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Monument Peak Ventures, LLC

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

MONUMENT PEAK VENTURES, LLC

Plaintiff,

v.

SZ DJI TECHNOLOGY CO., LTD., DJI EUROPE D.V., and DJI TECHNOLOGY INC.,

Defendants.

CASE NO. 2:18-cv-02210-RGK-AGR

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

JURY TRIAL DEMANDED

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"), 6,760,485 ("the '485 patent"), 6,781,713 ("the '713 patent"), 8,675,112 ("the '112 patent") and 8,750,674 ("the '674 patent") against one or more of SZ DJI Technology Co, Ltd., SJI Europe D.V., and DJI Technology Inc. ("the DJI Defendants"), 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.

NATURE OF THE ACTION

1. This is an action for patent infringement. MPV alleges that the DJI Defendants infringe one or more of the '317 patent, the '485 patent, the '713 patent, the '112 patent, and the '674 patent, copies of which are attached as Exhibits A-E, respectively (collectively "the Asserted Patents").

2. On or about September 29, 2017, MPV, a technology licensing company, approached the DJI Defendants to offer a license to MPV's Kodak portfolio. Since MPV acquired the Kodak portfolio it has successfully licensed several companies without resorting to litigation. Consistent with MPV's overall strategy to use litigation only as a last resort, MPV expressed on several occasions its desire to consummate a license with the DJI Defendants outside of litigation.

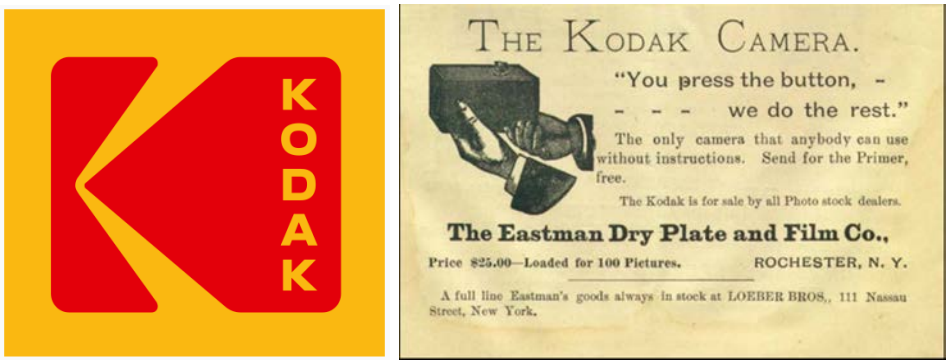
3. On or about October 4, 2017, MPV informed the DJI Defendants of their infringement through a data room that included a full list of all patents owned by MPV and evidence of use presentations detailing the DJI Defendants' infringement. MPV made several requests to have a substantive discussion on the data room materials so as to avoid litigation, however, the DJI Defendants never agreed to such a discussion.

4. MPV alleges that the DJI Defendants directly and indirectly infringe the Asserted Patents by making, using, offering for sale, selling, and/or importing

camera products and related hardware and software. MPV seeks damages and other relief for the DJI Defendants' infringement of the Asserted Patents.

The Asserted Patents Come From the Iconic Kodak Patent Portfolio

5. 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.



6. 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.

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

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

9. 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.

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

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, SZ DJI Technology Co, Ltd. is a Chinese corporation with a place of business at Skyworth Semiconductor Design Building, No. 18 Gaoxin South 4th Avenue, Nanshan District, Shenzhen, China.

13. Upon information and belief, DJI Europe D.V. is a European corporation with a place of business at Bijdorp-Oost 6, 2992 LA Barendrecht, Netherlands.

14. Upon information and belief, DJI Technology Inc. is a California corporation with places of business in Burbank and Cerritos, California.

15. Upon information and belief, one or more of the DJI Defendants own a majority stake in the Hasselblad. Upon information and belief, certain products that are made, sold, offered for sale and imported by Hasselblad are incorporated into products that are made, used, sold, offered for sale and imported by the DJI Defendants. *See*, *e.g.*, https://www.hasselblad.com/a6d-100c-dji-m600-pro/.

JURISDICTION AND VENUE

16. 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.

17. This Court has both general and specific personal jurisdiction over the DJI Defendants because the DJI Defendants have committed acts within the Central District of California giving rise to this action and have established minimum contacts with this forum such that the exercise of jurisdiction over the DJI Defendants would not offend traditional notions of fair play and substantial justice. The DJI Defendants, directly and through subsidiaries and intermediaries (including distributors, retailers, franchisees and others), have committed and continue 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.

18. Venue is proper in this district and division under 28 U.S.C. §§1391(b)-(d) and 1400(b) because the DJI Defendants transact business in the Central District of California and have committed and continue to commit acts of direct and indirect infringement in the Central District of California.

COUNT 1: INFRINGEMENT OF THE '317 PATENT

19. The allegations of paragraphs 1-18 of this Complaint are incorporated by reference as though fully set forth herein.

20. MPV owns by assignment the entire right, title, and interest in the '317 patent.

21. The '317 patent was issued by the United States Patent and Trademark Office on July 14, 2015 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.

22. Pursuant to 35 U.S.C. § 282, the '317 patent is presumed valid.

23. The inventions of the '317 patent were not well-understood, routine or conventional at the time of the invention. At the time of invention of the '317 patent, subject detection in digital photographic and imaging systems and methods suffered from drawbacks. '317 patent at 1:32-3:55. For example, prior art system and methods were developed for targeted types of images, such as video conferencing or TV news broadcasting images (where the main subject is a talking person against a relatively simple static background) museum images (where there is a prominent main subject centered in the image against a large area of relatively clean background), and toy-world images (where the main subjects are a few distinctly colored and shaped objects). *Id.* at 3:41-50. These methods were either not designed for unconstrained photographic images, or even if designed with generic principles were only demonstrated for their effectiveness on rather simple images. *Id.* at 3:50-53. The criteria and reasoning processes used were somewhat inadequate for less constrained images, such as photographic images. *Id.* at 3:53-55.

24. The inventive solution of the claimed inventions of the '317 patent provides a method for detecting the location of main subject subjects within a digitally captured image that overcomes one or more problems of the prior art. *Id.* at 3:58-4:63. The method extracts regions of arbitrary shape and size defined by actual objects from the digital image. *Id.* at 4:19-20. For these regions, at least one structural saliency feature (e.g., a low-level vision or geometric feature, such as

shape, size, location) and one semantic saliency feature (e.g., key subject matter, such as flesh, a person, a face, sky, grass, etc.) are extracted. *Id.* at 4:23-25. The structural saliency feature and the semantic saliency feature are integrated using a probabilistic reasoning engine into an estimate of belief that each region is the main subject. *Id.* at 4:27-29.

25. A person of ordinary skill in the art reading the '317 patent and its claims would understand that the patent's disclosure and claim are drawn to solving a specific, technical problem arising in subject detection in digital photography and imaging systems. Moreover, a person of ordinary skill in the art would understand that the claimed subject matter of the '317 patent presents advancements in the field of digital photography and image processing and, more particularly, to locating subjects, or equivalently, regions of photographic interest in a digital image. Indeed, the time of invention is less than twenty-five years after Kodak's prior invention of the first self-contained digital camera in 1975. And, as detailed by the specification, the prior methods of digital subject detection suffered drawbacks such that a new and novel method was required. The inventions of the '317 patent do not and cannot apply to analog photography and are indigenous to the then nascent field of digital photography.

26. In light of the foregoing, a person of ordinary skill in the art would understand that claim 1 of the '317 patent is directed to a specific method for extracting structural saliency features and semantic saliency features of a digital image and integrating them into a probabilistic engine to automatically estimate belief as to which region is the main subject or region of photographic interest. Moreover, a person of ordinary skill in the art would understand that claim 1 of the '317 patent contains the inventive concept of extracting structural saliency features and semantic saliency features of a digital image and integrating them into a probabilistic engine to automatically estimate belief as to which region is the main subject or region of photographic interest.

27. Upon information and belief, the DJI Defendants have 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 their camera drones with ActiveTrack technology (the "DJI Camera Drones"), such as without limitation, the Phantom 4 Pro ("the '317 Infringing Instrumentalities") in an exemplary manner as described below:

28. One or more of the '317 Infringing Instrumentalities meet all the limitations of claim 1 of the '317 patent. In particular, the DJI Camera Drones use software that performs a method for detecting a main subject in an image, which receives a digital image.

http://www.dii.com/phantom-4pro?site=brandsite&from=nav.

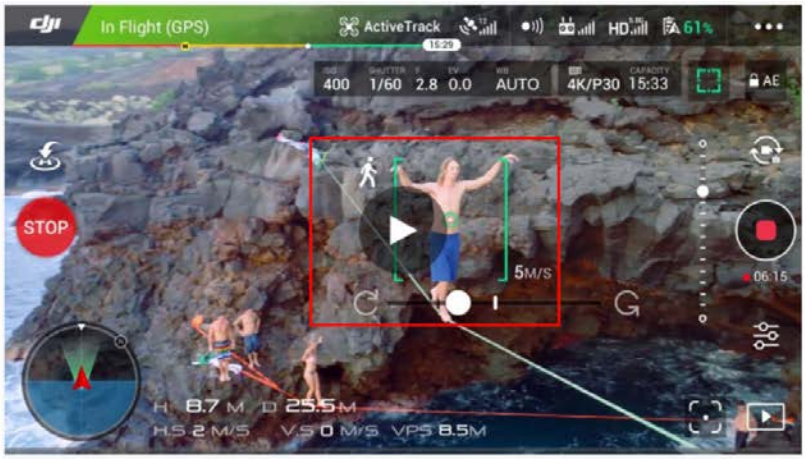
29. The DJI Camera Drones also extract regions of arbitrary shape and size defined by actual objects from the digital image. For example, the DJI Camera Drones use ActiveTrack to identify and follow "a chosen subject throughout the shot, whether they are walking along a trail, driving a car, or even swimming in the ocean!" *See* https://store.dji.com/guides/film-like-a-pro-with-activetrack/.

The Phantom 4 Pro automatically recognizes subjects, follows and captures them as they move, making it easier to get complex shots.

Following fast-moving objects can be very challenging, but advanced image recognition algorithms used by the Phantom 4 Pro allow it to recognize and track the object while keeping it in frame. This new algorithm also recognizes more subjects, from people to vehicles to animals, and will adjust its flight dynamics to match, ensuring smoother shots.

https://www.dji.com/phantom-4-pro?site=brandsite&from=nav.

30. The DJI Camera Drones extract for each of the regions at least one structural saliency feature and at least one semantic saliency feature. For example, the DJI Camera Drones extract structural and semantic saliency features from regions including shapes, colors and subjects such as people, vehicles and animals.



The Phantom 4 Pro automatically recognizes subjects, follows and captures them as they move, making it easier to get complex shots.

