UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SONY CORPORATION,
Petitioner,

v.

YISSUM RESEARCH DEVELOPMENT COMPANY OF THE HEBREW
UNIVERSITY OF JERUSALEM,
Patent Owner.

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Case IPR2013-00219
Patent 7,477,284 B2[1]

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Before SALLY C. MEDLEY, KARL D. EASTHOM, and
JAMES B. ARPIN, *Administrative Patent Judges.*

ARPIN, *Administrative Patent Judge*.

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

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[1] *Sony Corp. v. Yissum Research Co.*, Case IPR2013-00327 ("IPR2013-00327")
has been joined with the instant Case IPR2013-00219. IPR2013-00327, Paper 15
(PTAB Sept. 24, 2013). This Final Written Decision is entered in both cases.

I. INTRODUCTION

Sony Corporation ("Petitioner") filed Petitions requesting *inter partes* review of claims 1–3, 10, 20, 27–29, 36, and 37 (IPR2013-00219, Paper 3, "Petition" or "Pet."), and claims 4, 7, and 38 (IPR2013-00327, Paper 10)[2] of U.S. Patent No. 7,477,284 B2 (Ex. 1001, "the '284 Patent").[3] In response, Yissum Research Development Company of the Hebrew University of Jerusalem ("Patent Owner") filed Preliminary Responses. Paper 13 ("Prelim. Resp."); IPR2013-00327, Paper 13.

We joined Case IPR2013-00327 to Case IPR2013-00219 (*see* IPR2013-00327, Paper 15) and instituted *inter partes* review of claims 1–4, 7, 10, 20, 27–29, and 36–38 of the '284 Patent on several grounds of unpatentability, as identified below. *See* Paper 16 ("Dec. on Inst."); IPR2013-00327, Paper 14. Pursuant to the Joinder Decision, the parties filed all further papers and exhibits in Case IPR2013-00219. Subsequent to institution and joinder, Patent Owner filed a Patent Owner Response (Paper 35, "PO Resp."), and Petitioner filed a Reply (Paper 37, "Pet. Reply") thereto.

In addition, Patent Owner filed a Motion for Observation (Paper 43) on the cross-examination testimony of Petitioner's declarant, Dr. Trevor Darrell, and a Motion to Exclude certain evidence (Paper 44). Petitioner filed a Response to the Motion for Observation (Paper 52) and an Opposition to Patent Owner's Motion to Exclude (Paper 51). Patent Owner filed a Reply to Petitioner's Opposition. Paper 53.

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[2] Unless otherwise indicated, reference hereinafter is to papers and exhibits filed in IPR2013-00219.

[3] The '284 Patent is a child of U.S. Patent No. 6,665,003 B1 (Ex. 1002, "the '003 Patent"), which is at issue in related Cases IPR2013-00218 and IPR2013-00326.

Petitioner also filed a Motion to Exclude certain evidence. Paper 47. Patent Owner filed an Opposition to Petitioner's Motion to Exclude (Paper 50), and Petitioner filed a Reply to Patent Owner's Opposition (Paper 54).

The parties requested and appeared at an oral hearing before the panel on June 18, 2014. The record includes a transcript of the hearing. Paper 59 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, addresses issues and arguments raised during trial. For the reasons that follow, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–4, 7, 10, 20, 27–29, and 36–38 of the '284 Patent are unpatentable.

A. *The '284 Patent*

The '284 Patent describes methods and apparatus for generating mosaics of a scene from image data of the scene and displaying the mosaics to provide a sense of depth. *See* Ex. 1001, Abstract. In particular, the '284 Patent relates generally to the field of recording and generating images and, more particularly, to the generation and display of panoramic images stereoscopically. *Id.* at col. 1, ll. 44–47. The '284 Patent specifically describes generating and displaying a stereoscopic, panoramic image set, comprising respectively at least two panoramic images of a scene, each having a different viewing direction or line, for contemporaneous viewing by respective left and right eyes of a viewer to provide an apparent stereoscopic image of the scene to the viewer. *Id.* at col. 1, ll. 47–53.

According to the '003 Patent,[4] creating and displaying non-panoramic, stereoscopic images was known in the art, but "currently, there are no such arrangements for generating and displaying stereoscopically *panoramic* images."

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[4] The '284 Patent claims the benefit of and incorporates by reference the disclosure of the application from which the '003 Patent issued. Ex. 1001, col. 1, ll. 7–13,

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Ex. 1002, col. 1, ll. 41–43(emphasis added); *see* Ex. 1001, col. 1, l. 66–col. 2, l. 1.

