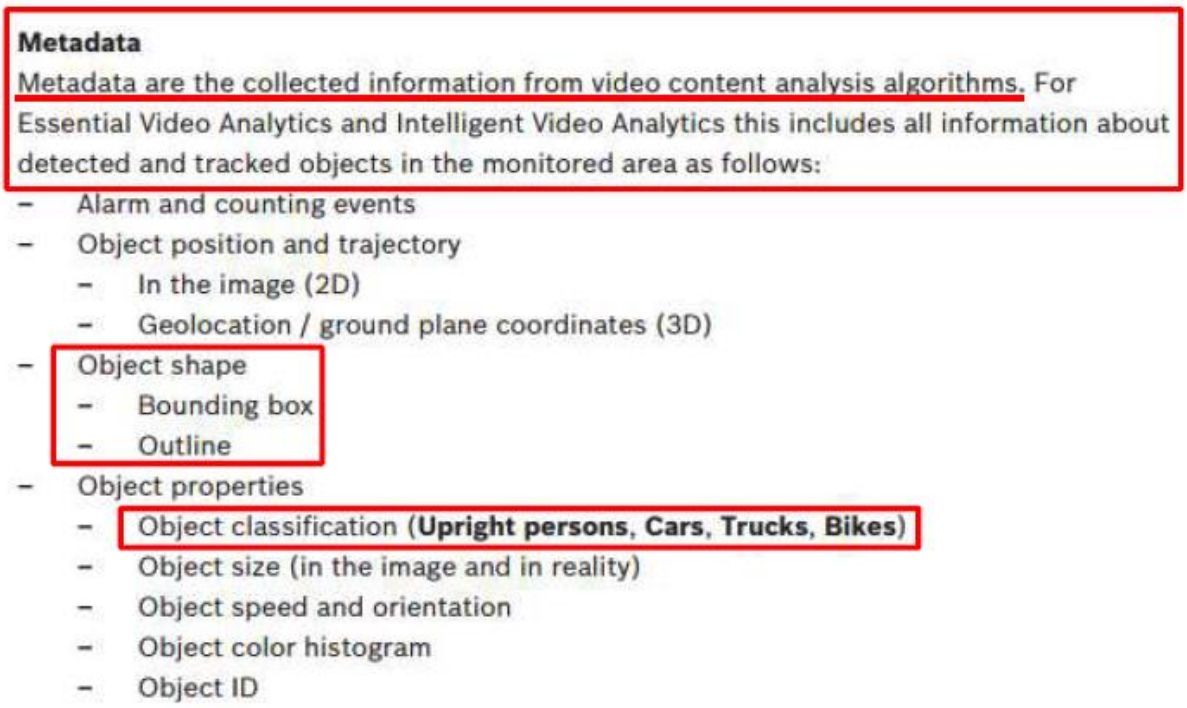
Color properties used for filtering can be adopted and refined using a marked object.

Notice!

The detection of color is not possible for objects that are only displayed with very few pixels.

Source: http://resource.boschsecurity.com/documents/VCA_Operation_Manual_enUS_23098106251.pdf

24. The Accused Infringing Devices integrate the structural saliency feature and the semantic feature using a probabilistic reasoning engine into an estimate of a belief that each region is the main subject.



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  - Bounding box
  - Outline
- Object properties
  - Object classification (**Upright persons**, **Cars**, **Trucks**, **Bikes**)
  - Object size (in the image and in reality)
  - Object speed and orientation
  - Object color histogram
  - Object ID

Source:https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf

Filters

To enhance robustness, the software can be configured to ignore specified image areas and small objects. For calibrated cameras, the software automatically distinguishes between upright persons, bikes, cars, and trucks. Furthermore, object size, speed, two-way direction, aspect ratio, and color filters can be used in any combination to create specific detection rules for exactly the objects you are looking for. Statistics on object properties are stored and can be displayed for fine tuning the object filters. Object properties can also be defined by selecting an appropriately similar object in the video.

Source: http://resource.boschsecurity.com/documents/VCA_Operation_Manual_enUS_23098106251.pdf

25. Bosch has thus infringed at least claim 1 of the ’317 Patent by making, using, testing, selling, offering for sale, importing and/or licensing the Accused Infringing Devices, and operating them such that all steps of at least claim 1 are performed.

26. The users, customers, agents and/or other third parties (collectively, “third-party infringers”) infringe, including under 35 U.S.C. § 271(a), at least claim 1 of the ’317 Patent by using the Accused Infringing Devices.

27. Bosch has, since at least no later than February 20, 2018, known or been willfully blind to the fact that the third-party infringers’ use of the Accused Infringing Devices directly infringes the ’317 Patent.

28. Bosch’s knowledge of the ’317 Patent, which covers operating the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 1 of the ’317 Patent are met, made it known to Bosch that the third-party infringers’ use of the Accused Infringing Devices would directly infringe the ’317 Patent, or, at the very least, render Bosch willfully blind to such infringement.

29. Having known or been willfully blind to the fact that the third-party infringers’ use of the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 1 of the ’317 Patent are met would directly infringe the ’317 Patent, Bosch, upon

information and belief, actively encouraged the third-party infringers to directly infringe the '317 Patent by making, using, testing, selling, offering for sale, importing and/or licensing said Accused Infringing Devices, and by, for example, marketing the Accused Infringing Devices to the third-party infringers; supporting and managing the third-party infringers' continued use of the Accused Infringing Devices; and providing technical assistance to the third-party infringers during their continued use of the Accused Infringing Devices.

See, *e.g.*, www.boschsecurity.com; http://resource.boschsecurity.com; https://sttpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf; http://resource.boschsecurity.com/documents/VCA_Operation_Manual_enUS_23098106251.pdf

30. Bosch induced the third-party infringers to infringe at least claim 1 of the '317 Patent by directing or encouraging them to operate the Accused Infringing Devices which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 1 of the '317 Patent. For example, Bosch advertised and promoted the features of the Accused Infringing Devices and encouraged the third-party infringers to operate the Accused Infringing Devices in an infringing manner. Bosch further provided technical assistance as to how the Accused Infringing Devices should be used by the third-party infringers.

See, *e.g.*, www.boschsecurity.com; http://resource.boschsecurity.com; https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf; http://resource.boschsecurity.com/documents/VCA_Operation_Manual_enUS_23098106251.pdf

31. In response, the third-party infringers acquired and operated the Accused Infringing Devices such that all limitations of claim 1 of the '317 Patent are practiced.

32. Thus, Bosch has specifically intended to induce, and has induced, the third-party infringers to infringe at least claim 1 of the ’317 Patent, and Bosch has known of or been willfully blind to such infringement. Bosch has advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through its encouragement, advice, and assistance to the third-party infringers to use the Accused Infringing Devices.

33. Based on, among other things, the foregoing facts, Bosch has induced, and continues to induce, infringement under 35 U.S.C. § 271(b) of at least claim 1 of the ’317 Patent.

34. Further, Bosch sold, provided and/or licensed to the third-party infringers Accused Infringing Devices that are especially made and adapted—and specifically intended by Bosch—to be used as components and material parts of the inventions covered by the ’317 Patent. For example, Bosch cameras with IVA software which the third-party infringers use in a manner such that all limitations of at least claim 1 of the ’317 Patent are met, and without which the third-party infringers would be unable to use and avail themselves of the Accused Infringing Devices in their intended manner.

35. Upon information and belief, Bosch also knew that the Accused Infringing Devices operate in a manner that satisfy all limitations of at least claim 1 of the ’317 Patent.

