

EXHIBIT 1030

U.S. PATENT NO. 3,949,162 TO MALUEG
("MALUEG")

TRW Automotive U.S. LLC: EXHIBIT 1030
PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NUMBER 8,599,001
IPR2015-00436

- [54] **DETECTOR ARRAY FIXED-PATTERN NOISE COMPENSATION**
- [75] Inventor: **Richard M. Malueg**, Glendora, Calif.
- [73] Assignee: **Actron Industries, Inc.**, Monrovia, Calif.
- [22] Filed: **Feb. 25, 1974**
- [21] Appl. No.: **445,802**
- [52] U.S. Cl. **178/7.1; 178/DIG. 12**
- [51] Int. Cl.² **H04N 5/30; H04N 5/21**
- [58] Field of Search..... **178/7.1, 7.2, DIG. 12**

3,830,972 8/1974 Silverling et al. 178/7.1

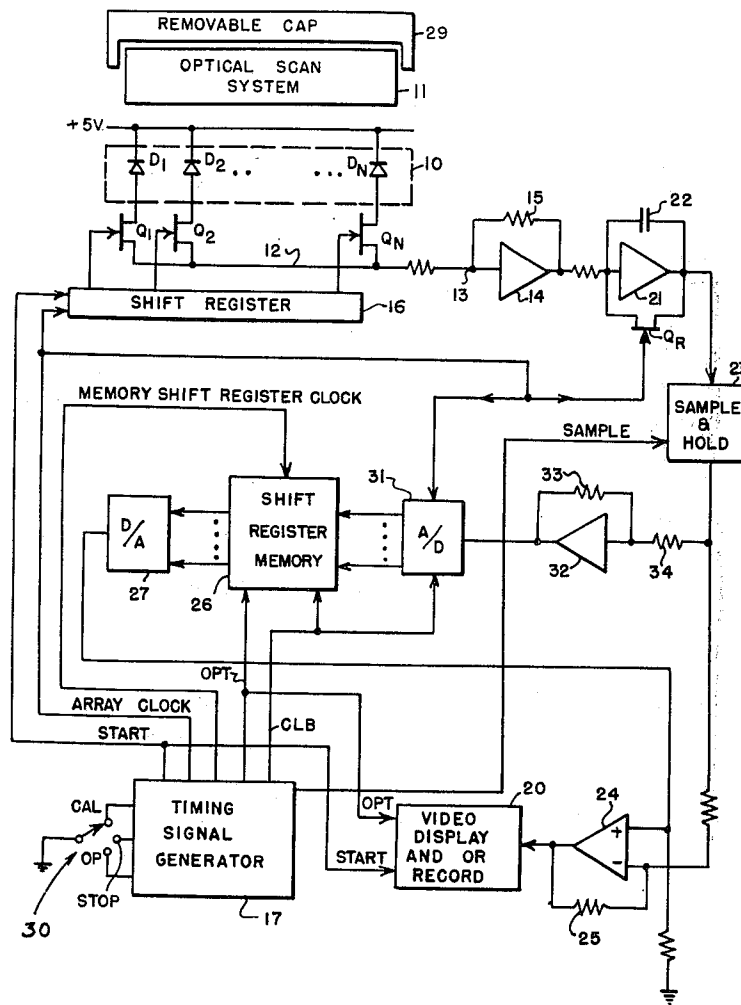
Primary Examiner—Robert L. Richardson
 Attorney, Agent, or Firm—Marvin H. Kleinberg

[57] **ABSTRACT**

Fixed pattern noise compensation is provided for an array of detectors by premeasuring output signals of the detectors under a low (preferably at virtually absolute zero) level of uniform incident energy, converting the measured signal level of each detector to digital signals, and storing the digital signals in a memory for reading out in synchronism with scanning outputs of the detectors during normal system operation. The digital compensation signals are converted to analog form and subtracted from the output signals of the respective detectors during each successive scan cycle of the system operation. To eliminate error from random noise, several noise measurements may be averaged to produce the fixed pattern noise compensation signals.

