IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

OPTIMUM IMAGING TECHNOLOGIES LLC,	§	
	§	
Plaintiff,	§	
	§	**JURY TRIAL DEMANDED**
v.	§	
	§	
NIKON CORPORATION,	§	**CIVIL ACTION NO. _____**
	§	
Defendant.	§	
	§	
	§	
	§	
	§	

PLAINTIFF'S ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Optimum Imaging Technologies LLC ("OIT" or "Plaintiff") files this Complaint in the Eastern District of Texas (the "District") against Defendant Nikon Corporation ("Defendant" or "Nikon") for infringement of U.S. Patent Nos. 7,612,805 (the "'805 patent"), 8,451,339 (the "'339 patent"), 10,873,685 (the "'685 Patent"), and 10,877,266 (the "'266 patent") which are collectively referred to as the "Asserted Patents."

THE PARTIES

1. Plaintiff OIT is a Texas limited liability company founded in 2009 and with an address at 8701 Shoal Creek Blvd. #401, Austin, Texas 78757.

2. On information and belief, Defendant Nikon is a corporation organized under the laws of Japan, with its principal place of business located at Shinagawa Intercity Tower C, 2-15-3, Konan, Minato-ku, Tokyo 108-6290, Japan. Nikon may be served with process via its registered agents and via its corporate officers.

PETITIONERS EX1019

JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, namely 35 U.S.C. §§ 271, 281, and 284-285, among others.

4. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. On information and belief, Defendant is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial business in this State and this District, including: (A) at least part of its infringing activities alleged herein which purposefully avail the Defendant of the privilege of conducting those activities in this state and this District and, thus, submits itself to the jurisdiction of this court; and (B) regularly doing or soliciting business, engaging in other persistent conduct targeting residents of Texas and this District, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported and services provided to and targeting Texas residents and residents of this District vicariously through and/or in concert with its alter egos, intermediaries, agents, distributors, partners, subsidiaries, clients, customers, affiliates, and/or consumers.

6. Furthermore, upon information and belief, Defendant has purposefully and voluntarily placed one or more infringing products into the stream of commerce with the expectation that they will be purchased and/or used by residents of this judicial District, including by directly and indirectly working with distributors, and other entities located in the State of Texas, to ensure the accused products reach the State of Texas and this judicial District, including in this Division. For example, as of August 18, 2023, there are 9 Authorized Nikon Dealers in the State of

Texas. *Authorized Nikon Dealers*, NIKON, https://cdn-6.nikon-cdn.com/where-to-buy/nikon_img_auth_dealers.pdf (last visited Aug. 18, 2023).

7. Defendant also maintains commercial websites accessible to residents of the State of Texas and this judicial District, through which Defendant promotes and facilitates sales of the infringing products. For example, Nikon's website Nikon.com is accessible to consumers in the United States, including those in the State of Texas and this judicial District, where Nikon supplies information about products that can be purchased from online stores such as Amazon.com, as well as brick-and-mortar stores located in this judicial District, including but not limited to Best Buy.

8. Thus, Defendant has established minimum contacts with the State of Texas and the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice.

9. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391(b), (c) and 1400(b) because (i) Defendant has done and continues to do business in this district; (ii) Defendant has committed and continues to commit acts of patent infringement in this district, including making, using, offering to sell, and/or selling accused products in this district, and/or importing accused products into this district, including by internet sales and sales via retail and wholesale stores, and/or inducing others to commit acts of patent infringement in this district; and (iii) Defendant is foreign entity. 28 U.S.C. § 1391(c)(3) provides that "a defendant not resident in the United States may be sued in any judicial district." *See also Brunette Machine Works v. Kockum Industries, Inc.*, 406 U.S. 706 (1972), holding that venue is proper pursuant to 28 U.S.C. §§ 1391 and 1400(b) when Defendant is a foreign entity.

FACTUAL ALLEGATIONS

10. Neal Solomon is the sole inventor of the Asserted Patents: the '805 Patent, titled "Digital imaging system and methods for selective image filtration"; the '339 Patent, titled "Digital

imaging system for correcting image aberrations"; the '685 Patent, titled "Digital imaging system for correcting video image aberrations"; and the '266 Patent, titled "Digital camera with wireless image transfer." The Asserted Patents share a specification and a priority date at least as early as July 11, 2006.

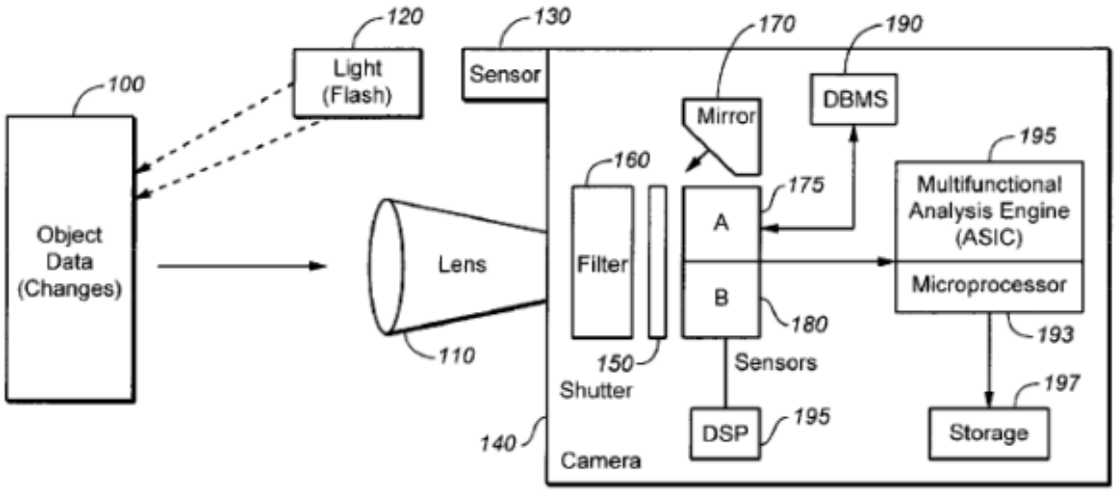
11. OIT, a Texas limited liability company formed by Mr. Solomon in 2009, owns the Asserted Patents.

12. The Asserted Patents are directed toward digital imaging systems and methods, namely in-camera systems for filtering and correcting image aberrations or distortions. The systems as claimed relate to a combination of hardware and software throughout the cameras. The Abstract for the '339 patent, for example, states as follows:

> A system is disclosed for the automated correction of optical and digital aberrations in a digital imaging system. The system includes (a) digital filters, (b) hardware modifications and (c) digital system corrections. The system solves numerous problems in still and video photography that are presented in the digital imaging environment.

13. The Asserted Patents describe aberration correction systems and methods particular to various types of lenses, a database system for useful access to those systems and methods, and specially designed processors which operate those systems and methods to correct specifically enumerated aberrations. The Asserted Patents describe a claimed combination of dedicated elements and processes that were not, at the time of invention, well-understood, routine, or conventional.

14. An exemplary embodiment is shown in Figure 1 of each of the Asserted Patents:



15. Defendant imports, has imported, sells, has sold for sale and/or offers for sale in the United States cameras and lenses (and components of the same) that are not made or licensed by OIT and that infringe the Asserted Patents ("Infringing Products").

16. Nikon markets its Infringing Products specifically extolling the functionality of the Asserted Patents. As one example, Nikon provides manuals that explain to users and potential customers that the D6 performs "Auto Distortion Control" to "reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses." *D6 Reference Manual*, NIKON, 2022, at 771 (available for download at https://downloadcenter.nikonimglib.com/en/products/545/D6.html). Nikon's manuals also explain that the D6 can also perform "Vignette control" that "reduces 'vignetting'—a drop in brightness at the edges of a photograph." *Id.* at 769. Nikon further offers support articles for all of its products, explaining that "Auto Distortion Control," which addresses barrel and pin cushion distortion, can be "applied to images during shooting." *What is Distortion Control?*, NIKON, https://www.nikonproductsupport.com/s/article/19548?language=en_US (last modified Oct. 5, 2022). The camera firmware that performs Auto Distortion Control can be updated via download

from Nikon's Download Center. *See id.* Lens aberration correction is further included in the camera-user interface:

The Photo Shooting Menu: Shooting Options

To view the photo shooting menu, select the tab in the camera menus.

The photo shooting menu contains the following items:

Item	📖
[Photo shooting menu bank]	752
[Extended photo menu banks]	754
[Storage folder]	755
[File naming]	760
[Role played by card in Slot 2]	761
[Image area]	761
[Image quality]	761
[Image size]	762
[NEF (RAW) recording]	762

Item	📖
[ISO sensitivity settings]	764
[White balance]	764
[Set Picture Control]	764
[Manage Picture Control]	765
[Color space]	765
[Active D-Lighting]	766
[Long exposure NR]	767
[High ISO NR]	768
[Vignette control]	769
[Diffraction compensation]	770
[Auto distortion control]	771

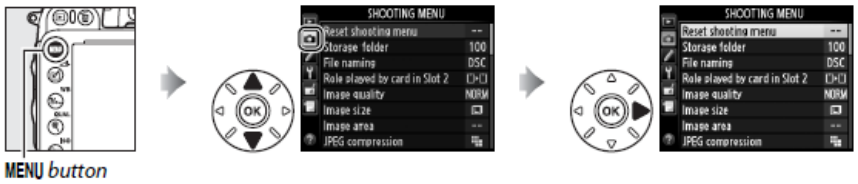
Source: D6 Reference Manual at 750.

17. As an additional example, Nikon advertises that the D610 offers "chromatic aberration reduction" for "reducing image distortion," "Auto distortion control" for correcting barrel and pin-cushion distortion, and "'Vignette control' that reduces the drop in brightness at the edges of a photograph caused by characteristics of the lens." *D610 – Features Explained – Exceptional image reproduction*, NIKON, https://imaging.nikon.com/lineup/dslr/d610/features02.htm (last visited Nov. 18, 2022; archived Oct. 17, 2021). Nikon further offers support articles for all of its products, explaining that "Auto Distortion Control," which addresses barrel and pin cushion distortion, can be "applied to images

during shooting," and updated with software from Nikon's Download Center. *What is Distortion Control?*, NIKON. Lens aberration correction is further included in the camera-user interface:

The Shooting Menu: *Shooting Options*

To display the shooting menu, press **MENU** and select the (shooting menu) tab.



MENU *button*

The shooting menu contains the following options:

Option	📖	Option	📖
Reset shooting menu	214	Color space	217
Storage folder	215	Active D-Lighting	137
File naming	216	HDR (high dynamic range)	139
Role played by card in Slot 2	96	Vignette control	218
Image quality	93	Long exposure NR	218
Image size	95	High ISO NR	218
Image area	89	ISO sensitivity settings	105
JPEG compression	94	Remote control mode	85
NEF (RAW) recording	94	Multiple exposure	160
White balance	115	Interval timer shooting	164
Set Picture Control	129	Time-lapse photography	168
Manage Picture Control	134	Movie settings	65
Auto distortion control	217		

Source: *D610 User's Manual*, NIKON, 2013 (available for download at https://downloadcenter.nikonimglib.com/en/products/14/D610.html).

18. On information and belief, all Nikon digital cameras that include digital lens aberration correction imported, sold, offered for sale or used in the United States within the statutory period are Infringing Products, including but not limited to the following: Nikon DSLR cameras including but not limited to D6, D5, Df, D850, D810, D810A, D780, D750, D610, D500, D7500, D7200, D5600, D5300, D3500, and D3400, as well as Nikon mirrorless cameras including but not limited to Z 9, Z 8, Z 7II, Z 7, Z 6II, Z 6, Z 5, Z 50, Z 30, and Z fc. The model numbers listed in this complaint are exemplary and not exhaustive. These cameras use both zoom and fixed focal lenses, and also have video capabilities.

COUNT I

(Infringement of the ’805 Patent)

19. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 18 herein by reference.

20. The ’805 Patent entitled “Digital imaging system and methods for selective image filtration” was duly and legally issued by the U.S. Patent and Trademark Office on November 3, 2009, from Application No. 11/825/521, published at US2008/0174678 on July 24, 2008, claiming priority to provisional application 60/807,065 filed on July 11, 2006. A true and accurate copy of the ’805 Patent is attached hereto as Exhibit A.

