

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

**OPTIMUM IMAGING TECHNOLOGIES
LLC,**

Plaintiff,

V.

FUJIFILM CORPORATION,

Defendant.

[illegible]

JURY TRIAL DEMANDED

CIVIL ACTION NO.

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 Fujifilm Corporation (“Defendant” or “Fujifilm”) 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 Fujifilm is a corporation organized under the laws of Japan, with its principal place of business located at Midtown West, 7-3, Akasaka 9-chmoe, Minato-ku, Tokyo 107-0052, Japan. Fujifilm may be served with process via its registered agents and via its corporate officers.

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, Fujifilm's website lists official dealers for its products, which includes 13 dealers in Texas. *See Shop, FUJIFILM*, <https://fujifilm-x.com/en-us/shop/> (last visited Sept. 6, 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, Fujifilm's website fujifilm-x.com, through which Fujifilm advertises and supplies information regarding the Infringing Products, is accessible to consumers in the United States, including those in the State of Texas and this judicial District. Fujifilm also sells the Infringing Products through 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. *See Fujifilm – GFX100S Mirrorless Camera Body Only – Black*, BEST BUY, <https://www.bestbuy.com/site/fujifilm-gfx100s-mirrorless-camera-body-only-black/6457075.p?skuId=6457075> (showing Fujifilm GFX100S camera available for sale at Best Buy location in this District).

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.

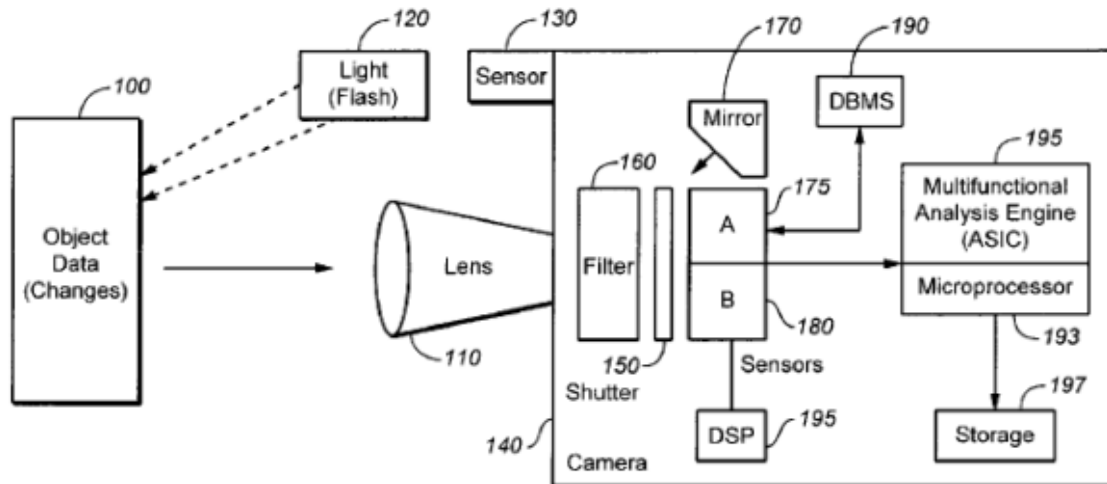
11. OIT, a Texas limited liability company formed by Mr. Solomon in 2009, owns the Asserted Patents.

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. Fujifilm markets its Infringing Products specifically extolling the functionality of the Asserted Patents. As one example, Fujifilm provides guides that explain to users and potential customers that the Fujifilm GFX100 Digital Camera performs optical aberration corrections such as which correct “distortion, color shading, and peripheral illumination” based on data received from attached lenses. *See* GFX100 Owner’s Manual, FUJIFILM, at 144, 159 (available for download at <https://fujifilm-dsc.com/en/manual/gfx100/>, last visited Sept. 5, 2023). The camera firmware that supports shooting functions like aberrations corrections can be updated via download from Fujifilm. *See* *GFX100 Firmware update*, Version 5.00, FUJIFILM, <https://fujifilm-x.com/en-us/support/download/firmware/cameras/gfx100/> (July 13, 2023).

17. On information and belief, all Fujifilm 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: Fujifilm GFX100, GFX100S, GFX 50S, GFX 50R, GFX50S II, X-H2, X-H2S, X-Pro3, X-T5, X-T4, X-T3, X-S20,

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X-S10, X-T30 II, X-T200, and X-E4. 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)

18. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 17 herein by reference.

19. 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 Jul. 24, 2008, claiming priority to provisional application 60/807,065 filed on Jul. 11, 2006. A true and accurate copy of the '805 Patent is attached hereto as Exhibit A.

20. 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.

21. 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.

22. Representative claims 1 and 9 are as follows:

23. 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.

24. 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.

25. 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 Fujifilm GFX100:



Source: *Fujifilm GFX100 Owner's Manual*, FUJIFILM, <https://fujifilm-dsc.com/en/manual/gfx100/> (last visited Sept. 5, 2023)

Model Name	FUJIFILM GFX100 *FW ver4.00
Number of effective pixels	102 million pixels
Image sensor	43.8mm×32.9mm Bayer array with primary color filter
Sensor Cleaning System	Ultra Sonic Vibration
Storage media	SD Card (-2GB) / SDHC Card (-32GB) / SDXC Card (-2TB) UHS-I / UHS-II / Video Speed Class V90 *1
File format	
Still Image	JPEG (Exif Ver.2.3)*2, RAW : 14bit / 16bit RAW (RAF original format), RAW+JPEG, 8-bit /16-bit(10-bit output in 16bit file) TIFF (In-camera Raw Conversion Only)
Number of recorded pixels	[L] <4:3> 11648×8736 <3:2> 11648×7768 <16:9> 11648×6552 <1:1> 8736×8736 <65:24> 11648×4304 <5:4> 10928×8736 <7:6> 10192×8736 [M] <4:3> 8256×6192 <3:2> 8256×5504 <16:9> 8256×4640 <1:1> 6192×6192 <65:24> 8256×3048 <5:4> 7744×6192 <7:6> 7232×6192 [S] <4:3> 4000×3000 <3:2> 4000×2664 <16:9> 4000×2248 <1:1> 2992×2992 <65:24> 4000×1480 <5:4> 3744×3000 <7:6> 3504×3000
Lens Mount	FUJIFILM G mount

Source: *GFX100 – Specifications*, FUJIFILM, <https://fujifilm-x.com/en-us/products/cameras/gfx100/specifications/> (last visited Sept. 5, 2023).