36. The IVA and subject dection technology in the Accused Infringing Devices is specially made and adapted to infringe at least claim 1 of the ’317 Patent. Upon information and belief, the IVA and subject detection technology in the Accused Infringing Devices is not a staple article or commodity of commerce, and, because the functionality is designed to work with the Accused Infringing Devices solely in a manner that is covered by the ’317 Patent, it does not have a substantial non-infringing use. At least by no later than February 20, 2018 based on the foregoing facts, Bosch has known or been willfully blind to the fact that such functionality is

especially made and adapted for—and is in fact used in—the Accused Infringing Devices in a manner that is covered by the ’317 Patent.

37. Based on, among other things, the foregoing facts, Bosch has contributorily infringed at least claim 1 of the ’317 Patent under 35 U.S.C. § 271(c).

38. Bosch’s acts of infringement of the ’317 Patent have been willful and intentional under the standard of *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016). Since at least February 20, 2018, Bosch has willfully infringed the ’317 Patent by refusing to take a license and continuing the foregoing infringement. Instead of taking a license to the ’317 Patent, Bosch made the business decision to “efficiently infringe” the ’317 Patent. In doing so, Bosch willfully infringes the ’317 Patent.

39. Bosch’s acts of direct and indirect infringement have caused damage to MPV, and MPV is entitled to recover damages sustained as a result of Bosch’s wrongful acts in an amount subject to proof at trial.

COUNT II
INFRINGEMENT OF THE ’506 PATENT

40. The allegations of paragraphs 1-15 of this Complaint are incorporated by reference as though fully set forth herein.

41. MPV owns by assignment the entire right, title, and interest in the ’506 patent.

42. The ’506 Patent was issued by the United States Patent and Trademark Office on November 25, 2003 and is titled “Method for Automatically Creating Cropped and Zoomed Versions of Photographic Images.” A true and correct copy of the ’506 Patent is attached as Exhibit B.

43. Upon information and belief, Bosch has directly infringed at least claim 43 of the ’506 Patent by making, using, testing, selling, offering for sale, importing and/or licensing in the

United States without authority devices such as Bosch security cameras (e.g., Dinion 1080p) and related Intelligent Video Analysis (IVA) software that practice a method of cropping a digital image having pixels to produce a cropped digital image (collectively the "Accused Infringing Devices") in an exemplary manner as described below.

44. The Accused Infringing Devices practice a method of cropping a digital image having pixels to produce a cropped digital image.

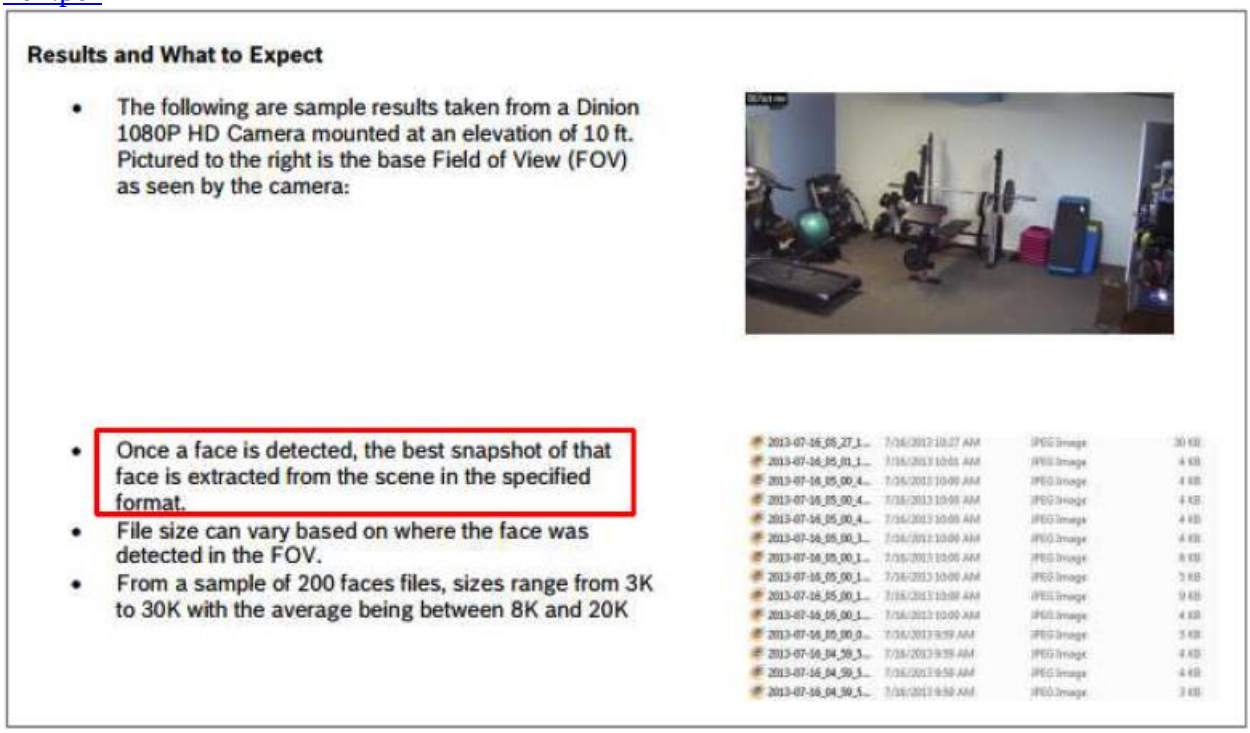
Source:
https://sttpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf;
http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf

45. The Accused Infringing Devices develop a belief map of a photographic image by using such pixels to determine a series of features and using such features to assign a probability of a location of a main subject of the digital image in the belief map.

Intelligent Video Analytics

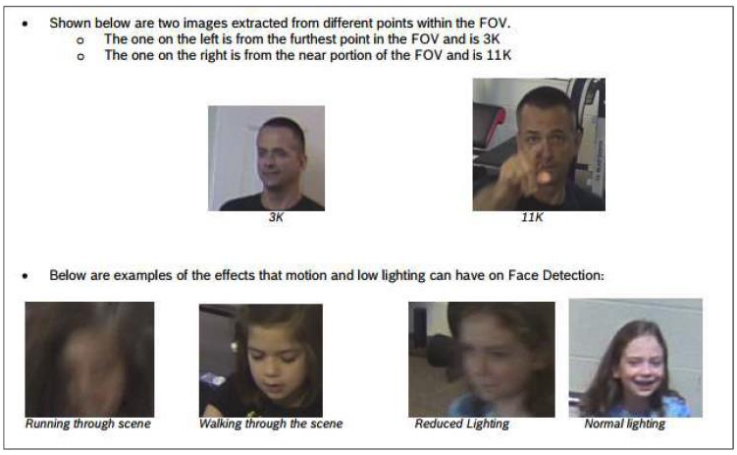
The camera uses the latest generation of the Bosch Intelligent Video Analysis (IVA) software. This IVA system is the guard-assistant system of choice when reliable indoor or outdoor video analytics is needed. The state-of-the-art system reliably detects, tracks, and analyzes moving objects while suppressing unwanted alarms from spurious sources in the image. The face detection feature detects faces in the scene and forwards a high quality JPEG image of the best shot of each face when the face disappears from the scene.

Source:http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf



Source:https://sttpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf

46. The Accused Infringing Devices crop the digital image to include main subjects indicated by the belief map to produce the cropped digital image.



Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf

47. Bosch has thus infringed at least claim 43 of the '506 Patent by making, using, testing, selling, offering for sale, importing and/or licensing the Accused Infringing Devices, and operating such that all steps of at least claim 43 are performed.