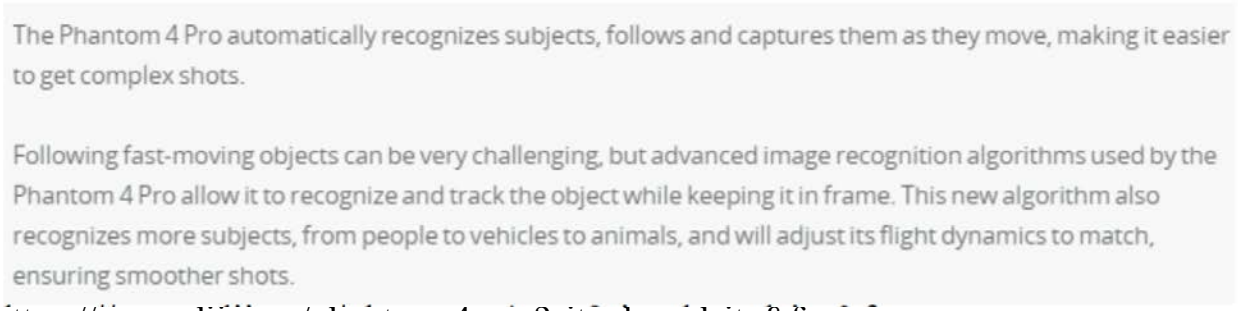
Following fast-moving objects can be very challenging, but advanced image recognition algorithms used by the Phantom 4 Pro allow it to recognize and track the object while keeping it in frame. This new algorithm also recognizes more subjects, from people to vehicles to animals, and will adjust its flight dynamics to match, ensuring smoother shots.

https://www.dji.com/phantom-4-pro?site=brandsite&from=nav.

"***We taught [the Phantom 4] to understand the physiognomy of a person so that it can automatically say, 'this is the shape that a person is,'"*** says Perry. http://time.com/4243394/dji-phantom-4-activetrack/, quoting Michael Perry, DJI's director of strategic partnerships (emphasis added).

"The way ActiveTrack ***is able to identify and follow its subject is by color contrast between the subject and background***. ***This means that the greater the color difference, the better ActiveTrack performs.*** Make sure that your subject is wearing clothing that helps them stick out of the environment. For example, if your friend is snowboarding, a red outfit will do much better than a white one." https://store.dji.com/guides/film-like-a-pro-with-activetrack/ (emphasis added).

31. The DJI Camera Drones integrate the structural saliency feature and the semantic feature using a probabilistic reasoning engine into an estimate that each region is the main subject. For example, the DJI Camera Drones' engine uses the structural and semantic features in an algorithm that determines a probability or "confidence" that a region is the main subject.



https://www.dji.com/phantom-4-pro?site=brandsite&from=nav.

"***If the tracking algorithm looses [sic] sufficient confidence in tracking the target***, then the aircraft will stop flying relative to the object and either notify the user (through execution state) that the target is lost or it needs another confirmation that the target is correct." https://developer.dji.com/iframe/mobile-sdk-doc/android/reference/dji/sdk/MissionManager/DJIActiveTrackMission.html (emphasis added).

32. The DJI Defendants have thus infringed and continue to infringe at least claim 1 of the '317 patent by making, using, testing, selling, offering for sale, importing and/or licensing the '317 Infringing Instrumentalities, and operating such that all steps of at least claim 1 are performed.

33. The users, customers, agents and/or other third parties of the '317

Infringing Instrumentalities (collectively, "third-party infringers") have been and are now infringing, including under 35 U.S.C. § 271(a), at least claim 1 of the '317 patent by using the '317 Infringing Instrumentalities.

34. The DJI Defendants have, since at least no later than October 4, 2017, known or been willfully blind to the fact that the third-party infringers' use of the '317 Infringing Instrumentalities directly infringe the '317 patent.

35. The DJI Defendants' knowledge of the '317 patent, which covers operating the '317 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 1 of the '317 patent are met, made it known to the DJI Defendants that the third-party infringers' use of the '317 Infringing Instrumentalities would directly infringe the '317 patent, or, at the very least, render the DJI Defendants willfully blind to such infringement.

36. Having known or been willfully blind to the fact that the third-party infringers' use of the '317 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 1 of the '317 patent would directly infringe the '317 patent, the DJI Defendants, upon information and belief, actively encouraged and continue to actively encourage the third-party infringers to directly infringe the '317 patent by making, using, testing, selling, offering for sale, importing and/or licensing said '317 Infringing Instrumentalities, and by, for example, marketing '317 Infringing Instrumentalities to the third-party infringers; supporting and managing the third-party infringers' continued use of the '317 Infringing Instrumentalities; and providing technical assistance to the third-party infringers during their continued use of the '317 Infringing Instrumentalities. *See, e.g.,* DJI Active Track: Make the Drones Follow You, https://store.dji.com/guides/film-like-a-pro-with-activetrack/, and the Phantom 4 User Manual at pp. 21-24, instructing customers how to use ActiveTrack on their DJI products to detect and track the location of a main subject in a digital image.

37. The DJI Defendants induce the third-party infringers to infringe at

least claim 1 of the '317 patent by directing or encouraging them to operate the '317 Infringing Instrumentalities which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 1 of the '317 patent. For example, the DJI Defendants advertise and promote the features of the '317 Infringing Instrumentalities and encourage the third-party infringers to operate the '317 Infringing Instrumentalities in an infringing manner. The DJI Defendants further provide technical assistance as to how the '317 Infringing Instrumentalities should be used by the third-party infringers (*see*, *e.g.*, DJI Active Track: Make the Drones Follow You, https://store.dji.com/guides/film-like-a-pro-with-activetrack/, and the Phantom 4 User Manual at pp. 21-24, instructing customers how to use ActiveTrack on their DJI products to detect and track the location of a main subject in a digital image). In response, the third-party infringers acquire and operate the '317 Infringing Instrumentalities such that all limitations of claim 1 of the '317 patent are practiced.

38. Thus, the DJI Defendants have specifically intended to induce, and have induced, the third-party infringers to infringe at least claim 1 of the '317 patent, and the DJI Defendants have known of or been willfully blind to such infringement. The DJI Defendants have advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through their encouragement, advice, and assistance to the third-party infringers to use the '317 Infringing Instrumentalities.

39. Based on, among other things, the foregoing facts, the DJI Defendants have induced, and continue to induce, infringement under 35 U.S.C. § 271(b) of at least claim 1 of the '317 patent.

40. Further, the DJI Defendants sell, provide and/or license to the third-party infringers '317 Infringing Instrumentalities that are especially made and adapted—and specifically intended by the DJI Defendants—to be used as components and material parts of the inventions covered by the '317 patent. For

example, the DJI Defendants provide camera drone hardware and related 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 the '317 Infringing Instrumentalities in their intended manner.

41. Upon information and belief, the DJI Defendants also knew that the '317 Infringing Instrumentalities operate in a manner that satisfy all limitations of at least claim 1 of the '317 patent.

42. The main subject detection technology in the '317 Infringing Instrumentalities is specially made and adapted to infringe at least claim 1 of the '317 patent. Upon information and belief, the main subject detection technology in the '317 Infringing Instrumentalities is not a staple article or commodity of commerce, and, because the functionality is designed to work with the '317 Infringing Instrumentalities 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 October 4, 2017, based on the foregoing facts, the DJI Defendants have known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in— the'317 Infringing Instrumentalities in a manner that is covered by the '317 patent.

43. Based on, among other things, the foregoing facts, the DJI Defendants have contributorily infringed, and continue to contributorily infringe, at least claim 1 of the '317 patent under 35 U.S.C. § 271(c).

44. The DJI Defendants' 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 October 4, 2017, the DJI Defendants have 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, the DJI Defendants have made the business decision to "efficiently infringe" the '317

patent. In doing so, the DJI Defendants willfully infringe the '317 patent.

45. The DJI Defendants' acts of direct and indirect infringement have caused, and continue to cause, damage to MPV, and MPV is entitled to recover damages sustained as a result of the DJI Defendants' wrongful acts in an amount subject to proof at trial.

COUNT 2: INFRINGEMENT OF THE '485 PATENT

46. The allegations of paragraphs 1-45 of this Complaint are incorporated by reference as though fully set forth herein.

47. MPV owns by assignment the entire right, title, and interest in the '485 patent.

48. The '485 patent was issued by the United States Patent and Trademark Office on July 6, 2004 and is titled "Nonlinearly Modifying a Rendered Digital Image." A true and correct copy of the '485 patent is attached as Exhibit B.

49. Pursuant to 35 U.S.C. § 282, the '485 patent is presumed valid.

50. The inventions claimed in the '485 patent were not well-understood, routine, or conventional at the time of the invention. At the time of the '485 patent, methods for correcting for exposure errors in rendered digital images captured by a digital camera suffered from drawbacks. '485 patent at 1:34-56. Digital images captured by digital cameras have to be rendered so that they can be properly viewed on a display. *Id.* at 1:27-30. The resulting digital images are often referred to as being in a "rendered" image space, where relationship between the image code values and the scene luminance values is very non-linear. *Id.* at 1:30-34. Digital images often contain exposure errors, where subjects of the picture are lighter or darker than desired by the user, due to imperfect exposure determination algorithms in the digital camera that created the digital image. *Id.* at 1:34-39. At the time of the invention, conventional imaging applications permitted the user to adjust the "brightness", "contrast", and/or "gamma" of the image by sliding using one or more "sliders" controlled by a mouse. *Id.* at 1:39-43. Each control adjusts one of the

slope, x-intercept, or exponential function applied to the image, typically using a look-up table, in order to modify the tone reproduction of the image when it is displayed or printed. *Id.* at 1:43-46. However, none of these conventional applications directly adjusted the scene *exposure*, they did not properly compensate for digital camera exposure errors. *Id.* at 1:46-48. Some applications, such as Adobe Photoshop, also permitted the user to user to modify a "lookup table" by inputting a curve of arbitrary shape. *Id.* at 1:52-53. However, only a skilled user is able to determine what curve shape provides the best image, and only then using a tedious trial-and-error process. *Id.* at 1:53-55.

51. The inventive solution of the claimed inventions of the '485 patent provides a method for processing a rendered image using a single user adjustable exposure setting that overcomes one or more problems of the prior art. *Id.* at 1:59-2:12. The method includes allowing a single user adjustable exposure setting to be changed. *Id.* at 13:17-20. In response to changes in the single user adjustable exposure setting, the method selects an exposure modification transform. *Id.* at 13:21-14:3. The transform accounts for a rendering used to produce the rendered image that appears as if a different exposure level was used to capture the image. *Id.* at 14:1-3. The method further uses the selected transform to transform the rendered image. *Id.* at 14:5-6.

