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Parulski et al.

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(54) **METHOD AND APPARATUS FOR OPERATING A DUAL LENS CAMERA TO AUGMENT AN IMAGE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 882 days.

This patent is subject to a terminal disclaimer.

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G03B 13/00 (2006.01)
G03B 17/00 (2006.01)

(52) **U.S. Cl.** **348/349**; 396/79

(58) **Field of Classification Search** 348/349; 396/72, 79, 100
See application file for complete search history.

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(57) **ABSTRACT**

An electronic camera for producing an output image of a scene from a captured image signal includes a first imaging stage comprising a first image sensor for generating a first sensor output and a first lens for forming a first image of the scene on the first image sensor, and a second imaging stage comprising a second image sensor for generating a second sensor output and a second lens for forming a second image of the scene on the second image sensor. The sensor output from the first imaging stage is used as a primary output image for forming the captured image signal and the sensor output from the second imaging stage is used as a secondary output image for modifying the primary output image, thereby generating an enhanced, captured image signal.

22 Claims, 29 Drawing Sheets
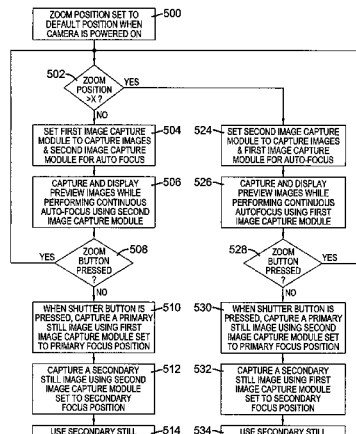
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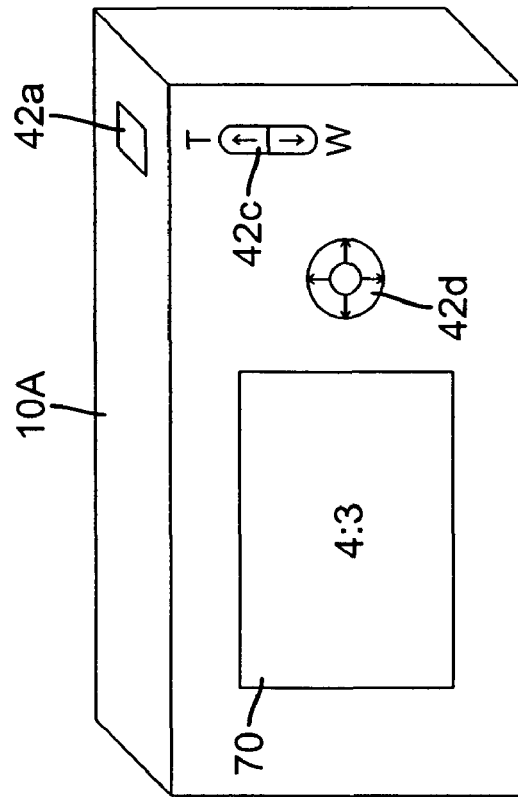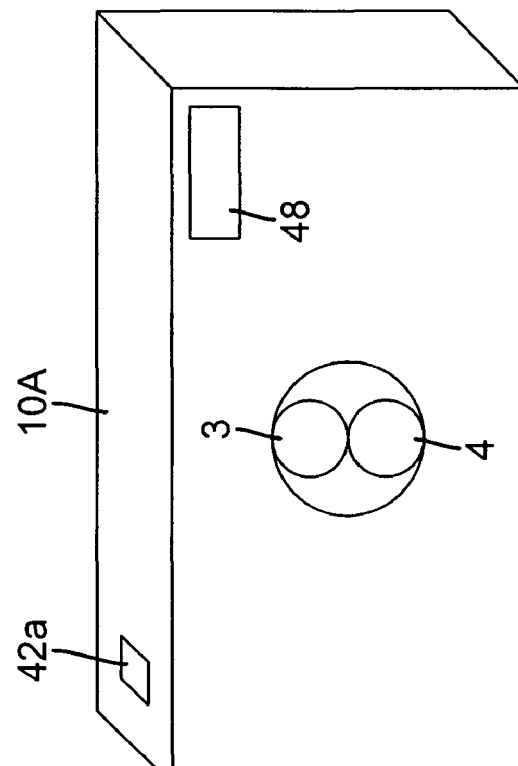* cited by examiner
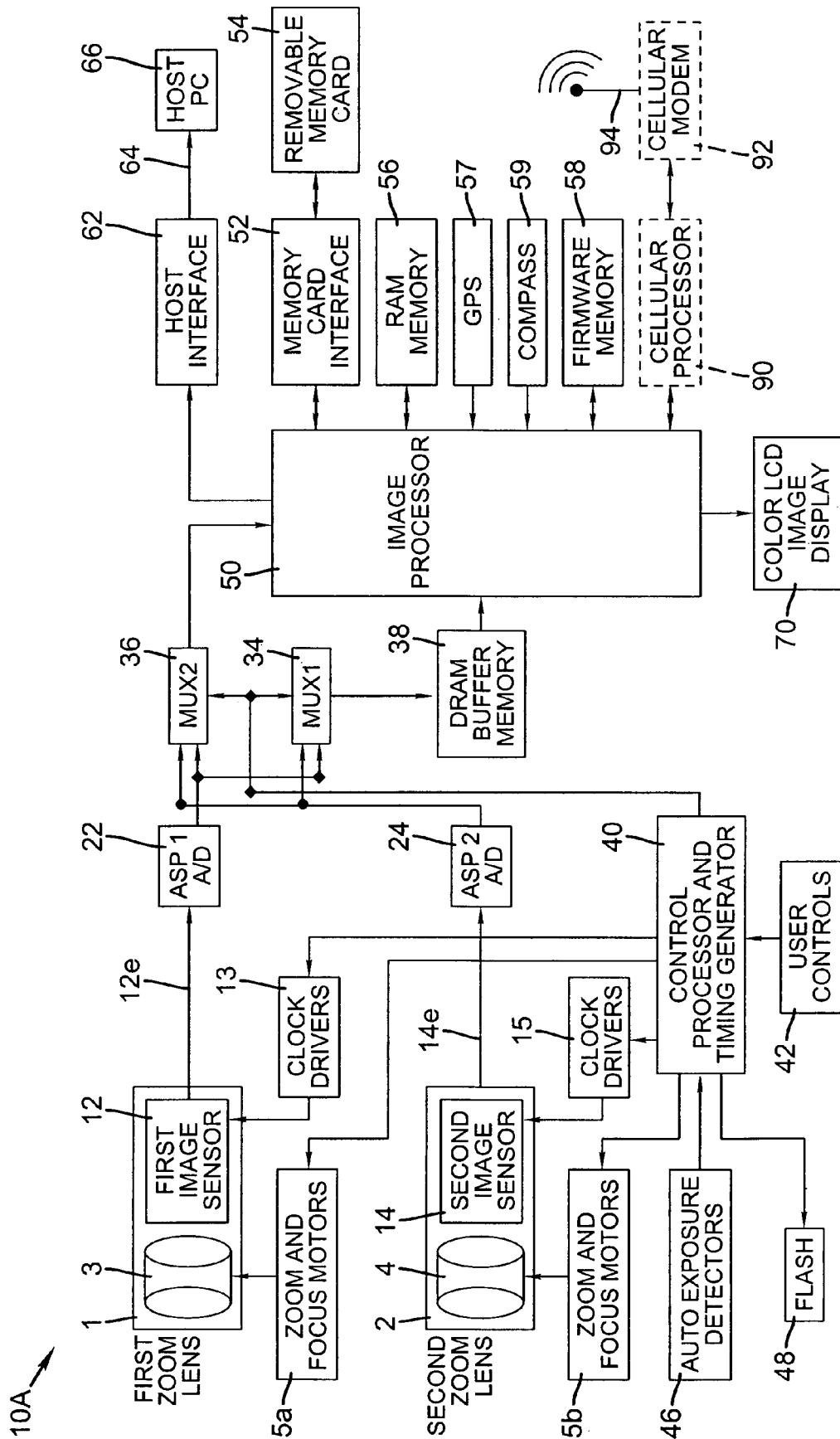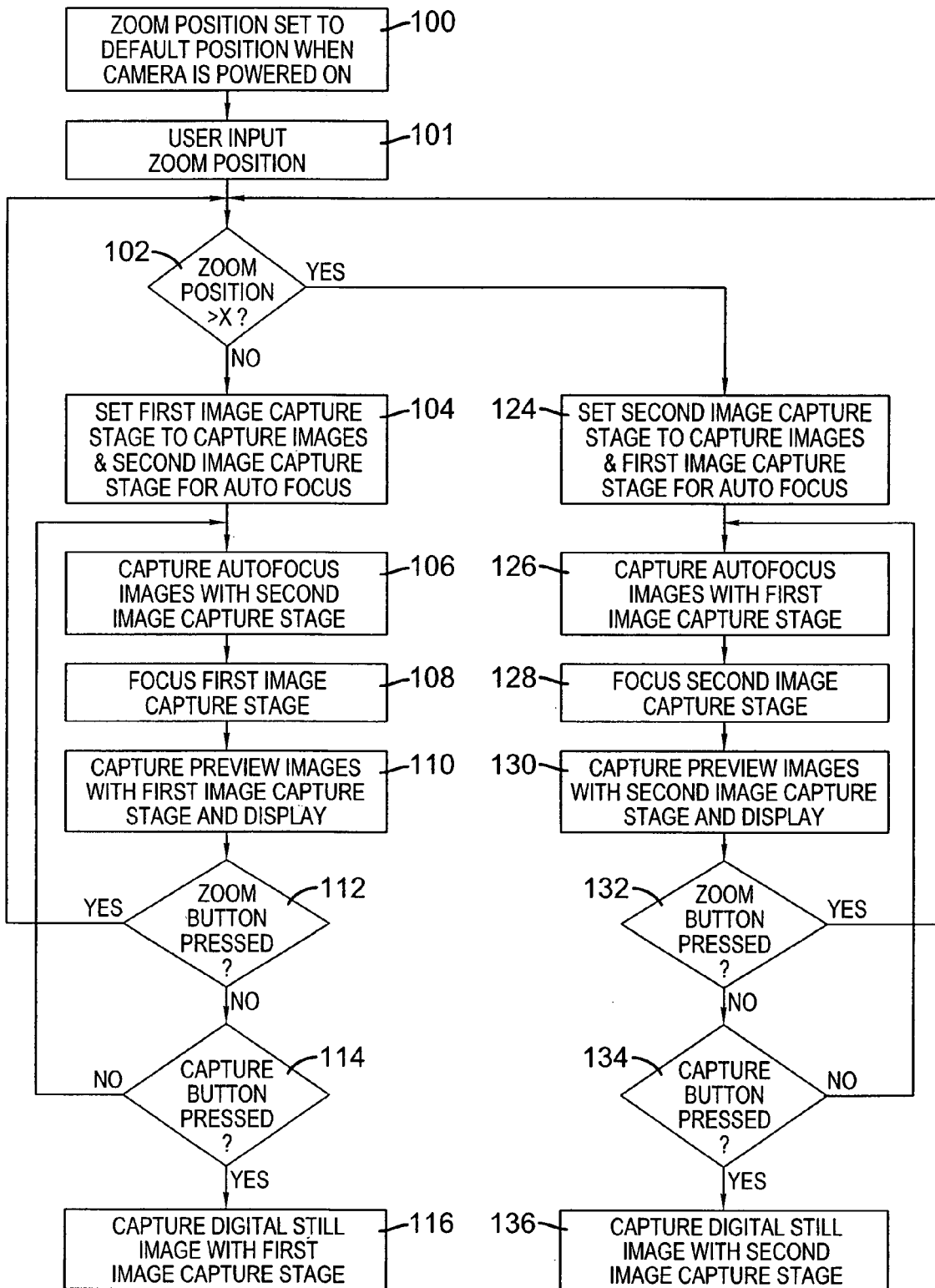
FIG. 1

FIG. 2B

FIG. 2A

FIG. 3

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