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Row 2: 10949, 7590, 11/01/2016, EXAMINER PHAN, DEAN
Row 3: ART UNIT 2184, PAPER NUMBER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ANTTI HALLAPURO and KIM SIMELIUS

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Appeal 2015-006733  
Application 12/695,874  
Technology Center 2100

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Before CAROLYN D. THOMAS, JEFFREY S. SMITH, and  
AARON W. MOORE, *Administrative Patent Judges*.

THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek our review under 35 U.S.C. § 134(a) of the Examiner's Final Rejection of claims 1, 2, 4, 5, 7, 8, 10, 11, 13, and 14, all the pending claims in the present application. Claims 3, 6, 9, and 12 are canceled. *See* Claim Appendix. We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We AFFIRM.

The present invention relates generally to the processing of digital data by implementing an approximation of a discrete cosine transform (DCT) and a quantization. *See* Spec. 1.

Claim 1 is illustrative:

1. A method comprising:
  - receiving quantized transform coefficients;
  - dequantizing the quantized transform coefficients, to generate dequantized transform coefficients, wherein the dequantization is performed by multiplying the dequantized coefficients by a fixed-point number and the dequantization is performed using only 16-bit operations;
  - performing an inverse transform process to the dequantized transform coefficients by applying only addition, subtraction and bit-shift operations wherein the inverse transform process is orthogonal; and
  - wherein the inverse transform process corresponds to a transformation matrix given by:

$$\begin{bmatrix} 1 & 1 & 1 & d \\ 1 & d & -1 & -1 \\ 1 & -d & -1 & 1 \\ 1 & -1 & 1 & -d \end{bmatrix},$$

wherein  $d$  is a rational number having a denominator equal to  $2^n$ , wherein  $n$  is an integer.

Appellants appeal the following rejections:

R1. Claims 1, 4, 7, 10, 13, and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zandi (US 5,867,602, Feb. 2, 1999) and Lo et al., *New Orthogonal Transform for Image Compression*, 1993 (hereinafter Pub) (*see* Ans. 2); and

R2. Claims 2, 5, 8, and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zandi, Pub, and Li (US 6,222,944 B1, Apr. 24, 2001) (*id.*).

## ANALYSIS

**Issue:** Did the Examiner err in finding that the cited prior art, particularly Pub, teaches or suggests the inverse transform process is orthogonal and corresponds to a transformation matrix, as set forth in claim 1?

Appellants contend “the transform matrix disclosed in Pub has two parts, specifically, the **sinusoidal and non-sinusoidal parts**. Each of the parts is essential to the transform . . . . In contrast, the claimed transform matrix is only non-sinusoidal” (App. Br. 10). Appellants further contend that Pub “clearly fails to disclose, teach, or suggest only the use of a non-sinusoidal transform matrix” (Reply Br. 3).

The Examiner finds “the claim language does not require the ‘only non-sinusoidal’ limitation. Instead, the claim recites ‘the inverse transform process is orthogonal’ and ‘the inverse transform process corresponds to a transformation matrix given by: . . . .’” (Ans. 2–3, emphasis omitted). We agree with the Examiner.

We refer to, rely on, and adopt the Examiner’s findings and conclusions set forth in the Answer. Our discussions here will be limited to the following points of emphasis.

First, we note, as a matter of claim construction, that the language of claim 1 does not necessarily require that the transform matrix is only non-sinusoidal, as proffered by Appellants (*see* claim 1). The *claims* measure the invention. *See SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). During prosecution before the USPTO, claims are to be given their broadest reasonable interpretation, and the scope of a claim cannot be narrowed by reading disclosed limitations into the claim.

*See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989); *In re Prater*, 415 F.2d 1393, 1404–05 (CCPA 1969).

Here, Appellants contend that “the claimed transform matrix is *only* non-sinusoidal” (App. Br. 10) (emphasis added). However, claim 1 merely recites, *inter alia*, that the inverse transform is orthogonal and corresponds to a transformation matrix as shown in claim 1. Thus, the scope of claim 1 is not limited to a non-sinusoidal matrix. The Examiner finds that Pub merely needs to disclose an inverse transform that is orthogonal and corresponds to a transformation matrix as claimed (*see id.* at 3, *citing* Pub pp. 263–264). Given that Appellants’ contentions inappropriately focus on the claimed transform matrix requiring *only* a non-sinusoidal transform matrix, which we disagree, we find unavailing Appellants’ aforementioned contentions.

Accordingly, we sustain the Examiner’s rejection of claim 1. Appellants’ arguments regarding the Examiner’s rejection of independent claims 4, 7, 10, 13, and 14 rely on the same arguments as for claim 1, and Appellants do not argue separate patentability for the dependent claims. *See* App. Br. 6–12. We, therefore, also sustain the Examiner’s rejection of claims 2, 4, 5, 7, 8, 10, 11, 13, and 14.

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Application 12/695,874

DECISION

We affirm the Examiner's § 103(a) rejections R1–R2.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED