



(12) **United States Patent**  
**Herz**

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- (54) **METHOD AND APPARATUS FOR AN INTUITIVE UNIVERSAL REMOTE CONTROL SYSTEM**
- (75) Inventor: **William S. Herz**, Hayward, CA (US)
- (73) Assignee: **Zilog, Inc.**, San Jose, CA (US)
- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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- (51) **Int. Cl.**<sup>7</sup> ..... **H04N 5/44**; H04L 17/02; G08G 19/00
- (52) **U.S. Cl.** ..... **348/734**; 348/906; 341/176; 341/175; 340/825.69; 340/825.72
- (58) **Field of Search** ..... 348/734, 906; 345/179, 173, 158, 169; 341/176, 175; 340/825.69, 825.72, 825.49, 825.25, 825.56, 825.17, 825.22, 825.24

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*Primary Examiner*—John W. Miller  
*Assistant Examiner*—Paulos Natnael  
(74) *Attorney, Agent, or Firm*—Skjerven Morrill MacPherson LLP

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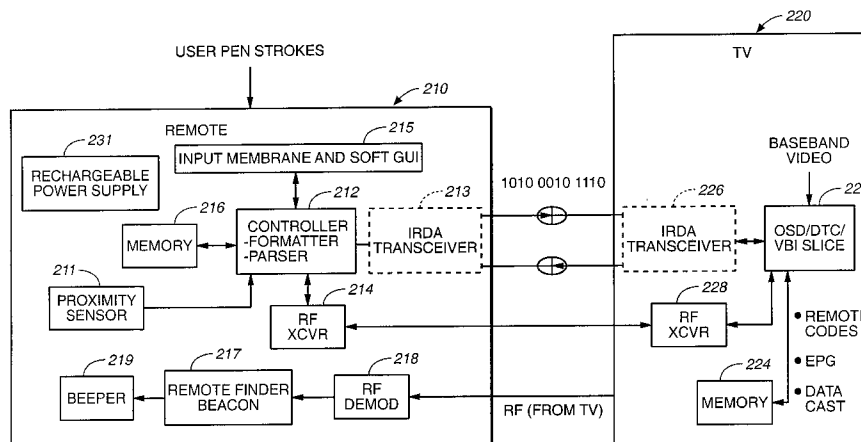
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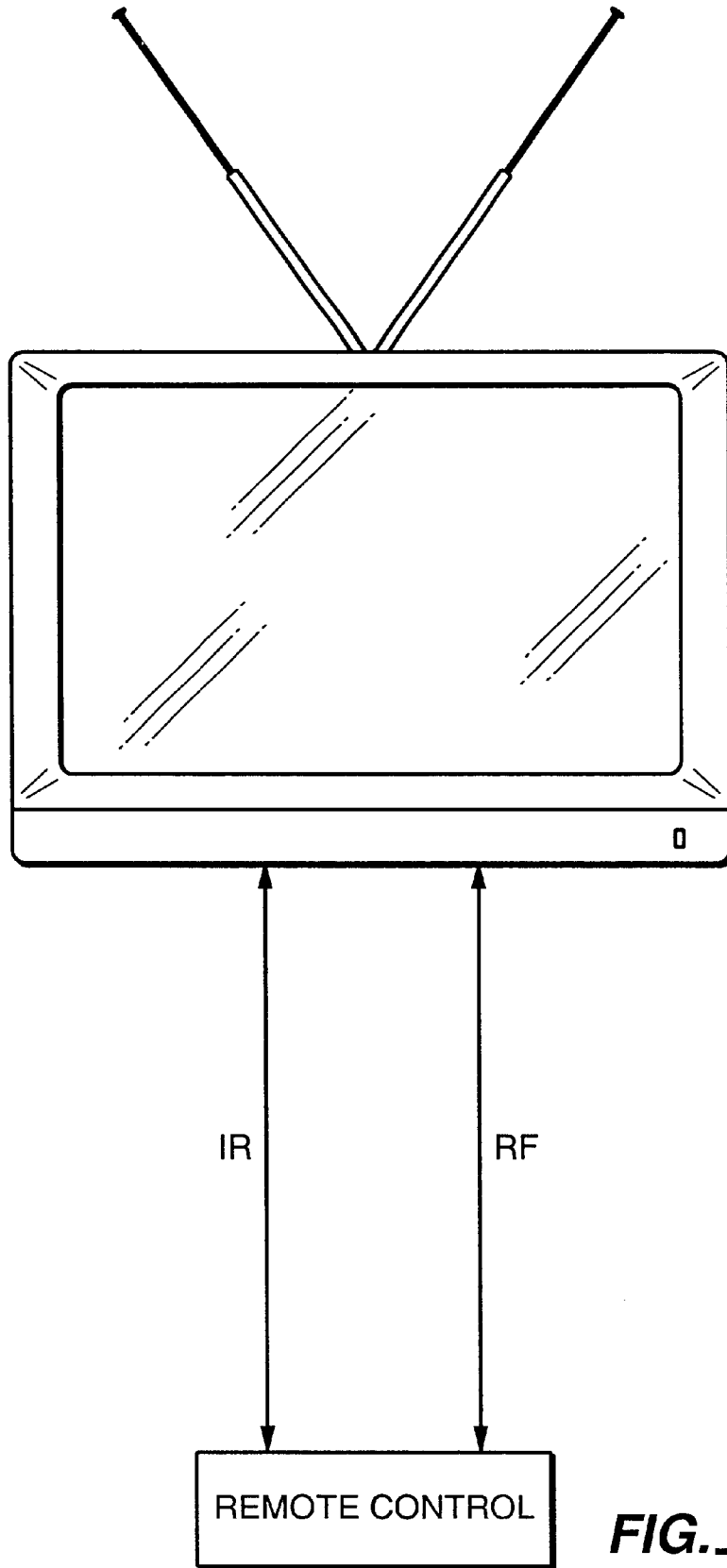
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(57) **ABSTRACT**