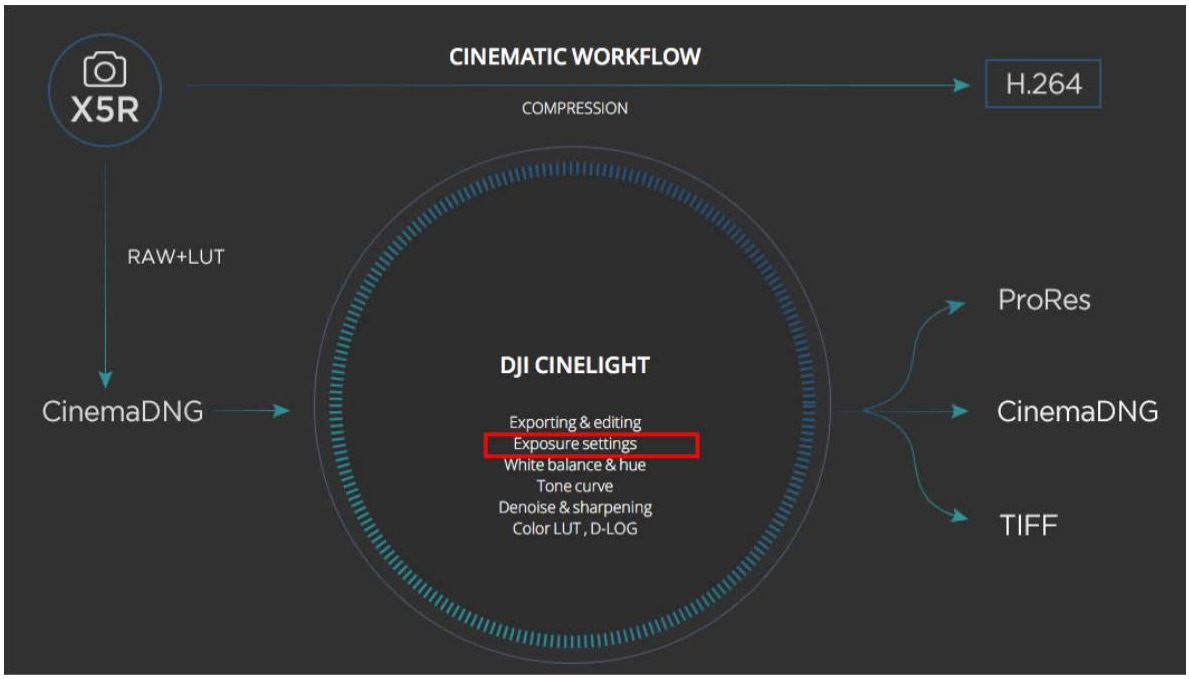
52. A person of ordinary skill in the art reading the '485 patent and its claims would understand that the patents' disclosures and claims are drawn to solving a specific, technical problems uniquely in the field of digital photography arising from issues involved in rendering digital images captured by digital cameras. Moreover, a person of ordinary skill in the art would understand that the claimed subject matter of the '485 patent presents advancements in field of digital photography and digitally-captured image processing and, more particularly, to correcting for exposure in rendered digital images captured by a digital camera. Indeed, the time of invention is less than twenty-five years after Kodak's prior

invention of the first self-contained digital camera in 1975. And, as detailed by the specification, the prior methods for correcting for exposure errors in rendered digital images captured by a digital camera suffered from drawbacks such that a new and novel method was required. The inventions of the '485 patent do not and cannot apply to analog photography and are indigenous to the then nascent field of digital photography.

53. In light of the foregoing, a person of ordinary skill in the art would understand that claim 21 of the '485 patent is directed to processing a rendered image by using a single user adjustable exposure setting and an exposure modification transform to effect a change that appears as if the different exposure level was used to capture the image. Further a person of ordinary skill in the art would understand that claim 21 of the '485 patent contains the inventive concept of processing a rendered image by using a single user adjustable exposure setting and an exposure modification transform to effect a change that appears as if the different exposure level was used to capture the image.

54. Upon information and belief, the DJI Defendants have directly infringed at least claim 21 of the '485 patent by making, using, testing, selling, offering for sale, importing and/or licensing in the United States without authority their post processing software, such as CineLight software, ("the '485 Infringing Instrumentalities") in an exemplary manner as described below.

55. One or more of the '485 Infringing Instrumentalities meet all the limitations of claim 21 of the '485 patent. In particular, the '485 Infringing Instrumentalities perform a method for processing a rendered image, including allowing a single user adjustable exposure setting to be changed.



https://www.dji.com/zenmuse-x5r

[16] Color Calibrations

A. Basic: Adjust the white balance, exposure and saturation.

B. Tone Curve: Adjust up to 5 points on the tone curve.

C. Denoise and Sharpen

Adjust the denoise and sharpening values.

A B C

https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf.

56. The '485 Infringing Instrumentalities also select an exposure modification transform responsive to changes in the exposure setting the transform accounting for a rendering used to produce the rendered image and effecting a

change that appears as if a different exposure level was used to capture the image.

[15] Properties

A. RGB Histogram

B. Hover Pixel Color

C. Image Infomration

[16] Color Calibrations

A. Basic: Adjust the white balance, exposure and saturation.

B. Tone Curve: Adjust up to 5 points on the tone curve.

C. Denoise and Sharpen

Adjust the denoise and sharpening values.

A B C

https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf

57. The ’485 Infringing Instrumentalities also use the selected exposure modification transform to transform the rendered image.

https://www.youtube.com/watch?v=NuAS_Ytk3Z4

58. The DJI Defendants have thus infringed and continue to infringe at least claim 21 of the '485 patent by making, using, testing, selling, offering for sale, importing and/or licensing the '485 Infringing Instrumentalities, and operating such

that all steps of at least claim 21 are performed.

59. The users, customers, agents and/or other third parties of the '485 Infringing Instrumentalities (collectively, "third-party infringers") have been and are now infringing, including under 35 U.S.C. § 271(a), at least claim 21 of the '485 patent by using the '485 Infringing Instrumentalities.

60. The DJI Defendants have, since at least no later than October 4, 2017, known or been willfully blind to the fact that the third-party infringers' use of the '485 Infringing Instrumentalities directly infringe the '485 patent.

61. The DJI Defendants' knowledge of the '485 patent, which covers operating the '485 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 21 of the '485 patent are met, made it known to the DJI Defendants that the third-party infringers' use of the '485 Infringing Instrumentalities would directly infringe the '485 patent, or, at the very least, render the DJI Defendants willfully blind to such infringement.

62. Having known or been willfully blind to the fact that the third-party infringers' use of the '485 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 21 of the '485 patent would directly infringe the '485 patent, the DJI Defendants, upon information and belief, actively encouraged and continue to actively encourage the third-party infringers to directly infringe the '485 patent by making, using, testing, selling, offering for sale, importing and/or licensing said '485 Infringing Instrumentalities, and by, for example, marketing '485 Infringing Instrumentalities to the third-party infringers; supporting and managing the third-party infringers' continued use of the '485 Infringing Instrumentalities; and providing technical assistance to the third-party infringers during their continued use of the '485 Infringing Instrumentalities. *See*, *e.g.*, DJI Cinelight User Manual at pp. 3-7, https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf, instructing users to adjust the exposure using a single exposure setting

in a manner that performs the claimed method.

63. The DJI Defendants induce the third-party infringers to infringe at least claim 21 of the '485 patent by directing or encouraging them to operate the '485 Infringing Instrumentalities which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 21 of the '485 patent. For example, the DJI Defendants advertise and promote the features of the '485 Infringing Instrumentalities on their website and encourage the third-party infringers to operate the '485 Infringing Instrumentalities in an infringing manner. The DJI Defendants further provide technical assistance as to how the '485 Infringing Instrumentalities should be used by the third-party infringers (*see*, *e.g.*, DJI Cinelight User Manual at pp. 3-7, https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf, instructing users to adjust the exposure using a single exposure setting in a manner that performs the claimed method). In response, the third-party infringers acquire and operate the '485 Infringing Instrumentalities such that all limitations of claim 21 of the '485 patent are practiced.

64. Thus, the DJI Defendants have specifically intended to induce, and have induced, the third-party infringers to infringe at least claim 21 of the '485 patent, and the DJI Defendants have known of or been willfully blind to such infringement. The DJI Defendants have advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through their encouragement, advice, and assistance to the third-party infringers to use the '485 Infringing Instrumentalities.

65. Based on, among other things, the foregoing facts, the DJI Defendants have induced, and continue to induce, infringement under 35 U.S.C. § 271(b) of at least claim 21 of the '485 patent.

66. Further, the DJI Defendants sell, provide and/or license to the third-party infringers '485 Infringing Instrumentalities that are especially made and

adapted—and specifically intended by the DJI Defendants—to be used as components and material parts of the inventions covered by the '485 patent. For example, the DJI Defendants provide hardware and related image processing software which the third-party infringers use in a manner such that all limitations of at least claim 21 of the '485 patent are met, and without which the third-party infringers would be unable to use and avail themselves of the '485 Infringing Instrumentalities in their intended manner.

67. Upon information and belief, the DJI Defendants also knew that the '485 Infringing Instrumentalities operate in a manner that satisfy all limitations of at least claim 21 of the '485 patent.

68. The image processing / exposure modification transform technology in the '485 Infringing Instrumentalities is specially made and adapted to infringe at least claim 21 of the '485 patent. Upon information and belief, the image processing / exposure modification transform technology in the '485 Infringing Instrumentalities is not a staple article or commodity of commerce, and, because the functionality is designed to work with the '485 Infringing Instrumentalities solely in a manner that is covered by the '485 patent, it does not have a substantial non-infringing use. At least by no later than October 4, 2017, based on the foregoing facts, the DJI Defendants have known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in—the'485 Infringing Instrumentalities in a manner that is covered by the '485 patent.

69. Based on, among other things, the foregoing facts, the DJI Defendants have contributorily infringed, and continue to contributorily infringe, at least claim 21 of the '485 patent under 35 U.S.C. § 271(c).

70. The DJI Defendants' acts of infringement of the '485 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 October 4, 2017, the DJI Defendants have willfully infringed the '485 patent by refusing to take a license and continuing the

foregoing infringement. Instead of taking a license to the '485 patent, the DJI Defendants have made the business decision to "efficiently infringe" the '485 patent. In doing so, the DJI Defendants willfully infringe the '485 patent.

71. The DJI Defendants' acts of direct and indirect infringement have caused, and continue to cause, damage to MPV, and MPV is entitled to recover damages sustained as a result of the DJI Defendants' wrongful acts in an amount subject to proof at trial

COUNT 3: INFRINGEMENT OF THE '713 PATENT

72. The allegations of paragraphs 1-71 of this Complaint are incorporated by reference as though fully set forth herein.

73. MPV owns by assignment the entire right, title, and interest in the '713 patent.

74. The '713 patent was issued by the United States Patent and Trademark Office on August 24, 2004 and is titled "Correcting Exposure in a Rendered Digital Image." A true and correct copy of the '713 patent is attached as Exhibit C.