21. Each and every claim of the ’805 Patent is valid and enforceable, and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

22. OIT exclusively owns all rights, title, and interest in and to the ’805 Patent and possesses the exclusive right of recovery, including the exclusive right to recover for past, present and future infringement.

23. Representative claims 1 and 9 are as follows:

24. Claim 1 of the ’805 Patent recites:

> A digital imaging system for image filtration comprising:
> a digital camera mechanism, an optical lens mechanism, a digital sensor, a microprocessor, a digital signal processor, an application specific integrated circuit, system software, a database management system and a memory storage sub-system;
> wherein the optical lens mechanism is a fixed focal length;
> wherein the aberrations from the optical lens mechanism are corrected by applying digital filtration by using the application specific integrated circuit and the digital signal processor,
> wherein the microprocessor is used to provide digital and optical data to the digital signal processor,
> wherein the system software is organized to identify specific optical aberrations and to access the database to identify specific corrections to the aberrations;
> wherein the system software forwards the data from the digital sensor to the digital processor;

wherein the digital signal processor selects a specific procedure to optimize the image and corrects the aberrations;
wherein the data are forwarded from the digital sensor to the digital signal processor by an application specific integrated circuit;
wherein the digital signal processor applies a fast Fourier transform to a data file in order to satisfy a user specified special effects function;
wherein the digital signal processor modifies the data file by applying the special effects function; and
wherein the modified data file consisting of the digital data optimized from the aberrations that are corrected from the original optical image is stored in memory.

25. Claim 9 of the '805 Patent recites:

A digital imaging system for image filtration comprising:
a digital camera mechanism, an optical lens mechanism, a digital sensor, a microprocessor, a digital signal processor, an application specific integrated circuit, system software, a database management system and a memory storage sub-system;
wherein the aberrations from the optical lens mechanism are corrected by applying digital filtration by using the application specific integrated circuit and the digital signal processor;
wherein the microprocessor is used to provide digital and optical data to the digital signal processor;
wherein the system software is organized to identify specific optical aberrations and to access the database to identify specific corrections to the aberrations;
wherein the system software forwards the data from the digital sensor to the digital processor;
wherein the digital signal processor selects a specific procedure to optimize the image and corrects the aberrations;
wherein the lens type is a zoom lens;
wherein the lens focal length alternates from specific fixed focal length lens settings in a succession of steps;
wherein optical aberrations are corrected with digital filtration to modify multiple images from different focal lengths in a succession of data files; and
wherein the modified data file consisting of the digital data optimized from the aberrations that are corrected from the original optical image is stored in memory.

26. Each Infringing Product is a digital camera that constitutes a digital imaging system for image filtration comprising a digital camera mechanism, an optical lens mechanism, a digital sensor, a microprocessor, a digital signal processor, an application specific integrated circuit,

system software, a database management system, and a memory storage sub-system. The cameras require optical lens mechanisms to operate, as seen, for example, with the Nikon D6 or the D610:

Type

Type	Single-lens reflex digital camera
Lens Mount	Nikon F mount (with AF coupling and AF contacts)

Image Sensor

Effective Pixels (Megapixels)	20.8 million
Sensor Size	35.9 mm x 23.9 mm
Image Sensor Format	FX
Image Sensor Type	CMOS
Total Pixels	21.33 million

Source: *D6 – Tech Specs*, NIKON, https://www.nikonusa.com/en/nikon-products/product/dslr-cameras/d6.html#tab-ProductDetail-ProductTabs-TechSpecs (last visited Aug. 17, 2023).

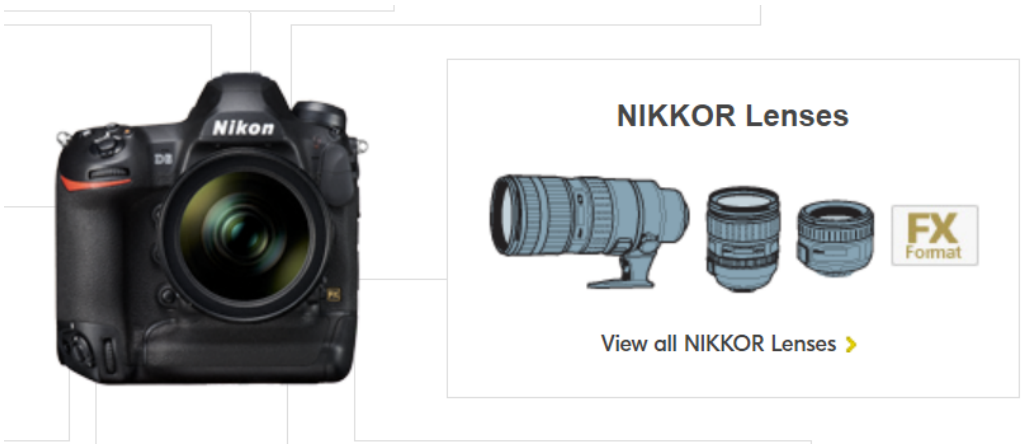
Nikon Digital SLR Camera D610 Specifications

Type of camera	Single-lens reflex digital camera
Lens mount	Nikon F mount (with AF coupling and AF contacts)
Effective pixels	24.3 million
Image sensor	35.9 × 24.0 mm CMOS sensor (Nikon FX format)
Total pixels	24.7 million
Dust-reduction system	Image sensor cleaning, Image Dust Off reference data (optional Capture NX 2 software required)

Source: Nikon D610 Brochure, NIKON, 2013 (formerly available for download at https://www.imaging.Nikon.com/lineup/dslr/d610/index.htm; archived July 30, 2021)

27. On information and belief, each of the Infringing Products is further configured wherein the aberrations from the optical lens mechanism are corrected by applying digital filtration by using the application specific integrated circuit and the digital signal processor; wherein the microprocessor is used to provide digital and optical data to the digital signal processor; wherein the system software is organized to identify specific optical aberrations and to access the database to identify specific corrections to the aberrations; wherein the system software forwards the data from the digital sensor to the digital processor; wherein the digital signal processor selects a specific procedure to optimize the image and corrects the aberrations; wherein the lens type is a zoom lens; wherein the lens focal length alternates from specific fixed focal length lens settings in a succession of steps; wherein optical aberrations are corrected with digital filtration to modify multiple images from different focal lengths in a succession of data files; and wherein the modified data file consisting of the digital data optimized from the aberrations that are corrected from the original optical image is stored in memory.

28. Each of the Infringing Products comprises an optical lens mechanism that can be a zoom lens or a fixed focal length lens. As one example, The D6 is used with a variety of compatible zoom or fixed focal length lenses. According to Nikon, the D6 can be used with Nikon's NIKKOR FX Format lenses of both types:



Source: *D6 – Accessories*, NIKON, https://www.nikonusa.com/en/nikon-products/product/dslr-cameras/d6.html#tab-ProductDetail-ProductTabs-System (last visited Aug. 17, 2023).

8–15mm	f/3.5	AF-S FISHEYE NIKKOR 8-15mm f/3.5-4.5E ED	FX	AF-S	$1,249.95
14mm	f/2.8	AF Nikkor 14mm f/2.8D ED	FX	AF	$1,894.95
14–24mm	f/2.8	AF-S NIKKOR 14-24mm F2.8G ED	FX	AF-S	$1,749.95
16mm	f/2.8	AF Fisheye-Nikkor 16mm f/2.8D	FX	AF	$999.95
16–35mm	f/4	AF-S NIKKOR 16-35mm f/4G ED VR	FX	AF-S	$1,099.95

Source: *Lenses for DSLR Cameras*, NIKON, https://www.nikonusa.com/en/nikon-products/camera-lenses/dslr-lenses/index. page (last visited Aug. 17, 2023).

29. As a further example, the D610 is also used with both zoom and fixed focal length lenses:

AF-S NIKKOR 50mm f/1.8G

A compact, lightweight standard prime lens, with aspherical elements to correct aberration, yielding stunning sharpness and bokeh. The lens handles low-light situation especially well. Lends itself to virtually any subject matter – from portraits and still lifes to landscapes.

AF-S NIKKOR 85mm f/1.8G

A fast mid-range prime lens, delivering crisply sharp images from a surprisingly light and compact body. Take advantage of the impressive bokeh for creative portrait work.

AF-S NIKKOR 18-35mm f/3.5-4.5G ED

A compact, lightweight zoom lens that complements the D610's agility. Incorporates multiple ED glass and aspherical lens elements for clear images with minimal aberration at a 0.28 m minimum focus distance, perfect for close-up nature photography.

AF-S NIKKOR 24-85mm f/3.5-4.5G ED VR

A compact and versatile lens that covers the most frequently used zoom range. The Vibration Reduction (VR) enhancement of up to 4.0 stops* improves your handheld capability, opening up a wide range of subject matter – from portraits and still lifes to landscapes.

AF-S NIKKOR 28-300mm f/3.5-5.6G ED VR

A versatile, high-powered 11x zoom lens with VR enhancement of up to 3.5 stops*. Delivers outstanding image integrity throughout the broad zoom range. Best suited for travel photography.

AF-S NIKKOR 70-200mm f/4G ED VR

A telephoto zoom with impressive VR enhancement of up to 4.0 stops*, offering increased opportunities for handheld shooting. Its 1.0 m minimum focus distance produces beautiful bokeh, while the Nano Crystal Coat minimizes flare and ghost. Most importantly, it produces convincing autofocus results even when used handheld with a 2x teleconverter at 400 mm and f/8. (See above for details.) Useful in a broad range of shooting scenarios, from action sports to candid portraits.

AF-S TELECONVERTER TC-20E III

AF-S NIKKOR 80-400mm f/4.5-5.6G ED VR

An agile 5x super-telephoto zoom lens with VR enhancement of up to 4.0 stops*. Boasts superior optical performance thanks to its one Super ED and four ED glass elements, and Nano Crystal Coat to reduce flare and ghost. Offers unparalleled image quality, especially for sports, wildlife and travel.

Source: D610 Brochure.

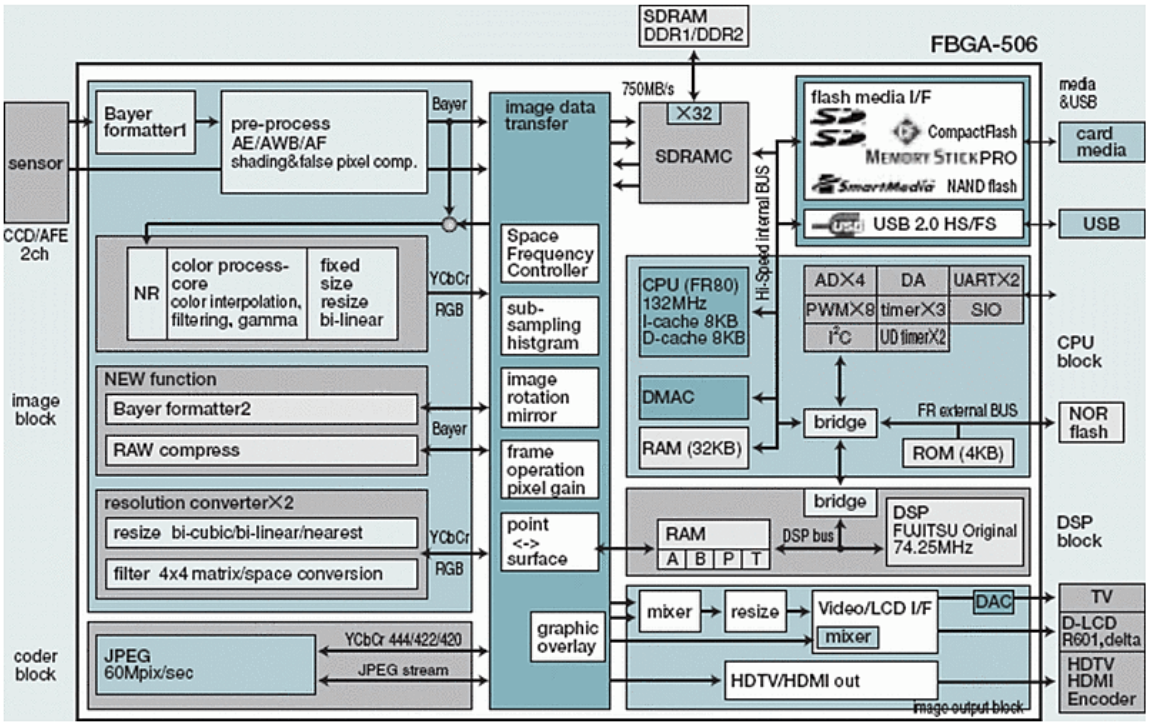
30. The Infringing Products also comprise a digital sensor. For example, the D6 has a digital sensor, specifically a "high-resolution 20.8MP FX-format CMOS sensor." *D6 – Overview*, NIKON, https://www.nikonusa.com/en/nikon-products/product/dslr-cameras/d6.html#tab-ProductDetail-ProductTabs-Overview (last visited Aug. 17, 2023). As a further example, the D610 contains an "FX-format CMOS sensor" with "24.3 megapixels." Nikon D610 Brochure.

