

[54] **FRAME RESPONSE COMPENSATED, VIDEO RATE ADDRESSABLE LIQUID CRYSTAL PASSIVE MATRIX DISPLAY SYSTEM**

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[51] Int. Cl.⁶ **G02F 1/1347; G02F 1/137; G09G 3/36**

[52] U.S. Cl. **359/53; 359/55; 359/73; 359/103; 345/87**

[58] Field of Search **359/54, 53, 73, 359/103, 55, 93, 87, 85; 345/87, 94; 348/761, 766**

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 Assistant Examiner—Tai V. Duong

[57] **ABSTRACT**

A display system (10) uses an electrically driven compensator cell (16) not only to improve the color quality of the display system but also to solve viewability problems stemming from the frame response effect. The display system includes a liquid crystal cell (14) patterned as a matrix display device and the compensator cell patterned in a row-only fashion. Corresponding row electrodes (26, 32) of the matrix display cell and the compensator cell are concurrently driven from the same row driver circuit (40). The cells are constructed and oriented relative to each other so as to cancel unwanted polarization state changes resulting from the frame response effect. The resulting light transmission through the display system in the OFF optical state is substantially at a minimum at all times during a frame period.

10 Claims, 4 Drawing Sheets

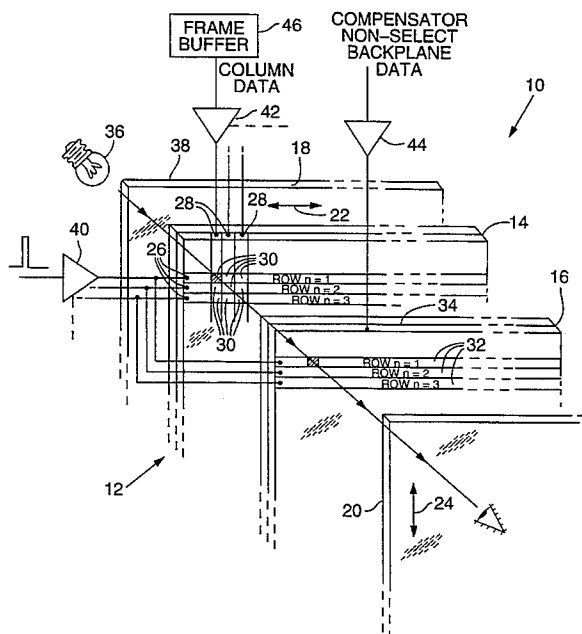
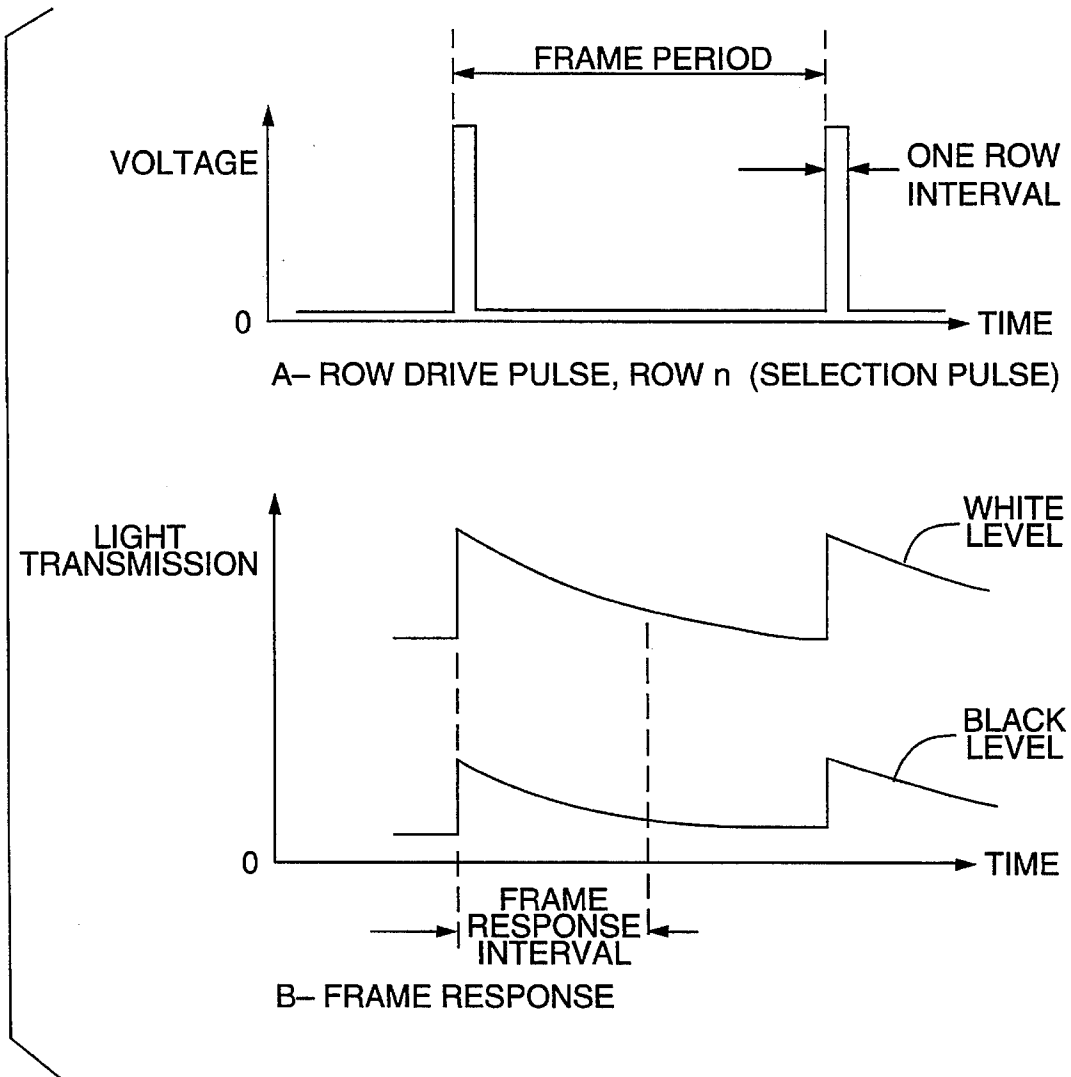


FIG. 1



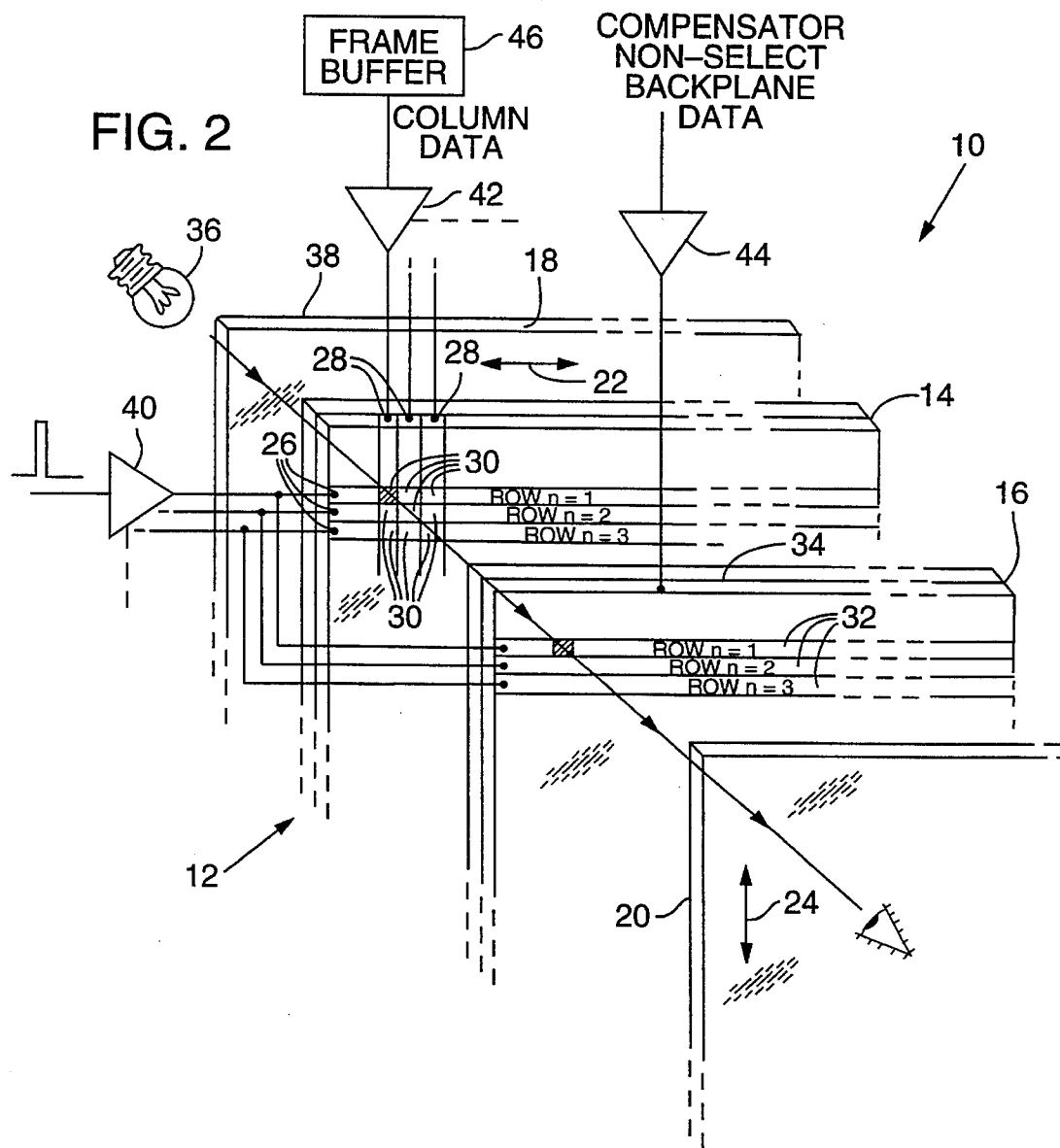


FIG. 3