14 Claims, 6 Drawing Figures

- [56] **References Cited**
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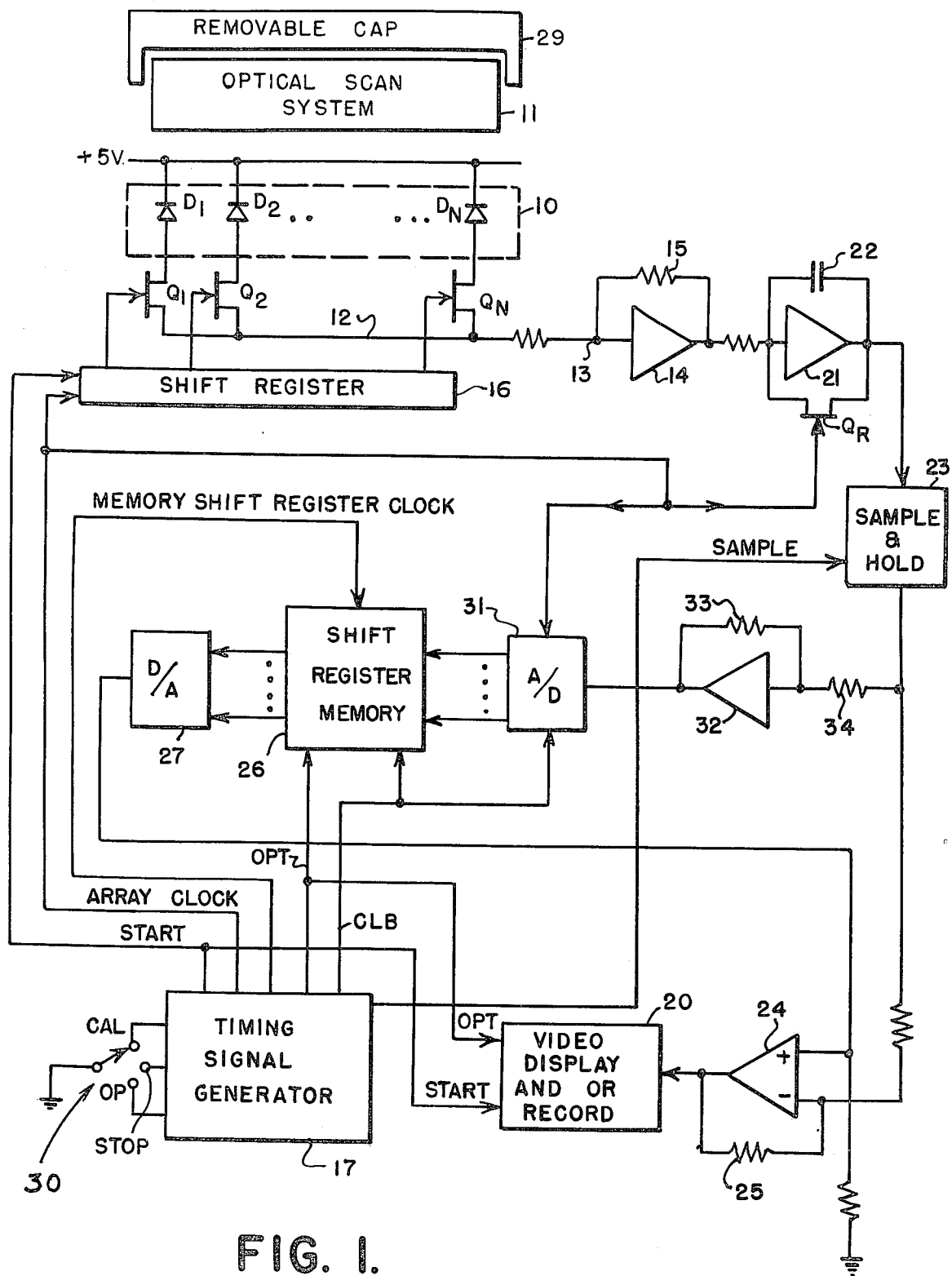


FIG. 1.