31. Nikon Infringing Products also store and use database data for lens aberration correction. For example, Nikon provides "Distortion Control Data" that can be downloaded from Nikon's Download Center. *See Download Center – Distortion Control Data*, NIKON, https://downloadcenter.nikonimglib.com/en/download/fw/348.html (last visited Aug. 18, 2023). Nikon explains that, when "loaded into compatible cameras, distortion control data reduce[s] barrel and pincushion distortion when photographs are taken or edited." *Id.* Nikon also provides a link from the same webpage to download instructions for users to update the Distortion Control Lens

Data on their camera. *Updating Distortion Control Lens Data*, NIKON, https://download.nikonimglib.com/archive2/CBOBv00t3IjB02hoInb13thKu690/lensprofile_Win_En.pdf (last visited Aug. 18, 2023).

32. Nikon Infringing Products use at least one application specific integrated circuit (ASIC) and a digital signal processor as well as a microprocessor. For example, the D6 contains Nikon's Expeed 6 image-processing engine, which includes all of this functionality. *See, e.g.*, *D6 – Overview*, NIKON. The Expeed 6 is "the brains behind the DLSR's stunning photo and video quality, autofocus power, low-light performance, noise suppression, distortion control, image clarity, color reproduction, and more." *Id.* As a further example, the D610 contains Nikon's Expeed 3 engine, which similarly includes the claimed functionality and can "swiftly manage the large data files that an FX-format sensor produces." Nikon D610 Brochure.

33. The Expeed 6 and Expeed 3 are iterations of Nikon's Expeed design: "The *Expeed* is an application-specific integrated circuit (ASIC) built by Socionext specifically for Nikon designs according to Nikon specifications." *Expeed*, WIKIPEDIA, https://en.wikipedia.org/wiki/Expeed (last visited Aug. 17, 2023). Further, "Expeed's multi-processor system on a chip solution integrates an image processor in multi-core processor architecture, with each single processor-core able to compute many instructions/operations in parallel. Storage and display interfaces and other modules are added and a digital signal processor (DSP) increases the number of simultaneous computations." *Id.* Expeed's initial design was based on Socionext's Milbeaut imaging processors. *Id.* Milbeaut processors include microprocessors and digital signal processors:



Source: *Image-Processing System LSI for Digital Cameras Milbeaut M-4 Series – MB91680*, FUJITSU, 2006 (Datasheet available for download at http://www.fujitsu.com/downloads/EDG/binary/pdf/find/24-1e/3.pdf, archived Sept. 24, 2015)

34. On information and belief, the Infringing Products include onboard software that directs the digital signal processor to select a specific procedure to optimize the image and correct aberrations wherein the lens focal length alternates from specific fixed focal length lens settings in a succession of steps; wherein optical aberrations are corrected with digital filtration to modify multiple images from different focal lengths in a succession of data files; and wherein the modified data file consisting of the digital data optimized from the aberrations that are corrected from the original optical image is stored in memory. For example, the D6 includes an "Auto Distortion Control" feature that corrects multiple types of optical aberrations:

Auto Distortion Control

MENU button ➡ photo shooting menu

Select [**On**] to reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses.

- [**Auto distortion control**] is available only with type G, E, and D lenses. Some lenses of these types, including PC and fisheye lenses, are, however, not supported. Results are not guaranteed with lenses that are not supported.

Auto Distortion Control

- When [**On**] is selected, the time needed to process photographs before recording begins may increase.
- The greater the amount of distortion control, the greater the area cropped from the edges of the frame.
- Before using auto distortion control with DX lenses, choose [**On**] for [**Image area**] > [**Auto DX crop**] or select [**DX (24×16)**] for [**Choose image area**]. Selecting other options may result in heavily cropped photographs or in photographs with severe peripheral distortion.
- Auto distortion control does not apply to movies.

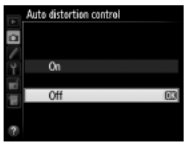
Source: D6 Reference Manual at 771.

Because the Auto Distortion Control functionality automatically corrects aberrations, it necessarily corrects and modifies aberrations at different focal lengths based on the focal length chosen when using the zoom lens.

35. As a further example, the D610 also has Auto Distortion Control functionality:

Auto Distortion Control

MENU *button* ➜ *shooting menu*



Select **On** to reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses (note that the edges of the area visible in the viewfinder may be cropped out of the final photograph, and that the time needed to process photographs before recording begins may increase). This option does not apply to movies and is available only with type G, E, and D lenses (PC, fisheye, and certain other lenses excluded); results are not guaranteed with other lenses. Before using auto distortion control with DX lenses, select **On** for **Auto DX crop** or choose an image area of **DX (24×16) 1.5×** (📖 90); selecting other options may result in heavily cropped photographs or in photographs with severe peripheral distortion.

Retouch: Distortion Control

For information on creating copies of existing photographs with reduced barrel and pin-cushion distortion, see page 274.

Source: D610 User's Manual at 217.

36. On information and belief, the system software in the Infringing Products forwards data from the digital sensor to the digital processor. For example, Nikon states that the D6's CMOS sensor works in "combination" with the EXPEED 6 image-processing engine. *D6 – Overview*,

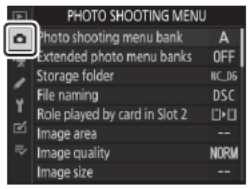
NIKON. The data collected by the sensor must necessarily be forwarded to the digital processor in order to process the image. Similarly, as a further example, "the D610's innovative FX-format CMOS sensor, image-processing engine and lenses work together" to process photographs. D610 Brochure.

37. On information and belief, the Infringing Products apply a fast Fourier transform to a data file in order to satisfy and apply user specified special effects functions.

38. On information and belief, the Infringing Products store in memory the modified data file consisting of the digital data optimized from the original optical image that has had its optical aberrations corrected. For example, the D6 has a storage folder that stores processed images:

The Photo Shooting Menu: Shooting Options

To view the photo shooting menu, select the tab in the camera menus.



The photo shooting menu contains the following items:

Item	
[Photo shooting menu bank]	752
[Extended photo menu banks]	754
[Storage folder]	755
[File naming]	760
[Role played by card in Slot 2]	761
[Image area]	761
[Image quality]	761
[Image size]	762
[NEF (RAW) recording]	762

Item	
[ISO sensitivity settings]	764
[White balance]	764
[Set Picture Control]	764
[Manage Picture Control]	765
[Color space]	765
[Active D-Lighting]	766
[Long exposure NR]	767
[High ISO NR]	768
[Vignette control]	769
[Diffraction compensation]	770
[Auto distortion control]	771

Source: D6 Reference Manual at 750.

Storage Folder

MENU button ➡ photo shooting menu

Choose the folder in which subsequent pictures will be stored.

1 Folder
2 Folder number
3 Folder name

Renaming Folders

The default folder name, which appears after the folder number, is "NC_D6". To change the name assigned to new folders, select [**Rename**].

- Existing folders cannot be renamed.
- If desired, the default name can be restored for subsequent folders by pressing and holding the 🗑 (FORMAT) button while the keyboard is displayed.

Id. at 755.

39. As a further example, the D610 also automatically stores processed images in storage folders:

Storage Folder

MENU *button* ➜ *shooting menu*

Select the folder in which subsequent images will be stored.

Selecting Folders by Folder Number

1 **Choose Select folder by number.**
Highlight **Select folder by number** and press ▶.
The dialog shown at right will be displayed.

2 **Choose a folder number.**
Press ◀ or ▶ to highlight a digit, press ▲ or ▼ to change. If a folder with the selected number already exists, a 🗀, 🗁, or 🗀 icon will be displayed to the left of the folder number:

- 🗀 : Folder is empty.
- 🗁 : Folder is partially full.
- 🗀 : Folder contains 999 pictures or a picture numbered 9999. No further pictures can be stored in this folder.

The card on which the folder is stored is shown by the card slot icon in the top right corner of the Select folder by number dialog. The card used for new folders depends on the option currently selected for **Role played by card in slot 2** (📖 96).

Source: D610 User's Manual at 215.

40. On information and belief, Nikon digital cameras also infringe by applying other in-camera correction. As one additional nonlimiting example, Nikon's D6 cameras include not only auto distortion control, but also vignetting correction, as seen in the D6 Reference Manual:

Vignette Control

MENU button ➡ photo shooting menu

Vignette control reduces "vignetting"—a drop in brightness at the edges of a photograph—by an amount that varies from lens to lens. Its effects are most noticeable at maximum aperture. Vignette control applies only to photographs taken with type G, E, and D lenses (PC lenses excluded).

Option	Description
H [High]	Choose the amount of vignette control performed from (in order from high to low) [**High**], [**Normal**], and [**Low**].
N [Normal]	
L [Low]	
[**Off**]	Vignette control disabled.

Source: D6 Reference Manual at 769.

41. As a further example, the D610 also has vignetting correction functionality:

Vignette Control

MENU *button* ➜ *shooting menu*

"Vignetting" is a drop in brightness at the edges of a photograph. **Vignette control** reduces vignetting for type G, E, and D lenses (DX and PC lenses excluded). Its effects vary from lens to lens and are most noticeable at maximum aperture. Choose from **High**, **Normal**, **Low**, and **Off**.

Vignette Control
Depending on the scene, shooting conditions, and type of lens, JPEG images may exhibit noise (fog) or variations in peripheral brightness, while custom Picture Controls and preset Picture Controls that have been modified from default settings may not produce the desired effect. Take test shots and view the results in the monitor. Vignette control does not apply to movies (📖 57), multiple exposures (📖 160), or DX-format images (📖 89).

Source: D610 User's Manual at 218.

42. Defendant has been and is now directly infringing, literally and/or under the doctrine of equivalents because without authority it makes, uses, offers to sell, sells, and/or imports within the United States the patented invention of one or more claims, including at least claims 1 and 9 of the '805 Patent. Defendant is therefore liable to OIT for patent infringement under 35 U.S.C. § 271(a).

43. Further, Defendant's customers and end users who offer for sale, sell, and/or use the Infringing Products directly infringe at least claims 1 and 9 of the '805 Patent.

44. Furthermore, Defendant has been and is now liable under 35 U.S.C. § 271(b) for actively inducing infringement of one or more claims including at least claims 1 and 9 of the '805 patent. On information and belief, as set forth below, Nikon has or should have had actual notice of the '805 Patent since at least 2012. Additionally, Nikon has had actual notice of the '805 Patent since at least its receipt of OIT's complaint. Despite such knowledge, Nikon has intended that its customers and end users infringe the '805 Patent by selling, offering for sale, importing, and/or using the Infringing Products in the United States, and has actively induced such infringement by instructing users in the United States to practice '805 patent claims in their user manuals, posted videos and/or other materials with knowledge of the '805 patent as set forth in this complaint and with knowledge of the '805 patent since at least the time Nikon became aware of the '805 Patent.

45. Further, Defendant has been and is now liable under 35 U.S.C. § 271(c) because it offers to sell or sells within the United States or imports into the United States a component of a machine patented by one or more claims including at least claims 1 and 9 of the '805 patent that constitutes a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

46. As a result of Defendant's infringement of the '805 Patent, OIT has suffered and continues to suffer damages. Thus, OIT is entitled to recover from Defendant the damages OIT sustained as a result of Nikon's wrongful and infringing acts in an amount no less than a reasonable royalty, together with interest and costs fixed by this Court under 35 U.S.C. § 284.

47. OIT has suffered damage because of the infringing activities of Defendant, its officers, agents, servants, employees, associates, partners, and other persons who are in active concert or participation therewith, and OIT will continue to suffer irreparable harm for which there is no adequate remedy at law unless Defendant's infringing activities are preliminarily and permanently enjoined by this Court.