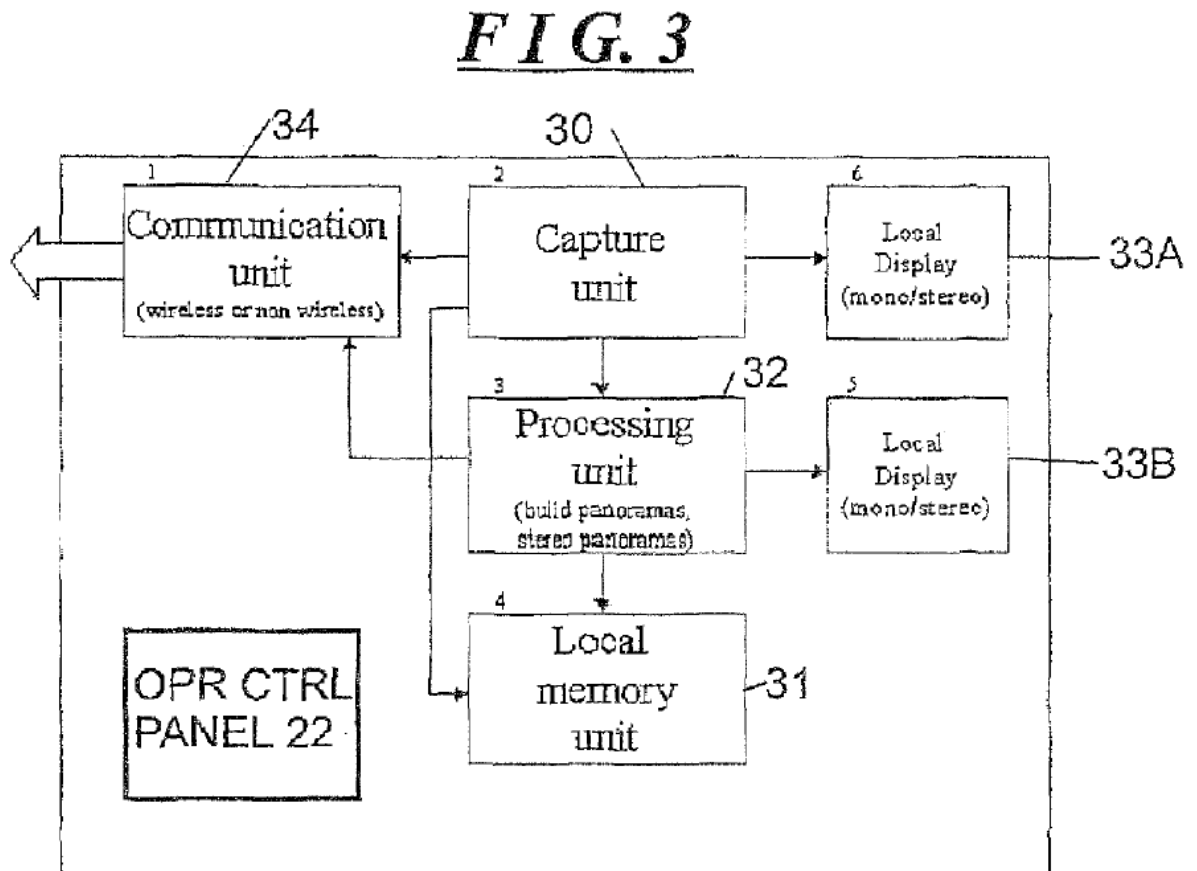Figure 3 of the '284 Patent is reproduced below:

Figure 3 schematically depicts a functional block diagram of the
stereoscopic data source according to the '284 Patent.

In Figure 3, a functional block diagram of the stereoscopic data source, such
as data source 11n of Figure 2 (not reproduced), is depicted. Stereoscopic data
source 11*n* of Figure 2 "includes an image capture unit 30, a local memory unit 31,
a processing unit 32, one or more local displays 33A, 33B, . . . and a
communication unit 34, as well as [an] operator control panel 22." Ex. 1001,

27–33.

col. 6, ll. 58–61. Image capture unit 30, local memory unit 31, processing unit 32, and local displays 33A and 33B may be housed together and form a video camera 21, such as that described in connection with Figure 2. *See id.* at col. 6, ll. 61–64, Fig. 2. Capture unit 30 may include, for example, an image sensor, aperture, lenses, and/or the like to facilitate capturing or acquiring of images. *Id.* at col. 6, ll. 64–67. A suitable image sensor may be any of a number of "conventional" image sensors, including, for example, charge coupled devices, film, and the like. *Id.* at col. 6, l. 67–col. 7, l. 3.

> The '003 Patent describes stereoscopic viewing and images as follows:
>
> A person can see stereoscopically because his or her eyes are displaced horizontally (when standing) which, will provide a perception of depth when viewing a scene, which would not be present otherwise. *Stereoscopic images comprise two images recorded of a scene recorded from slightly displaced positions, which, when viewed simultaneously by the respective eyes, provides a perception of depth.*

Ex. 1002, col. 1, ll. 32–39 (emphasis added).

Figure 5 of the '284 Patent, which depicts the generation of a stereoscopic, panoramic set of images that may be used to display a scene or portions of a scene to provide a sense of depth of the scene to a viewing person, is reproduced below:

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