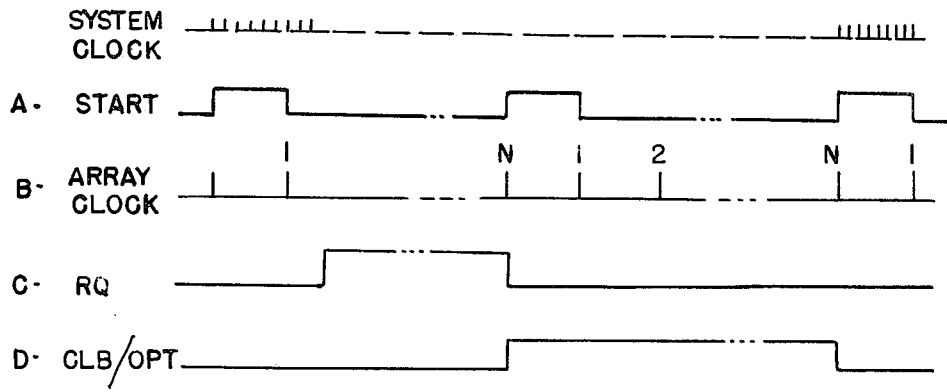


FIG. 2.

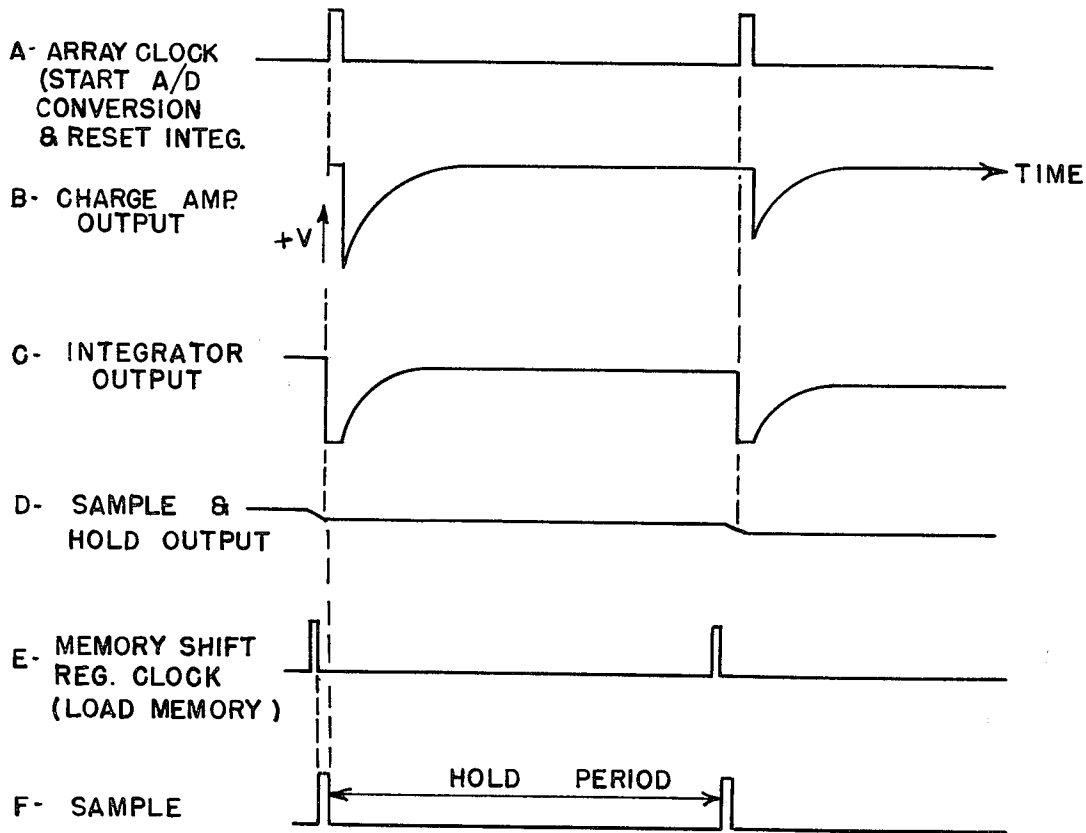


FIG. 3.

