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Please find below and/or attached an Office communication concerning this application or proceeding.

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JERRY.SHORMA@HP.COM
ipa.mail@hp.com
brandon.serwan@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* CARL STAELIN, HILA NACHLIELI, and RON MAURER

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Appeal 2012-000623  
Application 11/280,097  
Technology Center 2600

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Before THU A. DANG, JAMES R. HUGHES, and  
GREGORY J. GONSALVES, *Administrative Patent Judges*.

HUGHES, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-14, 17-24, and 31-38, which are all the claims remaining in the application. Claims 15, 16, and 25-30 were canceled during prosecution. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

*Invention*

Appellants' invention relates generally to noise level estimation and is particularly directed to examining color correlation in a color digital image. (Spec. 1, ¶ [0004].)<sup>1</sup>

*Representative Claim*

Independent claim 1, reproduced below with the key disputed limitations emphasized, further illustrates the invention:

1. A method, comprising:

*for each of multiple given pixels of a color image having multiple color channels, determining a respective local difference measure value from a value of the given pixel and a respective value of at least one other pixel in a local neighborhood of the given pixel for each of multiple of the color channels:*

for each of the given pixels, ascertaining a respective color correlation value measuring deviation of the respective local difference measure values determined for the multiple color channels from a reference: and

calculating a level of noise in the color image from one or more of the ascertained color correlation values;

wherein the determining, the ascertaining, and the calculating are performed by a machine.

*Rejections on Appeal*

1. The Examiner rejects claims 1, 5, 6, 8-14, 17-19, 23, 24, 31, and 35 under 35 U.S.C. § 103(a) as being unpatentable over Hamosfakidis

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<sup>1</sup> We refer to Appellants' Specification ("Spec."); Reply Brief ("Reply Br.") and Appeal Brief ("App. Br.") filed April 13, 2011. We also refer to the Examiner's Answer ("Ans.") mailed Aug. 09, 2011.

(Hamosfakidis et al., *A Novel Hexagonal Search Algorithm for Fast Block Matching Motion Estimation*, EURASIP Journal on Applied Signal Processing, pp. 596-600 (2002)) and Ohta (US Patent No. 5,956,432 issued Sep. 21, 1999).

2. The Examiner rejects claims 2-4, 20-22, 32-34, and 36-38 under 35 U.S.C. § 103(a) as being unpatentable over Hamosfakidis, Ohta, and Woodall (US Pat. App. Pub. No. 2002/0168101 A1, published Nov. 14, 2002).

3. The Examiner rejects claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Hamosfakidis, Ohta, and Tajima, (US Patent No. 6,928,231 B2, issued Aug. 9, 2005).

#### *Grouping of Claims*

Based on Appellants' arguments in the Briefs, we will decide the appeal on the basis of representative claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2012).

#### ISSUE

Under § 103, did the Examiner err in finding that the combination of Hamosfakidis and Ohta would have collectively taught or suggested:

for each of multiple given pixels of a color image having multiple color channels, determining a respective local difference measure value from a value of the given pixel and a respective value of at least one other pixel in a local neighborhood of the given pixel for each of multiple of the color channels

as recited in claim 1 and the commensurate limitations of independent claims 18, 19, 31, and 35?

## ANALYSIS

Appellants contend, *inter alia*, the following:

Hamosfakidis in view of Ohta does not disclose or suggest the “determining” element of claim 1 (i.e., “for each of multiple given pixels of a color image having multiple color channels, determining a respective local difference measure value from a value of the given pixel and a respective value of at least one other pixel in a local neighborhood of the given pixel for each of multiple of the color channels”).

(App. Br. 7.) In particular, Appellants argue the sum of absolute difference (SAD) measure disclosed in Hamosfakidis measures the differences between different frames of a video. (*Id.*) We agree with Appellants for the reasons that follow.

The Examiner argued:

The examiner notes that the applicant does not claim that the determining step is done for the “same color image” as argued on page 8 by the applicant, the applicant does claim “a color image” but the examiner notes that in for example in *KJC Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000) and in *Baldwin Graphic Systems, Inc. v. Siebert, Inc.*, the court confirmed that the use of the indefinite articles “a” or “an”, in an open-ended claim containing the transitional phrase “comprising”, carries the meaning of “one or more.”

(Ans. 27.)

We agree with Appellants that the Examiner’s construction of the limitation at issue is not reasonable. (App. Br. 8.) The language of claim 1 recites “*for each of multiple given pixels of a color image having multiple color images.*” (Claim 1 (emphasis added).) Therefore, we interpret the claim language of the “determining” step to require that the local distance measure be determined in the same color image. As noted by Appellants, Hamosfakidis teaches measuring differences between *different frames*, i.e.,

different color images. (App. Br. 8.) Therefore, Hamosfakidis cannot teach taking a local difference value between a given pixel and a one other pixel in a local neighborhood of the given pixel, in *a color image*.

Independent claims 18 and 31 recite commensurate limitations. Similarly, independent claims 19 and 35 recite commensurate limitations. We conclude that the machine (claim 19) and apparatus (claim 35) recite a processor configured to perform the recited operations discussed above. To render such apparatuses obvious, the prior art must be capable of performing the recited operations. We do not find, nor has the Examiner established, that the cited references are capable of performing the aforementioned operations for the reasons discussed above.

Based on this record, we conclude that the Examiner erred in finding that the cited references collectively would have taught or suggested the limitations recited in independent claims 1, 18, 19, 31, and 35. Accordingly, we reverse the Examiner's rejection of claims 1, 18, 19, 31, and 35, and associated dependent claims 5, 6, 8-14, 17, 23, and 24.

*Claims 2-4, 7, 20-22, 32-34 and 36-38*

As noted above, the Examiner rejected dependent claims 2-4, 7, 20-22, 32-34 and 36-38 under 35 U.S.C. § 103 as unpatentable over two different combinations of references. We do not find, nor has the Examiner established, that Woodall and Tajima cure the deficiencies of Hamosfakidis and Ohta discussed *supra*. Accordingly, we reverse the rejections of claims 2-4, 7, 20-22, 32-34 and 36-38 for the reasons discussed *supra*.

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CONCLUSION OF LAW

Appellants have shown that the Examiner erred in rejecting claims 1-14, 17-24, and 31-38 under 35 U.S.C. § 103(a).

DECISION

We reverse the Examiner's rejections of claims 1-14, 17-24, and 31-38 under 35 U.S.C. § 103(a).

REVERSED

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