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(54) **SYSTEM AND A METHOD FOR THREE-DIMENSIONAL IMAGING SYSTEMS**

Publication Classification

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(57) **ABSTRACT**

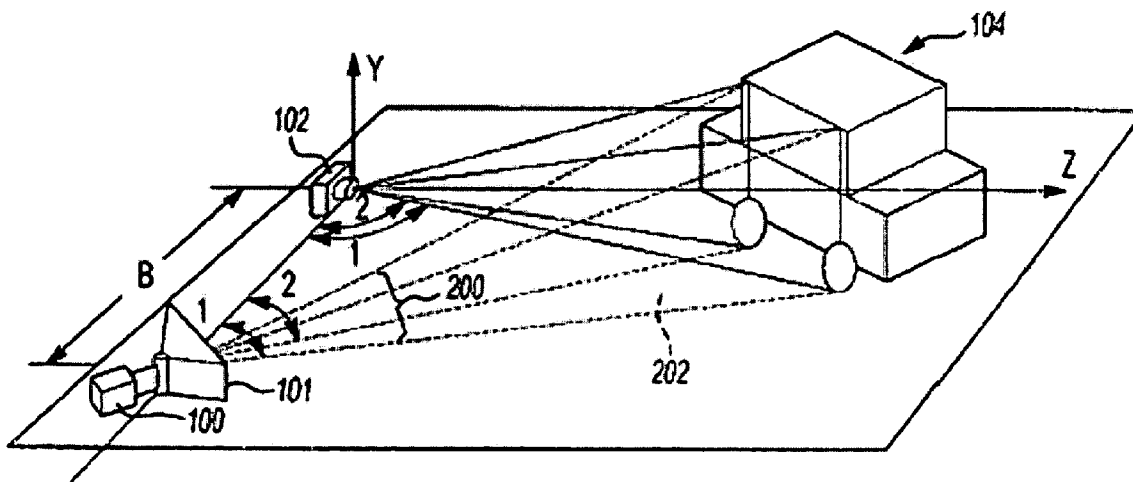
(21) Appl. No.: **10/973,533**

A method for acquiring a surface profile 3D data set of an object includes illuminating a surface of the object with a sequence of multiple rainbow projection (MRP) structural light patterns, capturing light reflected from the object, and calculating 3D data (X, Y, Z) for each visible point on the object based upon triangulation mathematical principles of the captured reflected light.

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Related U.S. Application Data

(60) Provisional application No. 60/514,177, filed on Oct. 23, 2003.



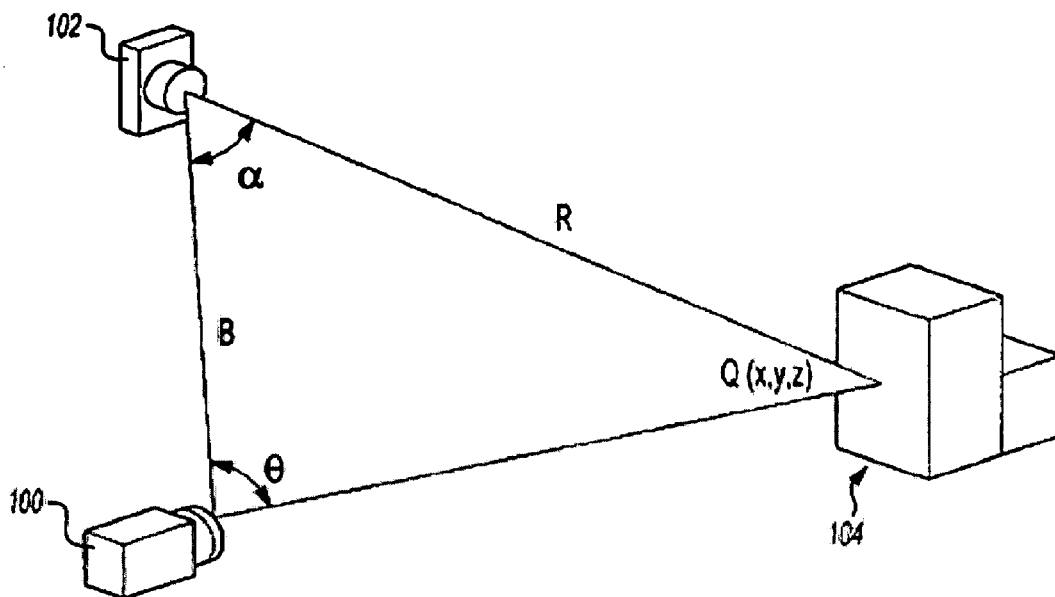


Fig. 1

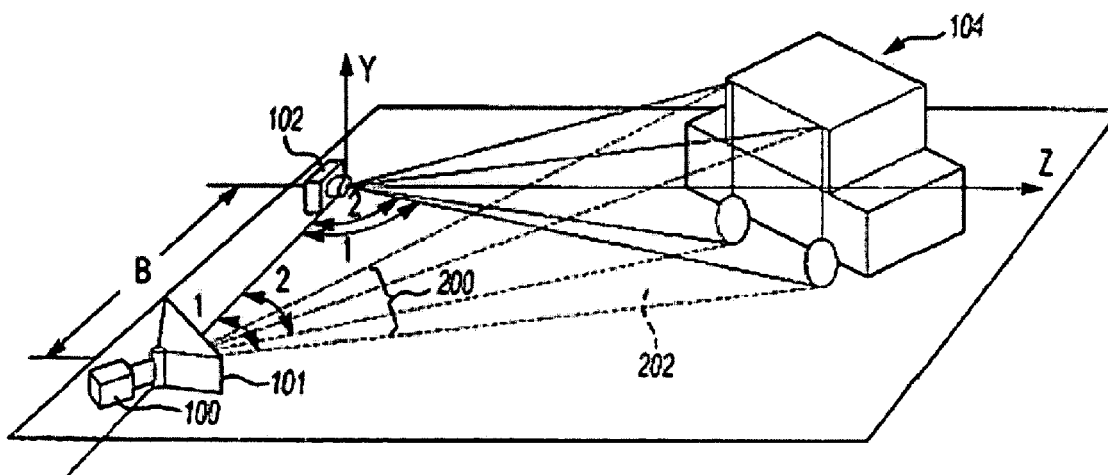


Fig. 2

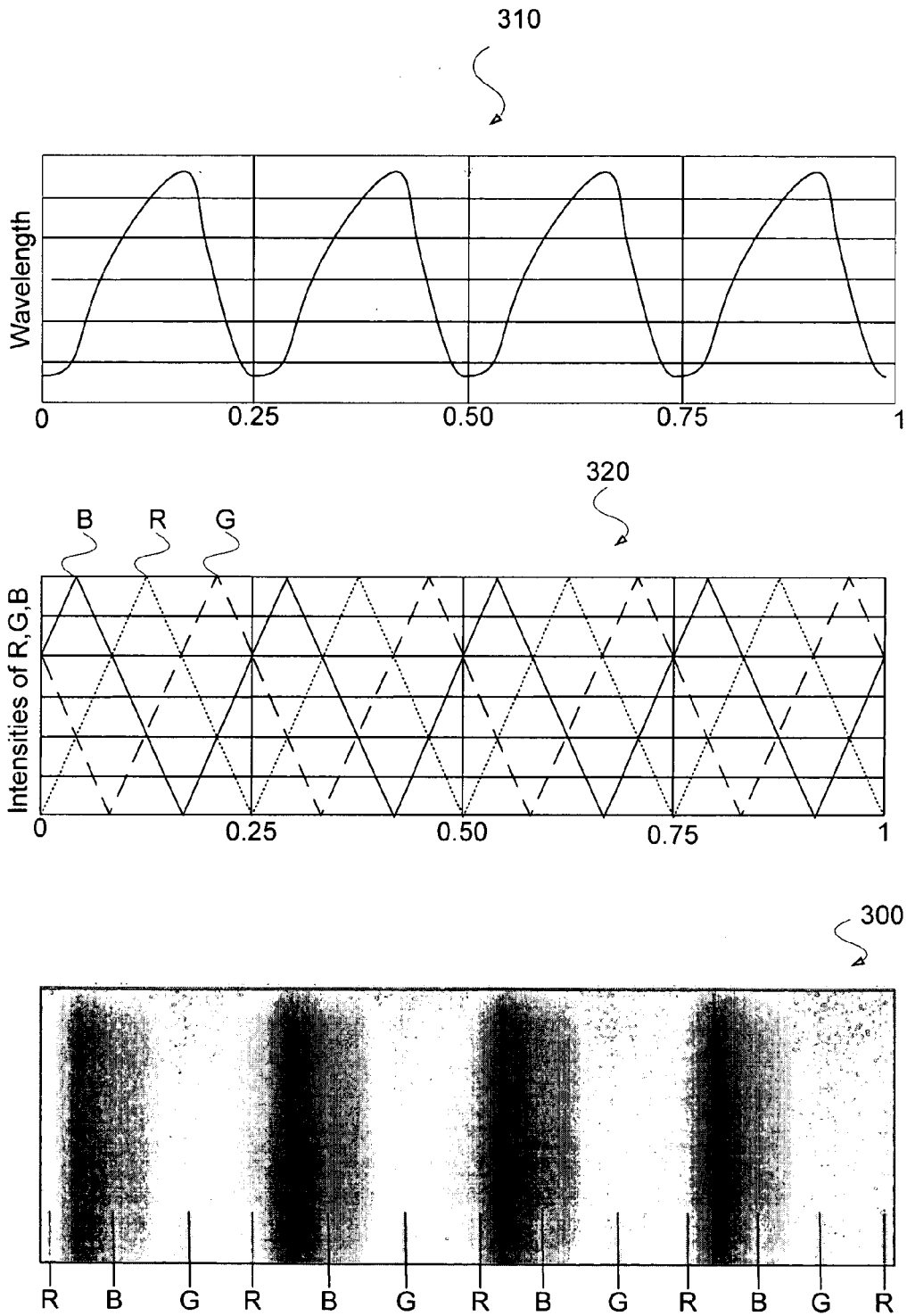


