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United States Patent [19]

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Lee

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- [54] **COLOR LCD SYSTEM OF PROJECTION TYPE**
- [75] Inventor: **Jongcheon Lee, Kyunggi, Rep. of Korea**
- [73] Assignee: **Samsung Electron Devices Co., Ltd., Kyunggi, Rep. of Korea**
- [21] Appl. No.: **981,861**
- [22] Filed: **Nov. 25, 1992**
- [30] **Foreign Application Priority Data**

Dec. 30, 1991 [KR] Rep. of Korea 91-25223

[51] Int. Cl.⁵ **G03B 21/00**

[52] U.S. Cl. **353/31; 353/84; 353/88**

[58] Field of Search **353/30, 31, 94, 88, 353/122, 89, 97; 359/66, 68, 69**

[56] **References Cited**

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[57] ABSTRACT

A projection color liquid crystal display (LCD) system uses a large reflecting liquid crystal (LC) panel as a screen. The system includes three unicolor light sources for emitting lights of the colors red, green and blue, respectively, the light sources being disposed remote from the screen; three light shutters for permitting the red, green, and blue light beams to successively and periodically pass to the screen; and three diffusing lenses for diffusing the respective beam which is passing to the screen. Each respective light shutter permits the passage of a corresponding light beam. The color driving signal corresponding to the light beam from the image controlling circuit is applied to the driver to drive the LC panel. As a result, the red, green and blue light beams are successively reflected from the reflection type LC panel according to the color driving signal. Since the reflecting frequency of successive three color light beams is under 1/30 of a sec and, a person who is looking at the front side of the screen recognizes successive three color light beams as the composite color screen.