26. 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.

27. Each of the Infringing Products comprises an optical lens mechanism that can be a fixed focal length lens or a zoom lens. As one example, the GFX100 is used with a variety of compatible zoom or fixed focal length lenses. According to Fujifilm, the GFX100 uses Fujifilm's G-Mount lenses, which can be zoom or fixed focal length:

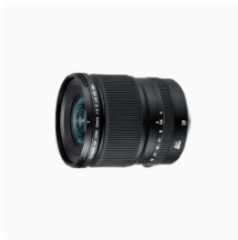


Attaching a Lens

The camera can be used with lenses for the FUJIFILM G-mount.

Source: GFX100 Owner's Manual, FUJIFILM, at 40 (available for download at <https://fujifilm-dsc.com/en/manual/gfx100/>, last visited Sept. 5, 2023)

Prime



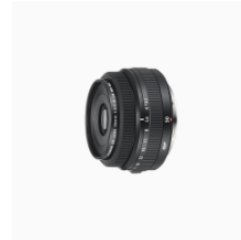
GF23mmF4 R LM WR



GF30mmF3.5 R WR



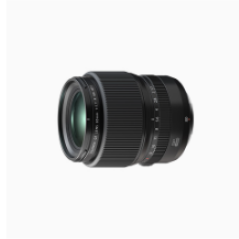
GF45mmF2.8 R WR



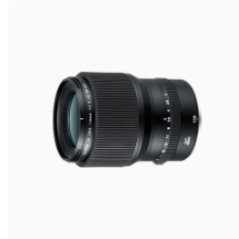
GF50mmF3.5 R LM WR



GF63mmF2.8 R WR



GF80mmF1.7 R WR



GF110mmF2 R LM WR



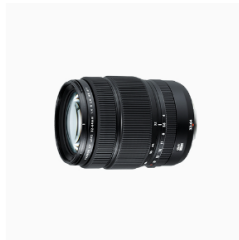
GF120mmF4 R LM OIS WR Macro



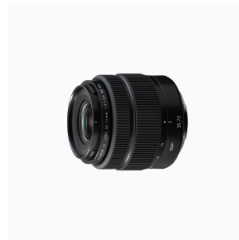
Zoom



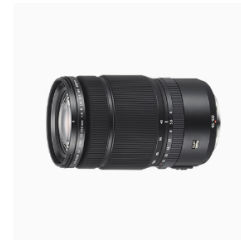
GF20-35mmF4 R WR



GF32-64mmF4 R LM WR



GF35-70mmF4.5-5.6 WR



GF45-100mmF4 R LM OIS WR



GF100-200mmF5.6 R LM OIS WR

Source: *Lenses – G-Mount*, FUJIFILM, <https://fujifilm-x.com/en-us/products/lenses/> (last visited Sept. 5, 2023)

28. The Infringing Products also comprise a digital sensor. For example, the GFX100 has a “back-illuminated 102MP imaging sensor.” *GFX100 – Features*, FUJIFILM, <https://fujifilm-x.com/en-us/products/cameras/gfx100/> (last visited Sept. 5, 2023).

29. On information and belief, the Infringing Products also store and use database data for lens aberration correction. For example, as discussed further below, the GFX100 contains 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 GFX100. Further, users can download firmware updates that contain data pertaining to shooting functions as well as specific lenses. *See GFX100 Firmware update, Version 5.00*, FUJIFILM, <https://fujifilm-x.com/en-us/support/download/firmware/cameras/gfx100/> (July 13, 2023).

30. On information and belief, Fujifilm Infringing Products use at least one application specific integrated circuit (ASIC) and a digital signal processor as well as a microprocessor. For example, the GFX100 contains Fujifilm’s X Processor 4 image processing engine, which implements this functionality. The X Processor 4 is an image processing engine that the GFX100 uses to “quickly optimize the data from the image sensor.” *GFX100 – 102MP x Large Format*, FUJIFILM, <https://fujifilm-x.com/en-us/products/cameras/gfx100/feature-device/> (last visited Sept. 5, 2023). The GFX100 also contains a signal processor. For example, Fujifilm acknowledges that the digital signal from the sensor is processed by the image processing engine: “GFX100 uses a back-side illuminated (BSI) design, which increases efficiency by repositioning elements of the sensor’s architecture compared to traditional designs. Each photosite on the sensor needs to be held in place by a frame, and it also needs wiring to transfer its signal to the processor.” *How GFX100’s Sensor Delivers Sensational Landscapes*, FUJIFILM, <https://fujifilm-x.com/en-us/exposure-center/how-gfx100s-sensor-delivers-sensational-landscapes/> (last visited Sept. 6, 2023).

