IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

UNILOC 2017 LLC, Plaintiff, v. LG ELECTRONICS U.S.A., INC. and LG ELECTRONICS, INC., Defendants.	CIVIL ACTION NO.: 3:18-cv-03071-N

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, Uniloc 2017 LLC ("Uniloc"), for its Amended Complaint against defendants, LG Electronics U.S.A., Inc. and LG Electronics, Inc. (together, "LG"), alleges:

THE PARTIES

1. Uniloc 2017 is a Delaware limited liability company, having addresses at 1209 Orange Street, Wilmington, Delaware 19801; 620 Newport Center Drive, Newport Beach, California 92660; and 102 N. College Avenue, Suite 303, Tyler, Texas 75702.

2. LG Electronics U.S.A., Inc. is a Delaware corporation, having a regular and established place of business at 2151-2155 Eagle Parkway, Fort Worth, Texas 76177.

3. LG Electronics, Inc. is a South Korean corporation, having a principal place of business at LG Twin Tower 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea.

4. LG imports and offers its products, including those accused of infringement, for sale and sells such products to customers located in the United States.

JURISDICTION

5. Uniloc brought this action for patent infringement under the patent laws of the United States, 35 U.S.C. § 271, *et seq.* This Court has jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

CLAIM FOR PATENT INFRINGEMENT

6. Uniloc is the owner, by assignment, of U.S. Patent No. 7,190,408 ("the '408 Patent"), entitled TV-RECEIVER, IMAGE DISPLAY APPARATUS, TV-SYSTEM AND METHOD FOR DISPLAYING AN IMAGE, which issued March 13, 2007, and claimed priority to an application filed May 17, 2001. A copy of the '408 Patent was attached to the original Complaint as Exhibit A.

7. The '408 Patent describes in detail, and claims in various ways, inventions in systems, methods, and devices for improved receipt and decoding of broadcast TV signals to adapt certain portions of the decoded images.

8. The '408 Patent describes problems and shortcomings in the then-existing field of resolving image sizes to be displayed on a video screen, such as a TV.

9. The '408 Patent describes and claims a receiver with an improved ability to decode and dynamically resample an image signal (such as a TV broadcast signal) so that important matter within that signal is properly identified and preserved in the resampled image.

10. The invention includes a decoder and a resampling unit, each of which are specialized components tailored to perform the recited image processing functionality. They are not general-purpose computing components.

11. The invention improved upon then existing image resampling technologies, which conventionally relied upon a fixed resampling rate dictated in the incoming image signal and

thus forced the receiver to resample images at the predefined fixed rate, potentially causing areas of interest to be cropped or reduced in detail. *See, e.g.,* '408 Patent, 1:31-61.

12. The prior art, such as "pan and scan" receivers (1:58-2:10), capable of identifying the location of important matter was not capable of identifying the size of that matter or selectively resampling the image in response. As a result, those receivers were not always able to display resampled areas of interest without cropping or excessively downsampling. This issue could arise in situations where the size of the display on the receiving end was smaller than the size the broadcaster assumed to be available.

13. The invention of the '408 Patent addressed these and other shortcomings. The invention requires that control information within the incoming image signal define not only the location but also the size of important matter. The invention enables the receiver to resample the incoming image signal at a variable resampling rate defined at the receiving end where necessary to accommodate a display size smaller or larger than the native size of an incoming image signal. The reduction in size is achieved by resampling the incoming image signal so as to preserve the areas of interest without downsampling or resizing to a greater degree than necessary.

14. The '408 Patent explains these novel features provide the ability to dynamically resample image signals so that areas of important matter are either completely displayed or not reduced more than necessary. *See* 3:42-51; 4:10-27.

15. The claimed advance is not "cropping and resizing an image on an electronic display," but rather the specific and improved method of achieving that result with respect to specific areas of interest within the overall image. That method includes the control data's defining the size of an important partition (in addition to a vector indicating its location) and a

resampling unit capable of resampling a decoded image at a variable resampling rate defined at the receiving end, to resize the partition according to a criterion.

16. This method was an advance on the art by enabling a receiver to resample a decoded image at an appropriate resampling rate so if the fixed size of the screen is smaller than the original size of the partition, the size of the partition will be reduced no more than necessary for being totally displayed on the screen.

17. This method was also an advance on the art by enabling a user to vary the resampling rate to the user's individual viewing angle when watching the screen or to the user's individual visual acuity.

18. In the prosecution history, the applicants used these features to distinguish the invention over cited prior art:

> [A]pplicant claims a re-sampled image displayed on the screen of a display device from said decoded image is extracted by re-sampling said decoded image at a variable re-sampling rate defined at the receiving end such that the size of the partition of important subject matter in the re-sampled image is adapted according to a criterion.
>
> [In the cited art] [t]here is no description of extracting an image from the decoded image by resampling the decoded image at a variable rate.

19. The '408 Patent contrasts the invention to prior art methods, describing as absent in the art the control data's defining the size of an important partition, and the use of a variable resampling rate defined at the receiving end. In its enabling disclosure, the '408 Patent describes how existing hardware can be modified or adapted to reduce this invention to practice.

20. The written description of the '408 Patent describes in technical detail each of the limitations of the claims, allowing a person of ordinary skill in the art to understand what the limitations cover and how the combination of claim elements differed markedly from and improved upon what may have been considered conventional or generic in 2001.