10 Claims, 4 Drawing Sheets

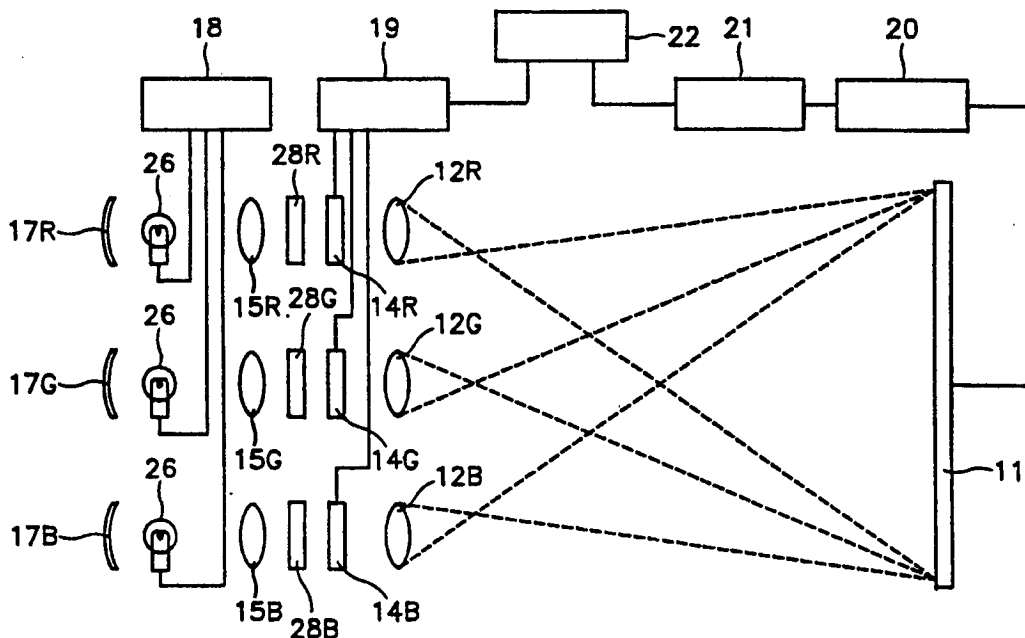


FIG. 1

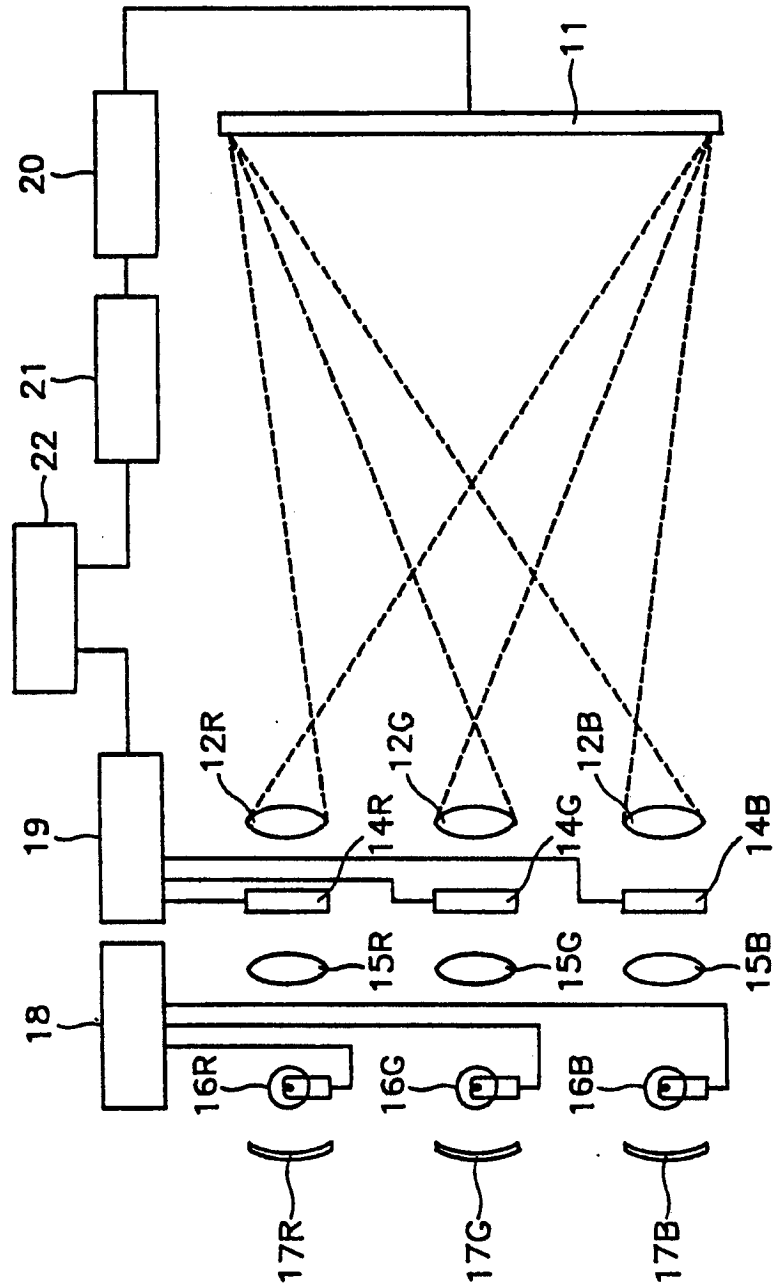


FIG. 2

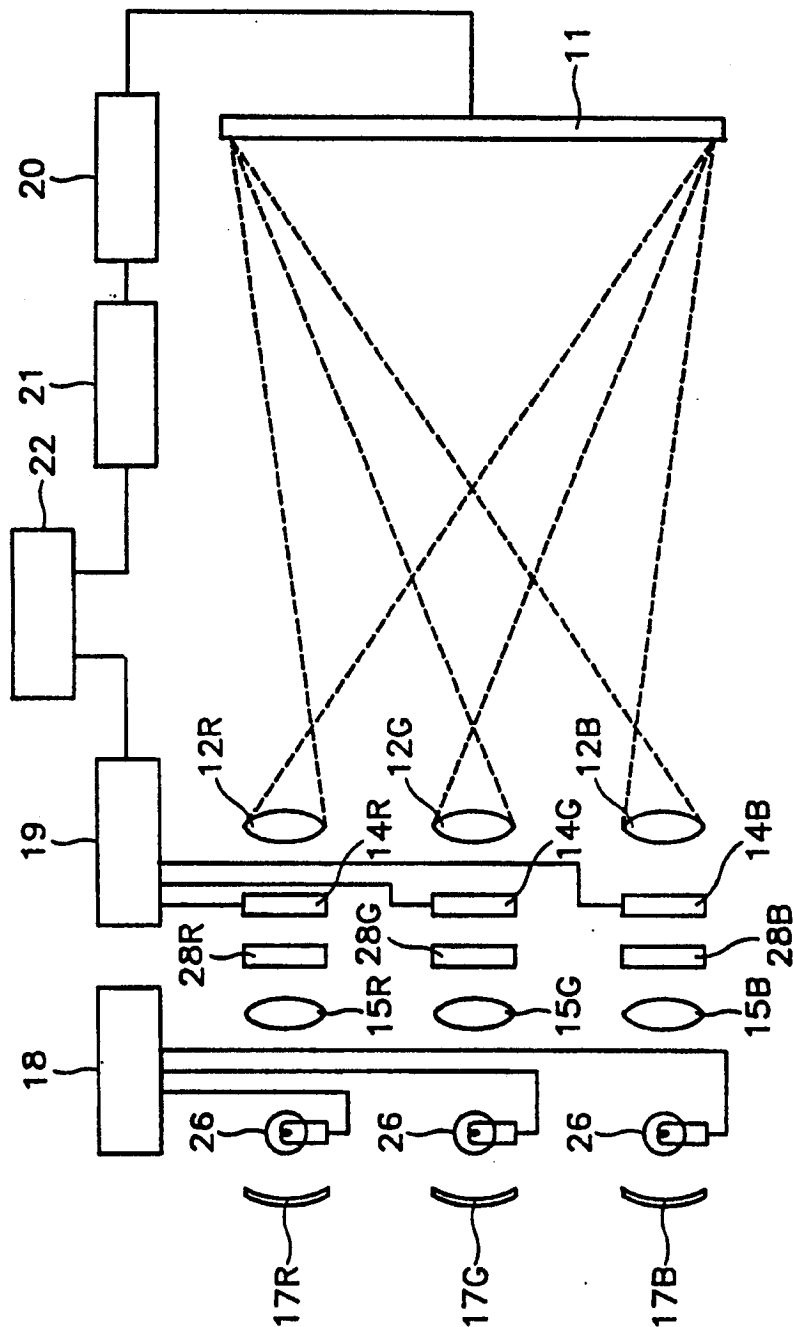