31. 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. For example, the GFX100 includes a “Distortion Correction” function that corrects multiple types of optical aberrations based on the lens that is attached:

MOUNT ADAPTER SETTING

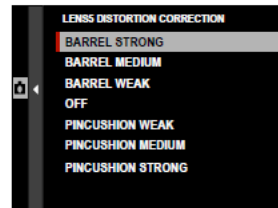
Adjust settings for lenses attached via a mount adapter.

Saved Settings

Store settings for up to 6 lenses, or choose **OFF** to disable corrections for focal length, distortion, color shading, and peripheral illumination.

Distortion Correction

Choose from **STRONG**, **MEDIUM**, or **WEAK** options to correct **BARREL** or **PINCUSHION** distortion.



Source: GFX100 Owner’s Manual at 144.

Because the Distortion Correction 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.

32. On information and belief, the system software in the Infringing Products forwards data from the digital sensor to the digital processor. For example, in the “GFX100 uses the X-Processor 4, FUJILM’s latest image processing engine to quickly optimize the data from the high

resolution sensor.” *GFX100 – 102MP x Large Format*, FUJIFILM. Data must necessarily be forwarded from the digital sensor to the X Processor 4 (which contains the digital processor) in order to optimize the data. Further, Fujifilm acknowledges that the digital signal from the sensor is sent from the sensor to the processor: “GFX100 uses a back-side illuminated (BSI) design, which increases efficiency by repositioning elements of the sensor’s architecture compared to traditional designs. Each photosite on the sensor needs to be held in place by a frame, and it also needs wiring to transfer its signal to the processor.” *How GFX100’s Sensor Delivers Sensational Landscapes*, FUJIFILM.

33. 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.

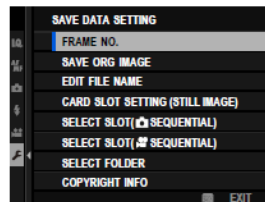
34. On information and belief, the Infringing Products store in memory the modified data file consisting of the digital data optimized from the original optical image that has had its optical aberrations corrected. For example, the GFX100 automatically creates a storage folder in memory, to which the corrected images are recorded:



SAVE DATA SETTING

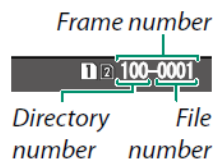
Make changes to file management settings.

To access file management settings, press **MENU/OK**, select the **SET UP** tab, and choose **SAVE DATA SET-UP**.



FRAME NO.

New pictures are stored in image files named using a four-digit file number assigned by adding one to the last file number used. The file number is displayed during playback as shown. **FRAME NO.** controls whether file numbering is reset to 0001 when a new memory card is inserted or the current memory card is formatted.



Option	Description
CONTINUOUS	Numbering continues from the last file number used or the first available file number, whichever is higher. Choose this option to reduce the number of pictures with duplicate file names.
RENEW	Numbering is reset to 0001 after formatting or when a new memory card is inserted.

Source: GFX100 Owner's Manual at 236.

35. 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).

36. 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.

37. 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, Fujifilm has or should have had actual notice

of the '805 Patent since at least 2011. Additionally, Fujifilm has had actual notice of the '805 Patent since at least its receipt of OIT's complaint. Despite such knowledge, Fujifilm 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 Fujifilm became aware of the '805 Patent.

38. 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.

39. 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 Fujifilm'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.

40. 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.

41. 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, Fujifilm has had actual notice of the '805 Patent at least as early as June 15, 2011, when the application for the '805 Patent was cited by the examiner as prior art during the prosecution of one of Fujifilm's own patent applications, U.S. Patent App. No. 12/129,321, which issued as U.S. Patent No. 8,199,246. On information and belief, the '805 Patent was also cited during the prosecution of at least two other Fujifilm patent applications, Japanese Patent App. No. JP2011217103A and German Patent No. DE112017001419B4. Thus, Fujifilm was informed of the disclosures of the '805 Patent, but continued to infringe, nonetheless. Moreover, Fujifilm was and is on notice of the '805 Patent at least as early as the filing of the Complaint in this lawsuit, yet continued and continues to infringe the '805 Patent.

COUNT II

(Infringement of the '339 Patent)

42. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 41 herein by reference.

43. 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 Jul. 11, 2006. A true and accurate copy of the '339 Patent is attached hereto as Exhibit B.

44. 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.

45. 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.

46. Representative claims 1 and 14 are as follows:

47. 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.

48. 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.

49. 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 GFX100:



Source: *Fujifilm GFX100 Owner's Manual*, FUJIFILM.

Model Name	FUJIFILM GFX100 *FW ver4.00
Number of effective pixels	102 million pixels
Image sensor	43.8mm×32.9mm Bayer array with primary color filter
Sensor Cleaning System	Ultra Sonic Vibration
Storage media	SD Card (-2GB) / SDHC Card (-32GB) / SDXC Card (-2TB) UHS-I / UHS-II / Video Speed Class V90 *1
File format	
Still Image	JPEG (Exif Ver.2.3)*2, RAW : 14bit / 16bit RAW (RAF original format), RAW+JPEG, 8-bit/16-bit(10-bit output in 16bit file) TIFF (In-camera Raw Conversion Only)
Number of recorded pixels	[L] <4:3> 11648×8736 <3:2> 11648×7768 <16:9> 11648×6552 <1:1> 8736×8736 <65:24> 11648×4304 <5:4> 10928×8736 <7:6> 10192×8736 [M] <4:3> 8256×6192 <3:2> 8256×5504 <16:9> 8256×4640 <1:1> 6192×6192 <65:24> 8256×3048 <5:4> 7744×6192 <7:6> 7232×6192 [S] <4:3> 4000×3000 <3:2> 4000×2664 <16:9> 4000×2248 <1:1> 2992×2992 <65:24> 4000×1480 <5:4> 3744×3000 <7:6> 3504×3000
Lens Mount	FUJIFILM G mount

Source: *GFX100 – Specifications*, FUJIFILM.

