

“red” pass-band, a “green” subpixel region having a “green” pass-band, and a “blue” subpixel region having a “blue” pass-band.

87. The image display panel of claim 86, wherein said plurality of subpixel regions within each said spatially-encompassing pixel region comprise a “red” subpixel region having a “red” pass-band, a “green” subpixel region having a “green” pass-band, and a “blue” subpixel region having a “blue” pass-band.

88. The image display panel of claim 87, wherein said “red” pass-band transmits spectral components of light within said “red” pass-band and reflects substantially all spectral components of light within said “green” pass-band and said “blue” pass-band, wherein said “green” pass-band transmits spectral components of light within said “green” pass-band and reflects substantially all spectral components of light within said “red” pass-band and said “blue” pass-band, and wherein said “blue” pass-band transmits spectral components of light within said “blue” pass-band and reflects substantially all spectral components of light within said “red” pass-band and said “green” pass-band.

89. The image display panel of claim 86, wherein each said spectral filtering element is an optical element made from a material selected from the group consisting of liquid crystal material, holographic-type material, and interference-type material.

90. The image display panel of claim 86, wherein each said polarization modifying element is an optical element made from liquid crystal material.

91. The image display panel of claim 87, wherein said backlighting structure further comprises

a light guiding panel disposed between said broad-band reflector and said broad-band reflective polarizing filter for guiding said produced light over said predefined image display area.

92. The image display panel of claim 86, wherein said first polarization state is a first linear polarization state and said second polarization state is a second linear polarization state orthogonal to said first linear polarization state.

93. The image display panel of claim 86, wherein said first polarization state is a first circular polarization state and said second polarization state is a second circular polarization state orthogonal to said first circular polarization state.

94. The image display panel of claim 86, said broad-band polarizing reflector is a quasi-diffusive reflector.

95. The image display panel of claim 77, wherein, the spectral components of said polarized light producing said bright-type intensity level at each subpixel region within said spatially-encompassing pixel region in said spatial intensity modulation structure are transmitted through said broad-band polarizer, and

wherein, the spectral components of said polarized light not producing said bright-type intensity level are reflected off said broad-band polarizer and transmitted back towards said backlighting structure for reflection and/or polarization conversion and retransmission towards the other said subpixel regions within said spatially-encompassing pixel region.

96. A liquid crystal display (LCD) panel construction for producing color images for viewing by a viewer, said LCD panel construction comprising:

a plurality of pixel regions within a predefined image display area, wherein each said pixel region has a

plurality of subpixel regions and each said subpixel region within each said pixel region has a light transmission portion and a light blocking portion, and each said light transmission portion and said light blocking portion having a frontside disposed in the direction of said viewer and a backside in the direction of said illumination means;

illumination means for illuminating said plurality of pixel regions from the backside thereof so that a color image is formed from said plurality of pixel regions for viewing;

a pattern of broad-band reflector material, in spatial registration with the backside of said light blocking portions of said subpixel regions, for reflecting produced light at structures associated with said light blocking portions of the subpixels and thereby recycling produced light for use in illuminating said plurality of pixel regions; and

a pattern of broad-band absorption material, in spatial registration with the frontside of said light blocking portions of said subpixel regions, for absorbing ambient light incident upon structures associated with said light blocking portions of said subpixels and thereby reducing glare at the surface of the LCD panel due to ambient light incident thereon.

97. An image display panel employing the recycling of light from a plurality of light reflective elements therewithin so as to produce color images with enhanced brightness for viewing by a viewer, said image display panel comprising:

a backlighting structure including

a light source for producing light consisting of spectral components having wavelengths over a substantial portion of the visible band of said electromagnetic spectrum, and

a broad-band reflector for reflecting, within said backlighting structure, polarized light consisting of spectral components having wavelengths over a substantial portion of said visible band and, upon one or more reflections within said backlighting structure, converting the polarization state of said spectral components from a first polarization state (P1) to a second polarization state (P2) orthogonal to said first polarization state (P1), and from said second polarization state (P2) to said first polarization state (P1);

a plurality of pixel regions spatially encompassed within a predefined image display area definable relative to said backlighting structure, wherein each said pixel region spatially encompasses a plurality of subpixel regions and each said subpixel region within each said spatially-encompassing pixel region has a predefined spectral band over the visible band of the electromagnetic spectrum,

each said subpixel region within each said pixel region having a light transmission portion and a light blocking portion, and each said light transmission portion and said light blocking portion having a frontside disposed in the direction of said viewer and a backside in the direction of said backlighting structure;

a broad-band reflective polarizer for reflecting light consisting substantially of spectral components hav-