United States Patent [19]

Ishida et al.

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[45] **Date of Patent: May 16, 1989**

[54] **AUTOMATIC FOCUS DETECTION SYSTEM**

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[73] Assignee: **Minolta Camera Kabushiki Kaisha,** Osaka, Japan

[21] Appl. No.: **51,138**

[22] Filed: **May 15, 1987**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 946,578, Dec. 22, 1986, abandoned.

[30] **Foreign Application Priority Data**

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Dec. 27, 1985 [JP] Japan 60-298036
May 16, 1986 [JP] Japan 60-113315

[51] **Int. Cl.**[4] **G03B 3/00;** G03B 1/00

[52] **U.S. Cl.** **354/402;** 354/403; 354/430; 354/173.1; 354/406; 354/432

[58] **Field of Search** ..... 354/402, 403, 406, 407, 354/408, 409, 430, 173.1; 250/201 R, 201 PF, 204

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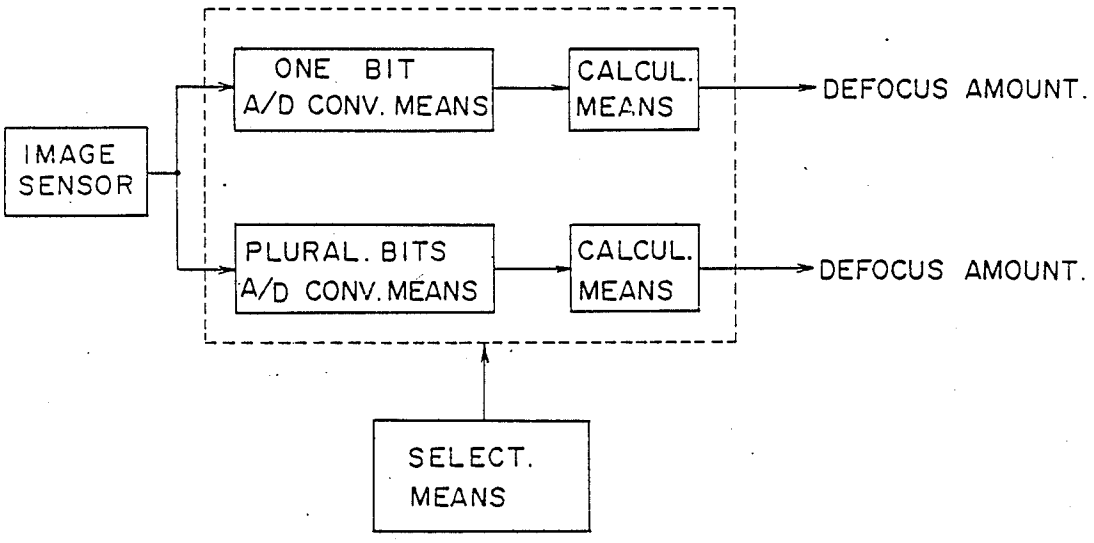
Attorney, Agent, or Firm—Price, Gess & Ubell

[57] **ABSTRACT**

A camera with an automatic focusing device has an objective lens mounted on a camera. An image formed by the objective lens is divided into a plurality of zones. In each zone, a brightness distribution is obtained so as to detect a rough focusing condition in each zone, thereby producing a plurality of rough focusing condition data. Based on the result of the rough focusing condition data, one zone is selected. Furthermore, a precise focusing condition is detected in the selected zone based on the light contained in the selected zone, so as produce a precise focusing condition data. Based on the precise focusing condition data obtained from the selected zone, the object lens is driven to an infocus condition.