50. 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.

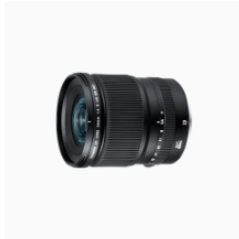
51. On information and belief, each of the Infringing Products also comprises a fixed focal length lens or a zoom lens. As one example, the GFX100 is used with a variety of compatible zoom or fixed focal length lenses. According to Fujifilm, the GFX100 uses Fujifilm's G-Mount lenses, which can be zoom or fixed focal length:

Attaching a Lens

The camera can be used with lenses for the FUJIFILM G-mount.

Source: GFX100 Owner's Manual at 40.

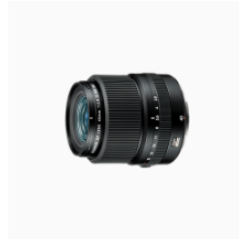
Prime



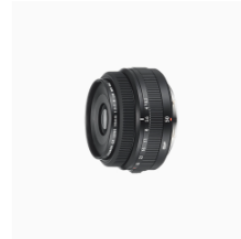
GF23mmF4 R LM WR



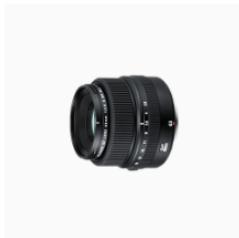
GF30mmF3.5 R WR



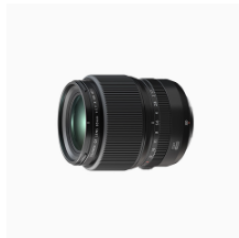
GF45mmF2.8 R WR



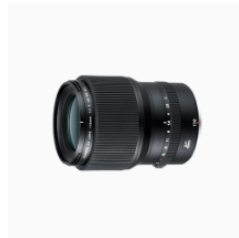
GF50mmF3.5 R LM WR



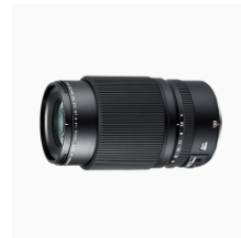
GF63mmF2.8 R WR



GF80mmF1.7 R WR



GF110mmF2 R LM WR



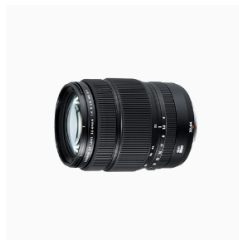
GF120mmF4 R LM OIS WR Macro



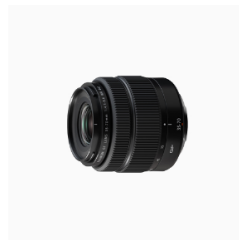
Zoom



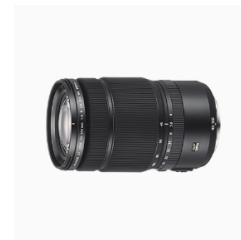
GF20-35mmF4 R WR



GF32-64mmF4 R LM WR



GF35-70mmF4.5-5.6 WR



GF45-100mmF4 R LM OIS WR



GF100-200mmF5.6 R LM OIS WR

Source: *Lenses – G-Mount*, FUJIFILM.

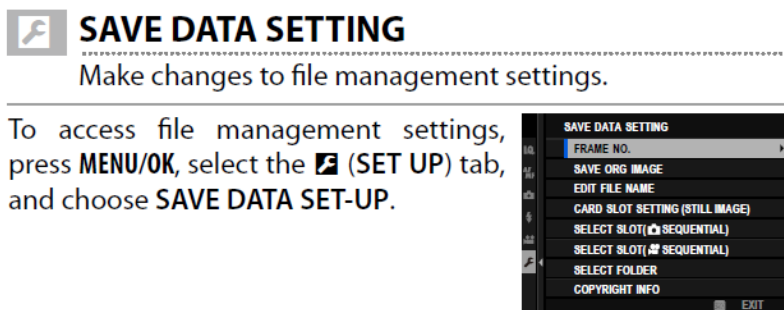
52. The Infringing Products also comprise a digital sensor. For example, the GFX100 has a “back-illuminated 102MP imaging sensor.” *GFX100 – Features*, FUJIFILM.

53. Fujifilm Infringing Products comprise an integrated circuit, a digital signal processor, and a microprocessor. For example, the GFX100 contains Fujifilm’s X Processor 4 image processing engine, which implements this functionality. The X Processor 4 is an image processing engine that the GFX100 uses to “quickly optimize the data from the image sensor.” *GFX100 – 102MP x Large Format*, FUJIFILM, <https://fujifilm-x.com/en-us/products/cameras/gfx100/feature-device/> (last visited Sept. 5, 2023). The GFX100 also contains a signal processor. For example, Fujifilm acknowledges that the digital signal from the sensor is processed by the image processing engine: “GFX100 uses a back-side illuminated (BSI) design, which increases efficiency by repositioning elements of the sensor’s architecture compared to traditional designs. Each photosite on the sensor needs to be held in place by a frame, and it also needs wiring to transfer its signal to the processor.” *How GFX100’s Sensor Delivers Sensational Landscapes*, FUJIFILM.

54. Fujifilm Infringing Products comprise system software. For example, as discussed below, the GFX100 contains “Distortion Correction” software for correcting optical aberrations.