48. Defendant's infringement of the '805 Patent was, is, and continues to be deliberate and willful. The '805 Patent application was published on July 24, 2008, and the '805 Patent issued on November 3, 2009. On information and belief, Nikon has had actual notice of the '805 Patent at least as early as 2012 when the'805 Patent was cited as prior art during the prosecution of one of Nikon's own patent applications, Chinese Patent Appl. No. CN201280042875.7A, which issued as Chinese Patent No. CN103765276B. Thus, Nikon was informed of the disclosures of the '805 Patent, but continued to infringe, nonetheless. Moreover, Nikon was and is on notice of the '805 Patent at least as early as the filing of the Complaint in this lawsuit, yet Defendant continued and continues to infringe the '805 Patent.

COUNT II

(Infringement of the '339 Patent)

49. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 48 herein by reference.

50. The '339 Patent entitled "Digital imaging system for correcting image aberrations" was duly and legally issued by the U.S. Patent and Trademark Office on May 28, 2013, from Application No. 12/586,221, claiming priority to the '805 Patent application as well as the provisional application 60/807,065 filed on July 11, 2006. A true and accurate copy of the '339 Patent is attached hereto as Exhibit B.

51. Each and every claim of the ’339 Patent is valid and enforceable, and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

52. OIT exclusively owns all rights, title, and interest in and to the ’339 Patent and possesses the exclusive right of recovery, including the exclusive right to recover for past, present and future infringement.

53. Representative claims 1 and 14 are as follows:

54. Claim 1 of the ’339 Patent recites:

> A digital imaging system for correcting image aberrations comprising:
> a digital camera mechanism, an optical lens mechanism, a digital sensor, a microprocessor, a digital signal processor, system software, a database management system and a memory storage sub-system;
> wherein the optical lens mechanism is a fixed focal length lens;
> wherein a microprocessor uses system software to identify at least one optical aberration by accessing the database;
> wherein the microprocessor uses the database to identify at least one algorithm to use to correct the at least one optical aberration;
> wherein when the image file is captured by the digital sensor the digital file is forwarded to the digital signal processor;
> wherein the image file with at least one optical aberration is corrected by applying digital filtration by using at least one algorithm in the digital signal processor; and
> wherein the modified digital file consisting of the digital data optimized from the at least one optical aberration that are corrected from the original optical image is stored in memory.

55. Claim 14 of the ’339 Patent recites:

> A digital imaging system for correcting image aberrations comprising:
> a digital camera mechanism, an optical lens mechanism, a digital sensor, a microprocessor, a digital signal processor, system software, a database management system and a memory storage sub-system;
> wherein the optical lens mechanism is a zoom lens;
> wherein the zoom lens changes focal length positions;
> wherein when the image file is captured by the digital sensor the file is forwarded to the digital signal processor and to memory;
> wherein the microprocessor uses system software to access the database to identify at least one optical aberration in the image file at any focal length of a zoom lens configuration;

wherein the microprocessor accesses the database to obtain at least one filtration correction algorithm to the optical aberrations and forwards the at least one filtration algorithms to the digital signal processor;

wherein the image file is forwarded to the digital signal processor which applies at least one filtration algorithm to optimize the image and corrects the at least one optical aberration at the specific focal length in the zoom lens configuration; and

wherein the modified image file consisting of the digital data optimized from the at least one optical aberration of a specific focal length of the zoom lens that are corrected from the original optical image is stored in memory.

56. Each Infringing Product is a digital camera that constitutes a digital imaging system for correcting image aberrations comprising a digital camera mechanism, an optical lens mechanism, a digital sensor, a microprocessor, a digital signal processor, an application specific integrated circuit, system software, a database management system and a memory storage sub-system. The cameras require optical lens mechanisms to operate, as seen, for example, with the D6:

Type

Type	Single-lens reflex digital camera
Lens Mount	Nikon F mount (with AF coupling and AF contacts)

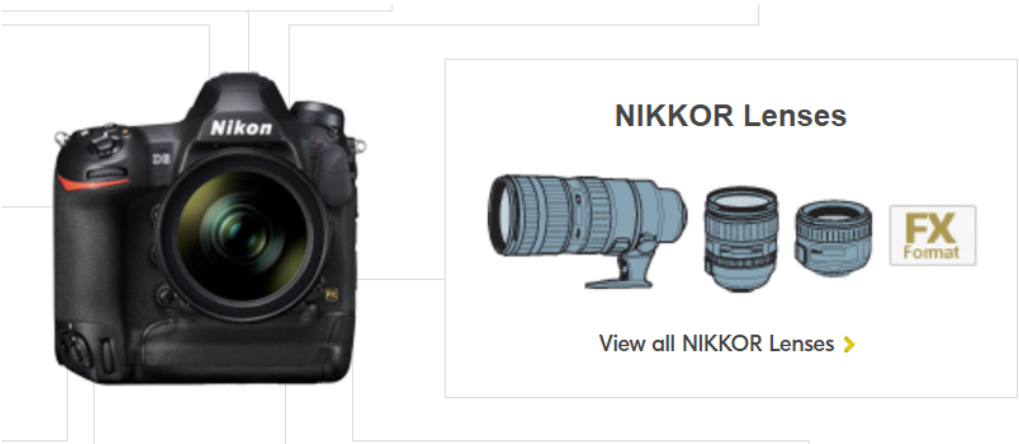
Image Sensor

Effective Pixels (Megapixels)	20.8 million
Sensor Size	35.9 mm x 23.9 mm
Image Sensor Format	FX
Image Sensor Type	CMOS
Total Pixels	21.33 million

Source: *D6 – Tech Specs*, NIKON.

57. On information and belief, each of the Infringing Products further includes a database management system and memory storage sub-system; wherein the microprocessor uses system software to identify at least one optical aberration by accessing the database; wherein the microprocessor uses system software to identify at least one algorithm to use to correct the at least one optical aberration; wherein when the image file is captured by the digital sensor the digital file is forwarded to the digital signal processor; wherein the image file with at least one optical aberration is corrected by applying digital filtration by using at least one algorithm in the digital signal processor; and wherein the modified digital file consisting of the digital data optimized from the at least one optical aberration that are corrected from the original optical image is stored in memory.

58. On information and belief, each of the Infringing Products also comprises a fixed focal length lens or a zoom lens. As one example, The D6 is used with a variety of compatible zoom or fixed focal length lenses. According to Nikon, the D6 can be used with Nikon's NIKKOR FX Format lenses of both types:



Source: *D6 – Accessories*, NIKON.

8–15mm	f/3.5	AF-S FISHEYE NIKKOR 8-15mm f/3.5-4.5E ED	FX	AF-S	$1,249.95
14mm	f/2.8	AF Nikkor 14mm f/2.8D ED	FX	AF	$1,894.95
14–24mm	f/2.8	AF-S NIKKOR 14-24mm F2.8G ED	FX	AF-S	$1,749.95
16mm	f/2.8	AF Fisheye-Nikkor 16mm f/2.8D	FX	AF	$999.95
16–35mm	f/4	AF-S NIKKOR 16-35mm f/4G ED VR	FX	AF-S	$1,099.95

Source: *Lenses for DSLR Cameras*, NIKON.

59. As a further example, the D610 is also used with both zoom and fixed focal length lenses:

AF-S NIKKOR 50mm f/1.8G

A compact, lightweight standard prime lens, with aspherical elements to correct aberration, yielding stunning sharpness and bokeh. The lens handles low-light situation especially well. Lends itself to virtually any subject matter – from portraits and still lifes to landscapes.

AF-S NIKKOR 85mm f/1.8G

A fast mid-range prime lens, delivering crisply sharp images from a surprisingly light and compact body. Take advantage of the impressive bokeh for creative portrait work.

AF-S NIKKOR 18-35mm f/3.5-4.5G ED

A compact, lightweight zoom lens that complements the D610's agility. Incorporates multiple ED glass and aspherical lens elements for clear images with minimal aberration at a 0.28 m minimum focus distance, perfect for close-up nature photography.

AF-S NIKKOR 24-85mm f/3.5-4.5G ED VR

A compact and versatile lens that covers the most frequently used zoom range. The Vibration Reduction (VR) enhancement of up to 4.0 stops* improves your handheld capability, opening up a wide range of subject matter – from portraits and still lifes to landscapes.

AF-S NIKKOR 28-300mm f/3.5-5.6G ED VR

A versatile, high-powered 11x zoom lens with VR enhancement of up to 3.5 stops*. Delivers outstanding image integrity throughout the broad zoom range. Best suited for travel photography.

AF-S NIKKOR 70-200mm f/4G ED VR

A telephoto zoom with impressive VR enhancement of up to 4.0 stops*, offering increased opportunities for handheld shooting. Its 1.0 m minimum focus distance produces beautiful bokeh, while the Nano Crystal Coat minimizes flare and ghost. Most importantly, it produces convincing autofocus results even when used handheld with a 2x teleconverter at 400 mm and f/8. (See above for details.) Useful in a broad range of shooting scenarios, from action sports to candid portraits.

AF-S TELECONVERTER TC-20E III

AF-S NIKKOR 80-400mm f/4.5-5.6G ED VR

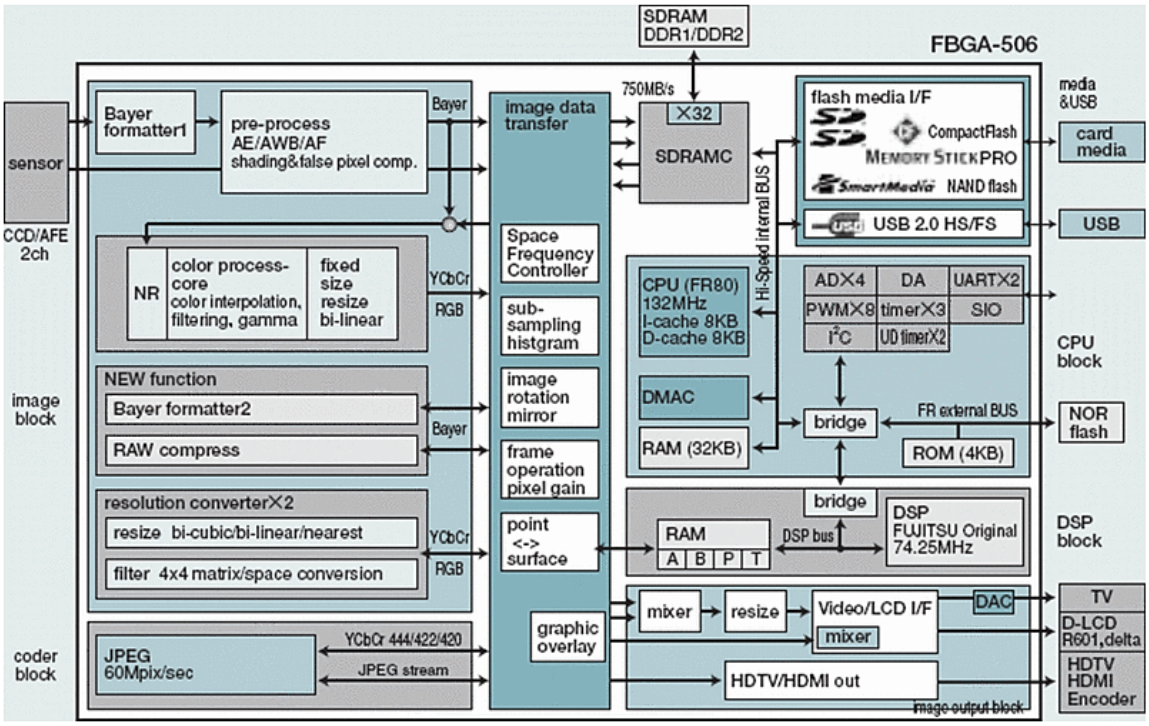
An agile 5x super-telephoto zoom lens with VR enhancement of up to 4.0 stops*. Boasts superior optical performance thanks to its one Super ED and four ED glass elements, and Nano Crystal Coat to reduce flare and ghost. Offers unparalleled image quality, especially for sports, wildlife and travel.

Source: D610 Brochure.

60. The Infringing Products also comprise a digital sensor. For example, the D6 has a "high-resolution 20.8MP FX-format CMOS sensor." *D6 – Overview*, NIKON. As a further example, the D610 contains an "FX-format CMOS sensor" with "24.3 megapixels." Nikon D610 Brochure.

61. Nikon Infringing Products comprise an integrated circuit, a digital signal processor, and a microprocessor. For example, the D6 contains Nikon's Expeed 6 image-processing engine, which includes all of this functionality. *See, e.g.*, *D6 – Overview*, NIKON. The Expeed 6 is "the brains behind the DLSR's stunning photo and video quality, autofocus power, low-light performance, noise suppression, distortion control, image clarity, color reproduction, and more." *Id.* As a further example, the D610 contains Nikon's Expeed 3 engine, which similarly includes the claimed functionality and can "swiftly manage the large data files that an FX-format sensor produces." Nikon D610 Brochure.

62. The Expeed 6 and Expeed 3 are iterations of Nikon's Expeed design: "The *Expeed* is an application-specific integrated circuit (ASIC) built by Socionext specifically for Nikon designs according to Nikon specifications." *Expeed*, WIKIPEDIA. Further, "Expeed's multi-processor system on a chip solution integrates an image processor in multi-core processor architecture, with each single processor-core able to compute many instructions/operations in parallel. Storage and display interfaces and other modules are added and a digital signal processor (DSP) increases the number of simultaneous computations." *Id.* Expeed's initial design was based on Socionext's Milbeaut imaging processors. *Id.* Milbeaut processors include microprocessors and digital signal processors:



Source: *Image-Processing System LSI for Digital Cameras Milbeaut M-4 Series – MB91680*, FUJITSU.

63. Nikon Infringing Products comprise system software. For example, as discussed below the D6 and D610 contain "Auto Distortion Control" software for correcting optical aberrations.

64. On information and belief, the Infringing Products also comprise a database management system. For example, as discussed further below, the D6 and D610 contain photo shooting functionality that automatically corrects optical aberrations based on the lens being used, which necessarily requires the use of database data stored on the cameras. Further, Nikon provides "Distortion Control Data" that can be downloaded from Nikon's Download Center to update the database. *See Download Center – Distortion Control Data*, NIKON. Nikon explains that, when "loaded into compatible cameras, distortion control data reduce[s] barrel and pincushion distortion when photographs are taken or edited." *Id.* Nikon also provides a link from the same webpage to

download instructions for users to update the Distortion Control Lens Data on their camera. *Updating Distortion Control Lens Data*, NIKON.

65. Nikon Infringing Products also comprise a memory storage subsystem. For example, the D6 has a storage folder that stores processed images:

The Photo Shooting Menu: Shooting Options

To view the photo shooting menu, select the tab in the camera menus.

The photo shooting menu contains the following items:

Item	
[Photo shooting menu bank]	752
[Extended photo menu banks]	754
[Storage folder]	755
[File naming]	760
[Role played by card in Slot 2]	761
[Image area]	761
[Image quality]	761
[Image size]	762
[NEF (RAW) recording]	762

Item	
[ISO sensitivity settings]	764
[White balance]	764
[Set Picture Control]	764
[Manage Picture Control]	765
[Color space]	765
[Active D-Lighting]	766
[Long exposure NR]	767
[High ISO NR]	768
[Vignette control]	769
[Diffraction compensation]	770
[Auto distortion control]	771

Source: *D6 Reference Manual* at 750.

Storage Folder

MENU button ➡ photo shooting menu

Choose the folder in which subsequent pictures will be stored.

1 Folder
2 Folder number
3 Folder name

Renaming Folders

The default folder name, which appears after the folder number, is "NC_D6". To change the name assigned to new folders, select [**Rename**].

- Existing folders cannot be renamed.
- If desired, the default name can be restored for subsequent folders by pressing and holding the 🗑 (FORMAT) button while the keyboard is displayed.

Id. at 755.

66. As a further example, the D610 also automatically stores processed images in storage folders:

Storage Folder

MENU *button* ➜ *shooting menu*

Select the folder in which subsequent images will be stored.

Selecting Folders by Folder Number

1 **Choose Select folder by number.**
Highlight **Select folder by number** and press ▶.
The dialog shown at right will be displayed.

2 **Choose a folder number.**
Press ◀ or ▶ to highlight a digit, press ▲ or ▼ to change. If a folder with the selected number already exists, a 🗀, 🗁, or 🗀 icon will be displayed to the left of the folder number:

- 🗀 : Folder is empty.
- 🗁 : Folder is partially full.
- 🗀 : Folder contains 999 pictures or a picture numbered 9999. No further pictures can be stored in this folder.

The card on which the folder is stored is shown by the card slot icon in the top right corner of the Select folder by number dialog. The card used for new folders depends on the option currently selected for **Role played by card in slot 2** (📖 96).

Source: D610 User's Manual at 215.

67. On information and belief, the Infringing Products utilize a microprocessor that uses system software to identify at least one optical aberration by accessing the database and uses the database to identify at least one algorithm to use to correct the at least one optical aberration. Further, on information and belief, the Infringing Products correct image files with optical aberrations by applying digital filtration by using at least one algorithm in the digital signal processor. For example, the D6 includes an "Auto Distortion Control" feature that corrects multiple types of optical aberrations:

Auto Distortion Control

MENU button ➡ 📷 photo shooting menu

Select [**On**] to reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses.

- [**Auto distortion control**] is available only with type G, E, and D lenses. Some lenses of these types, including PC and fisheye lenses, are, however, not supported. Results are not guaranteed with lenses that are not supported.

Auto Distortion Control

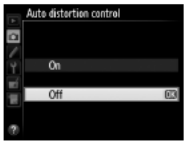
- When [**On**] is selected, the time needed to process photographs before recording begins may increase.
- The greater the amount of distortion control, the greater the area cropped from the edges of the frame.
- Before using auto distortion control with DX lenses, choose [**On**] for [**Image area**] > [**Auto DX crop**] or select [**DX (24×16)**] for [**Choose image area**]. Selecting other options may result in heavily cropped photographs or in photographs with severe peripheral distortion.
- Auto distortion control does not apply to movies.

Source: D6 Reference Manual at 771.

In order to automatically compensate for these optical aberrations, the D6 must necessarily use system software to access a database of lens data on the camera.

68. As a further example, the D610 also has Auto Distortion Control functionality:

Auto Distortion Control MENU *button* → *shooting menu*



Select **On** to reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses (note that the edges of the area visible in the viewfinder may be cropped out of the final photograph, and that the time needed to process photographs before recording begins may increase). This option does not apply to movies and is available only with type G, E, and D lenses (PC, fisheye, and certain other lenses excluded); results are not guaranteed with other lenses. Before using auto distortion control with DX lenses, select **On** for **Auto DX crop** or choose an image area of **DX (24×16) 1.5×** (📖 90); selecting other options may result in heavily cropped photographs or in photographs with severe peripheral distortion.

Retouch: Distortion Control
For information on creating copies of existing photographs with reduced barrel and pin-cushion distortion, see page 274.

Source: D610 User's Manual at 217.

69. On information and belief, in the Infringing Products, when an image file is captured by the digital sensor the digital file is forwarded to the digital signal processor. For example, Nikon states that the D6's CMOS sensor works in "combination" with the EXPEED 6 image-processing engine. *D6 – Overview*, NIKON. The data collected by the sensor must necessarily be forwarded to the digital processor in order to process the image. Similarly, as a further example, "the D610's innovative FX-format CMOS sensor, image-processing engine and lenses work together" to process photographs. D610 Brochure.

70. On information and belief, the Infringing Products store in memory the modified digital file consisting of the digital data optimized from the original optical image that has had its optical aberrations corrected. For example, as discussed above, the D6 and D610 have storage folders that store processed images.

71. On information and belief, Nikon digital cameras also infringe by applying other in-camera correction. As one additional nonlimiting example, Nikon's D6 cameras include not only auto distortion control, but also vignetting correction, as seen in the D6 Reference Manual:

Vignette Control

MENU button ➡ photo shooting menu

Vignette control reduces "vignetting"—a drop in brightness at the edges of a photograph—by an amount that varies from lens to lens. Its effects are most noticeable at maximum aperture. Vignette control applies only to photographs taken with type G, E, and D lenses (PC lenses excluded).

Option		Description
H	[**High**]	Choose the amount of vignette control performed from (in order from high to low) [**High**], [**Normal**], and [**Low**].
N	[**Normal**]	
L	[**Low**]	
[**Off**]		Vignette control disabled.

Source: *D6 Reference Manual* at 769

72. As a further example, the D610 also has vignetting correction functionality:

Vignette Control

MENU *button* ➜ *shooting menu*

"Vignetting" is a drop in brightness at the edges of a photograph. **Vignette control** reduces vignetting for type G, E, and D lenses (DX and PC lenses excluded). Its effects vary from lens to lens and are most noticeable at maximum aperture. Choose from **High**, **Normal**, **Low**, and **Off**.

Vignette Control

Depending on the scene, shooting conditions, and type of lens, JPEG images may exhibit noise (fog) or variations in peripheral brightness, while custom Picture Controls and preset Picture Controls that have been modified from default settings may not produce the desired effect. Take test shots and view the results in the monitor. Vignette control does not apply to movies (📖 57), multiple exposures (📖 160), or DX-format images (📖 89).

Source: D610 User's Manual at 218.

73. Defendant has been and is now directly infringing, literally and/or under the doctrine of equivalents because without authority it makes, uses, offers to sell, sells, and/or imports within the United States the patented invention of one or more claims, including at least claims 1 and 14 of the '339 Patent. Defendant is therefore liable to OIT for patent infringement under 35 U.S.C. § 271(a).

74. Further, Defendant's customers and end users who offer for sale, sell, and/or use the Infringing Products directly infringe at least claims 1 and 14 of the '339 Patent.

75. Furthermore, Defendant has been and is now liable under 35 U.S.C. § 271(b) for actively inducing infringement of one or more claims including at least claims 1 and 14 of the ’339 patent. On information and belief, as set forth below, Nikon has or should have had actual notice of the disclosures in the ’339 Patent since at least 2012. Additionally, Nikon has had actual notice of the ’339 Patent since at least its receipt of OIT’s complaint. Despite such knowledge, Nikon has intended that its customers and end users infringe the ’339 Patent by selling, offering for sale, importing, and/or using the Infringing Products in the United States, and has actively induced such infringement by instructing users in the United States to practice ’339 patent claims in their user manuals, posted videos and/or other materials with knowledge of the ’339 patent as set forth in this complaint and with knowledge of the ’339 patent since at least the time Nikon became aware of the disclosures of ’339 Patent.

76. Further, Defendant has been and is now liable under 35 U.S.C. § 271(c) because it offers to sell or sells within the United States or imports into the United States a component of a machine patented by one or more claims of the ’339 Patent as set forth above that constitutes a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

77. As a result of Defendant’s infringement of the ’339 Patent, OIT has suffered and continues to suffer damages. Thus, OIT is entitled to recover from Defendant the damages OIT sustained as a result of Nikon’s wrongful and infringing acts in an amount no less than a reasonable royalty, together with interest and costs fixed by this Court under 35 U.S.C. § 284.

78. OIT has suffered damage because of the infringing activities of Defendant, its officers, agents, servants, employees, associates, partners, and other persons who are in active

concert or participation therewith, and OIT will continue to suffer irreparable harm for which there is no adequate remedy at law unless this Court preliminarily and permanently enjoins Defendant's infringing activities.

79. Defendant's infringement of the '339 Patent was, is, and continues to be deliberate and willful. The '805 Patent application with the same specification as the '339 patent was published on July 24, 2008, and the related '805 Patent issued on November 3, 2009. On information and belief, Nikon has had actual notice of the disclosures in the '339 Patent at least as early as 2012 when the '805 Patent, which shares the same specification as the '339 Patent, was cited as prior art during the prosecution of one of Nikon's own patent applications, Chinese Patent Appl. No. CN201280042875.7A, which issued as Chinese Patent No. CN103765276B. Thus, Nikon was informed of the disclosures of the '339 Patent, but continued to infringe, nonetheless. Moreover, Nikon was and is on notice of the disclosures in the '339 Patent at least as early as the filing of the Complaint in this lawsuit, yet Defendant continued and continues to infringe the '339 Patent.

COUNT III

(Infringement of the '685 Patent)

80. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 79 herein by reference.

81. The '685 Patent entitled "Digital imaging system for correcting video image aberrations" was duly and legally issued by the U.S. Patent and Trademark Office on December 22, 2020, from Application No. 13/691,805, claiming priority to the '805 Patent application as well as the provisional application 60/807,065 filed on July 11, 2006. A true and accurate copy of the '685 Patent is attached hereto as Exhibit C.

