

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.; AND
SAMSUNG ELECTRONICS AMERICA, INC.
Petitioners

v.

IMAGE PROCESSING TECHNOLOGIES, LLC
Patent Owner

IPR2017-01218
Patent 8,983,134 B2

Before JONI Y. CHANG, MIRIAM L. QUINN, and
SHEILA F. McSHANE, *Administrative Patent Judges*.

McSHANE, *Administrative Patent Judge*.

DECISION
Instituting *Inter Partes* Review
35 U.S.C. § 314(a) and 37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 3–6 (“the challenged claims”) of U.S. Patent No. 8,983,134 B2 (Ex. 1001, “the ’134 patent”) pursuant to 35 U.S.C. §§ 311–319. Paper 2 (“Pet.”). Image Processing Technologies, LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 8 (“Prelim. Resp.”).

We have authority under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” *See* 37 C.F.R. § 42.4(a) (“The Board institutes the trial on behalf of the Director.”).

We determine that Petitioner has demonstrated that there is a reasonable likelihood that it would prevail with respect to at least one challenged claim. For the reasons described below, we institute an *inter partes* review of claim 3 of the ’134 patent.

B. Related Proceedings

The parties indicate that a related matter is: *Image Processing Technologies LLC v. Samsung Elecs. Co.*, No. 2:16-cv-00505-JRG (E.D. Tex.). Pet. 1, Paper 5, 1. Petitioner also indicates that it previously filed Case IPR2017-00353 against other claims of the ’134 patent. Pet. 2, 5, 6. In Case IPR2017-00353, *inter partes* review was instituted against claims 1 and 2 of the ’134 patent. *See Samsung Electronics Co., Ltd. v. Image Processing*

Tech. LLC, Case IPR2017-00353 (PTAB May 25, 2017) (Paper 12) (“the ’353 IPR”); *see also, infra*, Section II.C.3.

C. The ’134 Patent

The ’134 patent is entitled “Image Processing Method,” and issued on March 17, 2015 from an application filed on March 17, 2014. Ex. 1001, [22], [45], [54]. The ’134 patent claims priority to application FR 96 09420, dated July 26, 1996. *Id.* at [30]. The ’134 patent also claims priority to the following applications: (1) U.S. Patent Application No. 12/620,092, filed on November 17, 2009—now U.S. Patent No. 8,805,001; (2) U.S. Patent Application No. 11/676,926, filed on February 20, 2007—now U.S. Patent No. 7,650,015; (3) U.S. Patent Application No. 09/792,294, filed on February 23, 2001—now U.S. Patent No. 7,181,047; (4) U.S. Patent Application No. 09/230,502, filed on July 22, 1997—now U.S. Patent No. 6,486,909; and (5) Application No. PCT/EP98/05383, filed on August 25, 1998. *Id.* at [60].

The ’134 patent is directed to an image processing system that identifies and localizes moving objects. Ex. 1001, 1:35–39. The input signal used in the system has “a succession of frames, each frame having a succession of pixels.” *Id.* at 3:31–34. Figure 14a of the ’134 patent is reproduced below.

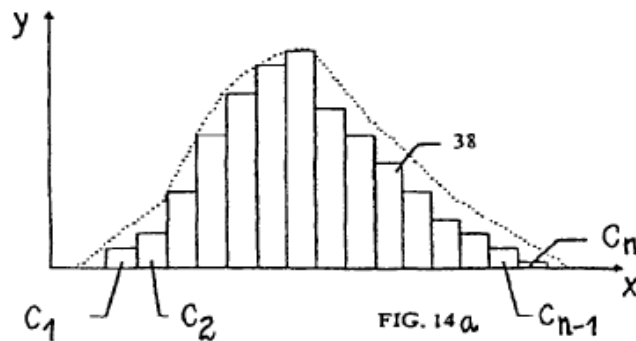


Figure 14a, above, depicts a velocity histogram, with classes C_1-C_n representing a particular velocity. Ex. 1001, 20:49-54. Figures 16 and 17 of the '134 patent are reproduced below.