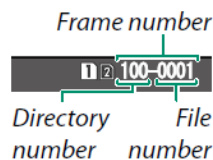
55. On information and belief, the Infringing Products also a database management system. For example, as discussed further below, the GFX100 contains photo shooting functionality that automatically corrects optical aberrations based on the lens being used, which necessarily requires the use of database data stored on the GFX100. Further, users can download firmware updates that contain data pertaining to shooting functions as well as specific lenses. *See GFX100 Firmware update*, Version 5.00, FUJIFILM.

56. Fujifilm Infringing Products also comprise a memory storage subsystem. For example, the GFX100 automatically creates a storage folder in memory, to which the corrected images are recorded:



FRAME NO.

New pictures are stored in image files named using a four-digit file number assigned by adding one to the last file number used. The file number is displayed during playback as shown. **FRAME NO.** controls whether file numbering is reset to 0001 when a new memory card is inserted or the current memory card is formatted.



Option	Description
CONTINUOUS	Numbering continues from the last file number used or the first available file number, whichever is higher. Choose this option to reduce the number of pictures with duplicate file names.
RENEW	Numbering is reset to 0001 after formatting or when a new memory card is inserted.

Source: GFX100 Owner's Manual at 236.

57. 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 GFX100 includes a "Distortion Correction" function that corrects multiple types of optical aberrations based on the lens that is attached:

MOUNT ADAPTER SETTING

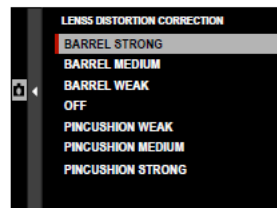
Adjust settings for lenses attached via a mount adapter.

Saved Settings

Store settings for up to 6 lenses, or choose **OFF** to disable corrections for focal length, distortion, color shading, and peripheral illumination.

Distortion Correction

Choose from **STRONG**, **MEDIUM**, or **WEAK** options to correct **BARREL** or **PINCUSHION** distortion.

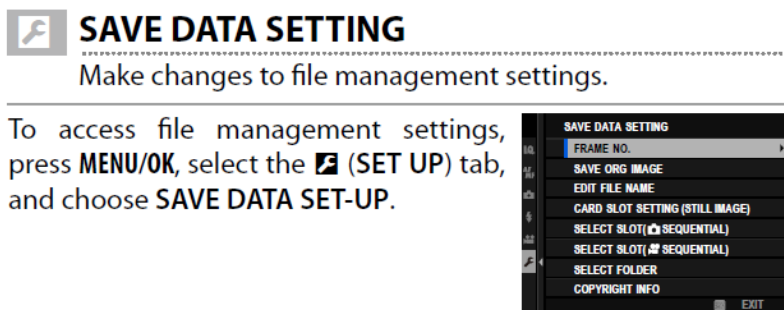


Source: GFX100 Owner's Manual at 144.

In order to automatically compensate for these optical aberrations, the GFX100 must necessarily use system software to access a database of lens data on the camera.

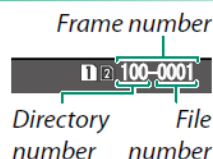
58. On information and belief, in the Infringing Products, when an image file is captured by the digital sensor the digital file is forwarded to the digital signal processor. For example, in the “GFX100 uses the X-Processor 4, FUJILM’s latest image processing engine to quickly optimize the data from the high resolution sensor.” *GFX100 – 102MP x Large Format*, FUJIFILM. Data must necessarily be forwarded from the digital sensor to the X Processor 4 (which contains the digital processor) in order to optimize the data. Further, Fujifilm acknowledges that the digital signal from the sensor is sent from the sensor to the processor: “GFX100 uses a back-side illuminated (BSI) design, which increases efficiency by repositioning elements of the sensor’s architecture compared to traditional designs. Each photosite on the sensor needs to be held in place by a frame, and it also needs wiring to transfer its signal to the processor.” *How GFX100’s Sensor Delivers Sensational Landscapes*, FUJIFILM.

59. 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, the GFX100 automatically creates a storage file in memory, to which the corrected images are recorded:



FRAME NO.

New pictures are stored in image files named using a four-digit file number assigned by adding one to the last file number used. The file number is displayed during playback as shown. **FRAME NO.** controls whether file numbering is reset to 0001 when a new memory card is inserted or the current memory card is formatted.



Option	Description
CONTINUOUS	Numbering continues from the last file number used or the first available file number, whichever is higher. Choose this option to reduce the number of pictures with duplicate file names.
RENEW	Numbering is reset to 0001 after formatting or when a new memory card is inserted.

Source: GFX100 Owner's Manual at 236.

60. 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).

61. 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.

62. 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, Fujifilm has or should have had actual notice of the disclosures in the '339 Patent since at least 2011. Additionally, Fujifilm has had actual notice of the '339 Patent since at least its receipt of OIT's complaint. Despite such knowledge, Fujifilm 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 Fujifilm became aware of the disclosures of '339 Patent.

63. 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.

64. 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 Fujifilm'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.

65. 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.

66. 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, Fujifilm has had actual notice of the disclosures in the '339 Patent at least as early as June 15, 2011, when the application for the '805 Patent was cited by the examiner as prior art during the prosecution of one of Fujifilm's own patent applications, U.S. Patent App. No. 12/129,321, which issued as U.S. Patent No. 8,199,246. On information and belief, the '805 Patent was also cited during the prosecution of at least two other Fujifilm patent applications, Japanese Patent App. No. JP2011217103A and German Patent No. DE112017001419B4. Thus, Fujifilm was informed of the disclosures of the '339 Patent, but continued to infringe, nonetheless. Moreover, Fujifilm 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)

67. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 66 herein by reference.

68. 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 Jul. 11, 2006. A true and accurate copy of the '685 Patent is attached hereto as Exhibit C.

69. 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.

70. 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.

71. 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.