82. Each and every claim of the ’685 Patent is valid and enforceable, and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

83. OIT exclusively owns all rights, title, and interest in and to the ’685 Patent and possesses the exclusive right of recovery, including the exclusive right to recover for past, present and future infringement.

84. Representative claim 1 of the ’685 Patent recites:

> A digital imaging system for correcting optical image aberrations in a digital video, comprising:
> a digital video camera including in-camera software, an optical lens mechanism, at least one digital sensor for capturing the digital video, an integrated circuit including; a digital signal processor configured to access a database management system including a plurality of optical image aberration corrections, and a memory storage sub-system;
> wherein the optical lens mechanism is a zoom lens or a fixed focal length lens;
> wherein the integrated circuit uses the in-camera software to identify at least one optical image aberration and to correct the at least one optical image aberration in at least one frame of the digital video using at least one of the plurality of optical image aberration corrections in the database;
> wherein the video is captured by the at least one digital sensor and is forwarded to the digital signal processor;
> wherein the video image file with the at least one optical image aberration is corrected by applying digital filtration using the digital signal processor; and
> wherein the corrected video consisting of the digital data optimized from the at least one optical image aberration that are corrected from the original video image is stored in the memory storage sub-system.

85. Each Infringing Product is a digital camera that constitutes a digital imaging system for correcting image aberrations comprising a digital video camera including in-camera software, an optical lens mechanism, at least one digital sensor for capturing the digital video, an integrated circuit, a digital signal processor configured to access a database management system including a plurality of optical image aberration corrections, and a memory storage sub-system. The cameras require optical lens mechanisms to operate, as seen, for example, with the Z9:

Source: *Z9 – Accessories*, NIKON, https://www.nikonusa.com/en/nikon-products/product/mirrorless-cameras/z-9.html#tab-ProductDetail-ProductTabs-System (last visited Aug. 17, 2023).

Type

Type	Digital camera with support for interchangeable lenses
Lens Mount	Nikon Z mount

Image Sensor

Effective Pixels	45.7 million
Sensor Size	35.9 mm x 23.9 mm
Image Sensor Format	FX
Image Sensor Type	Stacked CMOS sensor
Total Pixels	52.37 million

Source: *Z9 – Tech Specs*, NIKON, https://www.nikonusa.com/en/nikon-products/product/mirrorless-cameras/z-9.html#tab-ProductDetail-ProductTabs-TechSpecs (last visited Aug. 17, 2023).

86. On information and belief, each of the Infringing Products is further configured such that: the optical lens mechanism is a zoom lens or a fixed focal length lens; the integrated circuit uses the in-camera software to identify at least one optical image aberration and to correct the at least one optical image aberration in at least one frame of the digital video using at least one of the plurality of optical image aberration corrections in the database; the video is captured by the at least

one digital sensor and is forwarded to the digital signal processor; the video image file with the at least one optical image aberration is corrected by applying digital filtration using the digital signal processor; and the corrected video consisting of the digital data optimized from the at least one optical image aberration that is corrected from the original video image is stored in the memory storage sub-system.

87. Each of the Infringing Products comprises an optical lens mechanism that is a zoom lens or a fixed focal length lens. As one example, the Z9 is used with a variety of compatible zoom or fixed focal length lenses. According to Nikon, the Z9 can be used with multiple NIKKOR lenses:

Source: *Z9 – Accessories*, NIKON.

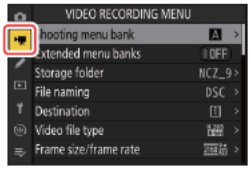
F Mount	800mm	f/5.6	AF-S NIKKOR 800mm f/5.6E FL ED VR	FX	AF-S	$16,299.95
Z Mount	600mm	f/4	NIKKOR Z 600mm f/4 TC VR S	FX	AF	$15,499.95
Z Mount	400mm	f/2.8	NIKKOR Z 400mm f/2.8 TC VR S	FX	AF	$13,999.95
F Mount	180–400mm	f/4	AF-S NIKKOR 180-400mm f/4E TC1.4 FL ED VR	FX	AF-S	$12,399.95
F Mount	600mm	f/4	AF-S NIKKOR 600mm f/4E FL ED VR	FX	AF-S	$12,299.95
F Mount	400mm	f/2.8	AF-S NIKKOR 400mm f/2.8E FL ED VR	FX	AF-S	$11,199.95
F Mount	500mm	f/4	AF-S NIKKOR 500mm f/4E FL ED VR	FX	AF-S	$10,299.95
F Mount	120–300mm	f/2.8	AF-S NIKKOR 120-300mm f/2.8E FL ED SR VR	FX	AF-S	$9,499.95

Source: *NIKKOR Z Series System Lenses*, NIKON, https://www.nikonusa.com/en/nikon-products/camera-lenses/mirrorless-lenses/index.page (last visited Aug. 17, 2023).

88. The Infringing Products also comprise in-camera software. For example, the Z9 contains in-camera software menus for users to select video recording features and options:

Video Recording Menu

To view the video recording menu, select the tab in the camera menus.



The options in the video recording menu are listed below, together with their default settings.

- [**Shooting menu bank**]: A
- [**Extended menu banks**]: OFF
- [**Storage folder**]
  - [**Rename**]: NCZ_9
  - [**Select folder by number**]: 100
  - [**Select folder from list**]: —
- [**File naming**]: DSC
- [**Destination**]: Slot 1
- [**Video file type**]: H.265 8-bit (MOV)
- [**Frame size/frame rate**]: 3840×2160; 30p
- [**Video quality (N-RAW)**]: High quality
- [**Image area**]
  - [**Choose image area**]: FX
  - [**DX crop alert**]: OFF
- [**Extended oversampling**]: OFF
- [**ISO sensitivity settings**]
  - [**Maximum sensitivity**]: 25600
  - [**Auto ISO control (mode M)**]: ON
  - [**ISO sensitivity (mode M)**]: 100
- [**White balance**]: Same as photo settings
- [**Set Picture Control**]: Same as photo settings
- [**Manage Picture Control**]: —
- [**HLG quality**]
  - [**Quick sharp**]: 0
  - [**Contrast**]: 0
  - [**Saturation**]: 0
  - [**Hue**]: 0
- [**Active D-Lighting**]: Off
- [**High ISO NR**]: Normal
- [**Vignette control**]: Normal
- [**Diffraction compensation**]: ON
- [**Auto distortion control**]: ON
- [**Video flicker reduction**]: Auto
- [**High-frequency flicker reduction**]: Off
- [**Metering**]: Matrix metering
- [**Focus mode**]: Full-time AF
- [**AF-area mode**]: Single-point AF
- [**AF subject detection options**]
  - [**Subject detection**]: Auto
  - [**AF when subject not detected**]: ON
- [**Vibration reduction**]: Same as photo settings
- [**Electronic VR**]: OFF
- [**Microphone sensitivity**]: Auto
- [**Attenuator**]: OFF
- [**Frequency response**]: Wide range
- [**Wind noise reduction**]: OFF
- [**Mic jack plug-in power**]: ON
- [**Headphone volume**]: 15
- [**Timecode**]
  - [**Record timecodes**]: Off
  - [**Count-up method**]: Record run
  - [**Timecode origin**]: —
  - [**Drop frame**]: ON
- [**External rec. cntrl (HDMI)**]: OFF
- [**Hi-Res Zoom**]: OFF

Source: *Z9 Reference Guide* at 520-1.

89. The Infringing Products also include digital sensors. As another example, the Z9 is able to "record dense 10-bit 4K UHD footage in-camera with full pixel readout" due to its "outstanding sensor." *Z9 – Overview*, NIKON, https://www.nikonusa.com/en/nikon-products/product/mirrorless-cameras/z-9.html (last visited Aug. 17, 2023).

90. The Infringing Products use an integrated circuit (ASIC) and a digital signal processor. For example, the Z9 contains Nikon's Expeed 7 image-processing engine. *Z9 – Overview*, NIKON. The Expeed 7 is the "most powerful Nikon processing engine ever" and "separately processes dual-steamed data from the stacked image sensor." *Id.* The Expeed 9 is just one iteration of Nikon's Expeed design: "The *Expeed* is an application-specific integrated circuit (ASIC) built by Socionext specifically for Nikon designs according to Nikon specifications." *Expeed*, WIKIPEDIA. Further, "Expeed's multi-processor system on a chip solution integrates an

image processor in multi-core processor architecture, with each single processor-core able to compute many instructions/operations in parallel. Storage and display interfaces and other modules are added and a digital signal processor (DSP) increases the number of simultaneous computations." *Id.* On information and belief, the Infringing Products include onboard software that forwards the video captured by the digital sensor to the digital signal processor, which applies digital filtration to correct optical image aberrations in the video.

91. The digital signal processor in each of the Infringing Products is also configured to access a database management system of optical image aberration corrections. As discussed above, Nikon provides "Distortion Control Data" that can be downloaded to Infringing Products from Nikon's Download Center. *See Download Center – Distortion Control Data*, NIKON. Nikon explains that, when "loaded into compatible cameras, distortion control data reduce[s] barrel and pincushion distortion when photographs are taken or edited." *Id.* Nikon also provides a link from the same webpage to download instructions for users to update the Distortion Control Lens Data on their camera. *Updating Distortion Control Lens Data*, NIKON. Nikon also provides firmware updates that improve the Auto Distortion Control features on Infringing Products such as the Z9. *See Download Center – Z9 firmware*, NIKON, https://downloadcenter.nikonimglib.com/en/download/fw/494.html (last visited Aug. 18, 2023).

92. The Infringing Products also use the in-camera software to identify and correct optical image aberrations in frames of digital videos. For example, the Z6 has "auto distortion control" functionality for correcting certain lens aberrations:

Auto Distortion Control

MENU button photo shooting menu

Select [**ON**] as required to reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses. Note that [**ON**] may be selected automatically with some lenses, in which case this item will be grayed out and unavailable.

Auto Distortion Control

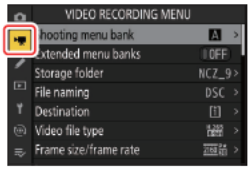
Changes to [**Auto distortion control**] in the photo shooting menu apply in the video recording menu and *vice versa*.

Source: *Z9 Reference Guide* at 463.

93. Additionally, the Nikon Z9 is capable of applying "auto distortion control" to videos:

Video Recording Menu

To view the video recording menu, select the tab in the camera menus.



The options in the video recording menu are listed below, together with their default settings.

- [**Vignette control**]: Normal
- [**Diffraction compensation**]: ON
- [**Auto distortion control**]: ON
- [**Video flicker reduction**]: Auto
- [**High-frequency flicker reduction**]: Off
- [**Metering**]: Matrix metering
- [**Focus mode**]: Full-time AF
- [**AF-area mode**]: Single-point AF
- [**AF subject detection options**]
  - [**Subject detection**]: Auto
  - [**AF when subject not detected**]: ON

Source: *Z9 Reference Guide* at 520-1.

94. Defendant has been and is now directly infringing, literally and/or under the doctrine of equivalents because without authority it makes, uses, offers to sell, sells, and/or imports within the United States the patented invention of one or more claims, including at least claim 1 of the '685 Patent. Defendant is therefore liable to OIT for patent infringement under 35 U.S.C. § 271(a).

95. Further, Defendant's customers and end users who offer for sale, sell, and/or use the Infringing Products directly infringe at least claim 1 of the '685 Patent.

96. Furthermore, Defendant has been and is now liable under 35 U.S.C. § 271(b) for actively inducing infringement of one or more claims including at least claim 1of the '685 patent. On information and belief, as set forth below, Nikon has or should have had actual notice of the disclosures in the '685 Patent since at least 2012. Additionally, Nikon has had actual notice of the '685 Patent since at least its receipt of OIT's complaint. Despite such knowledge, Nikon has intended that its customers and end users infringe the '685 Patent by selling, offering for sale, importing, and/or using the Infringing Products in the United States, and has actively induced such infringement by instructing users in the United States to practice '685 patent claims in their user manuals, posted videos and/or other materials with knowledge of the '685 patent as set forth in this complaint and with knowledge of the '685 patent since at least the time Nikon became aware of the '685 Patent.

