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# United States Patent [19] Takanashi et al.

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[54] **SPATIAL LIGHT MODULATOR SYSTEM**

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[73] Assignee: **Victor Company of Japan, Ltd., Yokohama, Japan**

[21] Appl. No.: **980,121**

[22] Filed: **Nov. 23, 1992**

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*Primary Examiner*—Martin Lerner  
*Attorney, Agent, or Firm*—Michael N. Meller

**Related U.S. Application Data**

[63] Continuation of Ser. No. 681,938, Apr. 8, 1991, abandoned.

**Foreign Application Priority Data**

Apr. 9, 1990 [JP] Japan ..... 2-93524  
Jun. 19, 1990 [JP] Japan ..... 2-160797

[51] Int. Cl.<sup>5</sup> ..... G02F 1/03; G02F 1/1347; G02F 1/135; G03B 21/14

[52] U.S. Cl. .... 359/53; 359/72; 359/250; 359/256; 359/259

[58] Field of Search ..... 350/173, 342; 353/20, 353/31, 33, 34; 359/71, 72, 247, 634, 637, 638, 64, 53, 294, 250, 256, 259

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[57] **ABSTRACT**

There is provided an optical system for a spatial light modulator. The system comprises a light source for emitting an unpolarized light, a separator for separating a first linearly polarized light having a specified plane of polarization from the unpolarized light and polarizer for rotating the plane of polarization of the first linearly polarized light at a specified angle different from the specified angle to obtain a second linearly polarized light, wherein the second linearly polarized light is adopted as a reading light. Also provided is a method of photomodulation, comprising the steps of separating a light in the region of a specified wavelength from an unpolarized light, separating a first linearly polarized light having a specified plane of polarization from the light and obtaining a second linearly polarized light by rotating the plane of polarization of the first linearly polarized light at a specified angle.