72. 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 GFX100:



Source: Fujifilm GFX100 Owner's Manual, FUJIFILM.

Model Name	FUJIFILM GFX100 *FW ver4.00
Number of effective pixels	102 million pixels
Image sensor	43.8mm×32.9mm Bayer array with primary color filter
Sensor Cleaning System	Ultra Sonic Vibration
Storage media	SD Card (-2GB) / SDHC Card (-32GB) / SDXC Card (-2TB) UHS-I / UHS-II / Video Speed Class V90 *1
File format	
Still Image	JPEG (Exif Ver.2.3)*2, RAW : 14bit / 16bit RAW (RAF original format), RAW+JPEG, 8-bit /16-bit(10-bit output in 16bit file) TIFF (In-camera Raw Conversion Only)
Number of recorded pixels	[L] <4:3> 11648×8736 <3:2> 11648×7768 <16:9> 11648×6552 <1:1> 8736×8736 <65:24> 11648×4304 <5:4> 10928×8736 <7:6> 10192×8736 [M] <4:3> 8256×6192 <3:2> 8256×5504 <16:9> 8256×4640 <1:1> 6192×6192 <65:24> 8256×3048 <5:4> 7744×6192 <7:6> 7232×6192 [S] <4:3> 4000×3000 <3:2> 4000×2664 <16:9> 4000×2248 <1:1> 2992×2992 <65:24> 4000×1480 <5:4> 3744×3000 <7:6> 3504×3000
Lens Mount	FUJIFILM G mount
Movie recording	
File format	MOV (MPEG-4 AVC / H.264, HEVC / H.265, Audio : Linear PCM / Stereo sound 24bit / 48KHz sampling)
Movie compression	All Intra/Long-GOP * All Intra can be used with following settings. DCI4K/4K 29.97p/25p/24p/23.98p 400Mbps Full HD(2048×1080)/Full HD(1920×1080) 59.94p/50p/29.97p/25p/24p/23.98p 200Mbps
File size / Frame rate / Recording time	[DCI4K (4096×2160)] 29.97p / 25p / 24p / 23.98p 400Mbps/200Mbps/100Mbps up to Approx. 60min. [4K (3840×2160)] 29.97p / 25p / 24p / 23.98p 400Mbps/200Mbps/100Mbps up to Approx. 60min. [Full HD (2048×1080)] 29.97p / 25p / 24p / 23.98p 200Mbps/100Mbps/50Mbps up to Approx. 80min. [Full HD (1920×1080)] 29.97p / 25p / 24p / 23.98p 200Mbps/100Mbps/50Mbps up to Approx. 80min. * For recording movies, use a SD memory card with UHS Speed Class 3 or higher. * For recording movies in 400Mbps, use a SD memory card with Video Speed Class 60 or higher. * Recording movies in 400Mbps can be done with DCI4K/4K 29.97p/25p/24p/23.98p.

Source: GFX100 – Specifications, FUJIFILM.

73. 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.

74. 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 GFX100 is used with a variety of compatible zoom or fixed focal length lenses. According to Fujifilm, the GFX100 uses Fujifilm's G-Mount lenses, which can be zoom or fixed focal length:

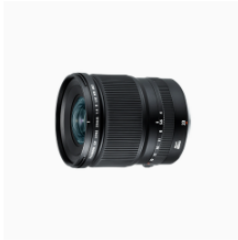


Attaching a Lens

The camera can be used with lenses for the FUJIFILM G-mount.

Source: GFX100 Owner's Manual at 40.

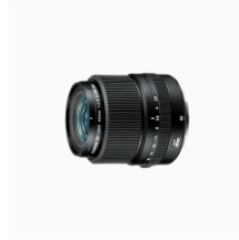
Prime



GF23mmF4 R LM WR



GF30mmF3.5 R WR



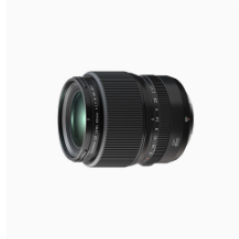
GF45mmF2.8 R WR



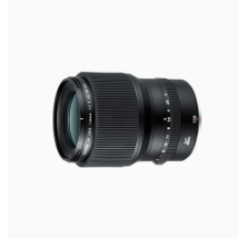
GF50mmF3.5 R LM WR



GF63mmF2.8 R WR



GF80mmF1.7 R WR



GF110mmF2 R LM WR



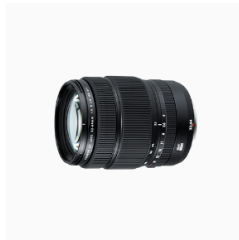
GF120mmF4 R LM OIS WR Macro



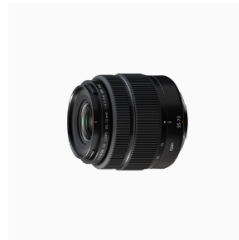
Zoom



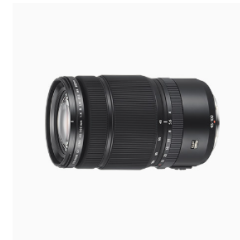
GF20-35mmF4 R WR



GF32-64mmF4 R LM WR



GF35-70mmF4.5-5.6 WR



GF45-100mmF4 R LM OIS WR



GF100-200mmF5.6 R LM OIS WR

Source: *Lenses – G-Mount*, FUJIFILM.