48. The users, customers, agents and/or other third parties (collectively, "third-party infringers") infringe, including under 35 U.S.C. § 271(a), at least claim 43 of the '506 Patent by using the Accused Infringing Devices.

49. Bosch has, since at least no later than February 20, 2018, known or been willfully blind to the fact that the third-party infringers' use of the Accused Infringing Devices directly infringes the '506 Patent.

50. Bosch's knowledge of the '506 Patent, which covers operating the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 43 of the '506 Patent are met, made it known to Bosch that the third-party infringers' use of the Accused Infringing Devices would directly infringe the '506 Patent, or, at the very least, render Bosch willfully blind to such infringement.

51. Having known or been willfully blind to the fact that the third-party infringers' use of the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 43 of the '506 Patent are met would directly infringe the '506 Patent, Bosch, upon information and belief, actively encouraged the third-party infringers to directly infringe the '506 Patent by making, using, testing, selling, offering for sale, importing and/or licensing said Accused Infringing Devices, and by, for example, marketing the Accused Infringing Devices to the third-party infringers; supporting and managing the third-party infringers' continued use of the Accused Infringing Devices; and providing technical assistance to the third-party infringers during their continued use of the Accused Infringing Devices.

See, e.g., www.boschsecurity.com; http://resource.boschsecurity.com; https://sttpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf; http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf.

52. Bosch induced the third-party infringers to infringe at least claim 43 of the '506 Patent by directing or encouraging them to operate the Accused Infringing Devices which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 43 of the '506 Patent. For example, Bosch advertised and promoted the features of the Accused Infringing Devices and encouraged the third-party infringers to operate the Accused Infringing Devices in an infringing manner. Bosch further provided technical assistance as to how the Accused Infringing Devices should be used by the third-party infringers.

See, e.g., www.boschsecurity.com; http://resource.boschsecurity.com; https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snaps

hots_setup_and_guidelines_ver_1_7_18_13.pdf;

http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf.

53. In response, the third-party infringers acquired and operated the Accused Infringing Devices such that all limitations of claim 43 of the '506 Patent are practiced.

54. Thus, Bosch has specifically intended to induce, and has induced, the third-party infringers to infringe at least claim 43 of the '506 Patent, and Bosch has known of or been willfully blind to such infringement. Bosch has advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through its encouragement, advice, and assistance to the third-party infringers to use the Accused Infringing Devices.

55. Based on, among other things, the foregoing facts, Bosch has induced, and continues to induce, infringement under 35 U.S.C. § 271(b) of at least claim 43 of the '506 Patent.

56. Further, Bosch sold, provided and/or licensed to the third-party infringers Accused Infringing Devices that are especially made and adapted—and specifically intended by Bosch—to be used as components and material parts of the inventions covered by the '506 Patent. For example, Bosch cameras with IVA software which the third-party infringers use in a manner such that all limitations of at least claim 43 of the '506 Patent are met, and without which the third-party infringers would be unable to use and avail themselves of the Accused Infringing Devices in their intended manner.

57. Upon information and belief, Bosch also knew that the Accused Infringing Devices operate in a manner that satisfy all limitations of at least claim 43 of the '506 Patent.

58. The IVA, subject matter detection and cropping technology in the Accused Infringing Devices is specially made and adapted to infringe at least claim 43 of the '506 Patent.

Upon information and belief, the IVA, subject matter detection and cropping technology in the Accused Infringing Devices is not a staple article or commodity of commerce, and, because the functionality is designed to work with the Accused Infringing Devices solely in a manner that is covered by the ’506 Patent, it does not have a substantial non-infringing use. At least by no later than February 20, 2018, based on the foregoing facts, Bosch has known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in—the Accused Infringing Devices in a manner that is covered by the ’506 Patent.

59. Based on, among other things, the foregoing facts, Bosch has contributorily infringed at least claim 43 of the ’506 Patent under 35 U.S.C. § 271(c).

60. Bosch’s acts of infringement of the ’506 Patent have been willful and intentional under the standard of *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016). Since at least February 20, 2018, Bosch has willfully infringed the ’506 Patent by refusing to take a license and continuing the foregoing infringement. Instead of taking a license to the ’506 Patent, Bosch made the business decision to “efficiently infringe” the ’506 Patent. In doing so, Bosch willfully infringes the ’506 Patent.

61. Bosch’s acts of direct and indirect infringement have caused damage to MPV, and MPV is entitled to recover damages sustained as a result of Bosch’s wrongful acts in an amount subject to proof at trial.

COUNT III
INFRINGEMENT OF THE ’507 PATENT

62. The allegations of paragraphs 1-15 of this Complaint are incorporated by reference as though fully set forth herein.

63. MPV owns by assignment the entire right, title, and interest in the ’507 Patent.

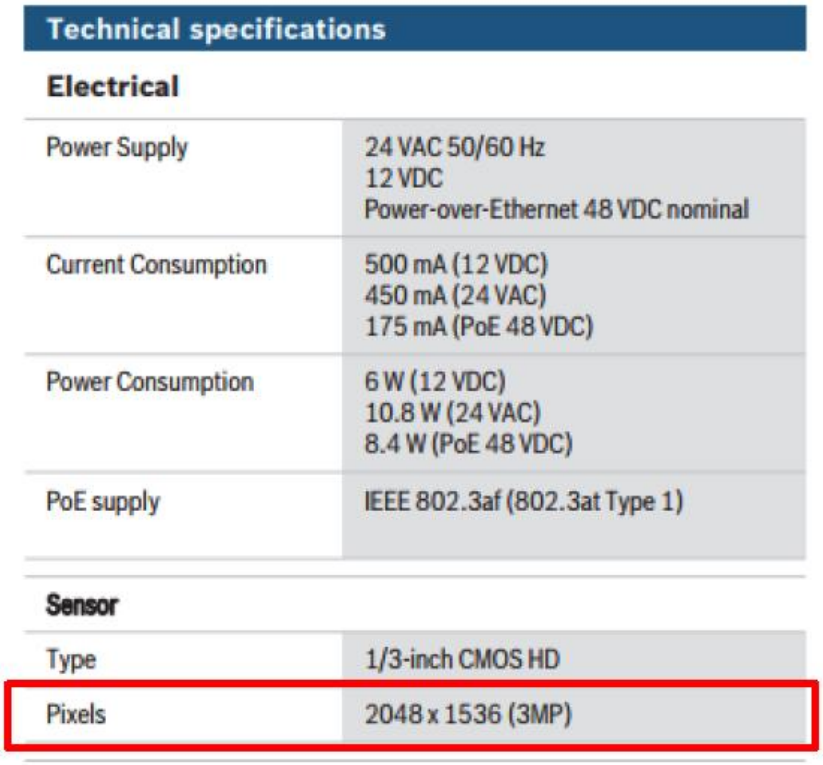
64. The ’507 Patent was issued by the United States Patent and Trademark Office on November 25, 2003 and is titled “Automatically Producing an Image of a Portion of a Photographic Image.” A true and correct copy of the ’507 Patent is attached as Exhibit C.

65. Upon information and belief, Bosch has directly infringed at least claim 1 of the ’507 Patent by making, using, testing, selling, offering for sale, importing and/or licensing in the United States without authority Bosch security cameras, such as the Dinion HD 1080p HDR, and related IVA software that perform a method of producing an image of at least a portion of a digital image (collectively the “Accused Infringing Devices”) in an exemplary manner as described below.