**5 Claims, 12 Drawing Sheets**

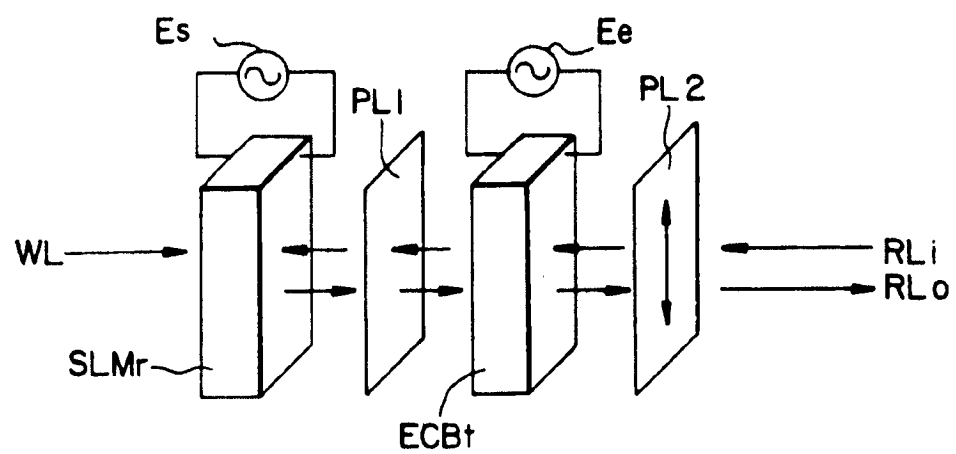


FIG. 1  
PRIOR ART

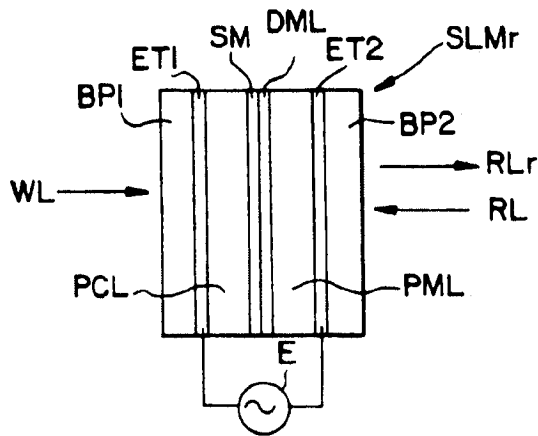


FIG. 2  
PRIOR ART

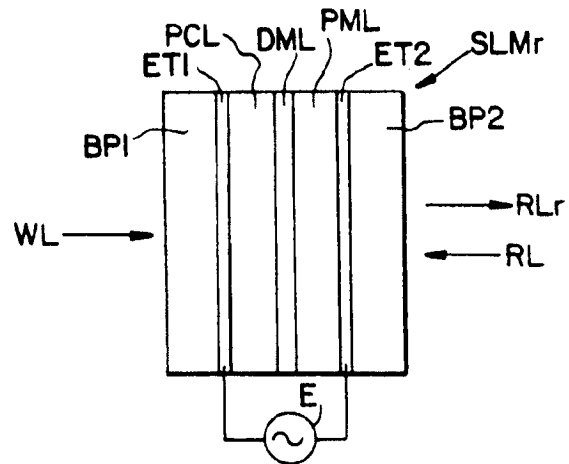


FIG. 3  
PRIOR ART

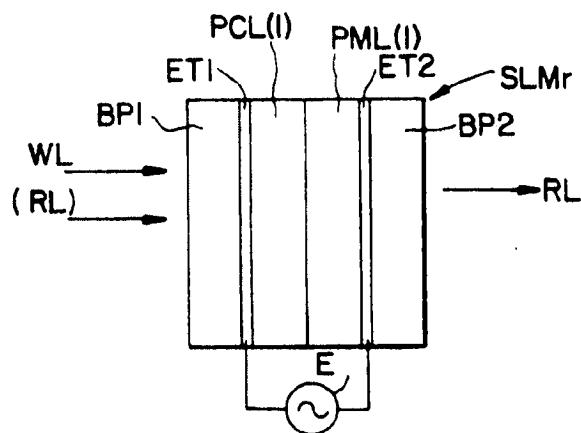


FIG. 4A

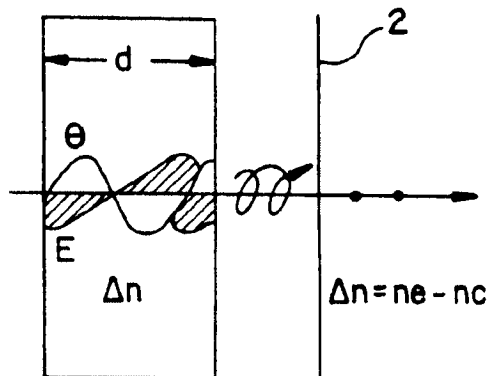


FIG. 4B

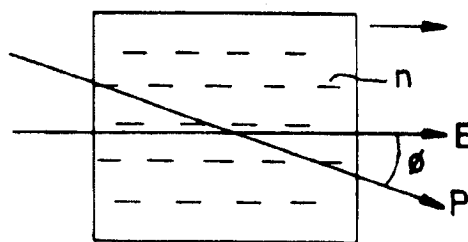
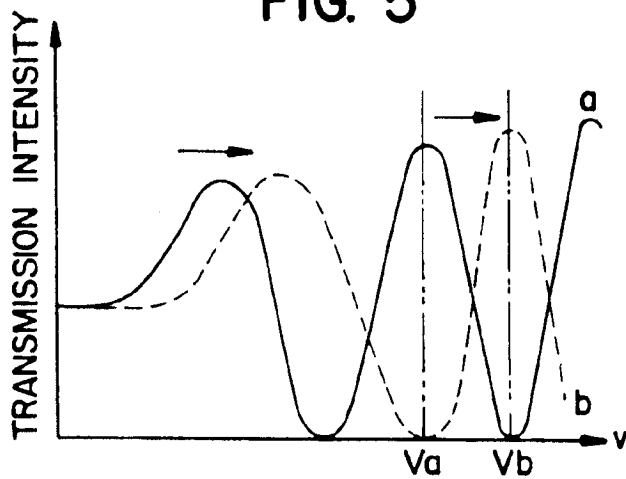