75. Pursuant to 35 U.S.C. § 282, the '713 patent is presumed valid.

76. The inventions claimed in the '713 patent were not well-understood, routine, or conventional at the time of the invention. At the time of the '713 patent, methods for correcting for exposure errors in rendered digital images captured by a digital camera suffered from drawbacks. '713 patent at 1:35-57. Digital images captured by digital cameras have to be rendered so that they can be properly viewed on a display. *Id.* at 1:28-31. The resulting digital images are often referred to as being in a "rendered" image space, where relationship between the image code values and the scene luminance values is very non-linear. *Id.* at 1:31-34. Digital images often contain exposure errors, where subjects of the picture are lighter or darker than desired by the user, due to imperfect exposure determination algorithms in the digital camera that created the digital image. *Id.* at 1:35-40. At the time of the invention, conventional imaging applications permitted the user to adjust the

"brightness", "contrast", and/or "gamma" of the image by sliding using one or more "sliders" controlled by a mouse. *Id.* at 1:40-44. Each control adjusts one of the slope, x-intercept, or exponential function applied to the image, typically using a look-up table, in order to modify the tone reproduction of the image when it is displayed or printed. *Id.* at 1:44-47. However, none of these conventional applications directly adjusted the scene *exposure*, they did not properly compensate for digital camera exposure errors. *Id.* at 1:47-49. Some applications, such as Adobe Photoshop, also permitted the user to user to modify a "lookup table" by inputting a curve of arbitrary shape. *Id.* at 1:53-55. However, only a skilled user is able to determine what curve shape provides the best image, and only then using a tedious trial-and-error process. *Id.* at 1:55-57.

77. The inventive solution of the claimed inventions of the '713 patent provides a method for changing the exposure in a digital image captured by an image capture device using a single user adjustable exposure setting that overcomes one or more problems of the prior art. *Id.* at 1:61-2:19. The method includes allowing a single user adjustable exposure setting to be changed. *Id.* at 14:34-36. In response to changes in the single user adjustable exposure setting, the method selects an exposure modification transform. *Id.* at 14:37-38. The transform accounts for a rendering used to produce the rendered digital image and which appears as if a different exposure level was used by the image capture device. *Id.* at 14:39-41. The method further uses the selected transform to transform the image, and then displays the transformed image as the exposure setting is changed.

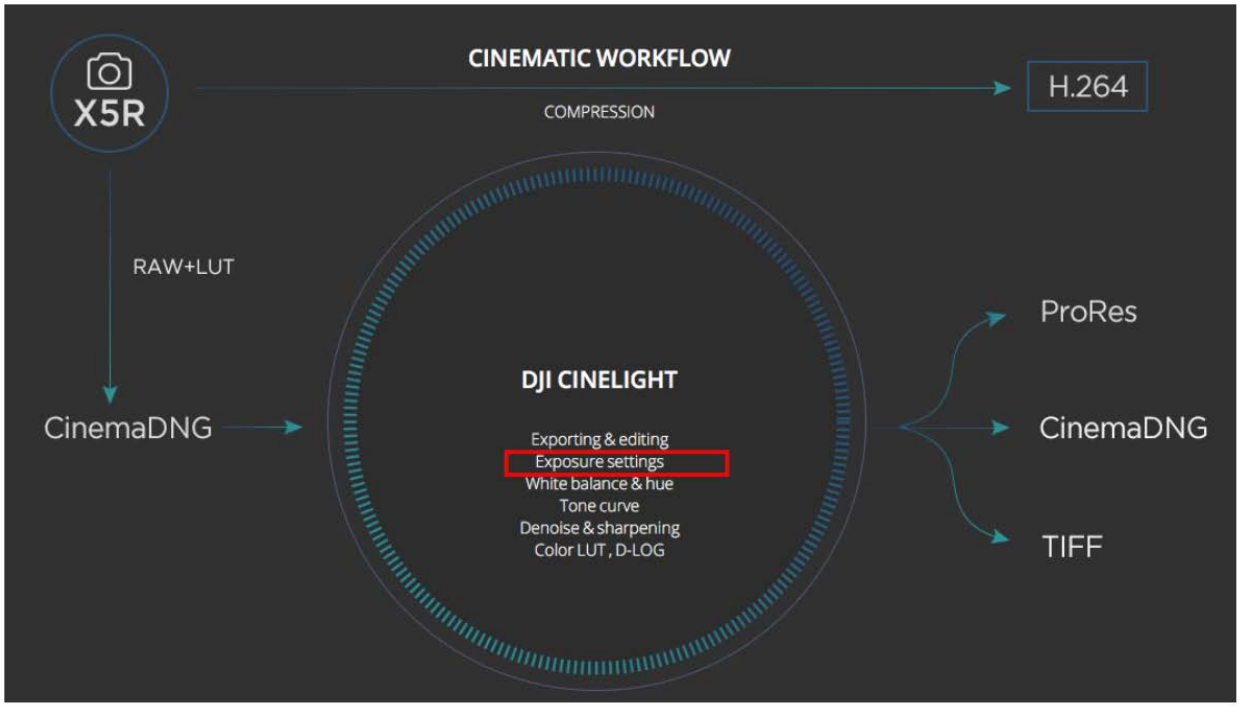
78. A person of ordinary skill in the art reading the '713 patent and its claims would understand that the patents' disclosures and claims are drawn to solving a specific, technical problems uniquely in the field of digital photography arising from issues involved in rendering digital images captured by digital cameras. Moreover, a person of ordinary skill in the art would understand that the claimed subject matter of the '713 patent presents advancements in field of digital

photography and digitally-captured image processing and, more particularly, to correcting for exposure in rendered digital images captured by a digital camera. Indeed, the time of invention is less than twenty-five years after Kodak's prior invention of the first self-contained digital camera in 1975. And, as detailed by the specification, the prior methods for correcting for exposure errors in rendered digital images captured by a digital camera suffered from drawbacks such that a new and novel method was required. The inventions of the '713 patent do not and cannot apply to analog photography and are indigenous to the then nascent field of digital photography.

79. In light of the foregoing, a person of ordinary skill in the art would understand that claim 25 of the '713 patent is directed to processing rendered captured image using a single user adjustable exposure setting and an exposure modification transform. Moreover, a person of ordinary skill in the art would understand that claim 25 of the '713 patent contains the inventive concept of processing rendered captured image using a single user adjustable exposure setting and an exposure modification transform.

80. Upon information and belief, the DJI Defendants have directly infringed at least claim 25 of the '713 patent by making, using, testing, selling, offering for sale, importing and/or licensing in the United States without authority their post processing software, such as CineLight software, ("the '713 Infringing Instrumentalities") in an exemplary manner as described below.

81. One or more of the '713 Infringing Instrumentalities meet all the limitations of claim 25 of the '713 patent. In particular, the '713 Infringing Instrumentalities perform a method for processing an image, including allowing a single user adjustable exposure setting to be changed.



https://www.dji.com/zenmuse-x5r

[16] Color Calibrations

A. Basic: Adjust the white balance, exposure and saturation.

B. Tone Curve: Adjust up to 5 points on the tone curve.

C. Denoise and Sharpen

Adjust the denoise and sharpening values.

A B C

https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf

82. The '713 Infringing Instrumentalities also select an exposure modification transform responsive to changes in the exposure setting which transform accounts for a rendering used to produce the rendered digital image and which appears as if a different exposure level was used by the image capture device.

[15] Properties

A. RGB Histogram

B. Hover Pixel Color

C. Image Infomration

[16] Color Calibrations

A. Basic: Adjust the white balance, exposure and saturation.

B. Tone Curve: Adjust up to 5 points on the tone curve.

C. Denoise and Sharpen

Adjust the denoise and sharpening values.

A B C

https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf

83. The '713 Infringing Instrumentalities also use the selected transform to transform the image and display the image as the exposure setting is changed.

https://www.youtube.com/watch?v=NuAS_Ytk3Z4

84. The DJI Defendants have thus infringed and continue to infringe at least claim 25 of the '713 patent by making, using, testing, selling, offering for sale, importing and/or licensing the '713 Infringing Instrumentalities, and operating such

that all steps of at least claim 25 are performed.

85. The users, customers, agents and/or other third parties of the '713 Infringing Instrumentalities (collectively, "third-party infringers") have been and are now infringing, including under 35 U.S.C. § 271(a), at least claim 25 of the '713 patent by using the '713 Infringing Instrumentalities.

86. The DJI Defendants have, since at least no later than October 4, 2017, known or been willfully blind to the fact that the third-party infringers' use of the '713 Infringing Instrumentalities directly infringe the '713 patent.

87. The DJI Defendants' knowledge of the '713 patent, which covers operating the '713 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 25 of the '713 patent are met, made it known to the DJI Defendants that the third-party infringers' use of the '713 Infringing Instrumentalities would directly infringe the '713 patent, or, at the very least, render the DJI Defendants willfully blind to such infringement.

88. Having known or been willfully blind to the fact that the third-party infringers' use of the '713 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 25 of the '713 patent would directly infringe the '713 patent, the DJI Defendants, upon information and belief, actively encouraged and continue to actively encourage the third-party infringers to directly infringe the '713 patent by making, using, testing, selling, offering for sale, importing and/or licensing said '713 Infringing Instrumentalities, and by, for example, marketing '713 Infringing Instrumentalities to the third-party infringers; supporting and managing the third-party infringers' continued use of the '713 Infringing Instrumentalities; and providing technical assistance to the third-party infringers during their continued use of the '713 Infringing Instrumentalities. *See*, *e.g.*, DJI Cinelight User Manual at pp. 3-7, https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf, instructing users to adjust the exposure using a single exposure setting

in a manner that performs the claimed method.

89. The DJI Defendants induce the third-party infringers to infringe at least claim 25 of the '713 patent by directing or encouraging them to operate the '713 Infringing Instrumentalities which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 25 of the '713 patent. For example, the DJI Defendants advertise and promote the features of the '713 Infringing Instrumentalities on their website and encourage the third-party infringers to operate the '713 Infringing Instrumentalities in an infringing manner. The DJI Defendants further provide technical assistance as to how the '713 Infringing Instrumentalities should be used by the third-party infringers (*see*, *e.g.*, DJI Cinelight User Manual at pp. 3-7, https://dl.djicdn.com/downloads/zenmuse_x5s/en/DJI_Cinelight_User_Manual_en_160324.pdf, instructing users to adjust the exposure using a single exposure setting in a manner that performs the claimed method). In response, the third-party infringers acquire and operate the '713 Infringing Instrumentalities such that all limitations of claim 25 of the '713 patent are practiced.

90. Thus, the DJI Defendants have specifically intended to induce, and have induced, the third-party infringers to infringe at least claim 25 of the '713 patent, and the DJI Defendants have known of or been willfully blind to such infringement. The DJI Defendants have advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through their encouragement, advice, and assistance to the third-party infringers to use the '713 Infringing Instrumentalities.

