

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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LG ELECTRONICS INC.,  
Petitioner,

v.

IMMERVISION, INC.,  
Patent Owner.

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IPR2020-00195  
Patent 6,844,990 B2

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Before KRISTINA M. KALAN, WESLEY B. DERRICK, and  
KIMBERLY MCGRAW, *Administrative Patent Judges*.

DERRICK, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining No Challenged Claims Unpatentable  
*35 U.S.C. § 318(a)*

## I. INTRODUCTION

In this *inter partes* review, LG Electronics Inc. (“Petitioner”) challenges the patentability of claim 21 of U.S. Patent No. 6,844,990 B2 (Ex. 1001, “the ’990 patent”), owned by ImmerVision, Inc. (“Patent Owner”).

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, Petitioner has not shown, by a preponderance of the evidence, that claim 21 of the ’990 patent is unpatentable.

### A. Procedural History

On November 27, 2019, Petitioner requested an *inter partes* review of claim 21 of the ’990 patent. Paper 2 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 5 (“Prelim. Resp.”). On May 13, 2020, we instituted an *inter partes* review of the challenged claim on all grounds raised in the Petition. Paper 6 (“Dec.”). Following institution, Patent Owner filed a Patent Owner Response (Paper 12, “PO Resp.”), Petitioner filed a Reply to the Patent Owner Response (Paper 16, “Pet. Reply”), and Patent Owner filed a Sur-Reply to Petitioner’s Reply (Paper 17, “PO Sur-Reply”).

Petitioner relies on the declaration testimony of Russell Chipman, Ph.D. (Exs. 1008, 1017, 1019) to support the Petition. Patent Owner took cross-examination via deposition of Dr. Chipman (Ex. 2002). Patent Owner relies on the declaration testimony of David Aikens (Ex. 2009). Petitioner took cross-examination via deposition of Mr. Aikens (Ex. 1018).

Oral hearing was requested by both parties. Papers 18, 19. We heard argument on February 8, 2021, and a transcript of the hearing has been entered into the record. Paper 25 (“Tr.”).

*B. Real Parties-in-Interest*

Petitioner LG Electronics Inc. identifies LG Electronics U.S.A., Inc. and LG Innotek Co. Ltd. as additional real parties-in-interest. Pet. 2. Patent Owner ImmerVision, Inc., identifies itself as the real party-in-interest. Paper 4, 2. The parties do not raise any issues about real parties-in-interest.

*C. Related Proceedings*

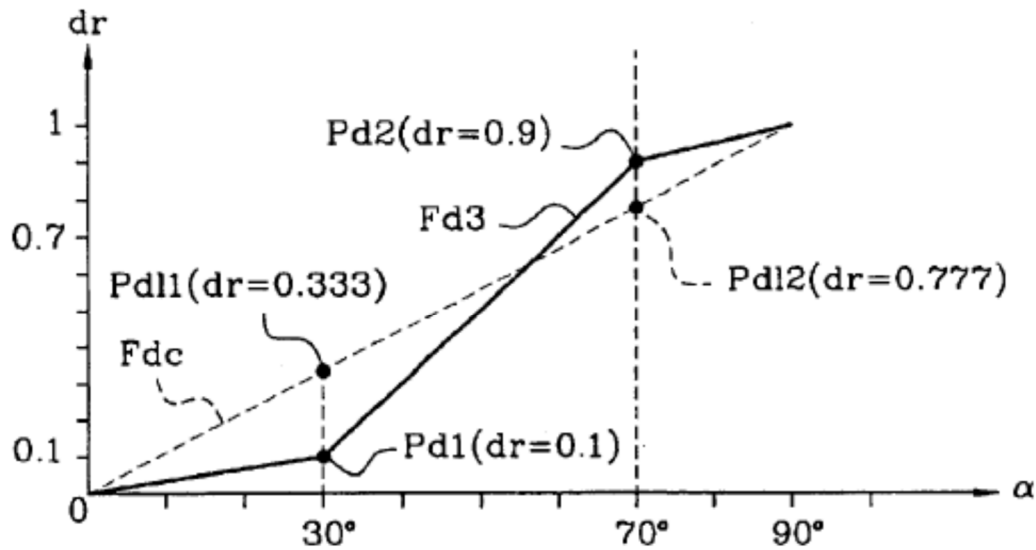
The parties identify two pending district court cases involving the '990 patent: *ImmerVision, Inc. v. LG Electronics U.S.A.*, No. 1-18-cv-01630 (D. Del.) and *ImmerVision, Inc. v. LG Electronics U.S.A.*, No. 1-18-cv-01631 (D. Del.). Pet. 2; Paper 4, 2–3. The '990 patent is also the subject of an *inter partes* review in IPR2020-00179. *See* IPR2020-00179, Paper 6.

