



US008988796B1

(12) **United States Patent**
Chen

(10) **Patent No.:** **US 8,988,796 B1**
(45) **Date of Patent:** **Mar. 24, 2015**

(54) **IMAGE CAPTURING LENS SYSTEM,
IMAGING DEVICE AND MOBILE TERMINAL**

(56) **References Cited**

(71) Applicant: **Largan Precision Co., Ltd.**, Taichung (TW)

U.S. PATENT DOCUMENTS

(72) Inventor: **Wei-Yu Chen**, Taichung (TW)

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(73) Assignee: **Largan Precision Co., Ltd.**, Taichung (TW)

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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 0 days.

JP 2014-178623 9/2014

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(21) Appl. No.: **14/105,811**

(57) **ABSTRACT**

(22) Filed: **Dec. 13, 2013**

An image capturing lens system includes, in order from an object side to an image side, a first lens element, a second lens element, a third lens element and a fourth lens element. The first lens element has refractive power. The second lens element with positive refractive power has a convex image-side surface in a paraxial region thereof. The third lens element with negative refractive power has a concave object-side surface in a paraxial region thereof and a convex image-side surface in a paraxial region thereof. The fourth lens element with refractive power has a concave image-side surface in a paraxial region thereof, wherein both of an object-side surface and the image-side surface thereof are aspheric, and the image-side surface thereof has at least one convex shape in an off-axis region thereof. The image capturing lens system has a total of four lens elements with refractive power.

(30) **Foreign Application Priority Data**

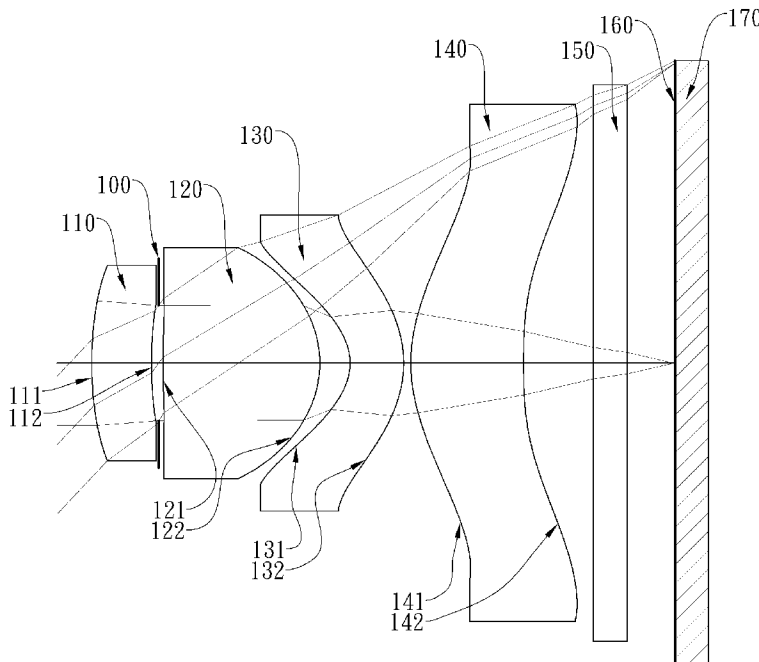
Oct. 29, 2013 (TW) 102139029 A

(51) **Int. Cl.**
G02B 9/34 (2006.01)
G02B 3/02 (2006.01)
G02B 13/00 (2006.01)

(52) **U.S. Cl.**
CPC **G02B 13/004** (2013.01); **G02B 9/34** (2013.01)
USPC **359/779**; 359/781; 359/715

(58) **Field of Classification Search**
USPC 359/771, 772, 779, 781, 715
See application file for complete search history.