Fig. 3

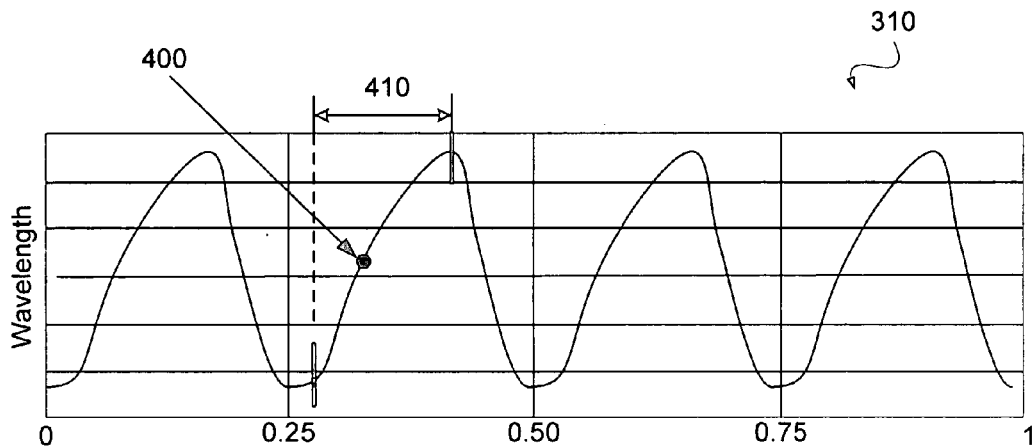


Fig. 4

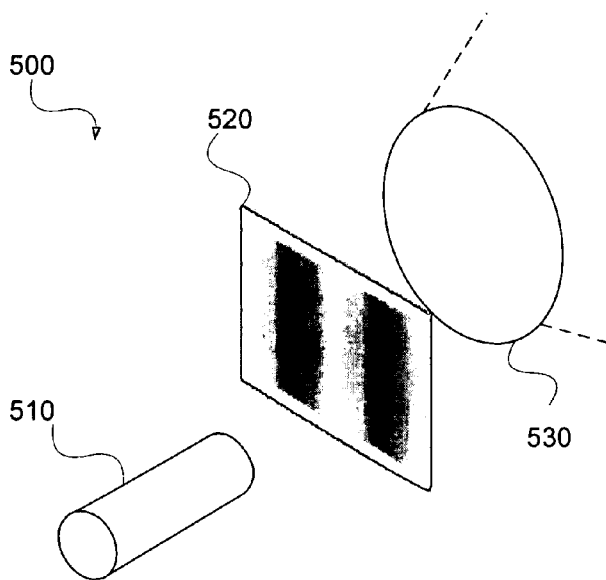


Fig. 5