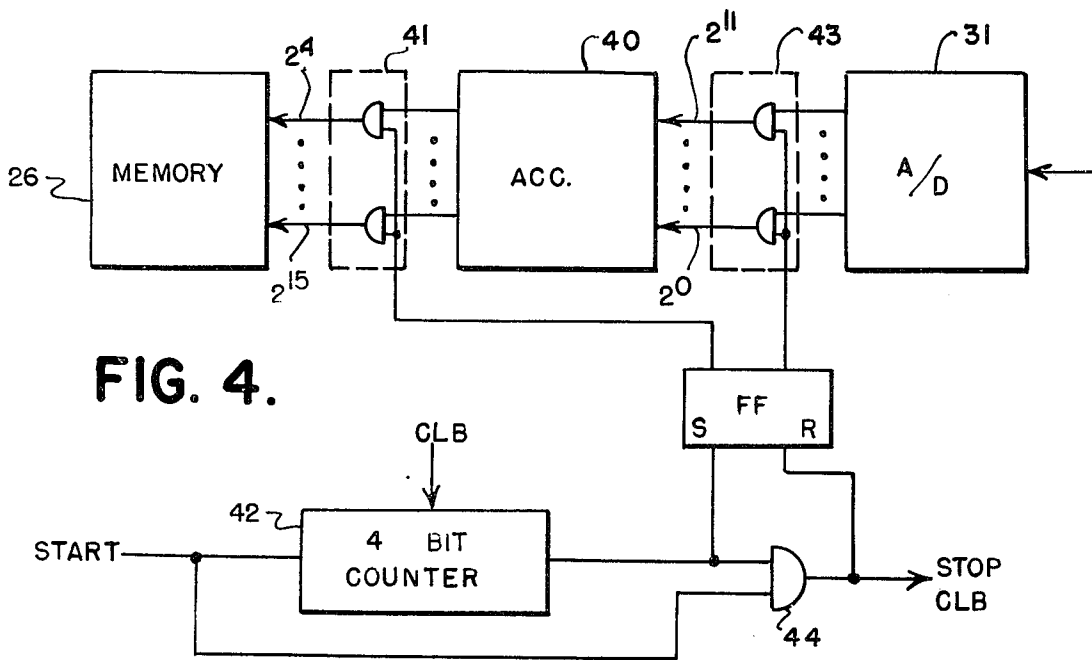


FIG. 4.

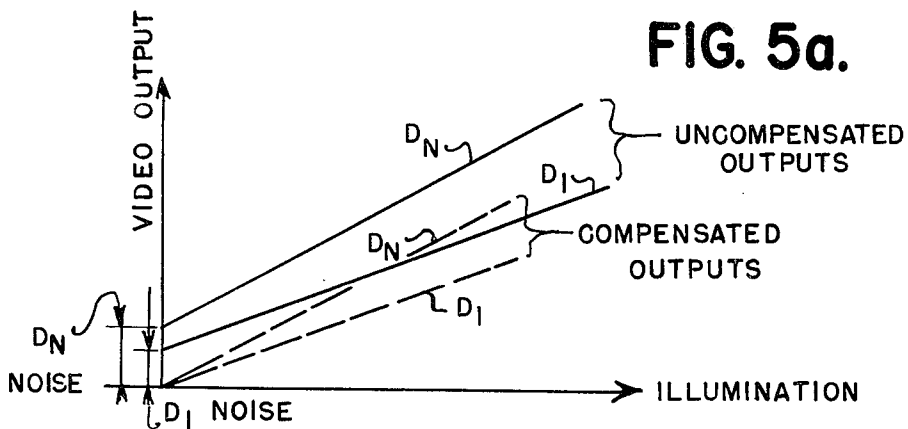


FIG. 5a.

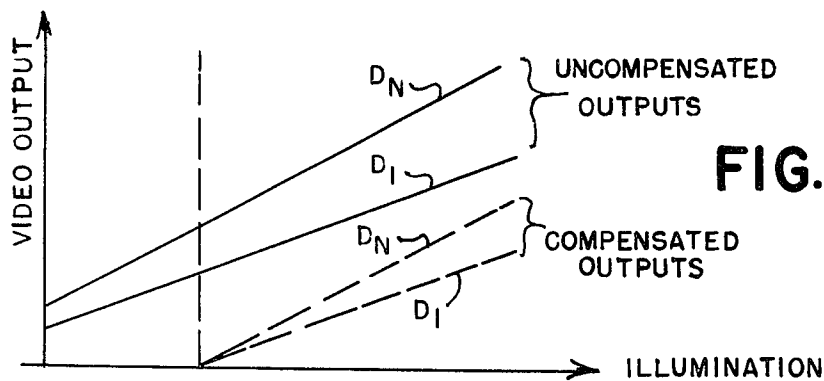


FIG. 5b.

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