FIG. 3

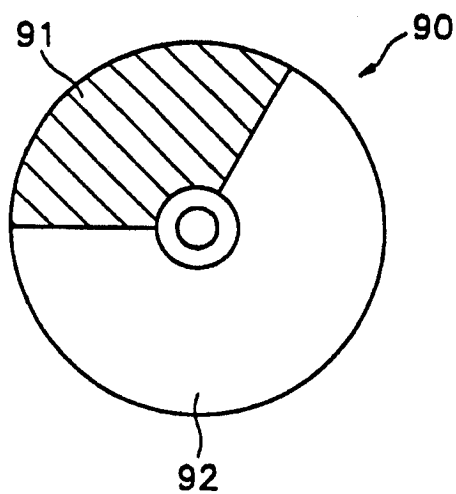
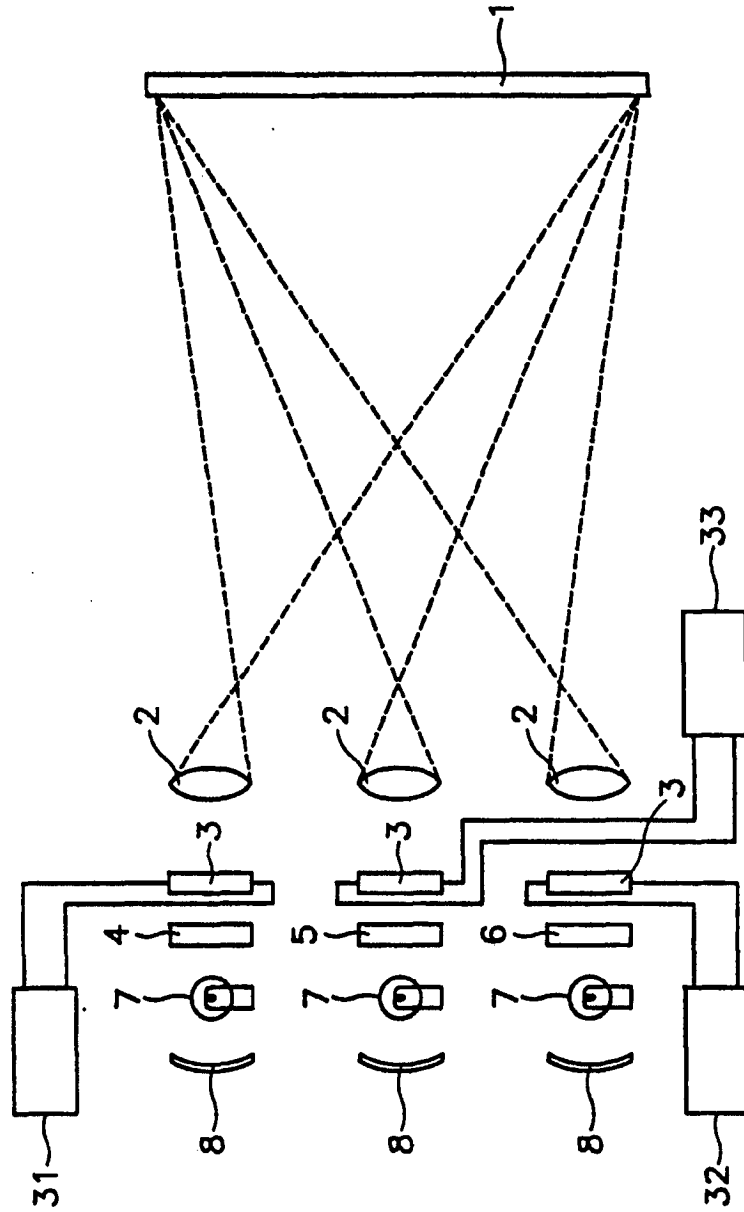


FIG. 4 (Prior Art)



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