91. Based on, among other things, the foregoing facts, the DJI Defendants have induced, and continue to induce, infringement under 35 U.S.C. § 271(b) of at least claim 25 of the '713 patent.

92. Further, the DJI Defendants sell, provide and/or license to the third-party infringers '713 Infringing Instrumentalities that are especially made and

adapted—and specifically intended by the DJI Defendants—to be used as components and material parts of the inventions covered by the '713 patent. For example, the DJI Defendants provide hardware and related image processing software which the third-party infringers use in a manner such that all limitations of at least claim 25 of the '713 patent are met, and without which the third-party infringers would be unable to use and avail themselves of the '713 Infringing Instrumentalities in their intended manner.

93. Upon information and belief, the DJI Defendants also knew that the '713 Infringing Instrumentalities operate in a manner that satisfy all limitations of at least claim 25 of the '713 patent.

94. The image processing / exposure modification transform technology in the '713 Infringing Instrumentalities is specially made and adapted to infringe at least claim 25 of the '713 patent. Upon information and belief, the image processing / exposure modification transform technology in the '713 Infringing Instrumentalities is not a staple article or commodity of commerce, and, because the functionality is designed to work with the '713 Infringing Instrumentalities solely in a manner that is covered by the '713 patent, it does not have a substantial non-infringing use. At least by no later than October 4, 2017, based on the foregoing facts, the DJI Defendants have known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in—the '713 Infringing Instrumentalities in a manner that is covered by the '713 patent.

95. Based on, among other things, the foregoing facts, the DJI Defendants have contributorily infringed, and continue to contributorily infringe, at least claim 25 of the '713 patent under 35 U.S.C. § 271(c).

96. The DJI Defendants' acts of infringement of the '713 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 October 4, 2017, the DJI Defendants have willfully infringed the '713 patent by refusing to take a license and continuing the

foregoing infringement. Instead of taking a license to the '713 patent, the DJI Defendants have made the business decision to "efficiently infringe" the '713 patent. In doing so, the DJI Defendants willfully infringe the '713 patent.

97. The DJI Defendants' acts of direct and indirect infringement have caused, and continue to cause, damage to MPV, and MPV is entitled to recover damages sustained as a result of the DJI Defendants' wrongful acts in an amount subject to proof at trial

COUNT 4: INFRINGEMENT OF THE '112 PATENT

98. The allegations of paragraphs 1-97 of this Complaint are incorporated by reference as though fully set forth herein.

99. MPV owns by assignment the entire right, title, and interest in the '112 patent.

100. The '112 patent was issued by the United States Patent and Trademark Office on August 9, 2011 and is titled "Imaging Device Providing Capture Location Guidance." A true and correct copy of the '112 patent is attached as Exhibit D.

101. Pursuant to 35 U.S.C. § 282, the '112 patent is presumed valid.

102. The inventions claimed in the '112 patent were not well-understood, routine, or conventional at the time of the invention. At the time of the '112 patent, mobile phones, tablet computers, networked cameras, and other portable devices incorporating camera modules and network connections to the Internet have opened up opportunities for new and exciting gaming, entertainment, and structured learning experiences. '112 patent at 1:37-41. This technology was used to create geocache treasure hunt games and photo-based scavenger hunt games. *Id.* at 1:41-43. However, these experiences were relatively static. *Id.* at 1:45. Typically, the game or experience was designed once and played many times in a similar manner by all the users. *Id.* at 1:45-47

103. The inventive solution of the claimed inventions of the '112 patent is an image capture device which provides guidance for capturing images at different locations as well as a dynamic, compelling, photo-based experience responsive to the user, situation, and conditions. *Id.* at 2:38-3:3. The claimed image capture device has the advantages of providing an appropriate experience for capturing images at different locations as well as guidance to a user in order to adapt the experience for different users, situations, or conditions. *Id.* at 3:4-10. It is a feature of the invention that the guidance is provided after analyzing the pixel data of a captured digital image, in order to determine a second possible image capture location based on the user, situation, or condition. *Id.* at 3:11-14.

104. A person of ordinary skill in the art reading the '112 patent and its claims would understand that the patent's disclosure and claim are drawn to solving a specific, technical problem arising in providing guidance for capturing digital images at different locations. Moreover, a person of ordinary skill in the art would understand that the claimed subject matter of the '112 patent presents advancements in image capture devices which provide guidance for capturing images at different locations. As detailed by the specification, there was no mechanism for using guidance information to capture a digital image at a first scene and analyzing the pixel data of the captured digital image to determine guidance information for locating a second scene that is at a different location. The inventions of the '112 patent do not and cannot apply to analog photography and are indigenous to the then nascent field of digital photography

105. In light of the foregoing, a person of ordinary skill in the art would understand that claim 12 of the '112 patent is directed to using guidance information to capture a digital image at a first scene and analyzing the pixel data of the captured digital image to determine guidance information for locating a second scene that is at a different location. Moreover, a person of ordinary skill in the art would understand that claim 12 of the '112 patent contains the inventive concept of

using guidance information to capture a digital image at a first scene and analyzing the pixel data of the captured digital image to determine guidance information for locating a second scene that is at a different location.

106. Upon information and belief, the DJI Defendants have directly infringed at least claim 12 of the '112 patent by making, using, testing, selling, offering for sale, importing and/or licensing in the United States without authority their DJI drone cameras (e.g., Inspire 2) with the CrystalSky Monitor running the DJI GO 4 application ("the '112 Infringing Instrumentalities") in an exemplary manner as described below.

107. One or more of the '112 Infringing Instrumentalities meet all the limitations of claim 12 of the '112 patent. In particular, the '112 Infringing Instrumentalities practice a method for displaying guidance information for capturing a digital image at a location of a first scene:

https://www.dji.com/crystalsky.

DJI GO 4 APP

DJI GO 4 is a powerful, convenient app that offers full control and customization of the Inspire 2. It can be used to check the flight status of the aircraft in real time, trigger automatic take off or Return to Home, control camera settings, enable Intelligent Flight Modes and much more, all with just a few taps of the screen.

http://www.dji.com/inspire-2?site=brandsite&from=nav.

DJI GO 4 App

The DJI GO 4 app is a new mobile app designed specifically for the Inspire 2. Use this app to control the gimbal, camera and other features of your flight system. The app also comes with Map, Store a User Center, for configuring your aircraft and sharing your content with friends. It is recommended that you use a tablet for the best experience.

https://dl.djicdn.com/downloads/inspire_2/20170711/INSPIRE_2_UM_V1.4_EN.pdf

TapFly

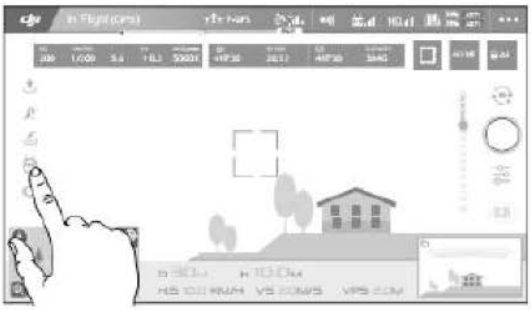
Introduction

With the TapFly feature, users can now tap on the mobile device screen to fly in the designated direction without using the remote controller. The aircraft will automatically avoid obstacles it sees or brake and hover provided that the lighting is appropriate (< 300 lux) nor too bright (> 10,000 lux).

Using TapFly

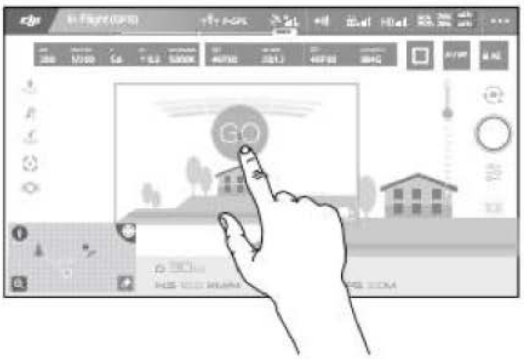
Ensure the battery level is more than 50% for the Intelligent Flight Battery. And the aircraft is in P-mode. Then follow the steps below to use TapFly:

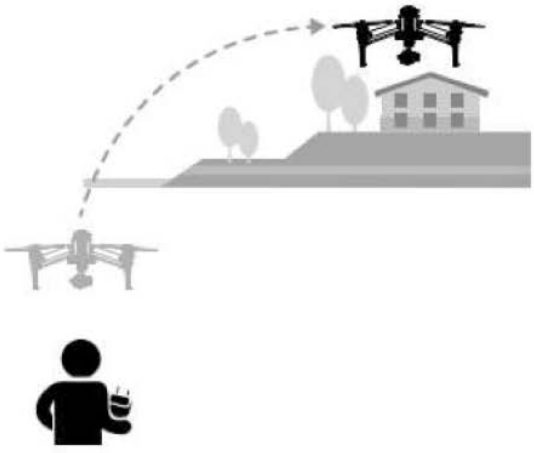
2. Launch the DJI GO 4 app and tap , then tap , read and understand the prompts.



