

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

XILINX, INC.,
Petitioner,

v.

INTELLECTUAL VENTURES I LLC,
Patent Owner.

Case IPR2013-00112
Patent 5,779,334

Before SALLY C. MEDLEY, KARL D. EASTHOM, and
JUSTIN T. ARBES, *Administrative Patent Judges*.

ARBES, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. BACKGROUND

Petitioner Xilinx, Inc. (“Xilinx”) filed a Petition (Paper 2) (“Pet.”) seeking *inter partes* review of claims 1–14 of U.S. Patent No. 5,779,334 (“the ’334 patent”) pursuant to 35 U.S.C. §§ 311–319. On June 27, 2013, we instituted an *inter partes* review of claims 1–6 and 11–14 on one ground of unpatentability (Paper 14) (“Dec. on Inst.”).

Subsequent to institution, Patent Owner Intellectual Ventures I LLC (“IV”) filed a Patent Owner Response (Paper 26) (“PO Resp.”), and Xilinx filed a Reply (Paper 30) (“Pet. Reply”). Along with its Patent Owner Response, IV filed a Motion to Amend (Paper 27) (“Mot. to Amend”), proposing substitute claim 15 if the Board determines claim 3 to be unpatentable, and substitute claim 16 if the Board determines claim 12 to be unpatentable. Xilinx filed an Opposition to the Motion to Amend (Paper 31) (“Pet. Opp.”), and IV filed a Reply (Paper 35) (“PO Reply”).

IV filed a Motion for Observation (Paper 41) (“Obs.”) on the cross-examination testimony of Xilinx’s declarant, A. Bruce Buckman, Ph.D., and Xilinx filed a Response (Paper 45) (“Obs. Resp.”). IV also filed a Motion to Exclude (Paper 42) (“Mot. to Exclude”) certain testimony of Dr. Buckman. Xilinx filed an Opposition to the Motion to Exclude (Paper 44) (“Exclude Opp.”), and IV filed a Reply (Paper 47) (“Exclude Reply”).

An oral hearing was held on January 28, 2014, and a transcript of the hearing is included in the record (Paper 50) (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons that follow, we determine that Xilinx has shown by a preponderance of the evidence that claims 1–6 and 11–14 of the '334 patent are unpatentable, and we deny IV's Motion to Amend.

A. The '334 Patent

The '334 patent¹ relates to a “color video projector system” having “separate light sources for producing separate beams of light which are passed each first through color filters to provide separate color beams before being processed by video-controlled light shutter matrices and then combined into a single beam projectable to provide a full-color video display with superimposed color spots.” Ex. 1001, Abstract. In another embodiment, “a single white-light source is used, and the beam of white light is split by a prism system into separate color beams.” *Id.* The '334 patent describes how prior art video projector systems, such as color Liquid Crystal Display (LCD) projectors, were expensive and had difficulty providing adequate light levels. *Id.* at col. 1, ll. 15–25. Later systems based on “active matrix color LCD's (AM-LCD's)” were less expensive, but still had limited brightness and resolution. *Id.* at col. 1, ll. 26–37. The '334 patent addresses these problems by “pre-coloring” the input light and “using a triple monochrome LCD structure instead of a color AM-LCD.” *Id.* at col. 2, ll. 7–19. The resulting arrangement, according to the '334 patent, provides better light output because less light is absorbed than in a color AM-LCD, and results in better resolution due to the superposition of color

¹ The '334 patent is a continuation-in-part of U.S. Patent Application No. 08/686,809, which issued as U.S. Patent No. 5,632,545 (“the '545 patent”). The '545 patent is the subject of related Case IPR2013-00029.

spots on the display. *Id.* It also is less expensive because monochrome LCDs are less expensive than color LCDs, and precise alignment of the components is less critical than with a color AM-LCD. *Id.*

Figure 1 of the '334 patent is reproduced below.