66. The Accused Infringing Devices perform a method of producing an image of at least a portion of a digital image.

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf

67. The Accused Infringing Devices provide digital images having pixels.



Technical specifications	
Electrical	
Power Supply	24 VAC 50/60 Hz 12 VDC Power-over-Ethernet 48 VDC nominal
Current Consumption	500 mA (12 VDC) 450 mA (24 VAC) 175 mA (PoE 48 VDC)
Power Consumption	6 W (12 VDC) 10.8 W (24 VAC) 8.4 W (PoE 48 VDC)
PoE supply	IEEE 802.3af (802.3at Type 1)
Sensor	
Type	1/3-inch CMOS HD
Pixels	2048 x 1536 (3MP)

Source:
http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf

68. The Accused Infringing Devices compute a belief map of the digital image by using the pixels of the digital image to determine a series of features and using such features to assign a probability of a location of a main subject of the digital image in the belief map.

Intelligent Video Analytics
The camera uses the latest generation of the Bosch Intelligent Video Analysis (IVA) software. This IVA system is the guard-assistant system of choice when reliable indoor or outdoor video analytics is needed. The state-of-the-art system reliably detects, tracks, and analyzes moving objects while suppressing unwanted alarms from spurious sources in the image. The face detection feature detects faces in the scene and forwards a high quality JPEG image of the best shot of each face when the face disappears from the scene.

Source:
http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf

The *face_object_properties_tag* number is **0x003E**.

With this tag the properties of a detected face in a video frame can be described.

face_object_id specifies the unique ID of the face. IVA starts face object IDs with 1 and does not use 0, even after a range overflow.

alarm_flag specifies whether this face object has triggered an alarm.

assigned_object_flag specifies whether this face is assigned to an object.

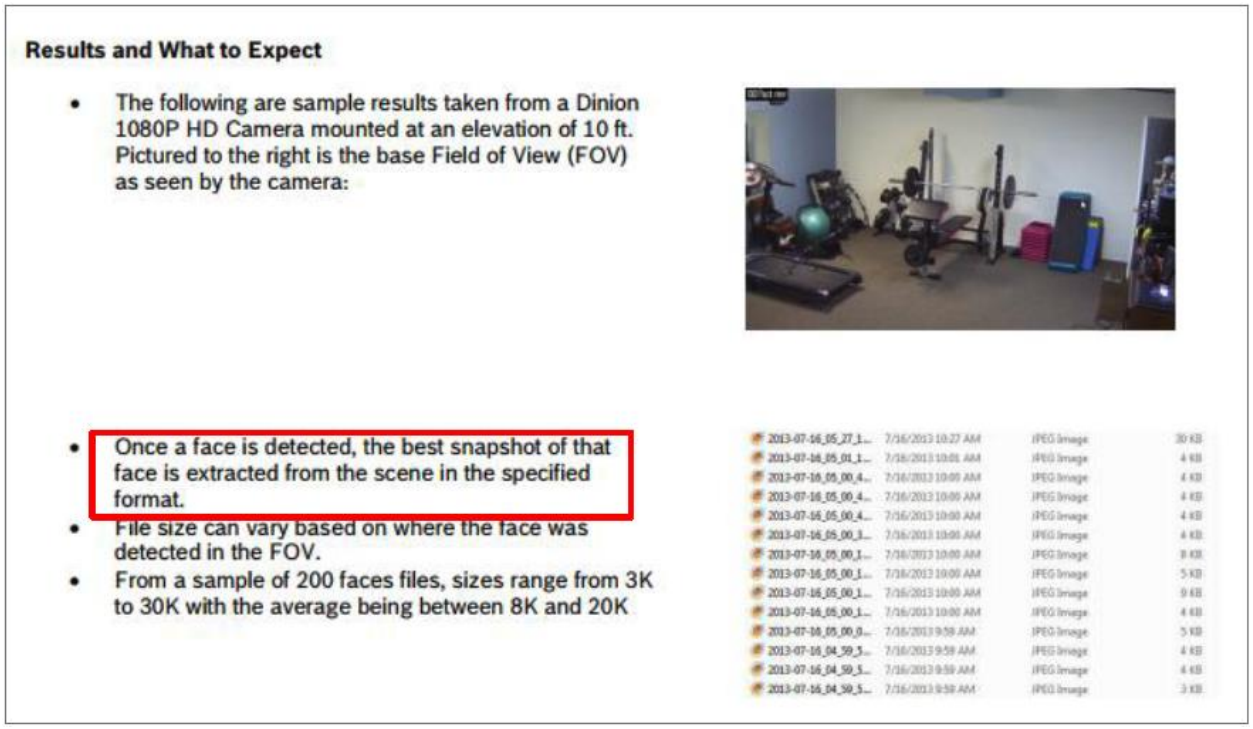
bounding_box_ul_x, **bounding_box_ul_y**, **bounding_box_lr_x** and **bounding_box_lr_y** define the bounding box of the face object with the coordinates of the upper left and lower right corner.

tracked_confidence specifies how sure it is that this face is correctly identified as a face. The range of the value is 0...32768, which corresponds to a confidence between 0 and 1. This confidence is determined by an update of the **image_confidence** during face tracking.

image_confidence specifies how sure it is that this face is correctly identified as a face. The range of the value is 0...32768, which corresponds to a confidence between 0 and 1. This confidence is determined inside an image only without consideration of the temporal history.

classification_score specifies the current classification score of the face. It corresponds to the quality of the best detection in the face detection.

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/downloads_1/video_8/documents_1/boschvcd640-live.pdf

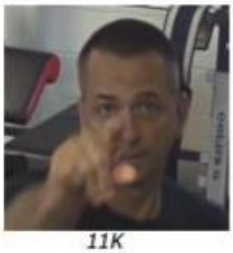


Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf

69. The Accused Devices determine a crop window having a shape factor and a zoom factor, the shape and zoom factors determine a size of the crop window and cropping the digital image to include a portion of the image of high subject content in response to the belief map and the crop window. The zoom factor may be selected by an automatic method based on the main subject belief map (e.g., an estimate of the size of the main subject).

- Shown below are two images extracted from different points within the FOV.
  - The one on the left is from the furthest point in the FOV and is 3K
  - The one on the right is from the near portion of the FOV and is 11K

3K



11K

- Below are examples of the effects that motion and low lighting can have on Face Detection:

Running through scene

Walking through the scene

Reduced Lighting

Normal lighting

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf

The *face_object_properties_tag* number is **0x003E**.

With this tag the properties of a detected face in a video frame can be described.

face_object_id specifies the unique ID of the face. IVA starts face object IDs with 1 and does not use 0, even after a range overflow.

alarm_flag specifies whether this face object has triggered an alarm.

assigned_object_flag specifies whether this face is assigned to an object.

bounding_box_ul_x, **bounding_box_ul_y**, **bounding_box_lr_x** and **bounding_box_lr_y** define the bounding box of the face object with the coordinates of the upper left and lower right corner.

tracked_confidence specifies how sure it is that this face is correctly identified as a face. The range of the value is 0...32768, which corresponds to a confidence between 0 and 1. This confidence is determined by an update of the **image_confidence** during face tracking.

image_confidence specifies how sure it is that this face is correctly identified as a face. The range of the value is 0...32768, which corresponds to a confidence between 0 and 1. This confidence is determined inside an image only without consideration of the temporal history.

classification_score specifies the current classification score of the face. It corresponds to the quality of the best detection in the face detection.

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/downloads_1/video_8/documents_1/boschvcd640-live.pdf

Results and What to Expect

- The following are sample results taken from a Dinion 1080P HD Camera mounted at an elevation of 10 ft. Pictured to the right is the base Field of View (FOV) as seen by the camera:

- Once a face is detected, the best snapshot of that face is extracted from the scene in the specified format.
- File size can vary based on where the face was detected in the FOV.