The present invention discloses a novel universal remote control system. Specifically, the remote control system according to the present invention provides the following features: bidirectional communications between the remote control and at least one of the audio/video devices; dual communication mode; automatic communication mode selection; loading and processing electronic program guide in the remote control; soft graphical user interface in the remote control; expanding the television set functions by the remote control; calibration handshake between the remote control and the audio/video device; updating the remote control; lost beacon signal in the remote control; handwriting recognition mechanism, and voice recognition mechanism in the remote control.

**23 Claims, 16 Drawing Sheets**





**FIG. 1**

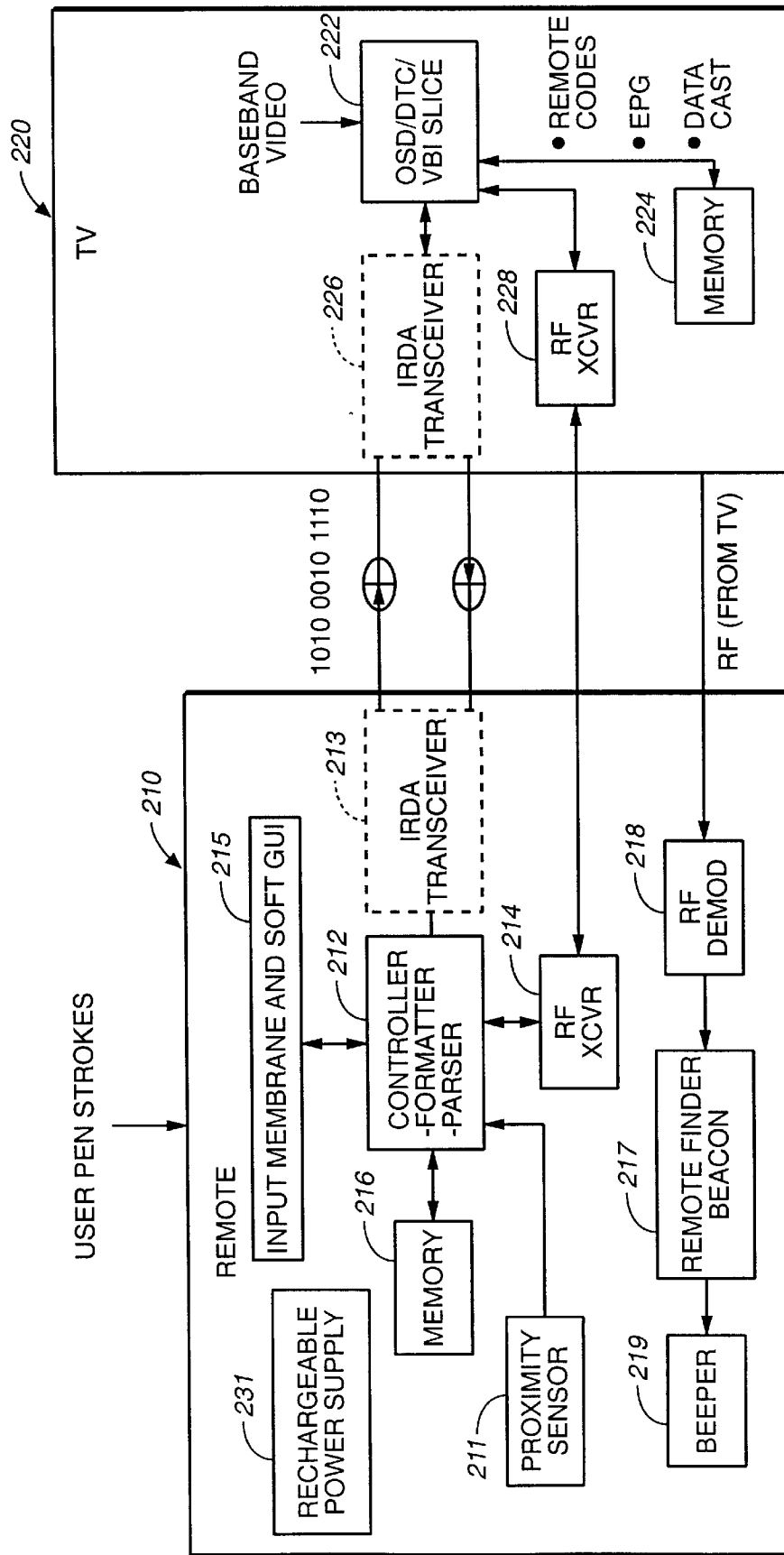


FIG.-2

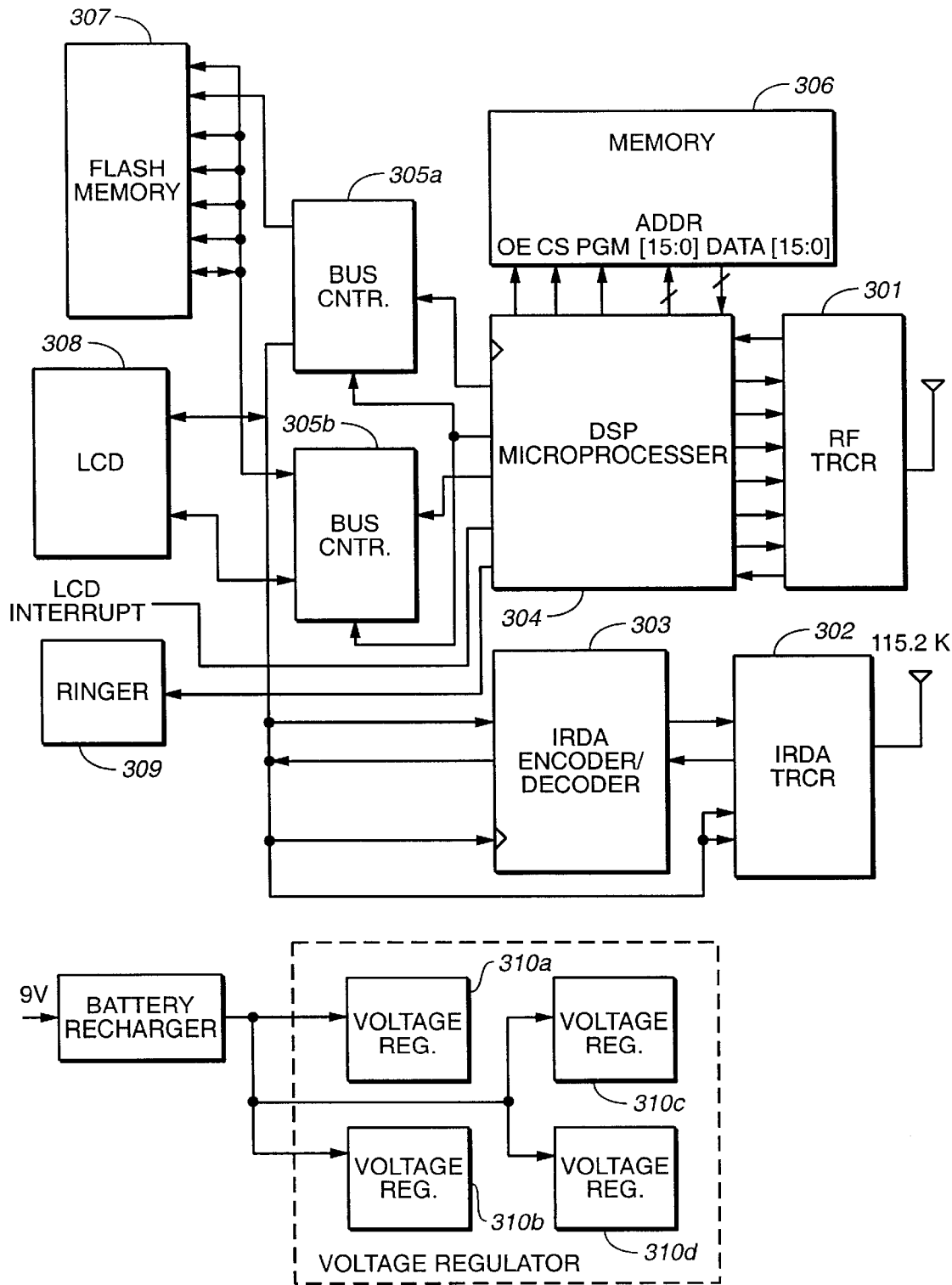


FIG. 3

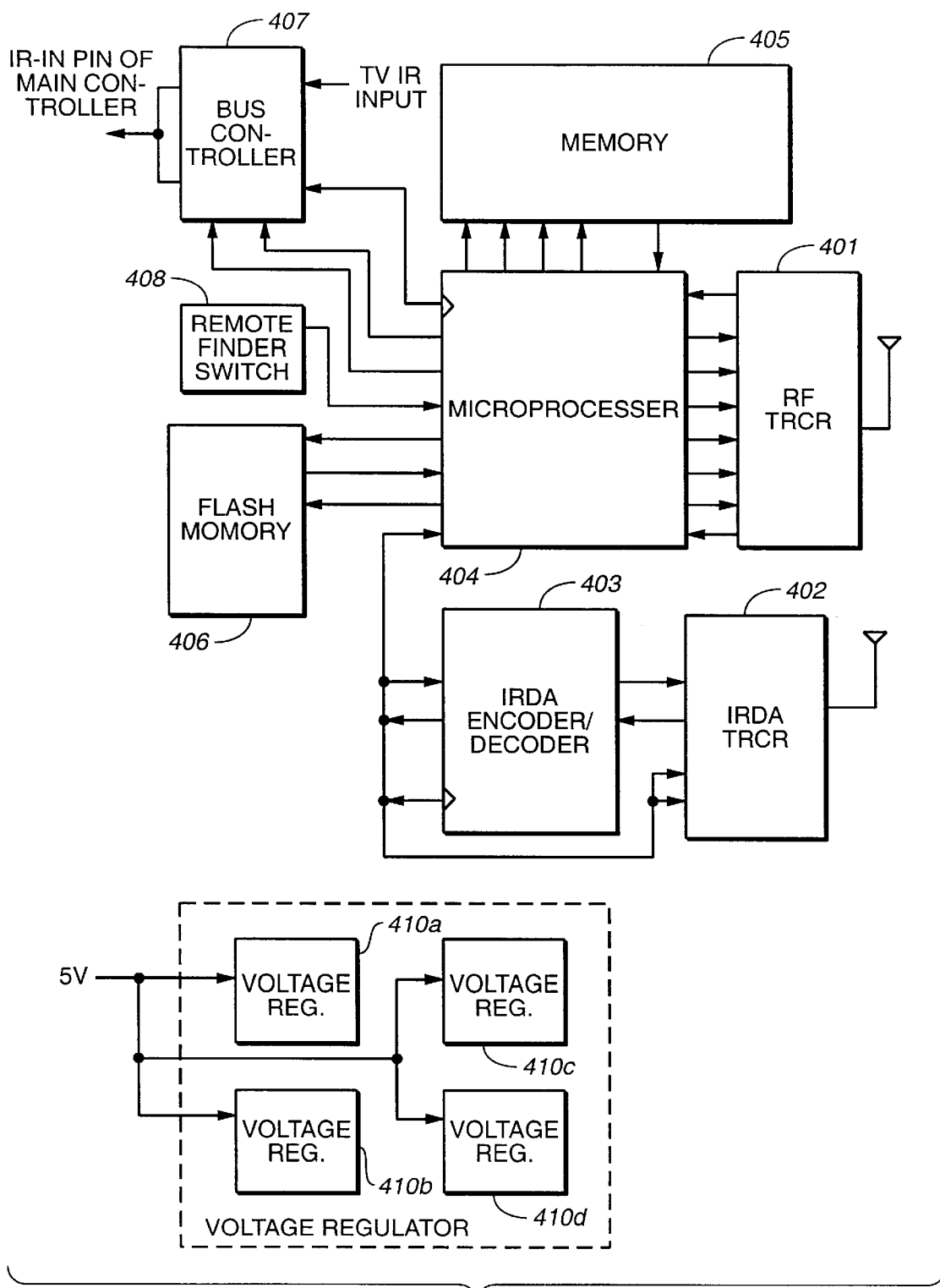


FIG. 4

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