14 Claims, 42 Drawing Sheets



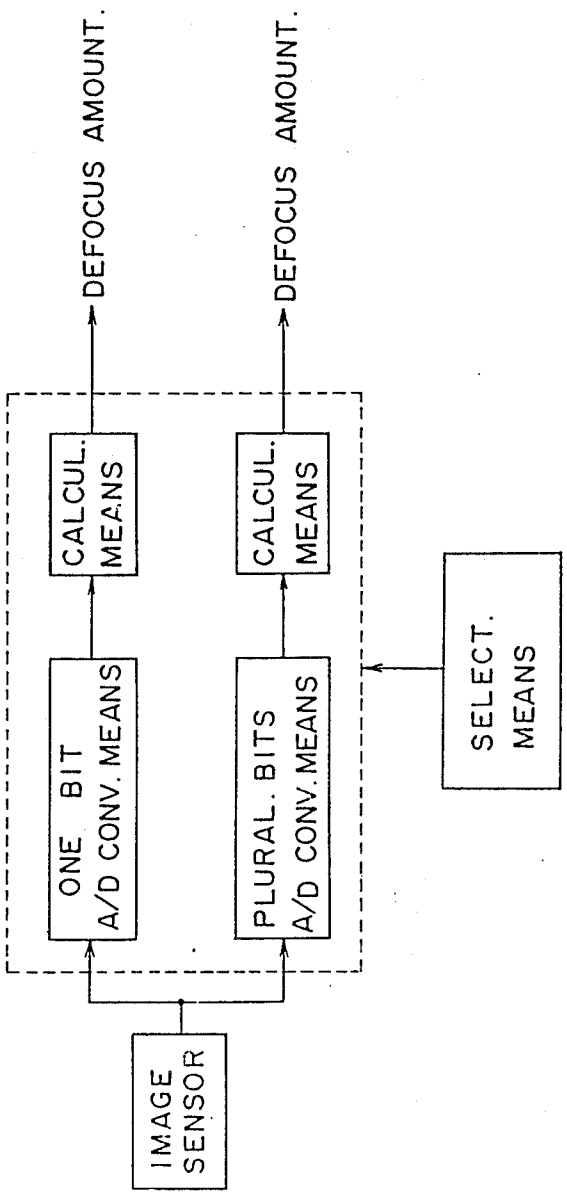


Fig. 1

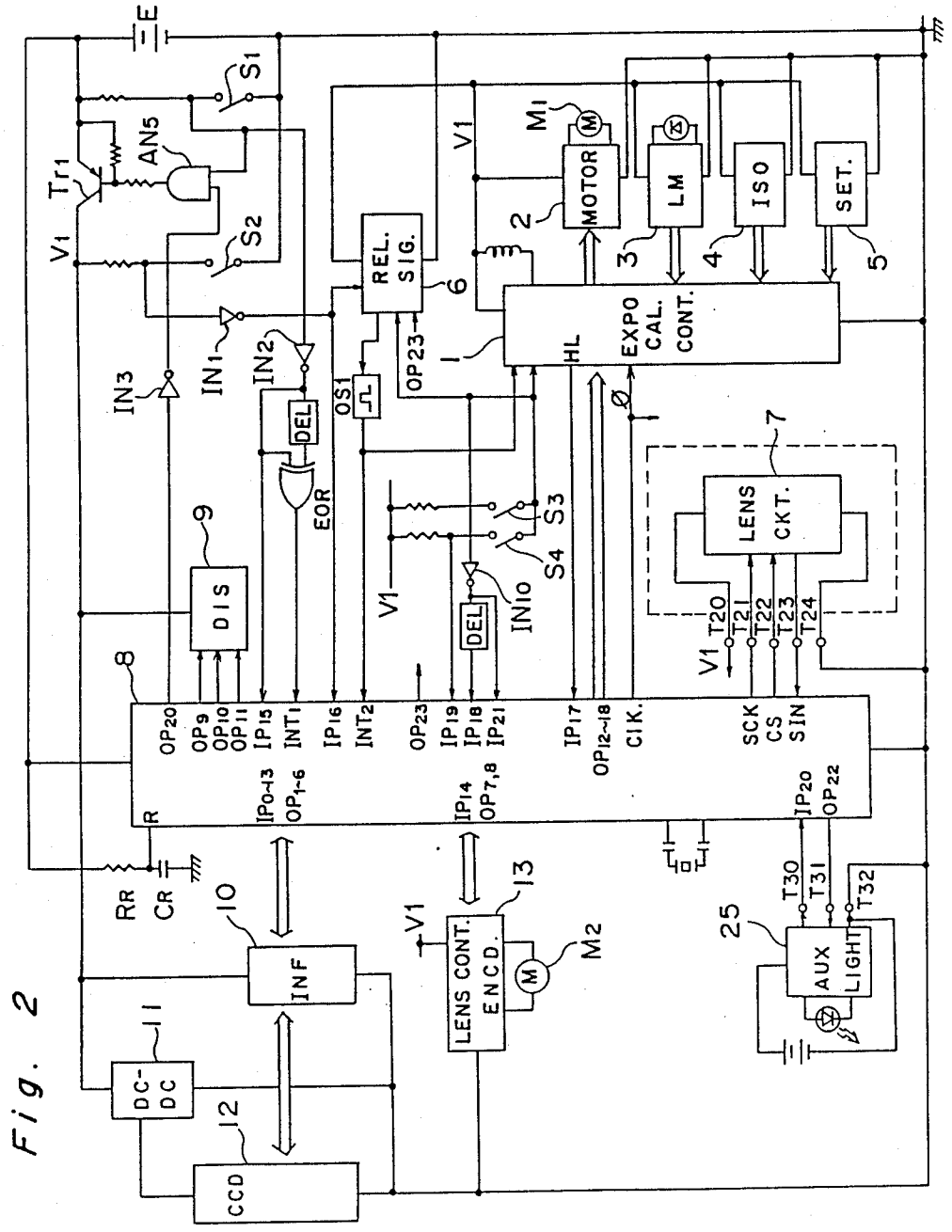


Fig. 2

Fig. 3

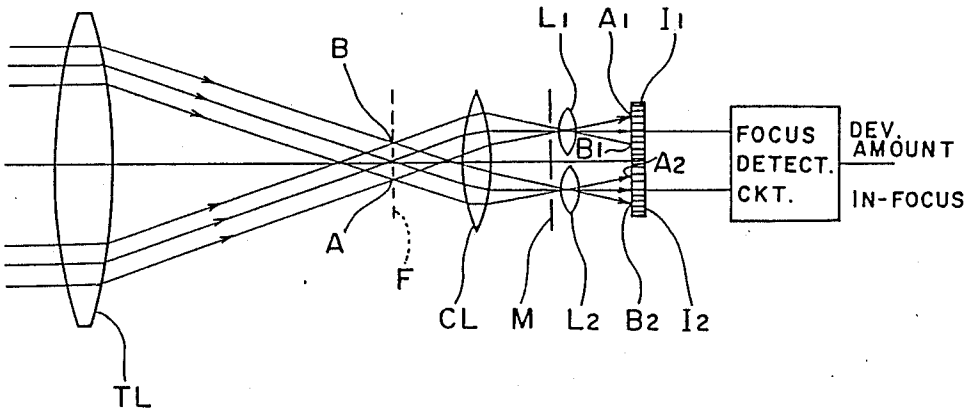