Shown below are two images extracted from different points within the FOV.

- The one on the left is from the furthest point in the FOV and is 3K
- The one on the right is from the near portion of the FOV and is 11K

3K

11K

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf

70. Bosch has thus infringed at least claim 1 of the ’507 Patent by making, using, testing, selling, offering for sale, importing and/or licensing the Accused Infringing Devices, and operating such that all steps of at least claim 1 are performed.

71. The users, customers, agents and/or other third parties (collectively, “third-party infringers”) infringe, including under 35 U.S.C. § 271(a), at least claim 1 of the ’507 Patent by using the Accused Infringing Devices.

72. Bosch has, since at least no later than February 20, 2018, known or been willfully blind to the fact that the third-party infringers’ use of the Accused Infringing Devices directly infringe the ’507 Patent.

73. Bosch’s knowledge of the ’507 Patent, which covers operating the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 1 of the ’507 Patent are met, made it known to Bosch that the third-party infringers’ use of the Accused Infringing Devices would directly infringe the ’507 Patent, or, at the very least, render Bosch willfully blind to such infringement.

74. Having known or been willfully blind to the fact that the third-party infringers’ use of the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 1 of the ’507 Patent are met would directly infringe the ’507 Patent, Bosch, upon information and belief, actively encouraged the third-party infringers to directly infringe the ’507 Patent by making, using, testing, selling, offering for sale, importing and/or licensing said Accused Infringing Devices, and by, for example, marketing the Accused Infringing Devices to the third-party infringers; supporting and managing the third-party infringers’ continued use of the Accused Infringing Devices; and providing technical assistance to the third-party infringers during their continued use of the Accused Infringing Devices.

See, *e.g.*, www.boschsecurity.com; http://resource.boschsecurity.com; https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf; http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf.

75. Bosch induced the third-party infringers to infringe at least claim 1 of the '507 Patent by directing or encouraging them to operate the Accused Infringing Devices which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 1 of the '507 Patent. For example, Bosch advertised and promoted the features of the Accused Infringing Devices and encouraged the third-party infringers to operate the Accused Infringing Devices in an infringing manner. Bosch further provided technical assistance as to how the Accused Infringing Devices should be used by the third-party infringers.

See, *e.g.*, www.boschsecurity.com; http://resource.boschsecurity.com; https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/posting_face_snapshots_setup_and_guidelines_ver_1_7_18_13.pdf; http://resource.boschsecurity.com/documents/NBN_932_Data_sheet_enUS_16676724107.pdf.

76. In response, the third-party infringers acquired and operated the Accused Infringing Devices such that all limitations of claim 1 of the '507 Patent are practiced.

77. Thus, Bosch has specifically intended to induce, and has induced, the third-party infringers to infringe at least claim 1 of the '507 Patent, and Bosch has known of or been willfully blind to such infringement. Bosch has advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through its encouragement, advice, and assistance to the third-party infringers to use the Accused Infringing Devices.

78. Based on, among other things, the foregoing facts, Bosch has induced, and continues to induce, infringement under 35 U.S.C. § 271(b) of at least claim 1 of the ’507 Patent.

79. Further, Bosch sold, provided and/or licensed to the third-party infringers Accused Infringing Devices that are especially made and adapted—and specifically intended by Bosch—to be used as components and material parts of the inventions covered by the ’507 Patent. For example, Bosch cameras with IVA software which the third-party infringers use in a manner such that all limitations of at least claim 1 of the ’507 Patent are met, and without which the third-party infringers would be unable to use and avail themselves of the Accused Infringing Devices in their intended manner.

80. Upon information and belief, Bosch also knew that the Accused Infringing Devices operate in a manner that satisfy all limitations of at least claim 1 of the ’507 Patent.

81. The IVA, subject matter detection and cropping technology in the Accused Infringing Devices is specially made and adapted to infringe at least claim 1 of the ’507 Patent. Upon information and belief, the IVA, subject matter detection and cropping technology in the Accused Infringing Devices is not a staple article or commodity of commerce, and, because the functionality is designed to work with the Accused Infringing Devices solely in a manner that is covered by the ’507 Patent, it does not have a substantial non-infringing use. At least by no later than February 20, 2018, based on the foregoing facts, Bosch has known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in—the Accused Infringing Devices in a manner that is covered by the ’507 Patent.

82. Based on, among other things, the foregoing facts, Bosch has contributorily infringed at least claim 1 of the ’507 Patent under 35 U.S.C. § 271(c).

83. Bosch's acts of infringement of the '507 Patent have been willful and intentional under the standard of *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016). Since at least February 20, 2018, Bosch has willfully infringed the '507 Patent by refusing to take a license and continuing the foregoing infringement. Instead of taking a license to the '507 patent, Bosch made the business decision to "efficiently infringe" the '507 Patent. In doing so, Bosch willfully infringes the '507 Patent.

84. Bosch's acts of direct and indirect infringement have caused damage to MPV, and MPV is entitled to recover damages sustained as a result of Bosch's wrongful acts in an amount subject to proof at trial.

COUNT IV
INFRINGEMENT OF THE '461 PATENT

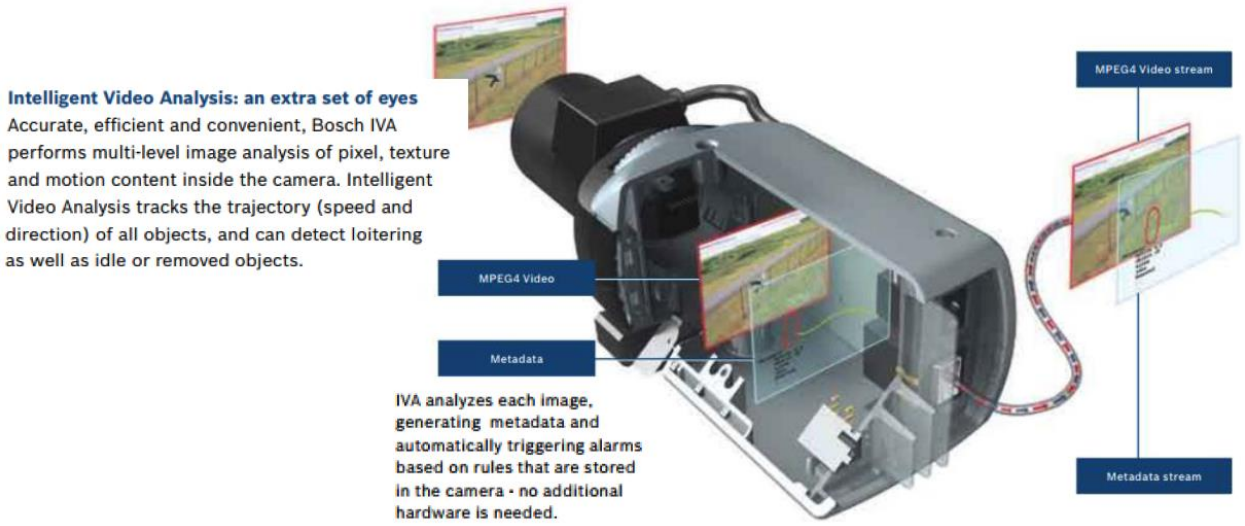
85. The allegations of paragraphs 1-15 of this Complaint are incorporated by reference as though fully set forth herein.

86. MPV owns by assignment the entire right, title, and interest in the '461 Patent.

87. The '461 Patent was issued by the United States Patent and Trademark Office on April 25, 2006 and is titled "Method for Detecting Objects in Digital Images." A true and correct copy of the '461 Patent is attached as Exhibit D.