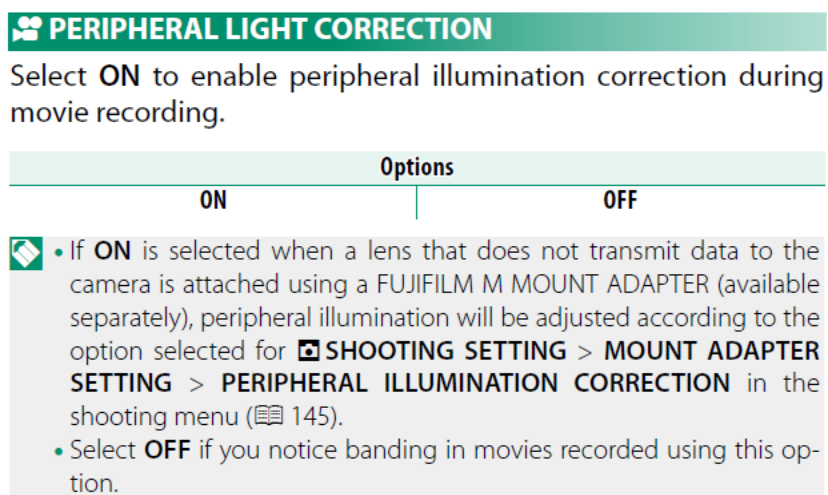
75. The Infringing Products also comprise in-camera software. For example, as discussed below in paragraph 83, the GFX100 contains software for correcting optical aberrations, including peripheral light corrections.

76. The Infringing Products also include digital sensors. For example, the GFX100 has a “back-illuminated 102MP imaging sensor.” *GFX100 – Features*, FUJIFILM.

77. Fujifilm Infringing Products use an integrated circuit (ASIC) and a digital signal processor. For example, the GFX100 contains Fujifilm’s X Processor 4 image processing engine, which implements this functionality. The X Processor 4 is an image processing engine that the GFX100 uses to “quickly optimize the data from the image sensor.” *GFX100 – 102MP x Large Format*, FUJIFILM. The GFX100 also contains a signal processor. For example, Fujifilm acknowledges that the digital signal from the sensor is processed by the image processing engine: “GFX100 uses a back-side illuminated (BSI) design, which increases efficiency by repositioning elements of the sensor’s architecture compared to traditional designs. Each photosite on the sensor needs to be held in place by a frame, and it also needs wiring to transfer its signal to the processor.” *How GFX100’s Sensor Delivers Sensational Landscapes*, FUJIFILM.

78. The digital signal processor in each of the Infringing Products is also configured to access a database management system of optical image aberration corrections. For example, as discussed further below, the GFX100 contains 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 GFX100. Further, users can download firmware updates that contain data pertaining to shooting functions as well as specific lenses. *See GFX100 Firmware update*, Version 5.00, FUJIFILM.

79. The Infringing Products also use the in-camera software to identify and correct optical image aberrations in frames of digital videos. For example, the GFX100 includes correction functions such as “Peripheral Light Correction” that correct multiple types of optical aberrations in videos based on the lens that is attached:



Source: GFX100 Owner’s Manual at 159.

80. 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).

81. 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.

82. 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 1 of the ’685 patent. On information and belief, as set forth below, Fujifilm has or should have had actual notice of the disclosures in the ’685 Patent since at least 2011. Additionally, Fujifilm has had actual notice of the

'685 Patent since at least its receipt of OIT's complaint. Despite such knowledge, Fujifilm 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 Fujifilm became aware of the '685 Patent.

83. 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.

84. 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 Fujifilm'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.

85. 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.

86. 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, Fujifilm has had actual notice of the disclosures in the '339 Patent at least as early as June 15, 2011, when the application for the '805 Patent was cited by the examiner as prior art during the prosecution of one of Fujifilm's own patent applications, U.S. Patent App. No. 12/129,321, which issued as U.S. Patent No. 8,199,246. On information and belief, the '805 Patent was also cited during the prosecution of at least two other Fujifilm patent applications, Japanese Patent App. No. JP2011217103A and German Patent No. DE112017001419B4. Thus, Fujifilm was informed of the disclosures of the '685 Patent, but continued to infringe, nonetheless. Moreover, Fujifilm 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)

87. Plaintiff incorporates and re-alleges the allegations contained in paragraphs 1 through 86 herein by reference.

88. 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 Jul. 11, 2006. A true and accurate copy of the '266 Patent is attached hereto as Exhibit D.

89. 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.

90. 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.

91. 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.

92. Each Infringing Product is a digital camera that is configured to process one or more images as seen, for example, with the GFX100:



Source: *Fujifilm GFX100 Owner's Manual*, FUJIFILM.

Model Name	FUJIFILM GFX100 *FW ver4.00
Number of effective pixels	102 million pixels
Image sensor	43.8mm×32.9mm Bayer array with primary color filter
Sensor Cleaning System	Ultra Sonic Vibration
Storage media	SD Card (-2GB) / SDHC Card (-32GB) / SDXC Card (-2TB) UHS-I / UHS-II / Video Speed Class V90 *1
File format	
Still Image	JPEG (Exif Ver.2.3)*2, RAW : 14bit / 16bit RAW (RAF original format), RAW+JPEG, 8-bit/16-bit(10-bit output in 16bit file) TIFF (In-camera Raw Conversion Only)
Number of recorded pixels	[L] <4:3> 11648×8736 <3:2> 11648×7768 <16:9> 11648×6552 <1:1> 8736×8736 <65:24> 11648×4304 <5:4> 10928×8736 <7:6> 10192×8736 [M] <4:3> 8256×6192 <3:2> 8256×5504 <16:9> 8256×4640 <1:1> 6192×6192 <65:24> 8256×3048 <5:4> 7744×6192 <7:6> 7232×6192 [S] <4:3> 4000×3000 <3:2> 4000×2664 <16:9> 4000×2248 <1:1> 2992×2992 <65:24> 4000×1480 <5:4> 3744×3000 <7:6> 3504×3000
Lens Mount	FUJIFILM G mount

Source: *GFX100 – Specifications*, FUJIFILM.