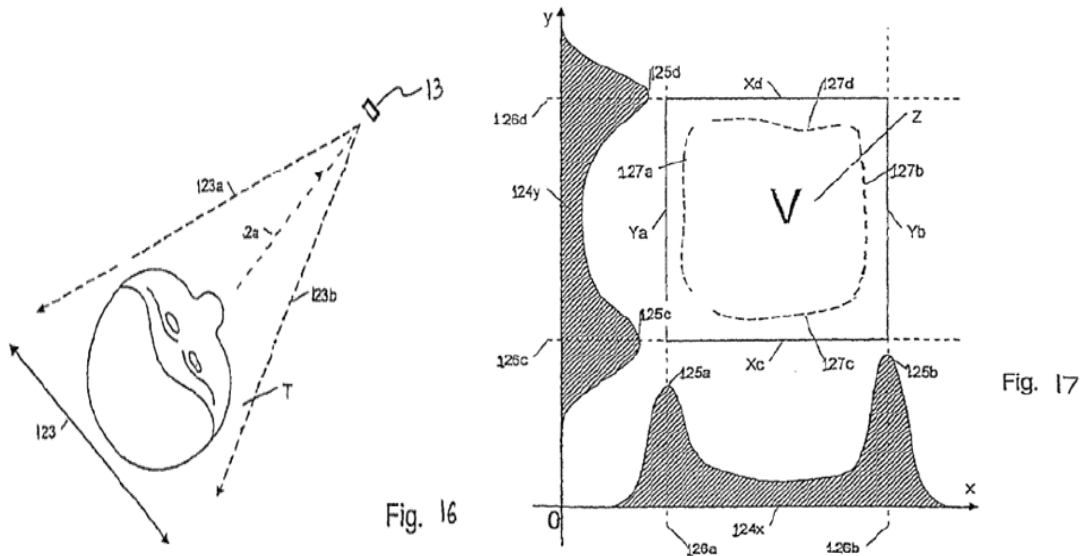


Figure 16, above, depicts camera 13 viewing a head. Ex. 1001, 22:19-23. Figure 17 depicts x axis and y axis histograms of a head from a video conference. *Id.* at 8:66-67, 22:4-6, 22:55-67. Face V is approximately defined by the peaks in the two respective histograms. *Id.* at 23:1-9. Figure 22 of the '134 patent is reproduced below.

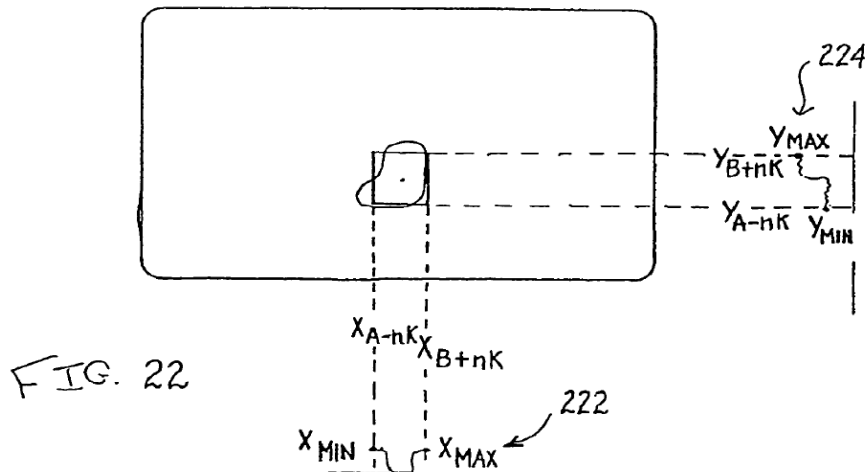


Figure 22, above, illustrates a situation where an area under consideration begins to cross the borders of a target. Ex. 1001, 24:38–42. Under these circumstances, histograms 222 and 224 for the x and y projections, respectively, include pixels with significant variation, that allow the detection of target edges. *Id.* at 24:38–42. In a preferred embodiment, the center of the area “is determined to be $(X_{MIN} + X_{MAX})/2$, $(Y_{MIN} + Y_{MAX})/2$, where X_{MIN} and X_{MAX} are the positions of the minima and maxima of the x projection histogram, and Y_{MIN} and Y_{MAX} are the positions of the minima and maxima of the y projection histogram . . . Other methods of relocating the center of the target box may be used if desired.” *Id.* at 24:46–54.

Claim 1, reproduced below, is not challenged here, but all the challenged claims at issue depend, directly or indirectly, from claim 1. *See* Ex. 1001, 26:36–27:3.

1. A process of tracking a target in an input signal implemented using a system comprising an image processing system, the input signal comprising a succession of frames, each frame comprising a succession of pixels, the target comprising pixels in one or more of a plurality of classes in one or more of a plurality of domains, the process performed by said system comprising, on a frame-by-frame basis:
 - forming at least one histogram of the pixels in the one or more of a plurality of classes in the one or more of a plurality of domains, said at least one histogram referring to classes defining said target; and
 - identifying the target in said at least one histogram itself,wherein forming the at least one histogram further comprises determining X minima and maxima and Y minima and maxima of boundaries of the target.

Ex. 1001, 26:36–50.

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