https://dl.djicdn.com/downloads/inspire_2/20170711/INSPIRE_2_UM_V1.4_EN.pdf

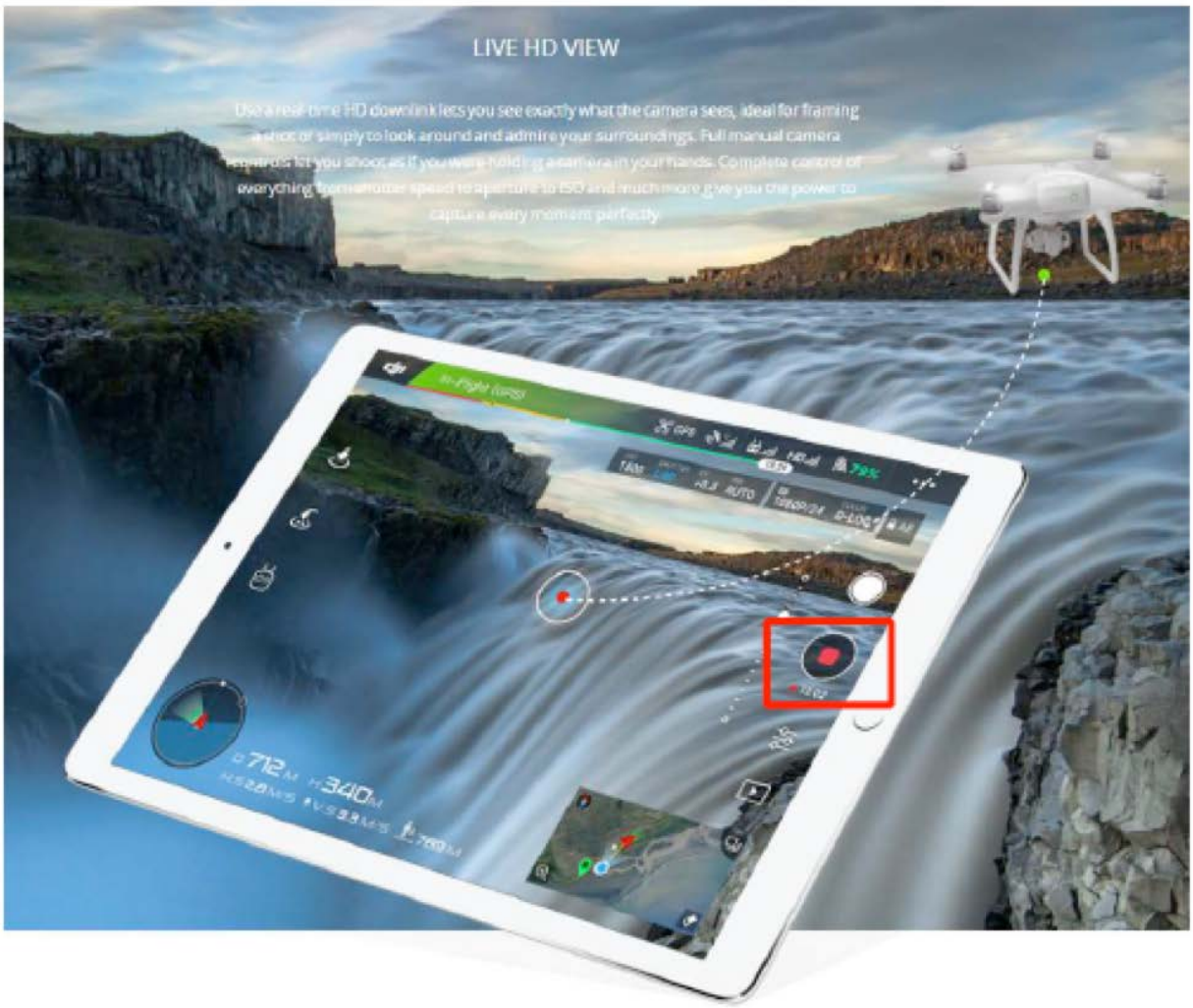
3. Tap once on the target direction and wait for GO icon to appear. Tap again to confirm the selection and the aircraft will automatically fly towards the target direction.





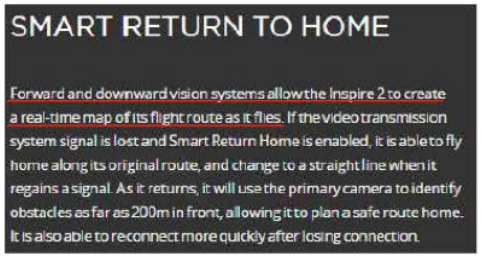
https://dl.djicdn.com/downloads/inspire_2/20170711/INSPIRE_2_UM_V1.4_EN.pdf

108. The '112 Infringing Instrumentalities capture a digital image of a first scene using the guidance information:

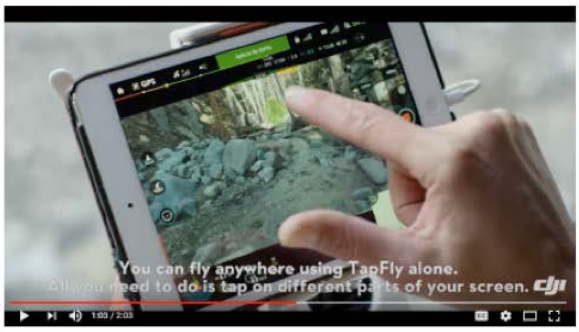


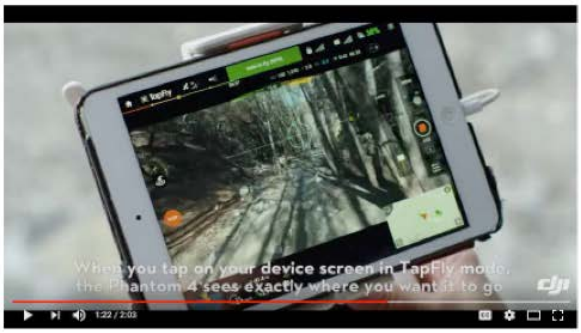
https://www.dji.com/goapp.

109. The '112 Infringing Instrumentalities analyze pixel data of the first digital image to determine a location of a second scene and guidance information for locating the second scene. The location of the second scene is selected from a plurality of locations and differs from the location of the first scene.



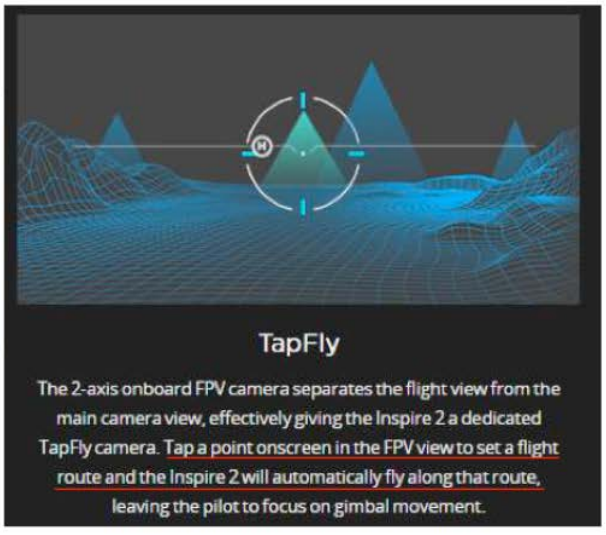
http://www.dji.com/inspire-2?site=brandsite&from=nav.





https://www.youtube.com/watch?v=FEHXTrECkAQ.

110. The '112 Infringing Instrumentalities display the guidance information for locating the second scene:



http://www.dji.com/inspire-2?site=brandsite&from=nav.

111. The DJI Defendants have thus infringed and continue to infringe at least claim 12 of the '112 patent by making, using, testing, selling, offering for sale, importing and/or licensing the '112 Infringing Instrumentalities, and operating such that all steps of at least claim 12 are performed, including within this District.

112. The users, customers, agents and/or other third parties of the '112 Infringing Instrumentalities (collectively, "third-party infringers") have been and are now infringing, including under 35 U.S.C. § 271(a), at least claim 12 of the '112 patent by using the '112 Infringing Instrumentalities.

113. The DJI Defendants have, since at least no later than October 4, 2017, known or been willfully blind to the fact that the third-party infringers' use of the '112 Infringing Instrumentalities directly infringe the '112 patent.

114. The DJI Defendants' knowledge of the '112 patent, which covers operating the '112 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 12 of the '112 patent are met, made it known to the DJI Defendants that the third-party infringers' use of the '112 Infringing Instrumentalities would directly infringe the '112 patent, or, at the very least, render the DJI Defendants willfully blind to such infringement.

115. Having known or been willfully blind to the fact that the third-party infringers' use of the '112 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 12 of the '112 patent would directly infringe the '112 patent, the DJI Defendants, upon information and belief, actively encouraged and continue to actively encourage the third-party infringers to directly infringe the '112 patent by making, using, testing, selling, offering for sale, importing and/or licensing said '112 Infringing Instrumentalities, and by, for example, marketing '112 Infringing Instrumentalities to the third-party infringers; supporting and managing the third-party infringers' continued use of the '112 Infringing Instrumentalities; and providing technical assistance to the third-party infringers during their continued use of the '112 Infringing Instrumentalities. *See*,

e.g., https://dl.djicdn.com/downloads/inspire_2/20170711/INSPIRE_2_UM_V1.4_EN.pdf.

116. The DJI Defendants induce the third-party infringers to infringe at least claim 12 of the '112 patent by directing or encouraging them to operate the '112 Infringing Instrumentalities which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 12 of the '112 patent. For example, the DJI Defendants advertise and promote the features of the '112 Infringing Instrumentalities on https://www.dji.com and encourage the third-party infringers to operate the '112 Infringing Instrumentalities in an infringing manner. The DJI Defendants further provide technical assistance as to how the '112 Infringing Instrumentalities should be used by the third-party infringers (*see*, *e.g.*, https://dl.djicdn.com/downloads/inspire_2/20170711/INSPIRE_2_UM_V1.4_EN.pdf). In response, the third-party infringers acquire and operate the '112 Infringing Instrumentalities such that all limitations of claim 12 of the '112 patent are practiced.

117. Thus, the DJI Defendants have specifically intended to induce, and have induced, the third-party infringers to infringe at least claim 12 of the '112 patent, and the DJI Defendants have known of or been willfully blind to such infringement. The DJI Defendants have advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through their encouragement, advice, and assistance to the third-party infringers to use the '112 Infringing Instrumentalities.

118. Based on, among other things, the foregoing facts, the DJI Defendants have induced, and continue to induce, infringement under 35 U.S.C. § 271(b) of at least claim 12 of the '112 patent.

119. Further, the DJI Defendants sell, provide and/or license to the third-party infringers '112 Infringing Instrumentalities that are especially made and

adapted—and specifically intended by the DJI Defendants—to be used as components and material parts of the inventions covered by the '112 patent. For example, the DJI Defendants provide the Inspire 2 which the third-party infringers use in a manner such that all limitations of at least claim 12 of the '112 patent are met, and without which the third party infringers would be unable to use and avail themselves of the '112 Infringing Instrumentalities in their intended manner.

120. Upon information and belief, the DJI Defendants also knew that the '112 Infringing Instrumentalities operate in a manner that satisfy all limitations of at least claim 12 of the '112 patent.

121. The Intelligent Flight technology in the '112 Infringing Instrumentalities is specially made and adapted to infringe at least claim 12 of the '112 patent. Upon information and belief, the Intelligent Flight technology in the '112 Infringing Instrumentalities is not a staple article or commodity of commerce, and, because the functionality is designed to work with the '112 Infringing Instrumentalities solely in a manner that is covered by the '112 patent, it does not have a substantial non-infringing use. At least by no later than October 4, 2017, based on the foregoing facts, the DJI Defendants have known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in—the '112 Infringing Instrumentalities in a manner that is covered by the '112 patent.

122. Based on, among other things, the foregoing facts, the DJI Defendants have contributorily infringed, and continue to contributorily infringe, at least claim 12 of the '112 patent under 35 U.S.C. § 271(c).

123. The DJI Defendants' acts of infringement of the '112 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 October 4, 2017, the DJI Defendants have willfully infringed the '112 patent by refusing to take a license and continuing the foregoing infringement. Instead of taking a license to the '112 patent, the DJI

Defendants have made the business decision to "efficiently infringe" the '112 patent. In doing so, the DJI Defendants willfully infringe the '112 patent.

124. The DJI Defendants' acts of direct and indirect infringement have caused, and continue to cause, damage to MPV, and MPV is entitled to recover damages sustained as a result of the DJI Defendants' wrongful acts in an amount subject to proof at trial.

COUNT 5: INFRINGEMENT OF THE '674 PATENT

125. The allegations of paragraphs 1-124 of this Complaint are incorporated by reference as though fully set forth herein.