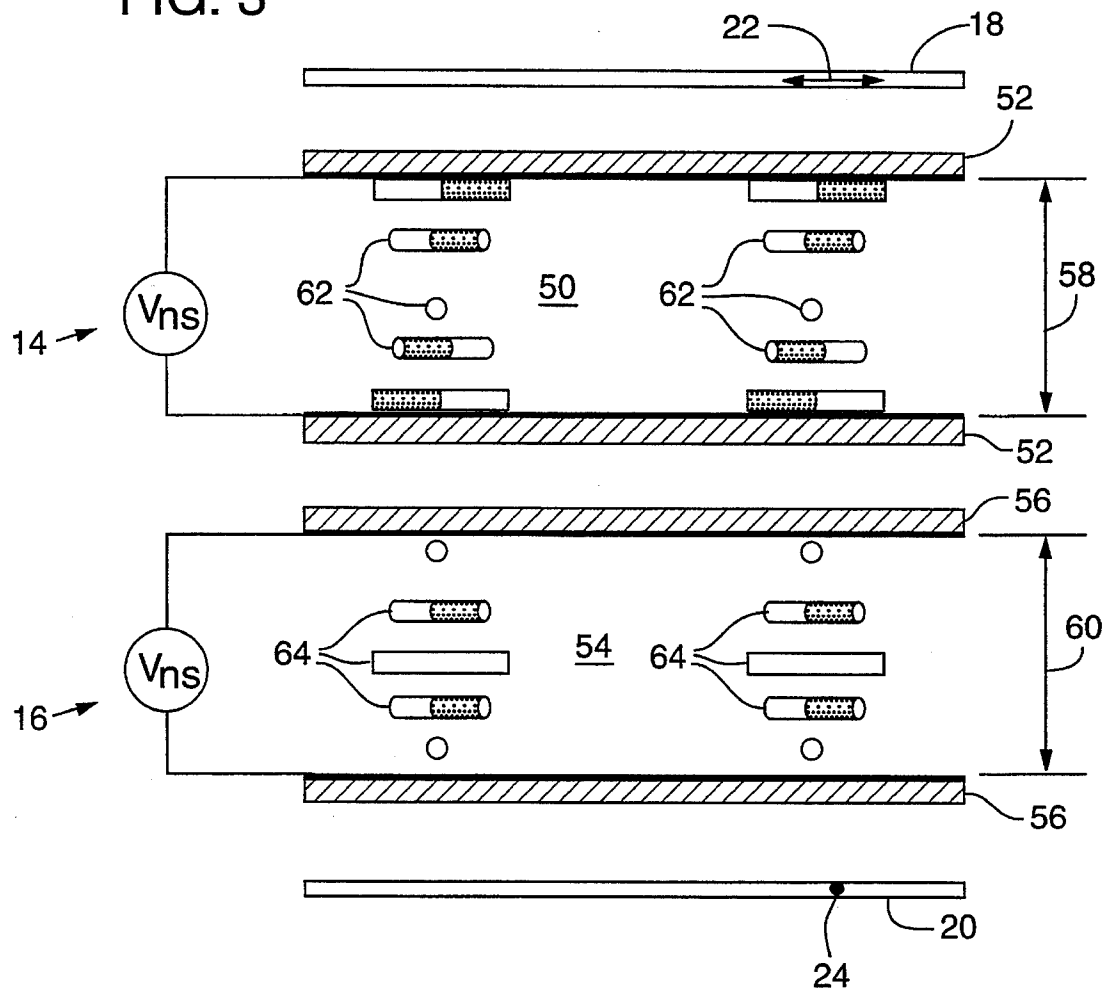
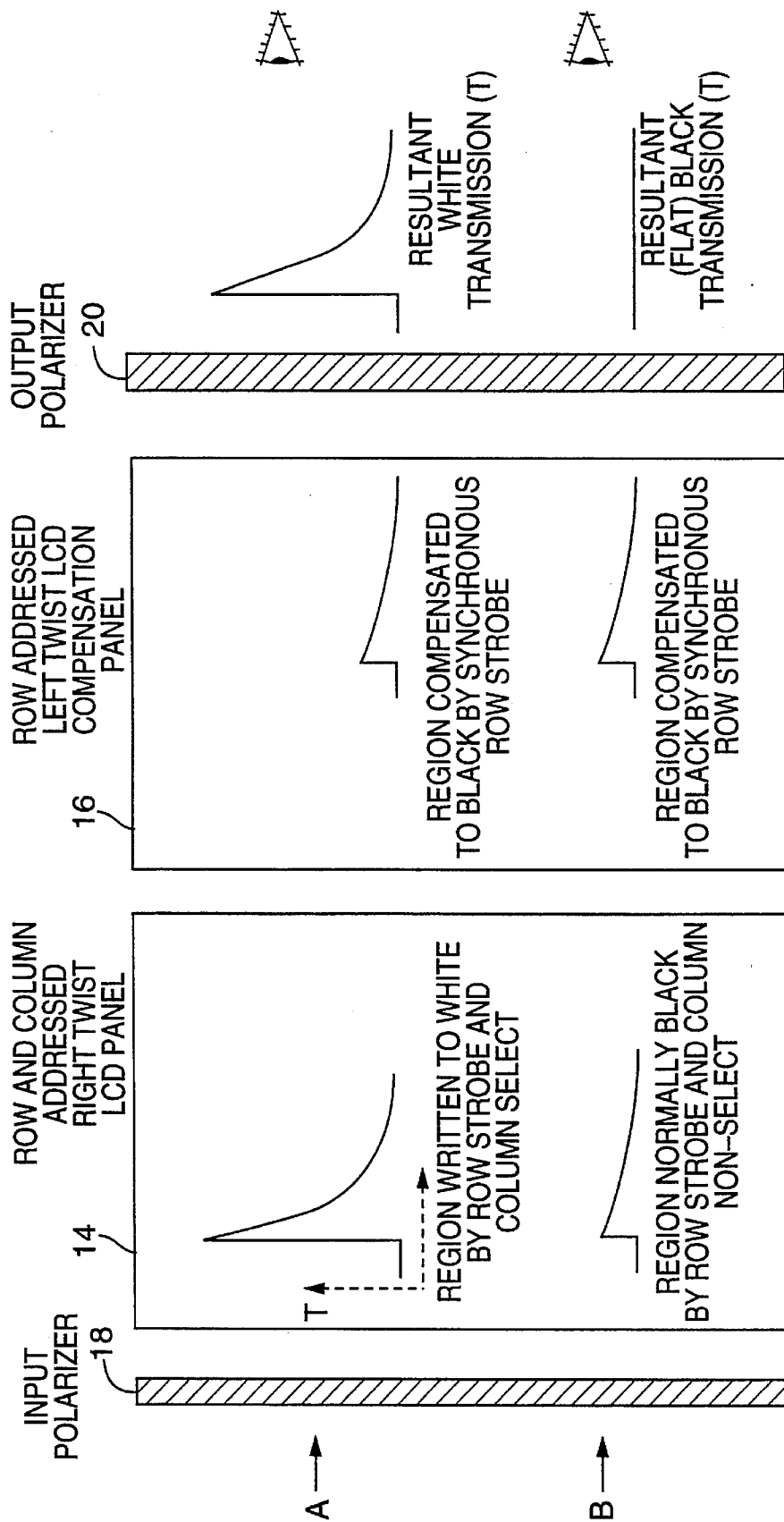


FIG. 4



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