26 Claims, 23 Drawing Sheets



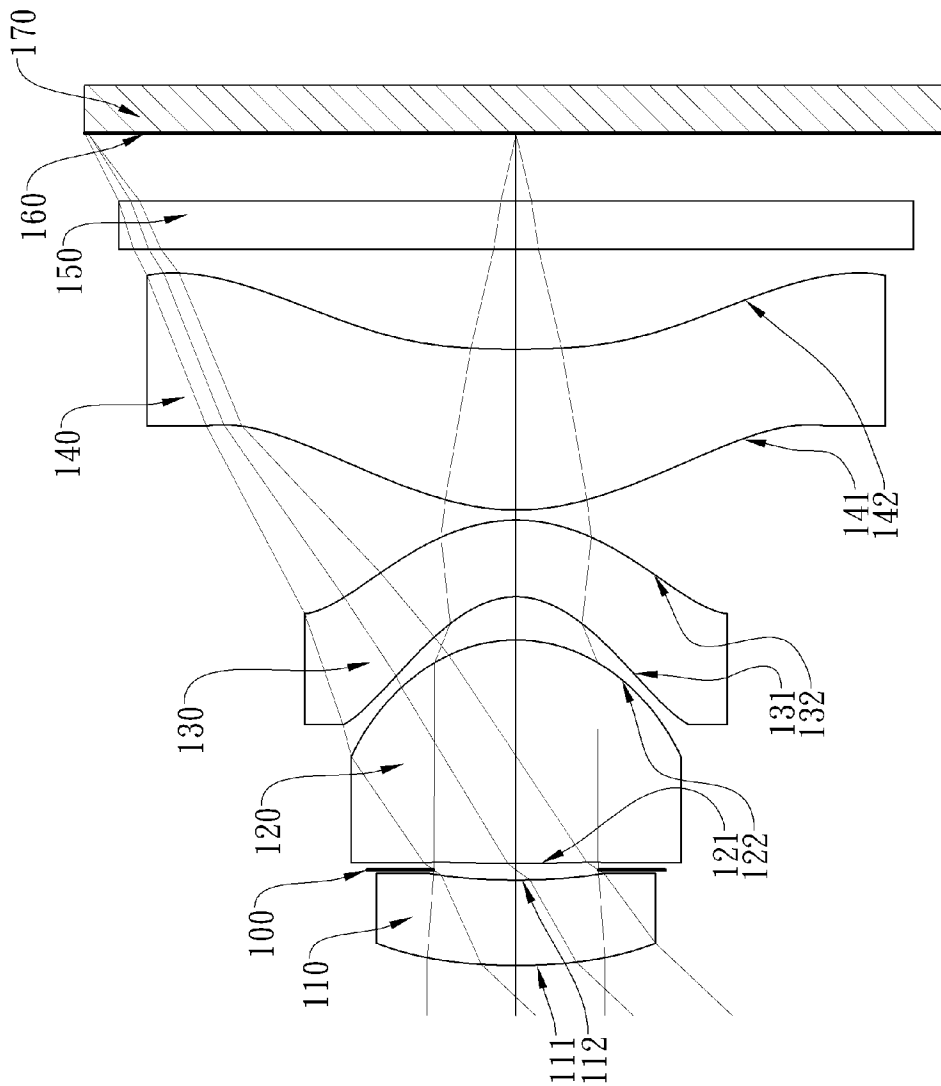


Fig. 1A