In addition, the '990 patent: (1) was the subject of *Ex Parte* Reexamination Control No. 90/013,410; (2) was challenged in an *inter partes* proceeding, *Panasonic System Networks Co., Ltd. v. 6115187 Canada Inc.*, IPR2014-01438; and (3) was the subject of three other district court cases that are no longer pending. *See* Pet. 2–3; *see also* *Panasonic System Networks Co., Ltd. v. 6115187 Canada Inc.*, IPR2014-01438, Paper 11 (PTAB Nov. 26, 2014) (terminating proceeding prior to institution following settlement).

*D. The '990 Patent (Ex. 1001)*

The '990 patent is titled “Method for Capturing and Displaying a Variable Resolution Digital Panoramic Image” and issued on January 18, 2005, from an application filed on November 12, 2003. Ex. 1001, codes (22), (45), (54). The application for the '990 patent is a continuation of application No. PCT/FR02/01588, filed on May 10, 2002, and claims priority to foreign application FR 01 06261, filed May 11, 2001. *Id.* at codes (30), (63).

The '990 patent relates to capturing a digital panoramic image that includes using a panoramic objective lens having “a distribution function of the image points that is not linear relative to the field angle [ $\alpha$ ] of the object points of the panorama,” where the “distribution function  $F_{dc}$  . . . determines the relative distance  $d_r$  of an image point in relation to the center of the image disk according to the field angle  $\alpha$  of the corresponding object point.” *Id.* at code (57), 2:30–34 (as corrected by Jan. 18, 2005, Cert. of Correction). The image obtained using such a panoramic objective lens has at least one zone that is expanded and another zone that is compressed. *Id.* at code (57). The '990 patent further explains that an image zone is “expanded” when it covers a greater number of pixels on an image sensor than it would with a linear distribution lens. *Id.* at 3:66–4:10. The '990 patent also provides that an “expanded” zone and “compressed” zone can be illustrated by comparison to a linear distribution function, with a slope greater than that of the linear distribution indicating an expanded zone and a lesser slope indicating a compressed zone. *Id.* at 9:13–35; *see also id.* at 2:30–42 (describing how “Figure 4B represents the shape of the distribution function  $F_{dc}$  of a classical objective lens,” of ideal form, “a straight line of gradient  $K$  . . . in which the constant  $K$  is equal to  $0.111 \text{ degree}^{-1}$  ( $1/90^\circ$ )”). Figure 9, reproduced below, depicts an image point distribution of a lens having a compressed zone between  $\alpha=0^\circ$  and  $\alpha=30^\circ$ , an expanded zone between  $\alpha=30^\circ$  and  $\alpha=70^\circ$ , and a compressed zone between  $\alpha=70^\circ$  and  $\alpha=90^\circ$ .



**Fig. 9**

*Id.*, Fig. 9 (depicting plot of a non-linear distribution function of a panoramic objective lens). The patent further provides for correcting the non-linearity of the panoramic image initially obtained when using such lens. *Id.* at code (57).

The '990 patent was the subject of an *ex parte* reexamination. *Id.* at 25–27 (Ex Parte Reexamination Certificate (10588th)). The Reexamination Request—Control No. 90/013,410—was filed November 26, 2014. *Id.* at 25; Ex. 1003, 328–339 (“Request by Patent Owner for *Ex Parte* Reexamination of U.S. Patent No. 6,844,990”). Patent Owner requested an *ex parte* reexamination of claims 1–4, 6, 7, 10, 11, 15–20, 22, 23, and 25, which request was granted. Pet. 17–18; Ex. 1003, 52–63, 330, 341. The Patent Office issued an Office Action on January 29, 2015, rejecting independent claim 17—the base claim for claim 21. Ex. 1003, 30, 36–39. Patent Owner filed an Amendment on February 12, 2015, canceling claim 17. *Id.* at 19.

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