126. MPV owns by assignment the entire right, title, and interest in the '674 patent.

127. The '674 patent was issued by the United States Patent and Trademark Office on June 10, 2014 and is titled "Remotely Controllable Digital Camera System." A true and correct copy of the '674 patent is attached as Exhibit E.

128. Pursuant to 35 U.S.C. § 282, the '674 patent is presumed valid.

129. The inventions claimed in the '674 patent were not well-understood, routine, or conventional at the time of the invention. At the time of the '674 patent, it was important for a digital video camera system to provide a high quality audio signal, in order to enable the user to produce compelling videos. '674 patent at 2:43-45. This required that the microphone used to capture the audio signals be positioned at an appropriate location, to record audio signals at appropriate times. *Id.* at 2:45-48. This was especially important when the digital video system includes an image capture unit and an image recording unit that can be located at different positions and pointed in different directions. *Id.* at 2:48-51. Thus, there remained a need to provide a digital video camera system having separate capture and recording units that provides an improved way of recording audio and image signals. *Id.* at 2:51-54.

130. The inventive solution of the claimed inventions of the '674 patent is a digital video camera system that has three advantages over the prior art systems. First, the inventive solution has the advantage that the capture of digital video signals at a first location can be controlled by a user from a second location. *Id.* at 3:36-38. Second, it has the additional advantage that the pointing direction of the optical system in the image capture unit can be remotely controlled. *Id.* at 3:39-41. Finally, the pointing direction can be controlled using various user controls including an orientation sensor or a touch screen interface. *Id.* at 3:41-43.

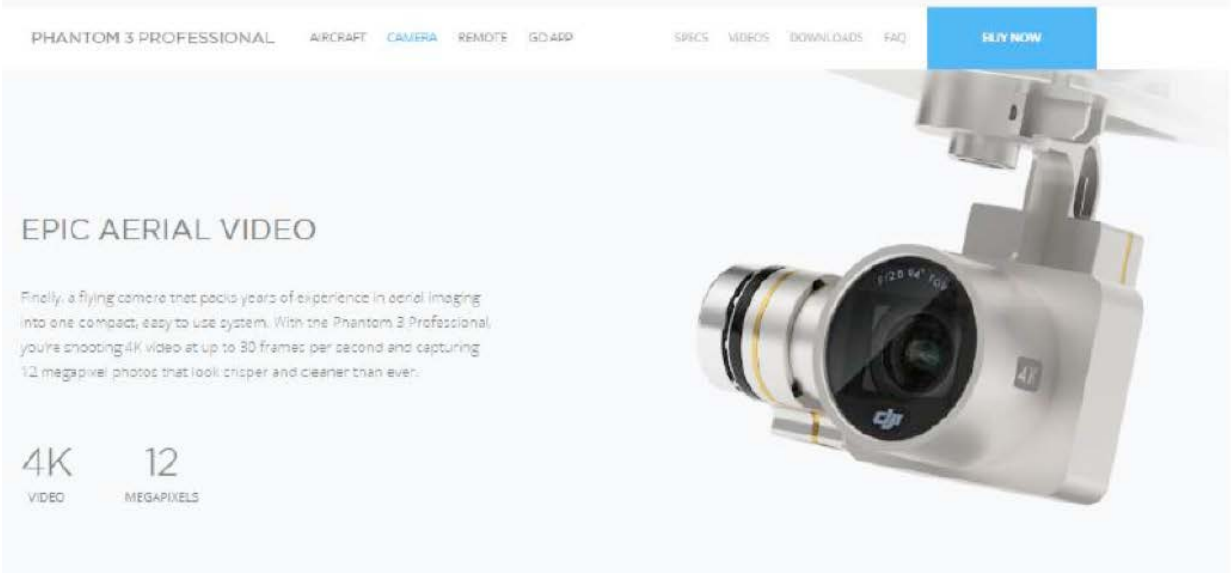
131. A person of ordinary skill in the art reading the '674 patent and its claims would understand that the patent's disclosure and claim are drawn to solving a specific, technical problem arising in digital video camera systems. Moreover, a person of ordinary skill in the art would understand that the claimed subject matter of the '674 patent presents advancements in the field of digital video camera systems having a wireless connection. Indeed, the time of invention is less than twenty-five years after Kodak's prior invention of the first self-contained digital camera in 1975.

132. In light of the foregoing, a person of ordinary skill in the art would understand that claim 20 of the '674 patent is directed to a specific method of wirelessly controlling an image recording unit by using a tilting mechanism to adjust the pointing direction of the optical system on the image recording unit in response to the detection of changes in the orientation of the image recording unit. Moreover, a person of ordinary skill in the art would understand that claim 20 of the '674 patent contains the inventive concept of wirelessly controlling an image recording unit by using a tilting mechanism to adjust the pointing direction of the optical system on the image recording unit in response to the detection of changes in the orientation of the image recording unit.

133. Upon information and belief, the DJI Defendants have directly infringed at least claim 20 of the '674 patent by making, using, testing, selling,

offering for sale, importing and/or licensing in the United States without authority their CrystalSky monitor and compatible drones with imaging units (e.g., Phantom 3 Professional) ("the '674 Infringing Instrumentalities") in an exemplary manner as described below.

134. One or more of the '674 Infringing Instrumentalities meet all the limitations of claim 20 of the '674 patent. In particular, the '674 Infringing Instrumentalities capture a digital video signal using an image sensor:



http://www.dji.com/phantom-3-pro/camera#sub-feature.

135. The '674 Infringing Instrumentalities form an image of a scene onto the image sensor:

Camera and Gimbal

Camera Profile

The on-board camera uses the 1/2.3 inch CMOS sensor to capture video (up to 4096x2160p at 24fps or 4K at up to 30fps with the Phantom 3 Professional) and 12 megapixel stills. You may choose to record the video in either MOV or MP4 format. Available picture shooting modes include burst, continuous, and time-lapse mode. A live preview of what the camera sees can be monitored on the connected mobile device via the DJI GO app.

https://dl.djicdn.com/downloads/phantom_3/en/Phantom+3+Professional+User+Manual+v1.8_en_20160719.pdf.

136. The ’674 Infringing Instrumentalities wirelessly receive a digital video signal from the image recording unit:

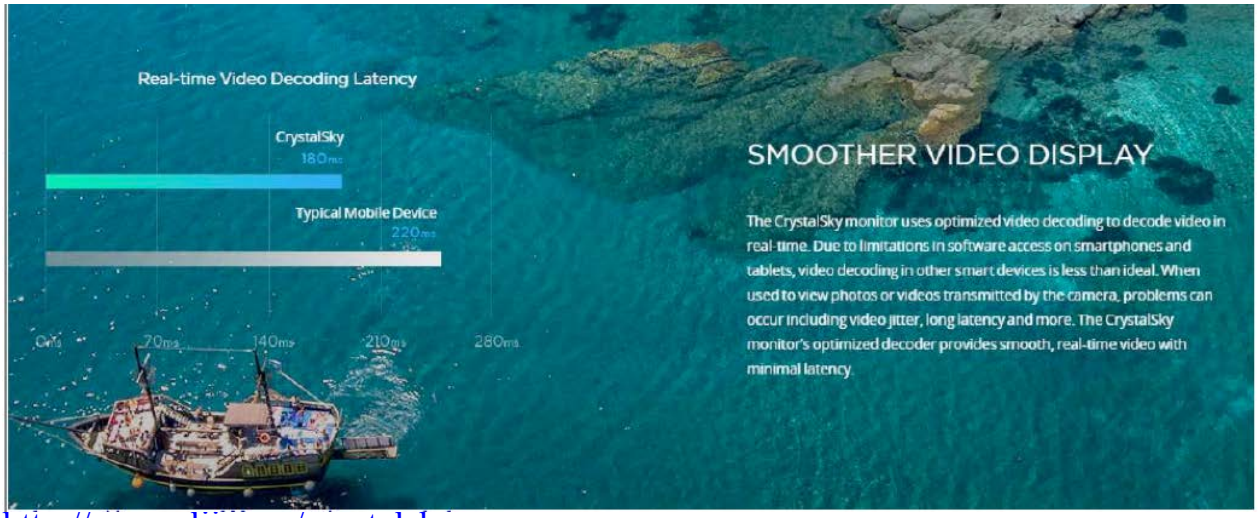
http://www.dji.com/crystalsky.

137. The ’674 Infringing Instrumentalities wirelessly receive a wireless communication from a second wireless communication system onboard the DJI image recording unit:

http://www.dji.com/crystalsky.

138. The ’674 Infringing Instrumentalities display the received digital video

signal on an image display:



http://www.dji.com/crystalsky.

139. The '674 Infringing Instrumentalities detect an orientation of the image recording unit using an orientation sensor:

http://www.dji.com/phantom-3-pro/camera#sub-feature.

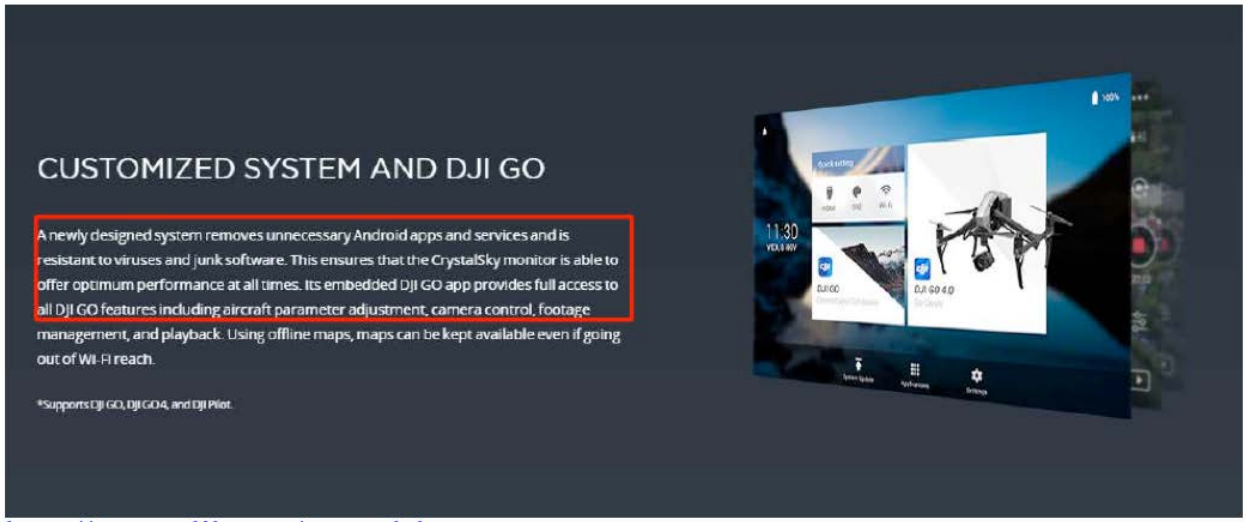
140. The '674 Infringing Instrumentalities enable a user to customize control of the imaging unit:

DJI GO/GO 4 App

Press the Power Button until the Monitor powers on, then enter the DJI GO/GO 4 app.

