the spatial intensity modulation and spectral filtering functions employed therein. In the second illustrative embodiment of this LCD panel construction shown in FIGS. **32**A**1** and **32**A**2**, linear polarization techniques are used to carry out the spatial intensity modulation and spectral filtering functions employed therein. In each such illustrative embodiment, modifications are made among the various components of the LCD panel shown in **FIG. 31**. Details regarding such modifications will be described hereinafter.

[**0396**] In **FIG. 31**, the subcomponent structure of the second generalized embodiment of the LCD panel hereof is shown in great clarity. As shown, the second generalized embodiment of the LCD panel **2** comprises: a backlighting structure **7** including a quasi-diffusive reflector **7**A, for producing a plane of broad-band light having a substantially uniform light intensity over the x and y coordinate axes thereof; a broad-band CLC-based polarizing reflective panel **8**; a light condensing film layer—applied to the broad-band polarizing reflective panel **8**; pixelated array **10** of pass-band polarizing reflective (filter) elements **10**A, **10**B, **10**C, for spectral filtering of light produced from the backlighting structure; a pixelated array **9** of polarization direction rotating elements **9**A, **9**B, **9**C for spatial intensity modulation of light produced from the pixelated array of pass-band polarizing reflective (filter) elements; a broad-band polarizing reflective panel **11** for cooperative operation with the pixelated array of polarization direction rotating elements **9** and the pixelated array of pass-band polarizing reflective (filter) elements **10**; and a polarization-preserving light diffusive film layer **420** applied to the broad-band reflective polarizing panel **11** to improve the angular viewing performance of the LCD panel assembly. In an alternative embodiment, a broad-band absorptive-type panel can be substituted for broad-band polarizing reflective panel **11** in order to reduce glare due to ambient light incident upon the LCD panel during operation.

[**0397**] In order to produce high-resolution color images, the spatial period of the pixelated arrays **9** and **10** is selected to be relatively small in relation to the overall length and height dimensions of the LCD panel. In a conventional manner, each pixel structure in the LCD panel is comprised of a red subpixel **13**A, a green subpixel **13**B and blue subpixel **13**C. As shown therein, each red subpixel structure **13**A comprises a red-band spectral filtering element **10**A which is spatially registered with a first polarization direction rotating element **9**A. Each green subpixel structure **13**B comprises a green-band spectral filtering element **10**B spatially registered with a second polarization direction rotating element **9**B. Each blue subpixel element **13**C comprises a blue-band spectral filtering element **10**C spatially registered with a third polarization direction rotating element **9**C. The output intensity (i.e. brightness or darkness level) of each red subpixel structure is controlled by applying pulse-width modulated voltage signal V_R to the electrodes of its electrically-controlled spatially intensity modulating element. The output intensity of each green subpixel structure is controlled by applying pulse-width modulated voltage signal V_G to the electrodes of its electrically-controlled spatially intensity modulating element. The output intensity of each blue subpixel structure is controlled by providing pulse-width modulated voltage signal V_B applied to the electrodes of its electrically-controlled spatially intensity modulating element. By simply controlling the width of the above-described voltages V_R, V_G, V_B, the grey-scale intensity (i.e. brightness) level of each subpixel structure can be controlled in a manner well known in the LCD panel art.

[**0398**] In FIGS. **31**A**1** through **31**F, a circularly polarizing embodiment of the system shown in **FIG. 31** is shown in detail, along with a schematic of its operation during the generation of bright and dark subpixel structures.

[**0399**] In FIGS. **32**A**1** through **32**F, a linearly polarizing embodiment of the system shown in **FIG. 31** is shown in detail, along with a schematic of its operation during the generation of bright and dark subpixel structures.

[**0400**] Modifications To The Four Basic LCD System Designs To Reduce Glare From Ambient Light And Improve Image Contrast

[**0401**] As shown in **FIG. 33**, the LCD panel of FIGS. **10**A**1** and **10**A**2** is shown modified by mounting a first broad-band absorptive circular polarizer panel **8**A" to the front surface of broad-band circularly polarizing reflective panel **8**", and mounting a second broad-band absorptive circular polarizer panel **11**A" to the front surface of broad-band circularly polarizing reflective panel **11**". The polarization state of broad-band absorptive circular polarizer panel **8**A" is LHCP in order to match the LHCP polarization state of broad-band circularly polarizing reflective panel **8**". Such polarization matching ensures that spectral energy which is not reflected from the broad-band polarizing reflective panel **8**", but is transmitted (i.e. leaked) therethrough due to a suboptimal extinction ratio, is absorbed by the broad-band absorptive circular polarizer panel **8**A" through energy dissipation. Similarly, the polarization state of broad-band absorptive circular polarizer panel **11**A" is RHCP in order to match the RHCP polarization state of broad-band polarizing reflective panel **11**". Such polarization matching ensures that spectral energy which is not reflected from the broad-band polarizing reflective panel **11**", but is transmitted (i.e. leaked) therethrough due to a suboptimal extinction ratio, is absorbed by the broad-band absorptive circular polarizer panel **11**A" through energy dissipation. Preferably, these absorptive circularly polarizing filter panels **8**A" and **11**A" are laminated directly onto broad-band circularly polarizing reflective panels **8**" and **11**", respectively. The use of broad-band absorptive circular polarizers **8**A" and **11**A" substantially improves the contrast of images formed by the LCD panel, without reducing the light transmission efficiency along the light projection axis of the LCD panel. Such broad-band absorptive polarizers can be realized using dichroic polarizing material well known in the art.

[**0402**] As shown in **FIG. 34**, the LCD panel of FIGS. **9**A**1** and **9**A**2** is shown modified by mounting a first broad-band absorptive linear polarizer **8**A' to the front surface of broad-band linearly polarizing reflective panel **8**', and mounting a second broad-band absorptive linear polarizer panel **11**A' to the front surface of broad-band linearly polarizing reflective panel **11**'. The polarization state of broad-band absorptive linear polarizer panel **8**A' is LP**1** in order to match the LP**1** polarization state of broad-band linearly polarizing reflective panel **8**'. Such polarization matching ensures that spectral energy which is not reflected from the broad-band linearly polarizing reflective panel **8**', but is transmitted (i.e. leaked) therethrough due to a suboptimal extinction ratio, is absorbed by the broad-band absorptive linear polarizer panel **8**A' through energy dissipation. Similarly, the polarization state of broad-band absorptive linear polarizer panel **11**A' is