88. Upon information and belief, Bosch has directly infringed at least claim 1 of the '461 Patent by making, using, testing, selling, offering for sale, importing and/or licensing in the United States without authority IP security cameras with Intelligent Video Analytics (IVA) that perform a method for detecting objects in a digital image (collectively the "Accused Infringing Devices") in an exemplary manner as described below.

89. The Accused Infringing Devices perform a method for detecting objects in a digital image.



Source:https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf

90. The Accused Infringing Devices generate a first segmentation map of the digital image according to a non-object specific criterion (e.g., "multi-level image analysis of pixel, texture and motion content").

Intelligent Video Analysis: an extra set of eyes
Accurate, efficient and convenient, Bosch IVA performs multi-level image analysis of pixel, texture and motion content inside the camera. Intelligent Video Analysis tracks the trajectory (speed and

Capturing details in metadata
IVA captures data on everything that happens within the active areas of each monitored scene. Content analysis information, in the form of metadata, is generated and stored with the video images. The metadata contains details on all objects within, entering or leaving the monitored areas. And the analysis doesn't stop with live scenes,

Bosch IVA can also provide event recognition during playback of recorded video. The recorded metadata, comprised of simple text strings describing specific image details, is much smaller and easier to search through than the recorded video images. By searching the metadata with smart search facilities like those provided with an Internet search engine, IVA quickly takes you to the relevant

Source:
http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539.pdf

In the **Noise suppression** list, select the desired entry (**Off**, **Medium**, **Strong**) to improve the suppression of unwanted alarms.
For example, alarms that are caused by:
- Bushes or trees that are moving in the wind.
- Any stationary object that moves slightly in camera's line of sight.
- Low contrast shadows, reflections and illumination changes.

Move the **Sensitivity** slider to define the sensitivity.

Note: As soon as a new object appears, video analytics considers the travelled distance and the period the new object can be observed to decide, whether it is really an object and must be added to the metadata, or whether it is only a disturbance. This decision may be delayed if noise suppression is activated and a part of the image is classified as being noisy.

Decrease the sensitivity if too many false objects occur, or increase the sensitivity if objects are missed or detected too late.

Source:
http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539.pdf

91. The Accused Infringing Devices generate a second segmentation map of the digital image according to an object specific criterion (e.g., person vs. vehicle determination using object filters).

Basics for Intelligent and Essential Video Analytics

This chapter describes basic information when using Intelligent Video Analytics and Essential Video Analytics.

Camera image

A camera image is that part of a area which is monitored by the camera.

Objects

Objects are typically people or vehicles moving within the area seen by the camera. Objects can be filtered according to certain properties (size, aspect ratio, direction of movement, speed, location, color). An alarm event can be generated if objects match certain parameters. Objects that do not match the criteria you define are filtered out and do not generate an alarm event.

In general the base point of an object is relevant for generating an alarm event. Some tasks allow you to make another selection.

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf

Image information

Depending on the configuration of Intelligent Video Analytics and Essential Video Analytics, additional overlays in the image, for example object outlines, can provide more information. These object outlines are displayed in real time and are always synchronized exactly with the moving object. During life view, the metadata arrive one frame after the respective camera image, and thus the outlines do not always exactly surround the object.

	Indicates that an object is detected as person.	
	Indicates that an object is detected as car.	
	Indicates that an object is detected as truck.	
	Indicates that an object is detected as bike.	

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf

Filters

To enhance robustness, the software can be configured to ignore specified image areas and small objects. For calibrated cameras, the software automatically distinguishes between upright persons, bikes, cars, and trucks. Furthermore, object size, speed, two-way direction, aspect ratio, and color filters can be used in any combination to create specific detection rules for exactly the objects you are looking for. Statistics on object properties are stored and can be displayed for fine tuning the object filters. Object properties can also be defined by selecting an appropriately similar object in the video.

Source: http://resource.boschsecurity.com/documents/VCA_Operation_Manual_enUS_23098106251.pdf

92. The Accused Infringing Devices detect objects in the digital image using both the first and second segmentation maps.

Basics for Intelligent and Essential Video Analytics

This chapter describes basic information when using Intelligent Video Analytics and Essential Video Analytics.

Camera image

A camera image is that part of a area which is monitored by the camera.

Objects

Objects are typically people or vehicles moving within the area seen by the camera. Objects can be filtered according to certain properties (size, aspect ratio, direction of movement, speed, location, color). An alarm event can be generated if objects match certain parameters. Objects that do not match the criteria you define are filtered out and do not generate an alarm event.
In general the base point of an object is relevant for generating an alarm event. Some tasks allow you to make another selection.

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf

	Description
	Objects that generate an alarm event under the current settings appear on the camera image inside a **red** outline.
	Indicates that an object is detected as person.
	Indicates that an object is detected as car.
	Indicates that an object is detected as truck.
	Indicates that an object is detected as bike.

Source: https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf

93. Bosch has thus infringed at least claim 1 of the ’461 Patent by making, using, testing, selling, offering for sale, importing and/or licensing the Accused Infringing Devices, and operating such that all steps of at least claim 1 are performed.

94. The users, customers, agents and/or other third parties (collectively, “third-party infringers”) infringe, including under 35 U.S.C. § 271(a), at least claim 1 of the ’461 Patent by using the Accused Infringing Devices.

95. Bosch has, since at least no later than February 20, 2018, known or been willfully blind to the fact that the third-party infringers’ use of the Accused Infringing Devices directly infringe the ’461 Patent.

96. Bosch’s knowledge of the ’461 Patent, which covers operating the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 1 of the ’461 Patent are met, made it known to Bosch that the third-party infringers’ use of the Accused

Infringing Devices would directly infringe the '461 Patent, or, at the very least, render Bosch willfully blind to such infringement.

97. Having known or been willfully blind to the fact that the third-party infringers' use of the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 1 of the '461 Patent are met would directly infringe the '461 Patent, Bosch, upon information and belief, actively encouraged the third-party infringers to directly infringe the '461 Patent by making, using, testing, selling, offering for sale, importing and/or licensing said Accused Infringing Devices, and by, for example, marketing the Accused Infringing Devices to the third-party infringers; supporting and managing the third-party infringers' continued use of the Accused Infringing Devices; and providing technical assistance to the third-party infringers during their continued use of the Accused Infringing Devices.

See, e.g., www.boschsecurity.com;; http://resource.boschsecurity.com; https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf; http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539.pdf?KeepThis=true&TB_iframe=true&height=600&width=800&content=[.cntWrapper]; http://resource.boschsecurity.com/documents/VCA_Operation_Manual_enUS_23098106251.pdf

98. Bosch induced the third-party infringers to infringe at least claim 1 of the '461 Patent by directing or encouraging them to operate the Accused Infringing Devices which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 1 of the '461 Patent. For example, Bosch advertised and promoted the features of the Accused Infringing Devices and encouraged the third-party infringers to operate the Accused Infringing Devices in

an infringing manner. Bosch further provided technical assistance as to how the Accused Infringing Devices should be used by the third-party infringers.

See, e.g., www.boschsecurity.com; http://resource.boschsecurity.com; https://st-tpp.resource.bosch.com/media/technology_partner_programm/10_public/iva/6_30/software_manual_vca_630_en.pdf; http://resource.boschsecurity.com/documents/Commercial_Brochure_enUS_1558886539.pdf?KeepThis=true&TB_iframe=true&height=600&width=800&content=[.cntWrapper]; http://resource.boschsecurity.com/documents/VCA_Operation_Manual_enUS_23098106251.pdf

99. In response, the third-party infringers acquired and operated the Accused Infringing Devices such that all limitations of claim 1 of the '461 Patent are practiced.