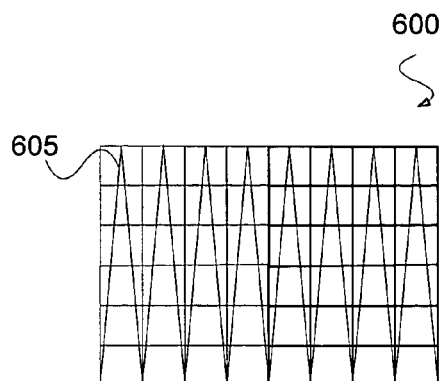


Fig. 6

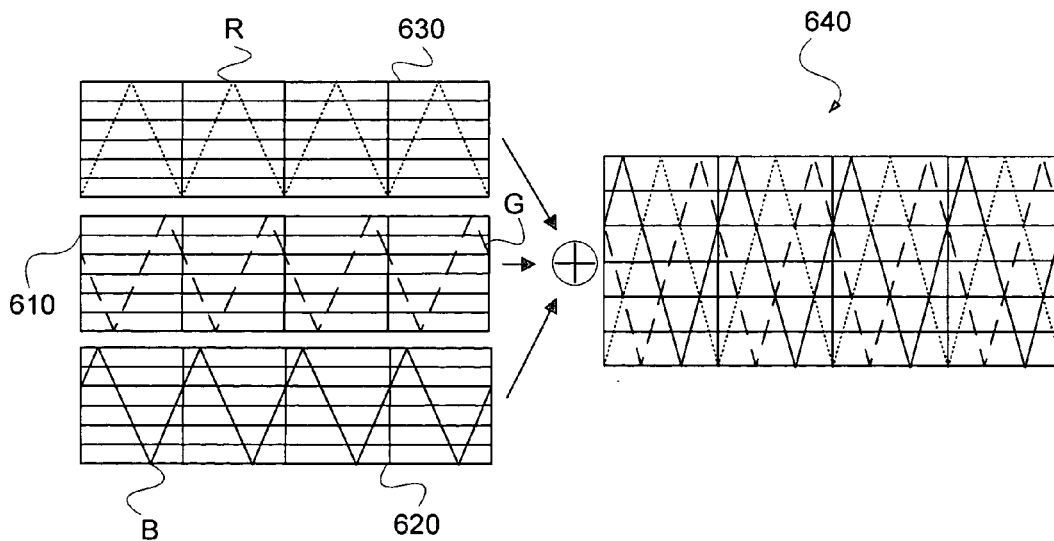


Fig. 7

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