97. Further, Defendant has been and is now liable under 35 U.S.C. § 271(c) because it offers to sell or sells within the United States or imports into the United States a component of a machine patented by one or more claims of the '685 Patent as set forth above that constitutes a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

98. As a result of Defendant's infringement of the '685 Patent, OIT has suffered and continues to suffer damages. Thus, OIT is entitled to recover from Defendant the damages OIT sustained as a result of Nikon's wrongful and infringing acts in an amount no less than a reasonable royalty, together with interest and costs fixed by this Court under 35 U.S.C. § 284.

99. OIT has suffered damage because of the infringing activities of Defendant, its officers, agents, servants, employees, associates, partners, and other persons who are in active concert or participation therewith, and OIT will continue to suffer irreparable harm for which there is no adequate remedy at law unless this Court preliminarily and permanently enjoins Defendant's infringing activities.

100. Defendant's infringement of the '685 Patent was, is, and continues to be deliberate and willful. The '805 Patent application with the same specification as the '685 patent was published on July 24, 2008, and the related '805 Patent issued on November 3, 2009. On information and belief, Nikon has had actual notice of the disclosures in the '685 Patent at least as early as 2012 when the '805 Patent, which shares the same specification as the '685 Patent, was cited as prior art during the prosecution of one of Nikon's own patent applications, Chinese Patent Appl. No. CN201280042875.7A, which issued as Chinese Patent No. CN103765276B. Thus, Nikon was informed of the disclosures of the '685 Patent, but continued to infringe, nonetheless. Moreover, Nikon was and is on notice of the '685 Patent at least as early as the filing of the Complaint in this lawsuit, yet Defendant continued and continues to infringe the '685 Patent.

COUNT IV

(Infringement of the '266 Patent)

101. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 100 herein by reference.

102. The '266 Patent entitled "Digital camera with wireless image transfer" was duly and legally issued by the U.S. Patent and Trademark Office on December 29, 2020, from Application No. 16/692,972, claiming priority to the '805 Patent application as well as the provisional application 60/807,065 filed on July 11, 2006. A true and accurate copy of the '266 Patent is attached hereto as Exhibit D.

103. Each and every claim of the ’266 Patent is valid and enforceable, and each enjoys a statutory presumption of validity under 35 U.S.C. § 282.

104. OIT exclusively owns all rights, title, and interest in and to the ’266 Patent and possesses the exclusive right of recovery, including the exclusive right to recover for past, present and future infringement.

105. Representative Claim 1 of the ’266 Patent recites:

> A method of processing one or more images with a digital camera, comprising:
> digitally processing at least one captured image, the processing using in-camera hardware and software that is configured to:
> perform a plurality of image correction algorithms,
> process image correction data stored in a database system,
> receive updated software and image correction data, and
> upgrade the digital camera with the updated software and image correction data;
> storing in memory one or more corrected images resulting from digitally processing the at least one captured image; and
> wirelessly transmitting at least one of the one or more corrected images,
> wherein the in-camera software and database system are upgradable to provide improved algorithms and correction data for correction of images.

106. Each Infringing Product is a digital camera that is configured to process one or more images as seen, for example, with the D6 and D610:

Type

Type	Single-lens reflex digital camera
Lens Mount	Nikon F mount (with AF coupling and AF contacts)

Image Sensor

Effective Pixels (Megapixels)	20.8 million
Sensor Size	35.9 mm x 23.9 mm
Image Sensor Format	FX
Image Sensor Type	CMOS
Total Pixels	21.33 million

Source: *D6 – Tech Specs*, NIKON.

Nikon Digital SLR Camera D610 Specifications

Type of camera	Single-lens reflex digital camera
Lens mount	Nikon F mount (with AF coupling and AF contacts)
Effective pixels	24.3 million
Image sensor	35.9 × 24.0 mm CMOS sensor (Nikon FX format)
Total pixels	24.7 million
Dust-reduction system	Image sensor cleaning, Image Dust Off reference data (optional Capture NX 2 software required)

Source: Nikon D610 Brochure.

107. On information and belief, each of the Infringing Products is further configured to digitally process at least one captured image, the processing using in-camera hardware and software that is configured to perform a plurality of image correction algorithms, process image correction data stored in a database system, receive updated software and image correction data, and upgrade the digital camera with the updated software and image correction data.

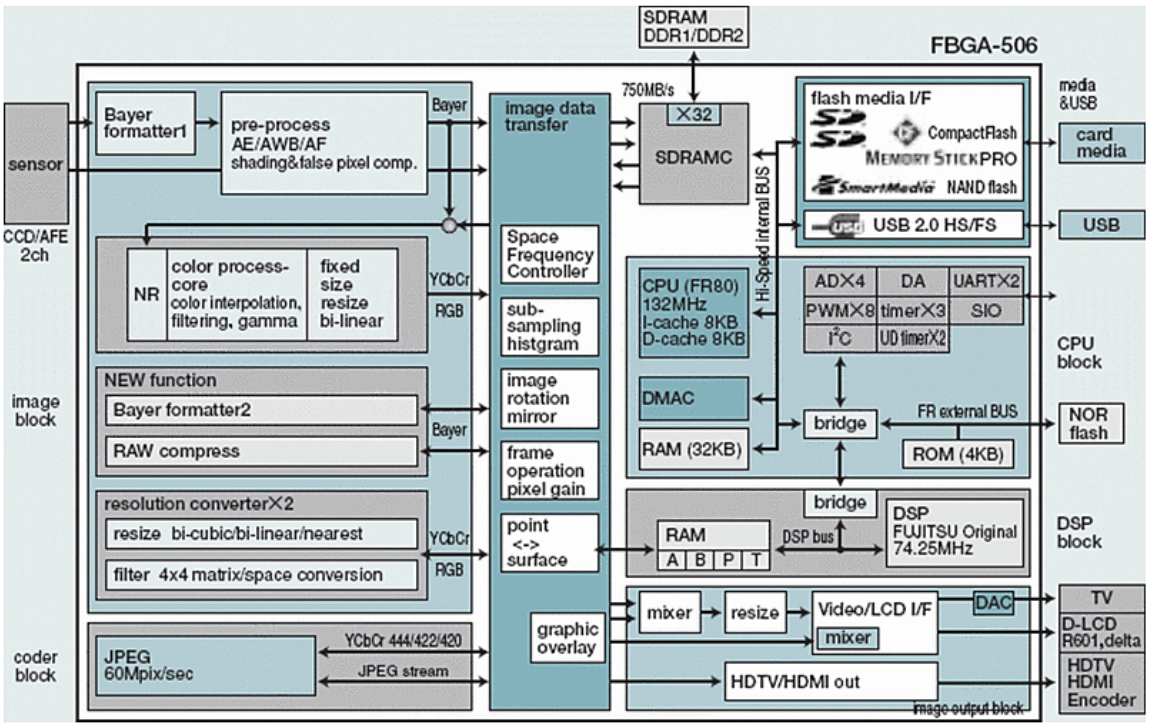
108. On information and belief, each of the Infringing Products is further configured to store in memory one or more corrected images resulting from digitally processing the at least one captured image and wirelessly transmit at least one or more corrected images. On information and belief, each of the Infringing Products is also further configured such that the in-camera software and database system are upgradable to provide improved algorithms and correction data for correction of images.

109. The Infringing Products contain in-camera hardware and software for image processing. As one example, the D6 has a digital sensor for processing images, specifically a "high-resolution 20.8MP FX-format CMOS sensor." *D6 – Overview*, NIKON. The D6 also contains Nikon's Expeed 6 image-processing engine, which includes all of this functionality. *See, e.g.*, *id.* The Expeed 6 is "the brains behind the DLSR's stunning photo and video quality, autofocus power, low-light performance, noise suppression, distortion control, image clarity, color reproduction, and more." *Id.*

110. As a further example, the D610 contains an "FX-format CMOS sensor" with "24.3 megapixels." Nikon D610 Brochure. The D610 also contains Nikon's Expeed 3 engine, which similarly includes the claimed functionality and can "swiftly manage the large data files that an FX-format sensor produces." Nikon D610 Brochure.

111. The Expeed 6 and Expeed 3 are iterations of Nikon's Expeed design: "The *Expeed* is an application-specific integrated circuit (ASIC) built by Socionext specifically for Nikon designs according to Nikon specifications." *Expeed*, WIKIPEDIA. Further, "Expeed's multi-processor system on a chip solution integrates an image processor in multi-core processor architecture, with each single processor-core able to compute many instructions/operations in parallel. Storage and display interfaces and other modules are

added and a digital signal processor (DSP) increases the number of simultaneous computations." *Id.* Expeed's initial design was based on Socionext's Milbeaut imaging processors. *Id.* Milbeaut processors include microprocessors and digital signal processors:



Source: *Image-Processing System LSI for Digital Cameras Milbeaut M-4 Series – MB91680*, FUJITSU.

112. The hardware and software components of the Infringing Products also perform a plurality of image correction algorithms. For example, the D6 includes an "Auto Distortion Control" feature that corrects multiple types of optical aberrations:

Auto Distortion Control

MENU button ➡ 📷 photo shooting menu

Select [**On**] to reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses.

- [**Auto distortion control**] is available only with type G, E, and D lenses. Some lenses of these types, including PC and fisheye lenses, are, however, not supported. Results are not guaranteed with lenses that are not supported.

Auto Distortion Control

- When [**On**] is selected, the time needed to process photographs before recording begins may increase.
- The greater the amount of distortion control, the greater the area cropped from the edges of the frame.
- Before using auto distortion control with DX lenses, choose [**On**] for [**Image area**] > [**Auto DX crop**] or select [**DX (24×16)**] for [**Choose image area**]. Selecting other options may result in heavily cropped photographs or in photographs with severe peripheral distortion.
- Auto distortion control does not apply to movies.

Source: D6 Reference Manual at 771.

As a further nonlimiting example, the D6 also applies other in-camera corrections such as vignetting correction, as seen in the D6 Reference Manual:

Vignette Control

MENU button ➡ 📷 photo shooting menu

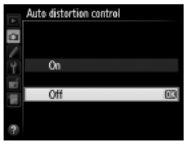
Vignette control reduces "vignetting"—a drop in brightness at the edges of a photograph—by an amount that varies from lens to lens. Its effects are most noticeable at maximum aperture. Vignette control applies only to photographs taken with type G, E, and D lenses (PC lenses excluded).

Option		Description
▭H	[**High**]	Choose the amount of vignette control performed from (in order from high to low) [**High**], [**Normal**], and [**Low**].
▭N	[**Normal**]	
▭L	[**Low**]	
[**Off**]		Vignette control disabled.

Source: *Id.* at 769.

113. As an additional example, the D610 also has Auto Distortion Control and Vignette Control functionality:

Auto Distortion Control MENU *button* → *shooting menu*



Select **On** to reduce barrel distortion when shooting with wide-angle lenses and to reduce pin-cushion distortion when shooting with long lenses (note that the edges of the area visible in the viewfinder may be cropped out of the final photograph, and that the time needed to process photographs before recording begins may increase). This option does not apply to movies and is available only with type G, E, and D lenses (PC, fisheye, and certain other lenses excluded); results are not guaranteed with other lenses. Before using auto distortion control with DX lenses, select **On** for **Auto DX crop** or choose an image area of **DX (24×16) 1.5×** (📖 90); selecting other options may result in heavily cropped photographs or in photographs with severe peripheral distortion.

Retouch: Distortion Control
For information on creating copies of existing photographs with reduced barrel and pin-cushion distortion, see page 274.

Source: D610 User's Manual at 217.

Vignette Control MENU *button* → *shooting menu*

"Vignetting" is a drop in brightness at the edges of a photograph. **Vignette control** reduces vignetting for type G, E, and D lenses (DX and PC lenses excluded). Its effects vary from lens to lens and are most noticeable at maximum aperture. Choose from **High**, **Normal**, **Low**, and **Off**.

Vignette Control
Depending on the scene, shooting conditions, and type of lens, JPEG images may exhibit noise (fog) or variations in peripheral brightness, while custom Picture Controls and preset Picture Controls that have been modified from default settings may not produce the desired effect. Take test shots and view the results in the monitor. Vignette control does not apply to movies (📖 57), multiple exposures (📖 160), or DX-format images (📖 89).

Source: *Id.* at 218.

