

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner,

v.

IMAGE PROCESSING TECHNOLOGIES LLC,
Patent Owner.

Case IPR2017-00357
Patent 8,989,445 B2

Before JONI Y. CHANG, MICHAEL R. ZECHER, and
JESSICA C. KAISER, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

DECISION

Granting Institution of *Inter Partes* Review
35 U.S.C. § 314(a) and 37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner, Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively “Samsung”), filed a Petition requesting an *inter partes* review of claims 1, 4, 6, 9, 18, 24, 25, and 27 of U.S. Patent No. 8,989,445 B2 (Ex. 1001, “the ’445 patent”). Paper 2 (“Pet.”). Patent Owner, Image Processing Technologies LLC (“Image Processing”), filed a Preliminary Response. Paper 9 (“Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Taking into account the arguments presented in Image Processing’s Preliminary Response, we conclude that the information presented in the Petition establishes that there is a reasonable likelihood that Samsung would prevail in challenging claims 1, 4, 6, 9, 18, 24, 25, and 27 of the ’445 patent as unpatentable under 35 U.S.C. § 103(a). Pursuant to § 314, we hereby institute an *inter partes* review as to these claims of the ’445 patent.

A. Related Matters

The ’445 patent is involved in a district court case titled *Imaging Processing Techs. LLC v. Samsung Elecs. Co.*, No. 2:16-cv-00505-JRG (E.D. Tex.). Pet. 1; Paper 7, 2. In addition to this Petition, Samsung filed other petitions challenging the patentability of certain subsets of claims in the following patents owned by Image Processing: (1) U.S. Patent No. 6,959,293 B2 (Case IPR2017-00336); (2) U.S. Patent No. 8,805,001 B2 (Case IPR2017-00347); (3) U.S. Patent No. 8,983,134 B2 (Case IPR2017-

00353); and (4) U.S. Patent No. 7,650,015 B2 (Case IPR2017-00355).
Pet. 1; Paper 7, 2.

B. The '445 Patent

The '445 patent, titled “Image Processing Apparatus and Method,” issued March 24, 2015, from U.S. Patent Application No. 14/449,809, filed on August 13, 2014. Ex. 1001, at [54], [45], [21], [22]. The '445 patent has an extensive chain of priority that ultimately results in it claiming the benefit of Patent Cooperation Treaty (“PCT”) French Patent Application No. 97/01354, filed on July 22, 1997. *Id.* at [60].

The '445 patent generally relates to an image process apparatus and, in particular, to a method and apparatus for identifying and localizing an area in relative movement in a scene, and determining the speed and direction of that area in real-time. Ex. 1001, 1:38–40. The '445 patent discloses a number of known systems and methods for identifying and localizing an object in relative movement, but explains that each of those systems/methods are inadequate for various reasons (e.g., memory intensive, limited in terms of the information obtained about an object, did not provide information in real-time, used complex algorithms for computing object information, designed to detect only one type of object, etc.). *See id.* at 1:44–3:17. The '445 patent purportedly solves these problems by providing a method and apparatus for detecting the relative movement and non-movement of an area within an image. *Id.* at 9:17–19. According to the '445 patent, relative movement is any movement of an area, which may be an object (e.g., a person, a portion of a person, or any animals or inanimate

object), in a motionless environment or, alternatively, in an environment that is at least partially in movement. *Id.* at 9:19–24.

Figure 11 of the '445 patent, reproduced below, illustrates a block diagram showing the interrelationship between various histogram formation units that make up a histogram processor. Ex. 1001, 8:54–55.

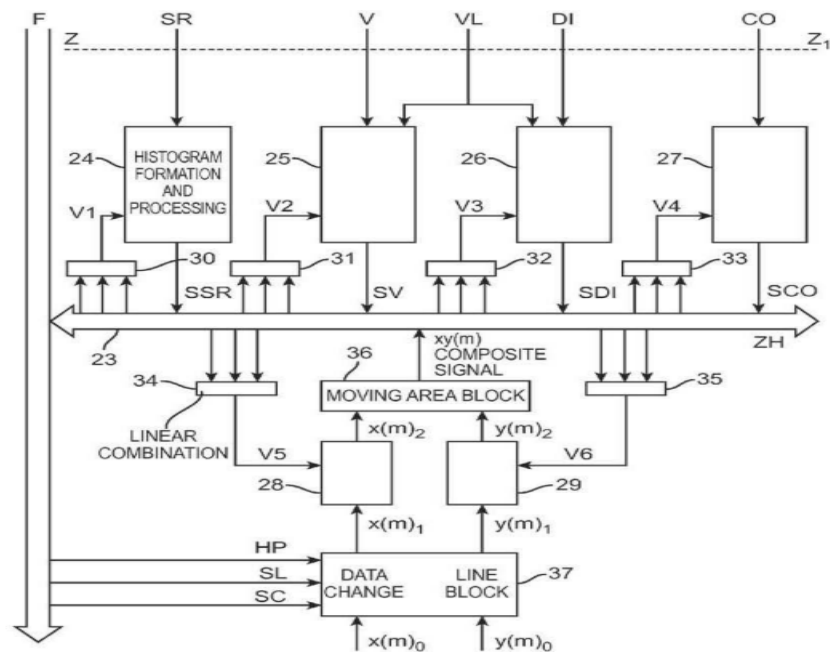


FIG. 11

As shown in Figure 11 reproduced above, histogram processor 22(a) (not labeled) includes bus 23 that transmits signals between various components, including histogram formation and processing blocks 24–29. *Id.* at 16:57–63. The function of each histogram formation and processing block 24–29 is to form a histogram for the domain associated with that particular block. *Id.* at 16:63–65.

According to the '445 patent, each histogram formation and processing block 24–29 operates in the same manner. Ex. 1001, 17:47–50. As one example, Figure 13 of the '445 patent, reproduced below, illustrates

a block diagram of histogram formation and processing block 25. *Id.* at 8:58–59.

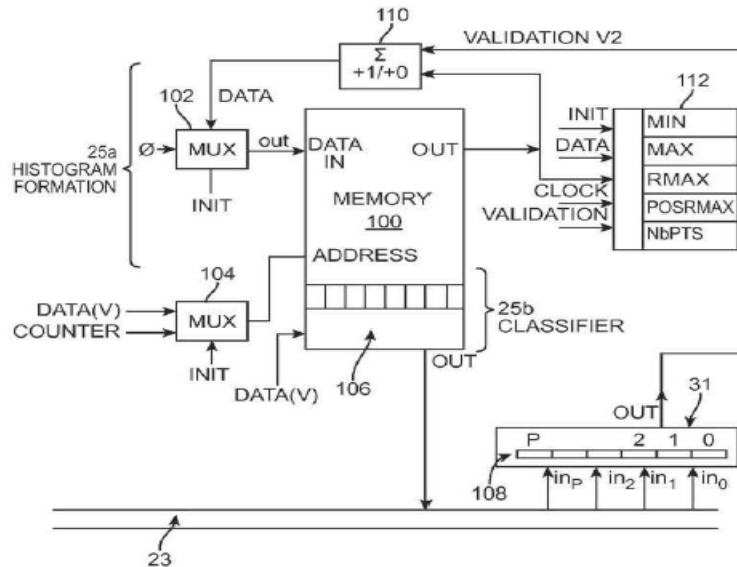


FIG. 13

As shown in Figure 13 reproduced above, histogram formation and processing block 25 includes histogram forming portion 25a, which forms the histogram for the block, and classifier 25b, which selects the criteria of pixels for which the histogram is to be formed. *Id.* at 17:50–53. Histogram forming portion 25a and classifier 25b operate under the control of computer software in integrated circuit 25c (not shown in Figure 13), which extracts certain limits of the histogram generated by the histogram formation block. *Id.* at 17:54–57. Classifier 25b includes register 106 that enables the classification criteria to be set by a user or, alternatively, by a separate computer program. *Id.* at 18:20–23.

C. Illustrative Claim

Of the challenged claims, claims 1 and 24 are independent. Independent claim 1 is directed to a process of tracking a target in an image

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