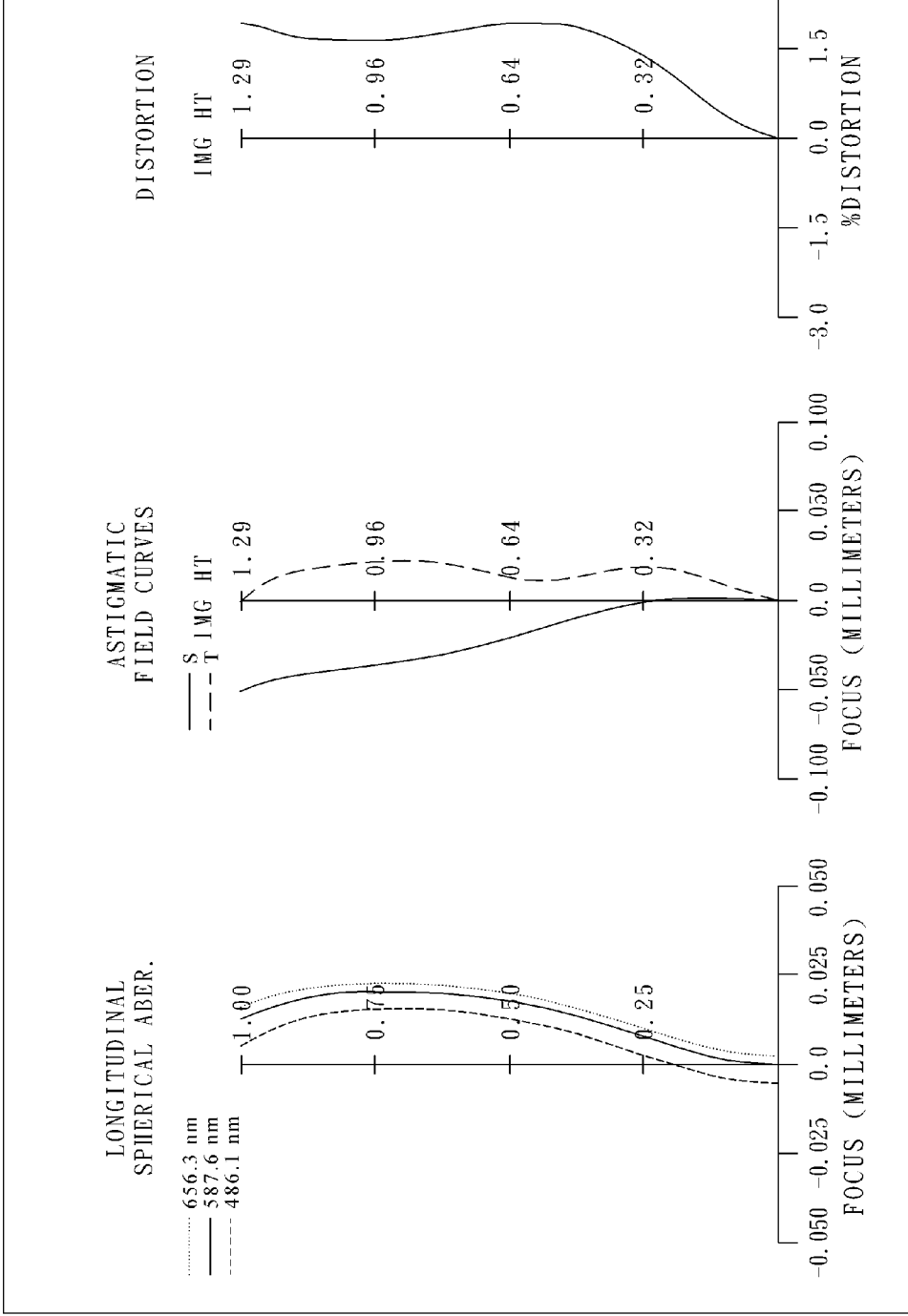


Fig. 1B

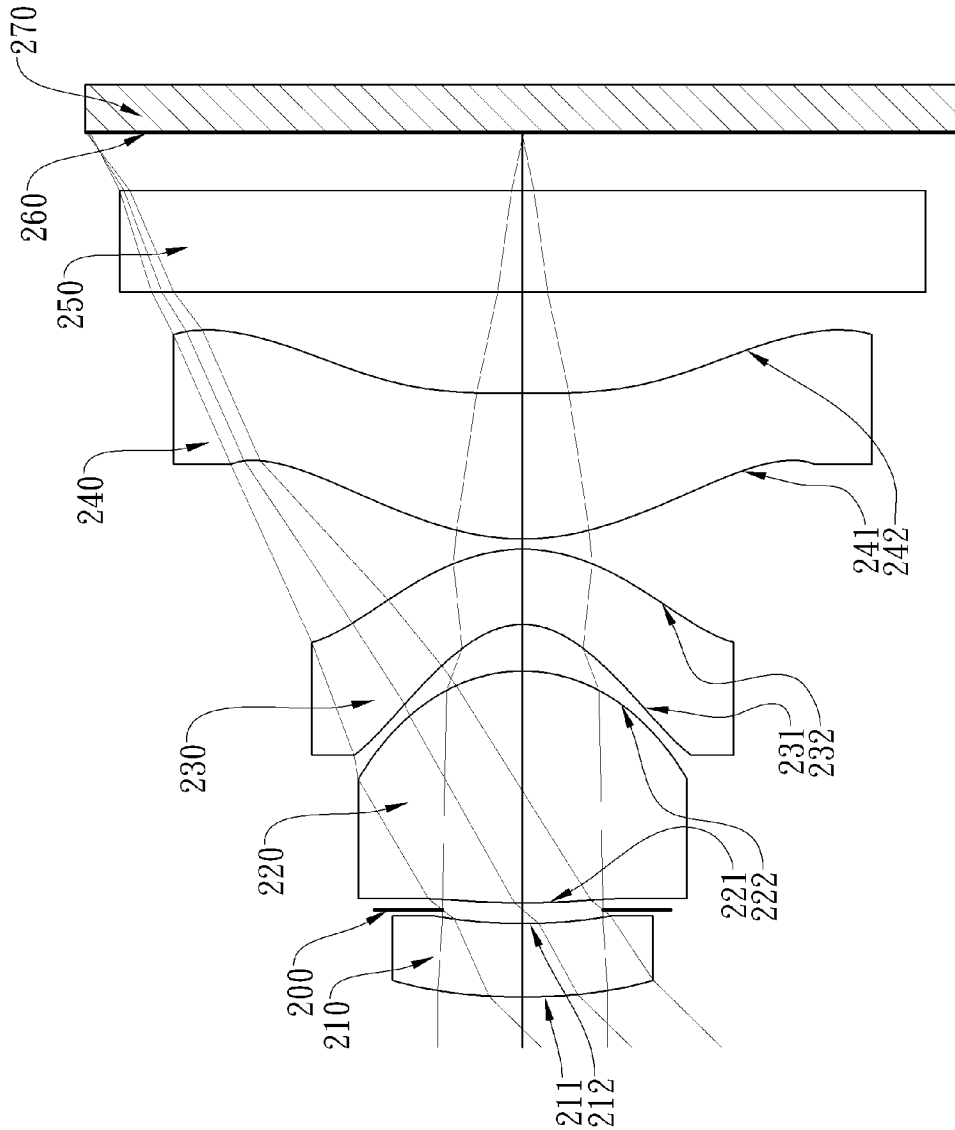


Fig. 2A