114. Nikon Infringing Products also process image correction data stored in a database system, receive updated software and image correction data, and upgrade the digital camera with the updated software and image correction data. For example, Nikon provides "Distortion Control Data" that can be downloaded from Nikon's Download Center. *See Download Center – Distortion Control Data*, NIKON. Nikon explains that, when "loaded into compatible cameras, distortion control data reduce[s] barrel and pincushion distortion when photographs are taken or edited." *Id.* Nikon also provides a link from the same webpage to download instructions for users to update the Distortion Control Lens Data on their camera. *Updating Distortion Control Lens Data*, NIKON.

115. The Infringing Products also store the corrected images in memory. For example, the D6 has a storage folder that stores processed images:

The Photo Shooting Menu: Shooting Options

To view the photo shooting menu, select the tab in the camera menus.

The photo shooting menu contains the following items:

Item	📖
[Photo shooting menu bank]	752
[Extended photo menu banks]	754
[Storage folder]	755
[File naming]	760
[Role played by card in Slot 2]	761
[Image area]	761
[Image quality]	761
[Image size]	762
[NEF (RAW) recording]	762

Item	📖
[ISO sensitivity settings]	764
[White balance]	764
[Set Picture Control]	764
[Manage Picture Control]	765
[Color space]	765
[Active D-Lighting]	766
[Long exposure NR]	767
[High ISO NR]	768
[Vignette control]	769
[Diffraction compensation]	770
[Auto distortion control]	771

Source: *D6 Reference Manual* at 750.

Storage Folder

MENU button ➡ photo shooting menu

Choose the folder in which subsequent pictures will be stored.

1 Folder
2 Folder number
3 Folder name

Renaming Folders

The default folder name, which appears after the folder number, is "NC_D6". To change the name assigned to new folders, select [**Rename**].

- Existing folders cannot be renamed.
- If desired, the default name can be restored for subsequent folders by pressing and holding the 🗑 (FORMAT) button while the keyboard is displayed.

Id. at 755.

116. As an additional example, the D610 also stores processed images in storage folders:

Storage Folder MENU *button* → *shooting menu*

Select the folder in which subsequent images will be stored.

Selecting Folders by Folder Number

1 Choose Select folder by number.
Highlight **Select folder by number** and press ▶.
The dialog shown at right will be displayed.

2 Choose a folder number.
Press ◀ or ▶ to highlight a digit, press ▲ or ▼ to change. If a folder with the selected number already exists, a 🗀, 🗁, or 🗀 icon will be displayed to the left of the folder number:

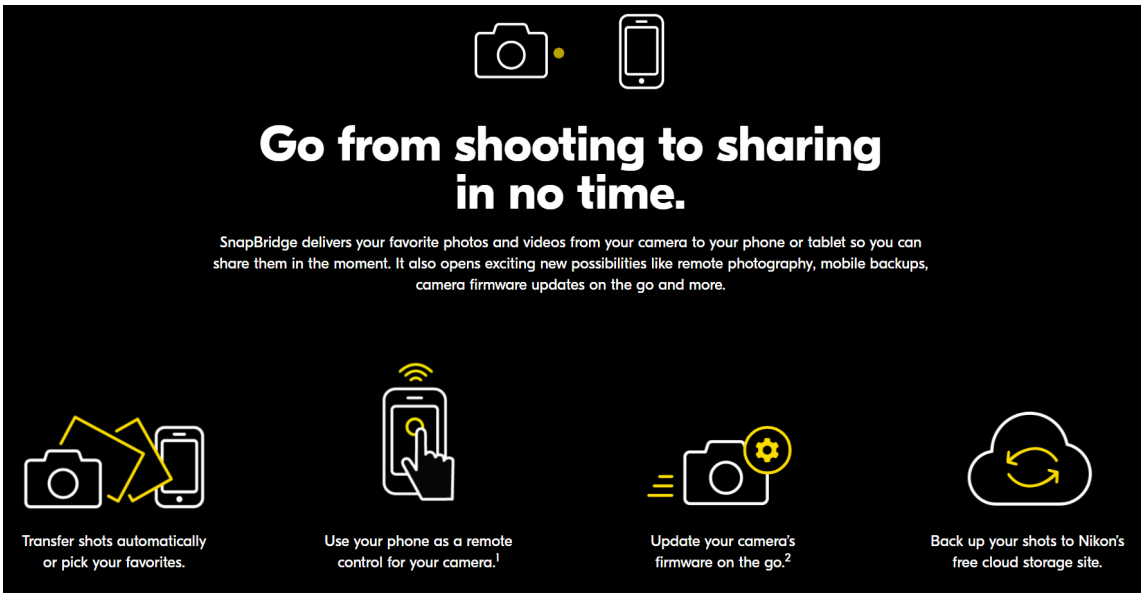
- 🗀 : Folder is empty.
- 🗁 : Folder is partially full.
- 🗀 : Folder contains 999 pictures or a picture numbered 9999. No further pictures can be stored in this folder.

The card on which the folder is stored is shown by the card slot icon in the top right corner of the Select folder by number dialog. The card used for new folders depends on the option currently selected for **Role played by card in slot 2** (📖 96).

Source: D610 User's Manual at 215.

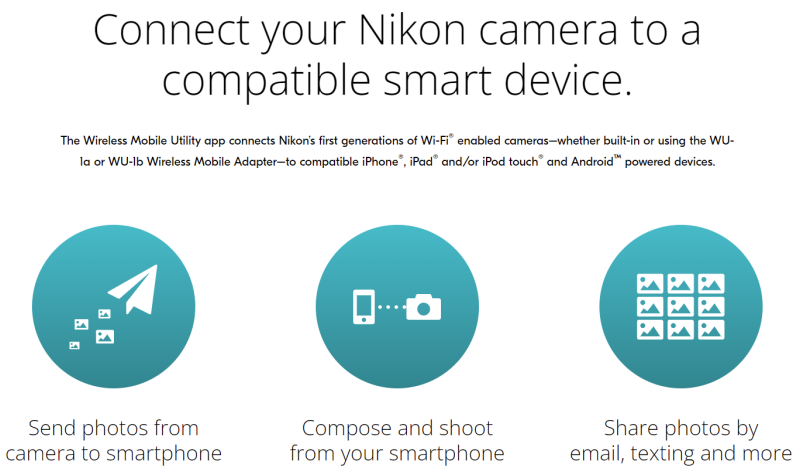
117. The Infringing Products are also configured to wirelessly transmit the corrected images. Nikon Infringing Products utilize Nikon's Wireless Transmission Utility, which enables the Infringing Products to "send…images wirelessly." *Wired and Wireless File Transfer*, NIKON, https://www.nikonusa.com/en/learn-and-explore/a/products-and-innovation/wired-and-wireless-file-transfer.html (last visited Aug. 18, 2023). Nikon also provides software updates to improve the Wireless Transmitter Utility on its products. *See Download Center – Wireless Transmitter Utility*, NIKON, https://downloadcenter.nikonimglib.com/en/download/sw/233.html (last visited Aug. 18, 2023). The list of "supported devices" for the download includes the Infringing Products and specifically notes that certain Infringing Products, such as the Z 9 and the D6, have built-in camera Wi-Fi to facilitate wireless transfer. *Id.*

118. As a further example of wireless photo transfer, Nikon also offers the SnapBridge app for transferring photos from Infringing Products to smartphones:



Source: *SnapBridge App*, NIKON, https://www.nikonusa.com/en/nikon-products/snapbridge-app.page (last visited Aug. 18, 2023).

119. Additionally, certain infringing products are also able to wirelessly transmit images when attached to specific equipment. For example, the D610 can be equipped with Nikon's Wireless Mobile Adapter to enable two-way communication between the camera and Nikon's Wireless Mobile Utility. D610 User's Manual at 298. Nikon's Wireless Mobile Utility app facilitates transferring images from compatible cameras (e.g., a D610 equipped with a Wireless Mobile Adapter or other Infringing Products with innate wireless communication ability) to smartphones:



Source: *Wireless Mobile Utility*, NIKON, https://www.nikonusa.com/en/nikon-products/wireless-mobile-utility-app.page (archived Sept. 30, 2022, now redirects to SnapBridge webpage above).

120. Defendant has been and is now directly infringing, literally and/or under the doctrine of equivalents because without authority it makes, uses, offers to sell, sells, and/or imports within the United States the patented invention of one or more claims, including at least claim 1 of the ’266 Patent. Defendant is therefore liable to OIT for patent infringement under 35 U.S.C. § 271(a).

121. Further, Defendant’s customers and end users who offer for sale, sell, and/or use the Infringing Products directly infringe at least claim 1 of the ’266 Patent.

122. Furthermore, Defendant has been and is now liable under 35 U.S.C. § 271(b) for actively inducing infringement of one or more claims including at least claim 1of the ’266 patent. On information and belief, as set forth below, Nikon has or should have had actual notice of the disclosures in the ’266 Patent since at least 2012. Additionally, Nikon has had actual notice of the ’266 Patent since at least its receipt of OIT’s complaint. Despite such knowledge, Nikon has intended that its customers and end users infringe the ’266 Patent by selling, offering for sale, importing, and/or using the Infringing Products in the United States, and has actively induced such infringement by instructing users in the United States to practice ’266 patent claims in their user manuals, posted videos and/or other materials with knowledge of the ’266 patent as set forth in this complaint and with knowledge of the ’266 patent since at least the time Nikon became aware of the ’266 Patent.

123. Further, Defendant has been and is now liable under 35 U.S.C. § 271(c) because it offers to sell or sells within the United States or imports into the United States a component of a machine patented by one or more claims of the ’266 Patent as set forth above that constitutes a material part of the invention, knowing the same to be especially made or especially adapted for

use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

124. As a result of Defendant's infringement of the '266 Patent, OIT has suffered and continues to suffer damages. Thus, OIT is entitled to recover from Defendant the damages OIT sustained as a result of Nikon's wrongful and infringing acts in an amount no less than a reasonable royalty, together with interest and costs fixed by this Court under 35 U.S.C. § 284.

125. OIT has suffered damage because of the infringing activities of Defendant, its officers, agents, servants, employees, associates, partners, and other persons who are in active concert or participation therewith, and OIT will continue to suffer irreparable harm for which there is no adequate remedy at law unless this Court preliminarily and permanently enjoins Defendant's infringing activities.

126. Defendant's infringement of the '266 Patent was, is, and continues to be deliberate and willful. The '805 Patent application with the same specification as the '266 patent was published on July 24, 2008, and the related '805 Patent issued on November 3, 2009. On information and belief, Nikon has had actual notice of the disclosures in the '266 Patent at least as early as 2012 when the '805 Patent, which shares the same specification as the '266 Patent, was cited as prior art during the prosecution of one of Nikon's own patent applications, Chinese Patent Appl. No. CN201280042875.7A, which issued as Chinese Patent No. CN103765276B. Thus, Nikon was informed of the disclosures of the '266 Patent, but continued to infringe, nonetheless. Moreover, Nikon was and is on notice of the '266 Patent at least as early as the filing of the Complaint in this lawsuit, yet Defendant continued and continues to infringe the '266 Patent.

CONCLUSION

127. Defendant has directly, indirectly, and/or contributorily infringed on Plaintiff's rights as owner of the Asserted Patents. Plaintiff is entitled to recover from Defendant the damages sustained by Plaintiff as a result of Defendant's wrongful acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

128. Plaintiff has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute may give rise to an exceptional case within the meaning of 35 U.S.C. § 285, and Plaintiff is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

JURY DEMAND

129. Plaintiff hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

130. Plaintiff requests that the Court find in its favor and against Defendant, and that the Court grant Plaintiff the following relief:

1. A judgment that Defendant has infringed the Asserted Patents as alleged herein, directly, indirectly, and/or contributorily;
2. A judgment that Defendant's infringement of the Asserted Patents was deliberate and willful;
3. A judgment for an accounting of damages sustained by Plaintiff as a result of the acts of infringement by Defendant;

4. A judgment and order requiring Defendant to pay Plaintiff damages under 35 U.S.C. § 284, including up to treble damages as provided by 35 U.S.C. § 284, and any royalties determined to be appropriate;
5. A judgment and order requiring Defendant to pay Plaintiff pre-judgment and post-judgment interest on the damages awarded;
6. A judgment and order finding this to be an exceptional case and requiring Defendant to pay the costs of this action (including all disbursements) and attorneys' fees as provided by 35 U.S.C. § 285; and
7. Such other and further relief as the Court deems just and equitable.

Dated: October 18, 2023

Respectfully submitted,

/s/ E. Leon Carter

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