100. Thus, Bosch has specifically intended to induce, and has induced, the third-party infringers to infringe at least claim 1 of the '461 Patent, and Bosch has known of or been willfully blind to such infringement. Bosch has advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through its encouragement, advice, and assistance to the third-party infringers to use the Accused Infringing Devices.

101. Based on, among other things, the foregoing facts, Bosch has induced, and continues to induce, infringement under 35 U.S.C. § 271(b) of at least claim 1 of the '461 Patent.

102. Further, Bosch sold, provided and/or licensed to the third-party infringers Accused Infringing Devices that are especially made and adapted—and specifically intended by Bosch—to be used as components and material parts of the inventions covered by the '461 Patent. For example, Bosch IP security cameras with IVA software which the third-party infringers use in a manner such that all limitations of at least claim 1 of the '461 Patent are met,

and without which the third-party infringers would be unable to use and avail themselves of the Accused Infringing Devices in their intended manner.

103. Upon information and belief, Bosch also knew that the Accused Infringing Devices operate in a manner that satisfy all limitations of at least claim 1 of the ’461 Patent.

104. The IVA objects detection technology in the Accused Infringing Devices is specially made and adapted to infringe at least claim 1 of the ’461 Patent. Upon information and belief, the IVA objects detection technology in the Accused Infringing Devices is not a staple article or commodity of commerce, and, because the functionality is designed to work with the Accused Infringing Devices solely in a manner that is covered by the ’461 Patent, it does not have a substantial non-infringing use. At least by no later than February 20, 2018, based on the foregoing facts, Bosch has known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in—the Accused Infringing Devices in a manner that is covered by the ’461 Patent.

105. Based on, among other things, the foregoing facts, Bosch has contributorily infringed at least claim 1 of the ’461 Patent under 35 U.S.C. § 271(c).

106. Bosch’s acts of infringement of the ’461 Patent have been willful and intentional under the standard of *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016). Since at least February 20, 2018, Bosch has willfully infringed the ’461 Patent by refusing to take a license and continuing the foregoing infringement. Instead of taking a license to the ’461 patent, Bosch made the business decision to “efficiently infringe” the ’461 Patent. In doing so, Bosch willfully infringes the ’461 Patent.

107. Bosch's acts of direct and indirect infringement have caused damage to MPV, and MPV is entitled to recover damages sustained as a result of Bosch's wrongful acts in an amount subject to proof at trial.

COUNT V
INFRINGEMENT OF THE '908 PATENT

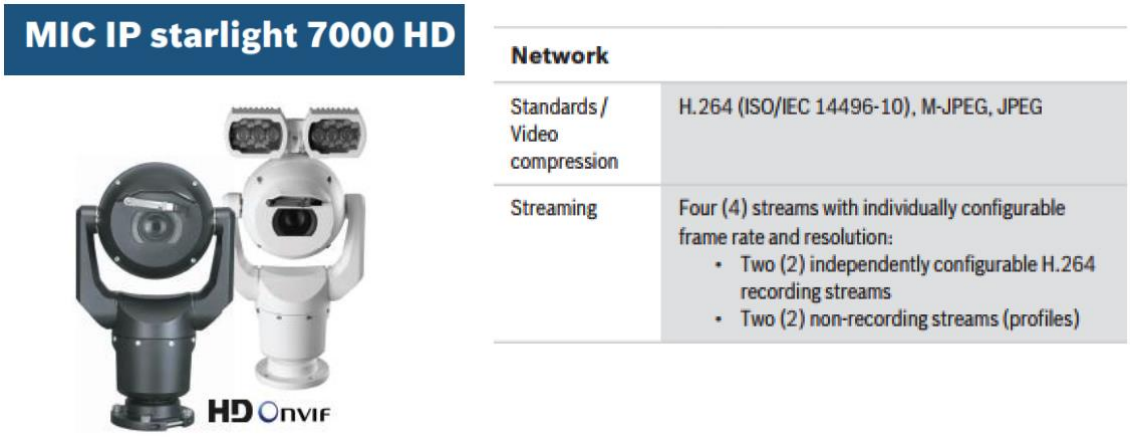
108. The allegations of paragraphs 1-15 of this Complaint are incorporated by reference as though fully set forth herein.

109. MPV owns by assignment the entire right, title, and interest in the '908 Patent.

110. The '908 Patent was issued by the United States Patent and Trademark Office on December 12, 2006 and is titled "Method and Apparatus for Generating Image Transitions." A true and correct copy of the '908 Patent is attached as Exhibit E.

111. Upon information and belief, Bosch has directly infringed at least claim 11 of the '908 patent by making, using, testing, selling, offering for sale, importing and/or licensing in the United States without authority security camera systems, such as the MIC IP starlight 7000 HD, with the Intelligent Bit Rate feature that perform a method of encoding a transition in a bitstream sequence including anchor pictures and interpolated or predicted (P) pictures (collectively the "Accused Infringing Devices") in an exemplary manner as described below.

112. The Accused Infringing Devices perform a method for encoding a transition in a bitstream sequence including anchor pictures and predicted (P) pictures.



Network	
Standards / Video compression	H.264 (ISO/IEC 14496-10), M-JPEG, JPEG
Streaming	Four (4) streams with individually configurable frame rate and resolution: • Two (2) independently configurable H.264 recording streams • Two (2) non-recording streams (profiles)

Source:
http://resource.boschsecurity.us/documents/MIC_IP_starlight_700_Data_sheet_enUS_22642073099.pdf

113. The Accused Infringing Devices code a first anchor picture. For example, Bosch's Group of Pictures (GOP) structure codes a frame as an anchor frame (e.g., I-frame).

GOP Structure	IP, IBP, IBBP
Data Rate	9.6 kbps to 6 Mbps
Overall IP Delay	240 ms (typical)

GOP structure
Select the structure that you require for the group of pictures, depending on whether you place greater priority on having the lowest possible delay (IP frames only) or using as little bandwidth as possible.
Options are IP, IBP, and IBBP.

I-frame distance
This parameter allows you to set the intervals in which the I-frames will be coded. Auto means auto mode, whereby the video server inserts I-frames as necessary. Values range from 3 to 60. An entry of 3 indicates that I-frames are continuously generated. An entry of 4 indicates that only every fourth image is an I-frame, and so on; the frames in between are coded as P-frames. Note that the values supported depend on the GOP structure setting. For example, only even values are supported with IBP; if you have selected IBBP, only 3 or multiples of 3 are supported.

Source:
http://resource.boschsecurity.us/documents/MIC_IP_starlight_700_Data_sheet_enUS_22642073099.pdf
http://resource.boschsecurity.us/documents/MIC7000_Operation_Manual_enUS_16385016331.pdf

114. The Accused Infringing Devices code a transition by inserting only P pictures into the bitstream to create the transition from the first anchor picture frame to a second anchor picture. Bosch codes a transition between I-Frames by inserting varying numbers of predicted frames into the bitstream according to the refresh cycle setting to create a transition from a first I-Frame to a second I-Frame.

Expert settings

If necessary, use the expert settings to adapt the I-frame quality and the P-frame quality to specific requirements. The setting is based on the H.264 quantization parameter (QP).

I-frame distance

This parameter allows you to set the intervals in which the I-frames will be coded. Auto means auto mode, whereby the video server inserts I-frames as necessary. Values range from 3 to 60. An entry of 3 indicates that I-frames are continuously generated. An entry of 4 indicates that only every fourth image is an I-frame, and so on; the frames in between are coded as P-frames. Note that the values supported depend on the GOP structure setting. For example, only even values are supported with IBP; if you have selected IBBP, only 3 or multiples of 3 are supported.