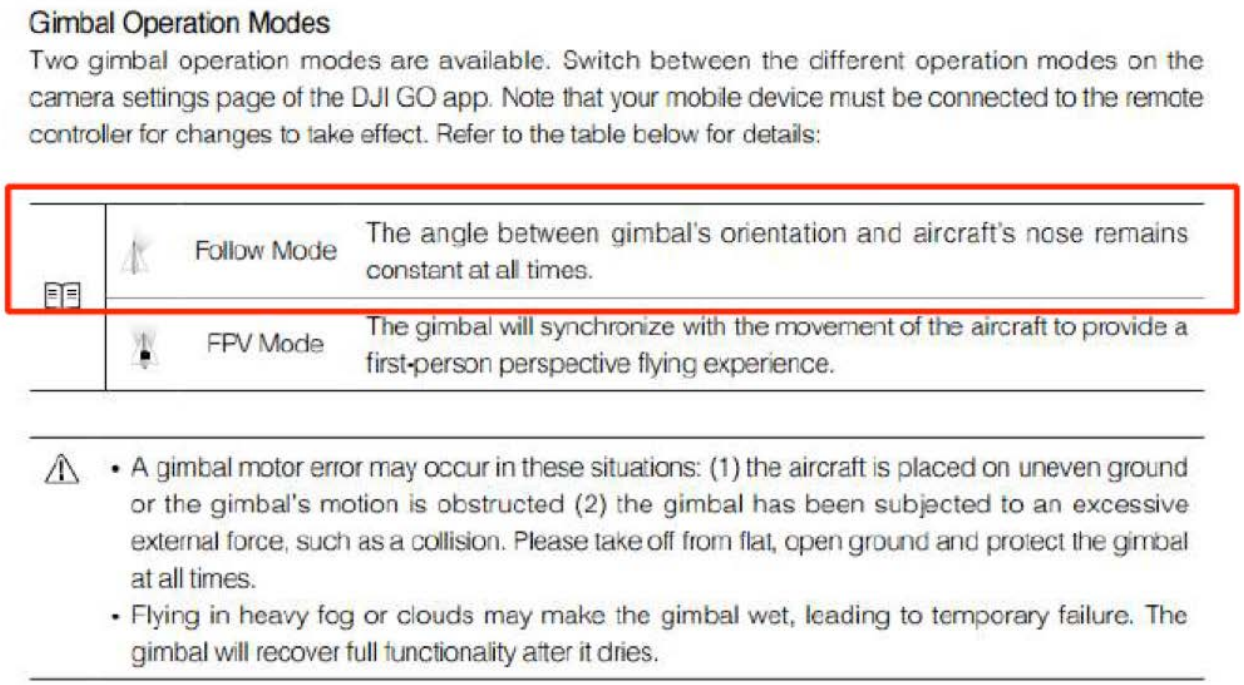
Use the built-in DJI GO/DJI GO 4 app to control the gimbal, camera and other features of your flight system. The app also comes with a map, a store, and a user center, for configuring your aircraft and sharing your content.

http://dl.djicdn.com/downloads/CrystalSky/20170424_1/Crystalsky_User_Guide_v1.0_multi.pdf.



http://www.dji.com/crystalsky.

141. The '674 Infringing Instrumentalities allow a user to select a gimbal operation mode that will adjust the pointing direction of the optical system in response to detecting a change in the orientation of the image recording unit:



Gimbal Operation Modes

Two gimbal operation modes are available. Switch between the different operation modes on the camera settings page of the DJI GO app. Note that your mobile device must be connected to the remote controller for changes to take effect. Refer to the table below for details:

Follow Mode	The angle between gimbal's orientation and aircraft's nose remains constant at all times.
FPV Mode	The gimbal will synchronize with the movement of the aircraft to provide a first-person perspective flying experience.

- A gimbal motor error may occur in these situations: (1) the aircraft is placed on uneven ground or the gimbal's motion is obstructed (2) the gimbal has been subjected to an excessive external force, such as a collision. Please take off from flat, open ground and protect the gimbal at all times.
- Flying in heavy fog or clouds may make the gimbal wet, leading to temporary failure. The gimbal will recover full functionality after it dries.

https://dl.djicdn.com/downloads/phantom_3/en/Phantom+3+Professional+User+Manual+v1.8_en_20160719.pdf.

142. The '674 Infringing Instrumentalities store the received digital video signal in a digital media file:

http://www.dji.com/crystalsky.

143. The DJI Defendants have thus infringed and continue to infringe at least claim 20 of the '674 patent by making, using, testing, selling, offering for sale,

importing and/or licensing the '674 Infringing Instrumentalities, and operating such that all steps of at least claim 20 are performed, including within this District.

144. The users, customers, agents and/or other third parties of the '674 Infringing Instrumentalities (collectively, "third-party infringers") have been and are now infringing, including under 35 U.S.C. § 271(a), at least claim 20 of the '674 patent by using the '674 Infringing Instrumentalities.

145. The DJI Defendants have, since at least no later than October 4, 2017, known or been willfully blind to the fact that the third-party infringers' use of the '674 Infringing Instrumentalities directly infringe the '674 patent.

146. The DJI Defendants' knowledge of the '674 patent, which covers operating the '674 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 20 of the '674 patent are met, made it known to the DJI Defendants that the third party infringers' use of the '674 Infringing Instrumentalities would directly infringe the '674 patent, or, at the very least, render the DJI Defendants willfully blind to such infringement.

147. Having known or been willfully blind to the fact that the third-party infringers' use of the '674 Infringing Instrumentalities in their intended manner and such that all limitations of at least claim 20 of the '674 patent would directly infringe the '674 patent, the DJI Defendants, upon information and belief, actively encouraged and continue to actively encourage the third-party infringers to directly infringe the '674 patent by making, using, testing, selling, offering for sale, importing and/or licensing said '674 Infringing Instrumentalities, and by, for example, marketing '674 Infringing Instrumentalities to the third-party infringers; supporting and managing the third-party infringers' continued use of the '674 Infringing Instrumentalities; and providing technical assistance to the third party infringers during their continued use of the '674 Infringing Instrumentalities. *See*, *e.g.*,

https://dl.djicdn.com/downloads/phantom_3/en/Phantom+3+Professional+User+Ma

nual+v1.8_en_20160719.pdf.

148. The DJI Defendants induce the third-party infringers to infringe at least claim 20 of the '674 patent by directing or encouraging them to operate the '674 Infringing Instrumentalities which, alone or in combination with the third-party infringers' devices, satisfy all limitations of claim 20 of the '674 patent. For example, the DJI Defendants advertise and promote the features of the '674 Infringing Instrumentalities on www.dji.com and encourage the third-party infringers to operate the '674 Infringing Instrumentalities in an infringing manner. The DJI Defendants further provide technical assistance as to how the '674 Infringing Instrumentalities should be used by the third party infringers (*see*, *e.g.*, https://dl.djicdn.com/downloads/phantom_3/en/Phantom+3+Professional+User+Manual+v1.8_en_20160719.pdf). In response, the third-party infringers acquire and operate the '674 Infringing Instrumentalities such that all limitations of claim 20 of the '674 patent are practiced.

149. Thus, the DJI Defendants have specifically intended to induce, and have induced, the third-party infringers to infringe at least claim 20 of the '674 patent, and the DJI Defendants have known of or been willfully blind to such infringement. The DJI Defendants have advised, encouraged, and/or aided the third-party infringers to engage in direct infringement, including through their encouragement, advice, and assistance to the third-party infringers to use the '674 Infringing Instrumentalities.

150. Based on, among other things, the foregoing facts, the DJI Defendants have induced, and continue to induce, infringement under 35 U.S.C. § 271(b) of at least claim 20 of the '674 patent.

151. Further, the DJI Defendants sell, provide and/or license to the third-party infringers '674 Infringing Instrumentalities that are especially made and adapted—and specifically intended by the DJI Defendants—to be used as components and material parts of the inventions covered by the '674 patent. For

example, the DJI Defendants provide CrystalSky monitor and compatible drones with imaging units (e.g., Phantom 3 Professional) which the third-party infringers use in a manner that all limitations of at least claim 20 of the '674 patent are met, and without which the third party infringers would be unable to use and avail themselves of the '674 Infringing Instrumentalities in their intended manner.

152. Upon information and belief, the DJI Defendants also knew that the '674 Infringing Instrumentalities operate in a manner that satisfy all limitations of at least claim 20 of the '674 patent.

153. The CrystalSky technology in the '674 Infringing Instrumentalities is specially made and adapted to infringe at least claim 20 of the '674 patent. Upon information and belief, the CrystalSky technology in the '674 Infringing Instrumentalities is not a staple article or commodity of commerce, and, because the functionality is designed to work with the '674 Infringing Instrumentalities solely in a manner that is covered by the '674 patent, it does not have a substantial non-infringing use. At least by no later than October 4, 2017, based on the foregoing facts, the DJI Defendants have known or been willfully blind to the fact that such functionality is especially made and adapted for—and is in fact used in—the '674 Infringing Instrumentalities in a manner that is covered by the '674 patent.

154. Based on, among other things, the foregoing facts, the DJI Defendants have contributorily infringed, and continue to contributorily infringe, at least claim 20 of the '674 patent under 35 U.S.C. § 271(c).

155. The DJI Defendants' acts of infringement of the '674 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 October 4, 2017, the DJI Defendants have willfully infringed the '674 patent by refusing to take a license and continuing the foregoing infringement. Instead of taking a license to the '674 patent, the DJI Defendants have made the business decision to "efficiently infringe" the '674 patent. In doing so, the DJI Defendants willfully infringe the '674 patent.

156. The DJI Defendants' acts of direct and indirect infringement have caused, and continue to cause, damage to MPV, and MPV is entitled to recover damages sustained as a result of the DJI Defendants' wrongful acts in an amount subject to proof at trial.

PRAYER FOR RELIEF

WHEREFORE, MPV respectfully requests the following relief:

WHEREFORE, MPV respectfully requests the following relief:

A. A judgment that the DJI Defendants have willfully infringed the '317 patent;

B. A judgment that the DJI Defendants have willfully infringed the '485 patent;

C. A judgment that the DJI Defendants have willfully infringed the '713 patent;

D. A judgment that the DJI Defendants have willfully infringed the '112 patent;

E. A judgment that the DJI Defendants have willfully infringed the '674 patent;

F. A judgment that MPV be awarded damages adequate to compensate it for the DJI Defendants' past infringement and any continuing or future infringement of the '317 patent, the '485 patent, the '713 patent, the '112 patent, and the '674 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

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, MPV demands a trial by jury for all issues so triable.

Dated: May 31, 2018 By */s/ Marc Belloli*

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