Fig. 5

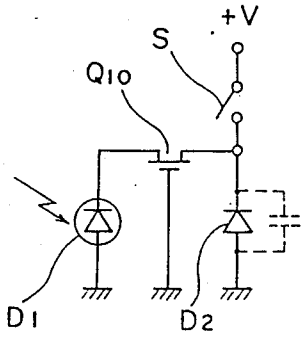
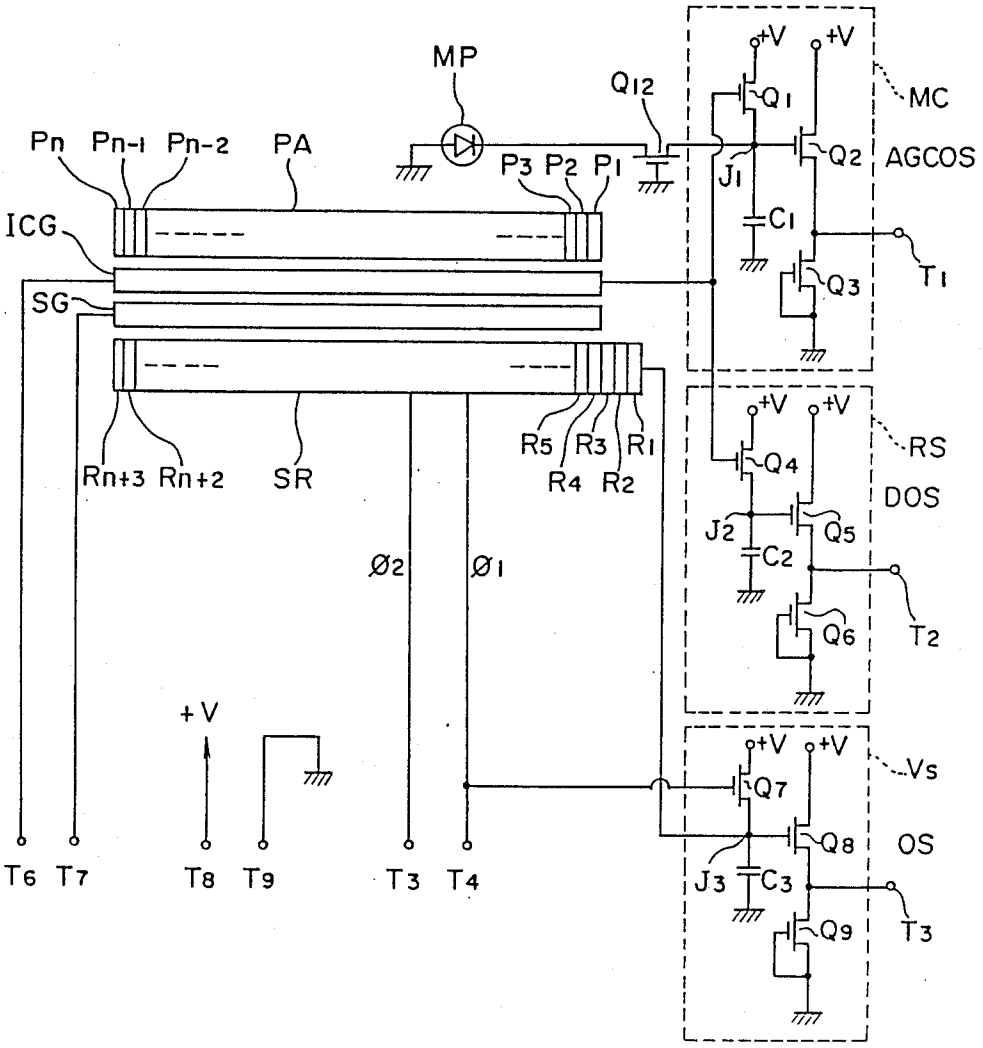


Fig. 4



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