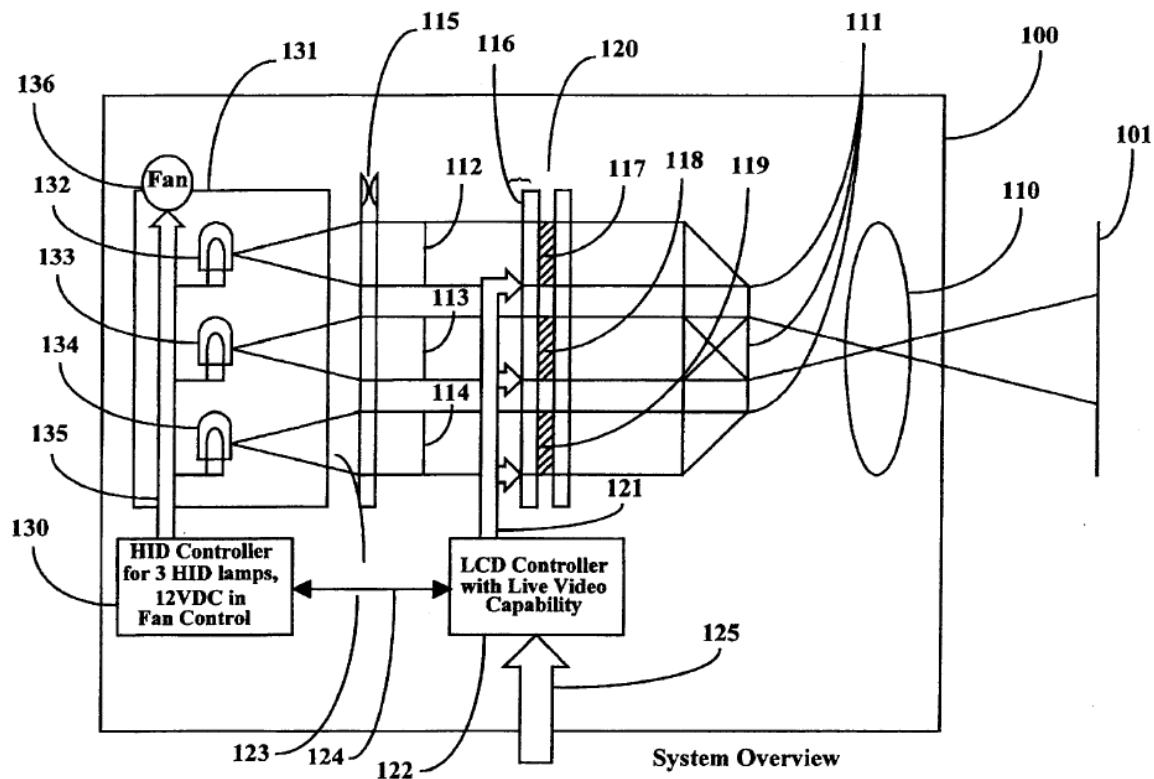
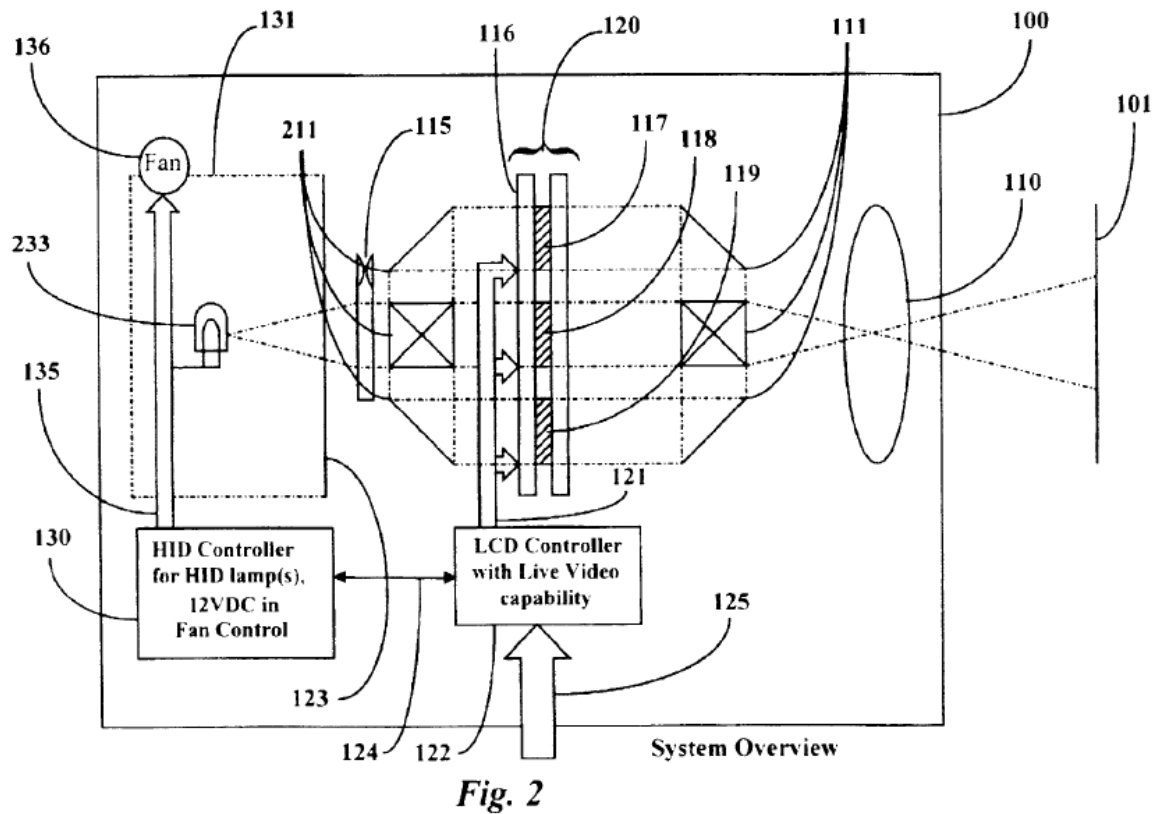


Fig. 1

Figure 1 depicts a video projector system comprising, *inter alia*, (A) lamps 132–134, which emit light; (B) condenser lens system 115, which focuses the three light beams emitted by the lamps; (C) red/green/blue filters 112–114, through which the respective light beams pass; (D) monochrome LCD arrays 117–119 in LCD unit 120; (E) controller 122, which controls the arrays; and (F) mirror and prism system 111, which combines the separate beams into a single beam for projection onto surface 101. *Id.* at col. 3, ll. 5–60.

Figure 2 of the '334 patent depicts another embodiment, and is reproduced below.



In the system depicted in Figure 2, single white-light source 233 is used instead of three lamps and the single white-light beam is split into red, green, and blue beams by prism system 211. *Id.* at col. 3, l. 61–col. 4, l. 1. The three light beams pass through “monochrome LCD array 120, which in this embodiment is controlled by controller 122 just as described for the first embodiment.” *Id.* at col. 4, ll. 8–12.

B. Illustrative Claims

Claims 1 and 11 of the '334 patent are the only independent claims at issue:

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