93. 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.

94. 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.

95. The Infringing Products contain in-camera hardware and software for image processing. As one example, the GFX100 has a digital sensor for processing images, specifically a “back-illuminated 102MP imaging sensor.” *GFX100 – Features*, FUJIFILM. The GFX100 also contains Fujifilm’s X Processor 4 image processing engine. The X Processor 4 is an image processing engine that the GFX100 uses to “quickly optimize the data from the image sensor.”

GFX100 – 102MP x Large Format, FUJIFILM. The GFX100 also contains a signal processor. For example, Fujifilm acknowledges that the digital signal from the sensor is processed by the image processing engine: “GFX100 uses a back-side illuminated (BSI) design, which increases efficiency by repositioning elements of the sensor’s architecture compared to traditional designs. Each photosite on the sensor needs to be held in place by a frame, and it also needs wiring to transfer its signal to the processor.” *How GFX100’s Sensor Delivers Sensational Landscapes*, FUJIFILM.

96. The hardware and software components of the Infringing Products also perform a plurality of image correction algorithms. For example, the GFX100 includes a “Distortion Correction” function that corrects multiple types of optical aberrations based on the lens that is attached:

MOUNT ADAPTER SETTING

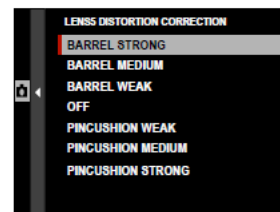
Adjust settings for lenses attached via a mount adapter.

Saved Settings

Store settings for up to 6 lenses, or choose **OFF** to disable corrections for focal length, distortion, color shading, and peripheral illumination.

Distortion Correction

Choose from **STRONG**, **MEDIUM**, or **WEAK** options to correct **BARREL** or **PINCUSHION** distortion.

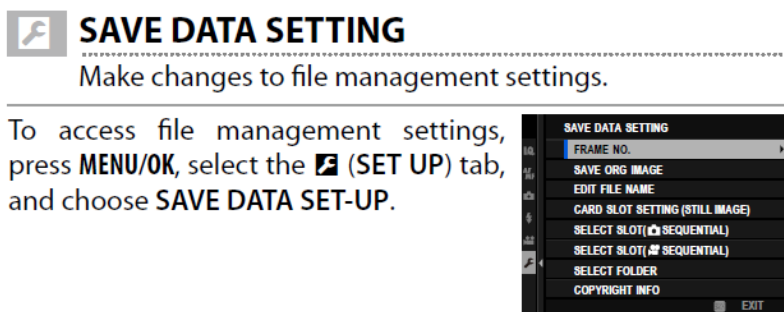


Source: GFX100 Owner’s Manual at 144.

97. Fujifilm Infringing Products also store and use database data for lens aberration correction. For example, as discussed further in paragraph 103 above, the GFX100 contains 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 GFX100. Further, users can download firmware updates that contain data pertaining to shooting functions as well as specific lenses. *See GFX100 Firmware update, Version 5.00, FUJIFILM.*

98. The Infringing Products also store the corrected images in memory. For example, the GFX100 automatically creates a storage file in memory, to which the corrected images are recorded:



FRAME NO.

New pictures are stored in image files named using a four-digit file number assigned by adding one to the last file number used. The file number is displayed during playback as shown. **FRAME NO.** controls whether file numbering is reset to 0001 when a new memory card is inserted or the current memory card is formatted.

Frame number
100-0001
Directory File
number number

Option	Description
CONTINUOUS	Numbering continues from the last file number used or the first available file number, whichever is higher. Choose this option to reduce the number of pictures with duplicate file names.
RENEW	Numbering is reset to 0001 after formatting or when a new memory card is inserted.

Source: GFX100 Owner's Manual at 236.

99. The Infringing Products are also configured to wirelessly transmit the corrected images. For example, the GFX100 can connect to Fujifilm's Camera Remote app and send pictures:

WIRELESS COMMUNICATION

Connect to smartphones running the latest version of the FUJIFILM Camera Remote app. The smartphone can then be used to:

- Control the camera and take pictures remotely
- Receive pictures uploaded from the camera
- Browse the pictures on the camera and download selected pictures
- Upload location data to the camera



For downloads and other information, visit:
http://app.fujifilm-dsc.com/en/camera_remote/

Source: GFX Owner's Manual at 147.

100. 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).

101. 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.

102. 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 1 of the '266 patent. On information and belief, as set forth below, Fujifilm has or should have had actual notice of the disclosures in the '266 Patent since at least 2011. Additionally, Fujifilm has had actual notice of the '266 Patent since at least its receipt of OIT's complaint. Despite such knowledge, Fujifilm 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 Fujifilm became aware of the '266 Patent.

103. 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.

104. 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 Fujifilm'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.

105. 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.

106. 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, Fujifilm has had actual notice of the disclosures in the '266 Patent at least as early as June 15, 2011, when the application for the '805 Patent was cited by the examiner as prior art during the prosecution of one of Fujifilm's own patent applications, U.S. Patent App. No. 12/129,321, which issued as U.S. Patent No. 8,199,246. On information and belief, the '805 Patent was also cited during the prosecution of at least two other Fujifilm patent applications, Japanese

Patent App. No. JP2011217103A and German Patent No. DE112017001419B4. Thus, Fujifilm was informed of the disclosures of the '266 Patent, but continued to infringe, nonetheless. Moreover, Fujifilm 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

107. 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.

108. 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

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

PRAYER FOR RELIEF

110. 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,

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