

**NON-PUBLIC VERSION – PROTECTIVE ORDER MATERIAL**

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

COREPHOTONICS, LTD.,  
Patent Owner.

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IPR2020-00861  
Patent 10,230,898 B2

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Before BRYAN F. MOORE, MONICA S. ULLAGADDI, and  
BRENT M. DOUGAL, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining All Challenged Claims Unpatentable  
*35 U.S.C. § 318(a)*

## I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1, 4, 8–12, 15, 19, and 20 (“the challenged claims”) of U.S. Patent No. 10,230,898 B2 (Ex. 1001, “the ’898 patent”). Paper 2 (“Pet.”). Corephotonics, Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

We instituted an *inter partes* review. Paper 7 (“Institution Decision” or “Inst. Dec.”); *see* 35 U.S.C. § 314(a) (2018); 37 C.F.R. § 42.4(a). Patent Owner filed a Response (Paper 13, “Patent Owner Response” or “PO Resp.”).<sup>1</sup> Petitioner filed a Reply (Paper 21, “Petitioner’s Reply” or “Pet. Reply”).<sup>2</sup> Thereafter, Patent Owner filed a Sur-Reply (Paper 25, “Patent Owner Sur-Reply” or “PO Sur-Reply”).<sup>3</sup>

An oral hearing was held on September 9, 2021 and a transcript (Paper 33, “Tr.”) was entered in the record.

We have jurisdiction pursuant to 35 U.S.C. § 6. This is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of the claims on which we instituted trial. Having reviewed the arguments and the supporting evidence, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1, 4, 8–12, 15, 19, and 20 of the ’898 patent are unpatentable.

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<sup>1</sup> We cite to the sealed version of Patent Owner’s Response (Paper 13). The public version is Paper 14.

<sup>2</sup> We cite to the sealed version of Petitioner’s Reply (Paper 21). The public version is Paper 22.

<sup>3</sup> We cite to the sealed version of Patent Owner’s Sur-Reply (Paper 25). The public version is Paper 26.

## II. BACKGROUND

### A. *Related Proceedings*

Petitioner and Patent Owner identify the following corresponding district court proceeding: *Corephotonics, Ltd. v. Apple Inc.*, Case No. 5:19-cv-04809 (N.D. Cal.). Pet. 2; Paper 4, 1.<sup>4</sup>

We identify the following related administrative matters, including applications and patents claiming the benefit of the priority of the filing date of patents in the priority chain of the '898 patent. *See* Office Consolidated Trial Practice Guide<sup>5</sup> at 18; *see also* 84 Fed. Reg. 64,280 (Nov. 21, 2019) (explaining what is considered an “administrative matter”). U.S. Patent No. 10,356,332 ('332 patent) is a continuation of Application No. 15/324,720 (now U.S. Patent No. 10,230,898, “the '898 patent”). The following co-pending proceeding challenges a patent in the priority chain of the '898 patent: IPR2020-00862 (claims 1, 2, 5, 9–14, 17, 21, and 22 of the '332 patent).

### B. *The '898 Patent*

The '898 patent is titled “Dual Aperture Zoom Camera with Video Support and Switching / Non-Switching Dynamic Control,” and is directed to a “dual aperture zoom digital camera operable in both still and video modes.” Ex. 1001, code (57).

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<sup>4</sup> Patent Owner cites *Corephotonics, Ltd. v. Apple Inc.*, Case No. 3:19-cv-04809-LHK (N.D. Cal.) (Paper 5, 1), but this case number appears to reflect a typographical error. A PACER search of Case No. 5:19-cv-04809 reveals that Patent Owner’s complaint in that case was erroneously identified as “Civil Action No. 3:19-cv-4809” on its cover page.

<sup>5</sup> Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

The '898 patent describes video mode zoom operation from low zoom factor (ZF) to higher ZF above a switch point (described variously as *Zswitch* or  $ZF_T$  or uptransfer ZF), with “[processing] applied to eliminate the changes in the image during crossover from one camera to the other.” *Id.* at 7:57–8:29.