21. LG imports, uses, offers for sale, and sells in the United States digital televisions that implement the Advanced Television Systems Committee ("ATSC") standard and include a zoom picture functionality, including those designated: OLED55B6P, OLED65B6P, OLED55C6P, OLED65C6P, OLED55B7P, OLED55C7P, OLED55E6P, PLED65E6P, OLED55E7P, OLED55B7A, OLED65B7P, OLED65C7P, OLED65E7P, OLED65B7A, OLED65W7P, OLED77W7P, OLED65G7P, OLED77G7P, 49UJ7700, 55UJ7700, 55UJ7750, 60UJ7700, 65UJ7700, 65UJ7750, 55SJ8000, 55SJ800A, 55SJ8500, 60SJ8000, 60SJ800A, 60SJ8500, 65SJ8000, 65SJ800A, 65SJ8500, 65SJ850A, 65SJ9500, 75SJ8570, 75SJ857A, 86SJ9570, 50UH5500, 65UH5500, 49UH610A, 55UH615A, 60UH615A, 65UH615A, 43UH6100, 49UH6100, 49UH6090, 55UH6090, 55UH6150, 60UH6150, 65UH6150, 50UH6300, 58UH6300, 70UH6350, 43UH6500, 49UH6500, 55UH6550, 60UH6550, 65UH6550, 75UH6550, 43UH7500, 49UH7500, 55UH7500, 60UH7500, 65UH7500, 49UH7700, 55UH7700, 60UH7700, 65UH7700, 55UH8500, 60UH8500, 65UH8500, 75UH8500, 65UH9500, 86UH9500, and 98UH9800 (collectively, "Accused Infringing Devices").

22. The Accused Infringing Devices incorporate video screens for displaying images derived from decoded TV signals received, for example, from a television station broadcasting in digital format ("DTV"), where the size of the image may be changed by the viewer. For example, the viewer may use the Live Zoom function to enlarge a portion of the image for better viewing.

23. LG has infringed, and continues to infringe, the '408 Patent, by making, using, offering for sale, selling, and importing the Accused Infringing Devices. For example, as shown in Exhibit 1 to this Amended Complaint, the Accused Infringing Devices include a receiver that

includes every limitation of claim 1. LG installed the infringing functionality in its product because it intended that its customers use that functionality.

24. LG has been on notice of the ’408 Patent since, at the latest, the service of the Original Complaint. LG has also been on notice of Uniloc’s infringement allegations and theory of infringement since that date of service, as well as the date of its receipt of Exhibit 1 to this Amended Complaint.

25. Since receiving that notice, LG has known the Accused Infringing Devices, which incorporate components and software that cause the devices to operate automatically as described above, infringe the ’408 Patent.

26. Since receiving the notice of infringement in the Original Complaint and the explanation of Uniloc’s theory of infringement in Exhibit 1 to this Amended Complaint, LG has known its customers were, and are, infringing the ’408 Patent.

27. In its marketing, promotional, and instructional materials, LG intentionally instructs its customers to use the Accused Infringing Devices in a manner that LG knows causes them to infringe the ’408 Patent.

28. LG intentionally instructs its customers to use the Accused Infringing Products, in a manner that LG knows infringes the ’408 Patent, through training videos, demonstrations, brochures, manuals, installation and user guides, and other instructional and marketing materials, such as the attached Exhibit 2.

29. Since receiving the notice of infringement described above, LG has known that the above instructions instruct its customers how to use the Accused Infringing Devices to infringe the ’408 Patent and encourage those customers to do so.

30. LG has also infringed, and continues to infringe, the ’408 Patent by offering to sell, selling, and importing the Accused Infringing Devices, which devices are used to practice the methods of the ’408 Patent, and which constitute a material part of the invention. LG knows portions of the software on the Accused Infringing Devices that provides the above functionality were especially written solely for use to implement what it now knows is infringement of the ’408 Patent, as described above. LG also now knows those portions have no use, other than for infringement.

31. LG now knows, and has known since receiving the notice of infringement described above, its continued actions induce and contribute to infringement of the ’408 Patent. Despite that, and as further evidence of its intent that its customers infringe, LG has refused to discontinue its infringing acts, and has induced infringement by failing, since learning of Uniloc’s infringement allegations, to remove or distinguish the infringing features of the Accused Infringing Devices or otherwise place a non-infringing limit on their use.

32. LG may have infringed the ’408 Patent through other software and devices utilizing the same or reasonably similar functionality, including other versions of the Accused Infringing Devices.

33. Uniloc has been damaged by LG’s infringement of the ’408 Patent.

PRAYER FOR RELIEF

Uniloc requests that the Court enter judgment against LG:

(A) declaring that LG has infringed the ’408 Patent;

(B) awarding Uniloc its damages suffered as a result of LG’s infringement of the ’408 Patent;

(C) awarding Uniloc its costs, attorney fees, expenses, and interest, and

(D) granting Uniloc such further relief as the Court finds appropriate.

Date: January 7, 2019

Respectfully submitted,

/s/ Kevin Gannon

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ATTORNEYS FOR THE PLAINTIFF

CERTIFICATE OF SERVICE

I certify that all counsel of record who have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system on January 7, 2019.

/s/ Kevin Gannon
Kevin Gannon