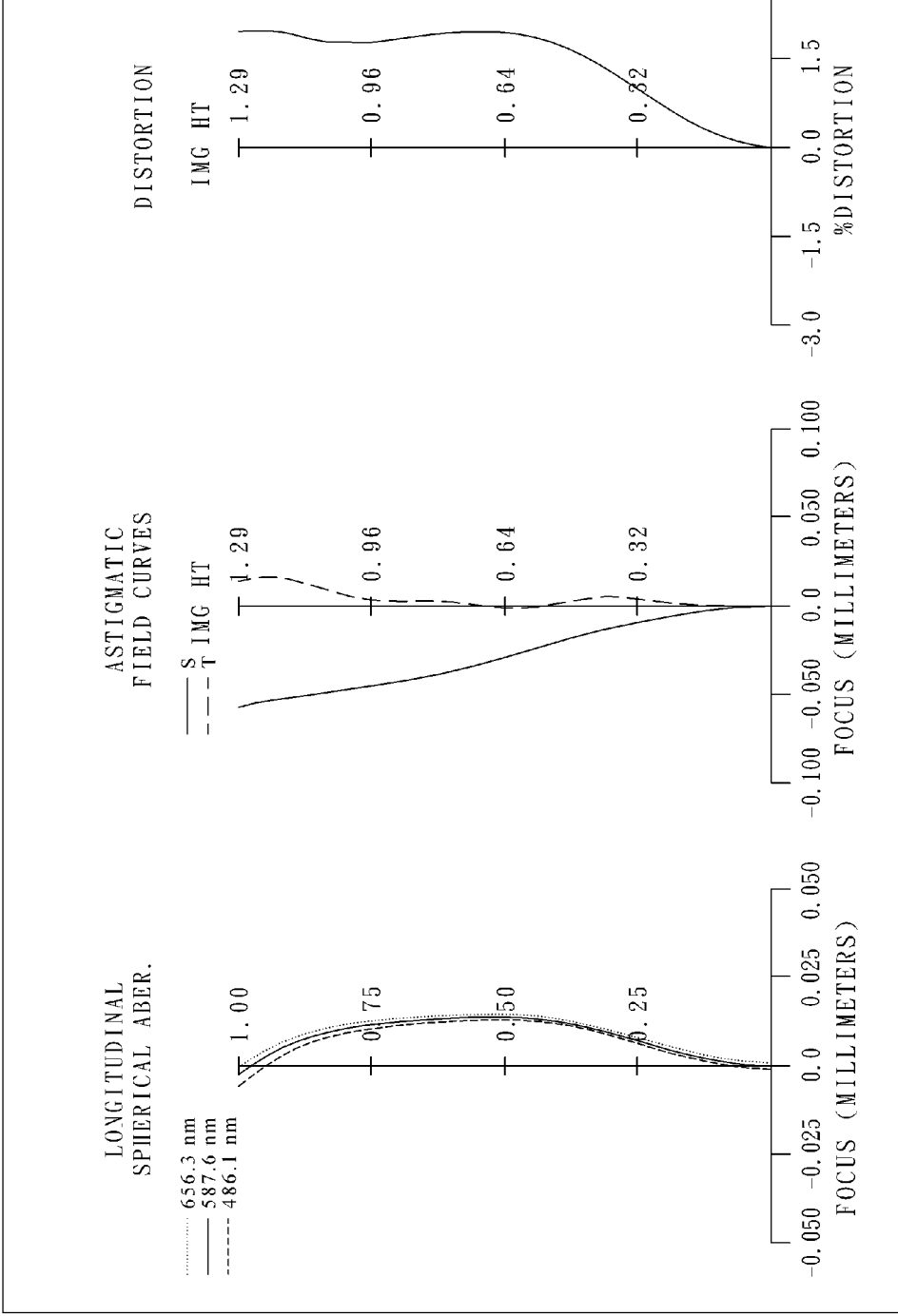


Fig. 2B

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