The '898 patent describes that “[s]witching from the Wide camera output to the transformed Tele camera output will be performed unless some special condition (criterion), determined based on inputs obtained from the two camera images, occurs. In other words, switching will not be performed only if [a] no switching criteria is fulfilled.” *Id.* at 10:2–9.

Figure 1A of the '898 patent, reproduced below, illustrates a dual-aperture Zoom imaging system 100 including a Wide imaging section and a Tele imaging section, each having a respective lens with respect field of view (FOV) and respective image sensor to provide image data of an object or scene.

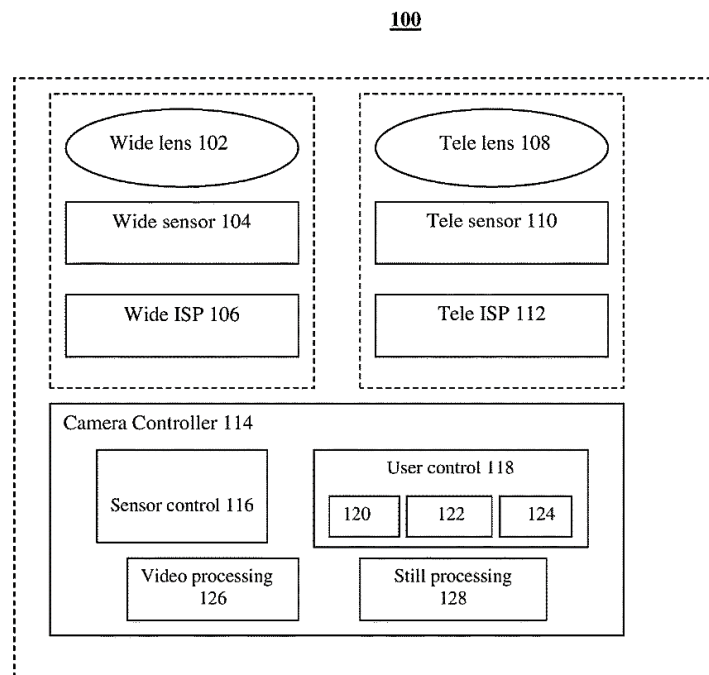


FIG. 1A

Figure 1A shows a dual-aperture zoom imaging system. *Id.*

### C. *Challenged Claims*

Petitioner challenges claims 1, 4, 8–12, 15, 19, and 20 of the '898 patent. Claims 1 and 13 are independent. Claim 1 is reproduced below.

1. A zoom digital camera comprising:

- a) a Wide imaging section that includes a fixed focal length Wide lens with a Wide field of view  $FOV_W$  and a Wide sensor, the Wide imaging section operative to provide Wide image data of an object or scene;
- b) a Tele imaging section that includes a fixed focal length Tele lens with a Tele field of view  $FOV_T$  that is narrower than  $FOV_W$  and a Tele sensor, the Tele imaging section operative to provide Tele image data of the object or scene; and
- c) a camera controller operatively coupled to the Wide and Tele imaging sections and configured to evaluate if a no-switching criterion is fulfilled or not fulfilled, wherein if the no-switching criterion is fulfilled in a zoom-in operation between a lower zoom factor (ZF) value and a higher ZF value at a zoom factor (ZF) higher than an up-transfer ZF, the camera controller is further configured to output a zoom video output image that includes only Wide image data, and wherein if the no-switching criterion is not fulfilled, the camera controller is further configured to output a zoom video output image that includes only transformed, digitally zoomed Tele image data.

Ex. 1001, 12:32–54.

### D. *Asserted Grounds of Unpatentability*

Petitioner challenges claims 1, 4, 8–12, 15, 19, and 20 as follows. *See* Pet. 7.

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