FIG. 5



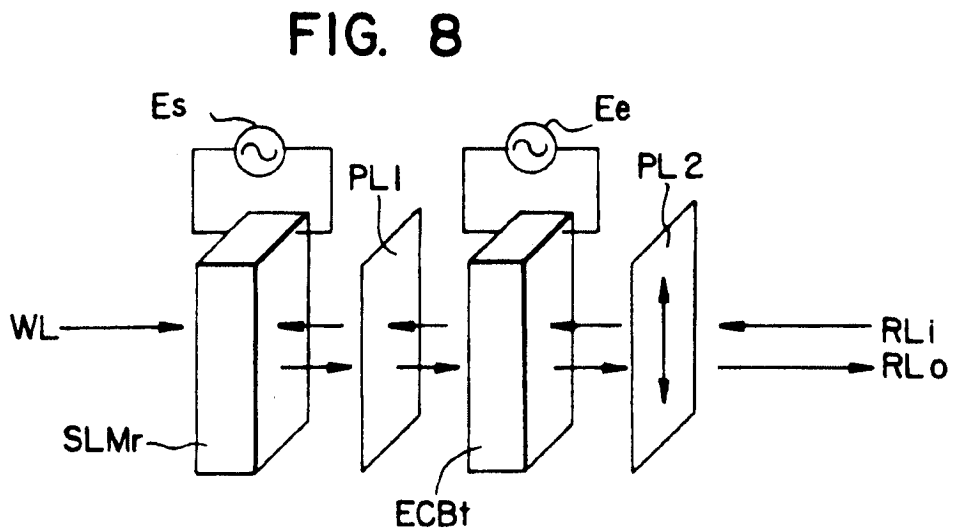
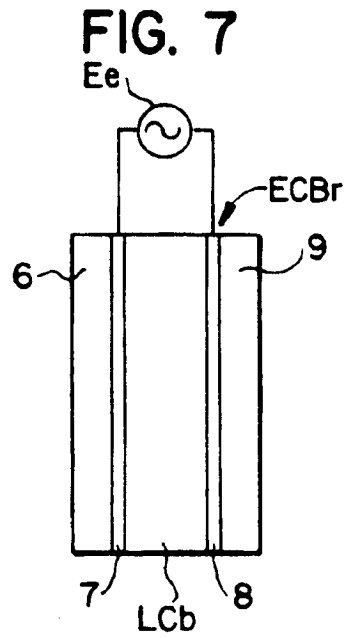
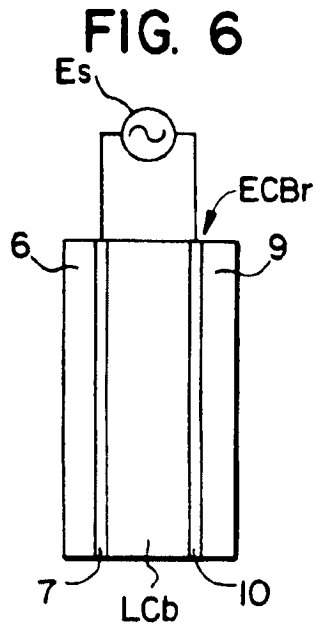


FIG. 9

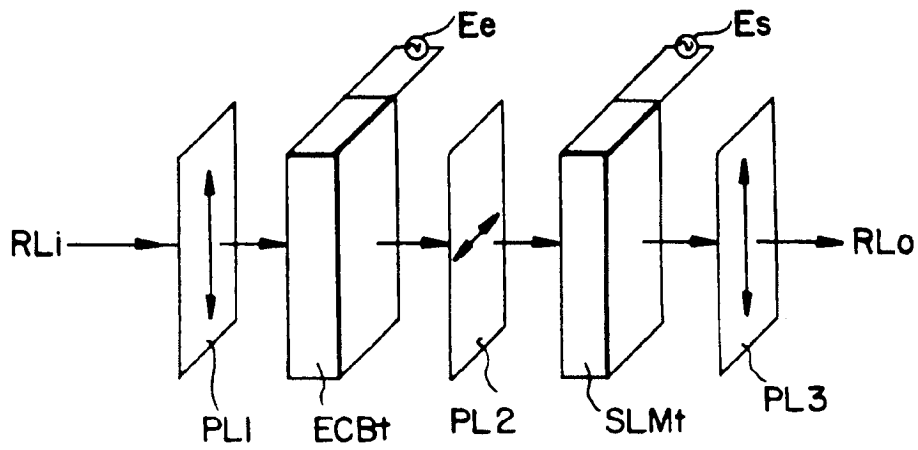
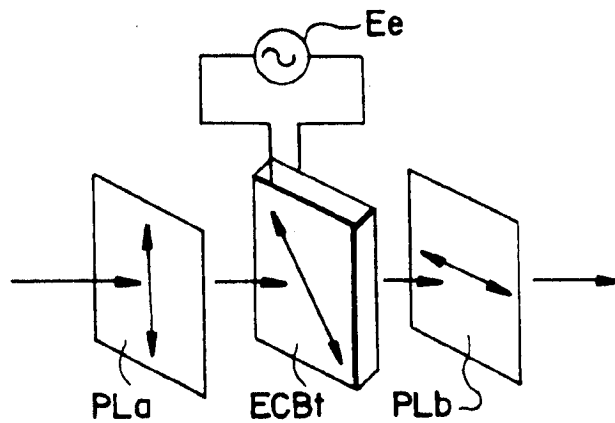


FIG. 10



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