Source:
http://resource.boschsecurity.us/documents/MIC7000_Operation_Manual_enUS_16385016331.pdf

Expert settings

If necessary, use the expert settings to adapt the I-frame quality and the P-frame quality to specific requirements. The setting is based on the H.264 quantization parameter (QP).

Min. P-frame QP

This parameter allows you to adjust the image quality of the P-frame and to define the lower limit for the quantization of the P-frames, and thus the maximum achievable quality of the P-frames. In the H.264-protocol, the Quantization Parameter (QP) specifies the degree of compression and thus the image quality for every frame. The lower the quantization of the P-frame (QP value), the higher the encoding quality (and thus the best image quality) and the lower the frame refresh rate depending on the settings for the maximum data rate under network settings. A higher quantization value results in low image quality and lower network load. Typical QP values are between 18 and 30.
The basic setting Auto automatically adjusts the quality to the settings for the P-frame video quality.

Source:

http://resource.boschsecurity.us/documents/MIC7000_Operation_Manual_enUS_16385016331.pdf

115. Bosch has thus infringed at least claim 11 of the ’908 Patent by making, using, testing, selling, offering for sale, importing and/or licensing the Accused Infringing Devices, and operating such that all steps of at least claim 11 are performed.

116. The users, customers, agents and/or other third parties (collectively, “third-party infringers”) infringe, including under 35 U.S.C. § 271(a), at least claim 11 of the ’908 Patent by using the Accused Infringing Devices.

117. Bosch has, since at least no later than February 20, 2018, known or been willfully blind to the fact that the third-party infringers’ use of the Accused Infringing Devices directly infringe the ’908 Patent.

118. Bosch’s knowledge of the ’908 Patent, which covers operating the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 11 of the ’908 Patent are met, made it known to Bosch that the third-party infringers’ use of the Accused Infringing Devices would directly infringe the ’908 Patent, or, at the very least, render Bosch willfully blind to such infringement.

119. Having known or been willfully blind to the fact that the third-party infringers’ use of the Accused Infringing Devices in their intended manner and such that all limitations of at least claim 11 of the ’908 Patent are met would directly infringe the ’908 Patent, Bosch, upon information and belief, actively encouraged the third-party infringers to directly infringe the ’908 patent by making, using, testing, selling, offering for sale, importing and/or licensing said Accused Infringing Devices, and by, for example, marketing the Accused Infringing Devices to the third-party infringers; supporting and managing the third-party infringers’ continued use of

the Accused Infringing Products; and providing technical assistance to the third-party infringers during their continued use of the Accused Infringing Products.

See, e.g., www.boschsecurity.com; http://resource.boschsecurity.com; http://resource.boschsecurity.us/documents/MIC_IP_starlight_700_Data_sheet_enUS_22642073099.pdf; http://resource.boschsecurity.us/documents/MIC7000_Operation_Manual_enUS_16385016331.pdf

120. Bosch induced the third-party infringers to infringe at least claim 11 of the '908 Patent by directing or encouraging them to operate the Accused Infringing Devices which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 11 of the '908 Patent. For example, Bosch advertised and promoted the features of the Accused Infringing Devices and encouraged the third-party infringers to operate the Accused Infringing Devices in an infringing manner. Bosch further provided technical assistance as to how the Accused Infringing Devices should be used by the third-party infringers.

See, e.g., www.boschsecurity.com; http://resource.boschsecurity.com; http://resource.boschsecurity.us/documents/MIC_IP_starlight_700_Data_sheet_enUS_22642073099.pdf; http://resource.boschsecurity.us/documents/MIC7000_Operation_Manual_enUS_16385016331.pdf

121. In response, the third-party infringers acquired and operated the Accused Infringing Devices such that all limitations of claim 11 of the '908 Patent are practiced.

122. Thus, Bosch has specifically intended to induce, and has induced, the third-party infringers to infringe at least claim 11 of the '908 Patent, and Bosch has known of or been

willfully blind to such infringement. Bosch has advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through its encouragement, advice, and assistance to the third-party infringers to use the Accused Infringing Devices.

123. Based on, among other things, the foregoing facts, Bosch has induced, and continues to induce, infringement under 35 U.S.C. § 271(b) of at least claim 11 of the '908 Patent.

124. Further, Bosch sold, provided and/or licensed to the third-party infringers Accused Infringing Devices that are especially made and adapted—and specifically intended by Bosch—to be used as components and material parts of the inventions covered by the '908 Patent. For example, Bosch security camera systems with the Intelligent Bit Rate feature which the third-party infringers use in a manner such that all limitations of at least claim 11 of the '908 Patent are met, and without which the third-party infringers would be unable to use and avail themselves of the Accused Infringing Devices in their intended manner.

125. Upon information and belief, Bosch also knew that the Accused Infringing Devices operate in a manner that satisfy all limitations of at least claim 11 of the '908 Patent.

126. The Intelligent Bit Rate technology in the Accused Infringing Devices is specially made and adapted to infringe at least claim 11 of the '908 Patent. Upon information and belief, the Intelligent Bit Rate technology in the Accused Infringing Devices is not a staple article or commodity of commerce, and, because the functionality is designed to work with the Accused Infringing Devices solely in a manner that is covered by the '908 Patent, it does not have a substantial non-infringing use. At least by no later than February 20, 2018, based on the foregoing facts, Bosch has known or been willfully blind to the fact that such functionality is

especially made and adapted for—and is in fact used in—the Accused Infringing Devices in a manner that is covered by the ’908 Patent.

127. Based on, among other things, the foregoing facts, Bosch has contributorily infringed at least claim 11 of the ’908 Patent under 35 U.S.C. § 271(c).

128. Bosch’s acts of infringement of the ’908 Patent have been willful and intentional under the standard of *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016). Since at least February 20, 2018, Bosch has willfully infringed the ’908 patent by refusing to take a license and continuing the foregoing infringement. Instead of taking a license to the ’908 Patent, Bosch made the business decision to “efficiently infringe” the ’908 Patent. In doing so, Bosch willfully infringes the ’908 Patent.

129. Bosch’s acts of direct and indirect infringement have caused damage to MPV, and MPV is entitled to recover damages sustained as a result of Bosch’s wrongful acts in an amount subject to proof at trial.

PRAYER FOR RELIEF

WHEREFORE, MPV respectfully requests the following relief:

A. A judgment that Bosch has willfully infringed the ’317 Patent;

B. A judgment that Bosch has willfully infringed the ’506 Patent;

C. A judgment that Bosch has willfully infringed the ’507 Patent;

D. A judgment that Bosch has willfully infringed the ’461 Patent;

E. A judgment that Bosch has willfully infringed the ’908 Patent;

F. A judgment that MPV be awarded damages adequate to compensate it for Bosch’s past infringement and any continuing or future infringement of the ’317 Patent, the ’506 Patent, the ’507 Patent, the ’461 Patent, and the ’908 Patent, including pre-judgment and post-judgment interest costs and disbursements as justified under 35 U.S.C. § 284 and an accounting;

G. That this be determined to be an exceptional case under 35 U.S.C. § 285 and that MPV be awarded enhanced damages up to treble damages for willful infringement as provided by 35 U.S.C. § 284;

H. That MPV be granted its reasonable attorneys’ fees in this action;

I. That this Court award MPV its costs; and

J. That this Court award MPV such other and further relief as the Court deems proper.

DEMAND FOR JURY TRIAL

MPV hereby demands trial by jury on all claims and issues so triable.

DATED: August 28, 2018

BAYARD, P.A.

/s/ Stephen B. Brauerman

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