<table>
<thead>
<tr>
<th>LIQUID CRYSTAL SYSTEM</th>
<th>PARTICULAR EXCITATION OF LIQUID CRYSTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid crystal for recording or imaging on photosensitive medium</td>
<td>...With particular dielectric mirror for spatial light modulator (i.e., SLM)</td>
</tr>
<tr>
<td>...Printer or print bar</td>
<td>...Electron beam excitation</td>
</tr>
<tr>
<td>...Exposure device for lithography</td>
<td>...Plasma excitation</td>
</tr>
<tr>
<td>Projector including liquid crystal cell(s)</td>
<td>...Electrical excitation of liquid crystal (i.e., particular voltage pulses, AC vs. DC, threshold voltages, etc.)</td>
</tr>
<tr>
<td>...Overhead projector</td>
<td>...With application of holding or bias voltage (i.e., voltage which does not change the optical state of the liquid crystal)</td>
</tr>
<tr>
<td>...Video/motion picture projector</td>
<td>...For driving Grandjean to focal conic or dynamic scattering type liquid crystal</td>
</tr>
<tr>
<td>Plural light path projectors</td>
<td>...Including diverse driving frequencies</td>
</tr>
<tr>
<td>...Having light separated into S and P polarization</td>
<td>...Polarity based driving</td>
</tr>
<tr>
<td>...Wherein liquid crystal cells include microencapsulated or polymer dispersed liquid crystal</td>
<td>...With supplemental capacitor</td>
</tr>
<tr>
<td>...Heads-up display</td>
<td>...In active matrix with separate dedicated capacitor line</td>
</tr>
<tr>
<td>...Liquid crystal writing tablet</td>
<td>...With antistatic elements</td>
</tr>
<tr>
<td>...Liquid crystal eyewear (glasses, goggles, etc.)</td>
<td>...With particular switching device</td>
</tr>
<tr>
<td>...For protection</td>
<td>...Transistor</td>
</tr>
<tr>
<td>Stereoscopic</td>
<td>.....Structure of transistor</td>
</tr>
<tr>
<td>...Liquid crystal window</td>
<td>......With light block conductively connected to transistor</td>
</tr>
<tr>
<td>Computational system employing liquid crystal element (neural network, correlation device, optical computer)</td>
<td>......Transferred transistor</td>
</tr>
<tr>
<td>Variable or rotatable retarder used with other retarders to produce filtering effects (Solc, Lyot, Partial)</td>
<td>......With particular gate electrode structure</td>
</tr>
<tr>
<td>Thermal excitation</td>
<td>......With gate electrode between liquid crystal and semiconductor layer</td>
</tr>
<tr>
<td>...By heating electrode</td>
<td>....Plural nonredundant transistors per pixel</td>
</tr>
<tr>
<td>...By light beam heating (e.g., IR, laser, etc.)</td>
<td>...Two terminal nonlinear switching device (e.g., N-I-N, S-I-S, Ferroelectric, etc.)</td>
</tr>
<tr>
<td>Magnetic or pressure excitation</td>
<td>....Diode</td>
</tr>
<tr>
<td>Optical excitation</td>
<td>....Metal-insulator-metal (i.e., MIM)</td>
</tr>
<tr>
<td>...With photoconductive layer (e.g., spatial light modulator (SLMs))</td>
<td>.....With particular insulating layer</td>
</tr>
<tr>
<td>...Of an alloy of S, Se, or Te</td>
<td>....Varistor</td>
</tr>
<tr>
<td>...With silicon photoconductive layer</td>
<td>.....Matrix including additional element(s) which correct or compensate for electrical fault</td>
</tr>
<tr>
<td>...With silicon photodiode, N-I-N photoconductor structure, or P-I-P photoconductor structure</td>
<td>.....Laser links</td>
</tr>
<tr>
<td>...With particular light blocking layer for separating read and write lights</td>
<td>PARTICULAR STRUCTURE</td>
</tr>
</tbody>
</table>
57. Lens or prism separate from projection system (i.e., it is not integral part of illumination system)
58. Holder, support, frame, or housing
59. Including electromagnetic shielding
60. Including resilient support member
61. Particular illumination
62. With integral optical element for guiding or distributing light from the light source
63. ...Specifically for guiding light in a front-lit device
64. ...Diffuser between light source and liquid crystal
65. ...Edge lit type light guide behind liquid crystal
66. ...Louvres
67. ...Reflector having particular shape behind light source
68. ...With plural diverse light sources (e.g., for day and night)
69. ...Electroluminescent light source
70. ...Fluorescent light source
71. ...Formed of planar phosphor or fluorescent layer separate from illumination source
72. Detector of liquid crystal temperature
73. ...Interconnection of plural cells in parallel (e.g., edge to edge)
74. ...Interconnection of plural cells in series
75. ...For compensation of birefringence effects
76. ...Of twisted (or chiral) nematic or supertwisted nematic liquid crystal
77. ...With particular cooperation between cells (e.g., alternating selection or simultaneous selection of cells)
78. ...Cell cooperation providing multicolor display
79. ...With color formed by different dye in each cell
80. ...With color formed by different color polarizer or color filter associated with each cell
81. ...With cells being substantially identical and driven simultaneously, providing improved contrast
82. ...With projection of electrodes in one cell substantially nonoverlapping that of another cell (i.e., for improving resolution)
83. ...With each cell displaying a different pattern
84. Having significant detail of cell structure only
85. Producing a greyscale effect
86. Microencapsulated or polymer dispersed liquid crystal
87. ...For variable polarizer
88. ...Polymer network liquid crystal
89. ...With particular encapsulating medium
90. ...With second material between liquid crystal and encapsulating medium
91. ...With nonpolymer encapsulating medium
92. ...Formed by particular technique
93. ...Having UV polymerized element
94. ...Formed with particular alignment technique
95. Microlenses
96. Polarizer
97. ...Color
98. Circular
99. ...With particular non-zero angle between polarization axis and orientation direction
100. ...For ferroelectric liquid crystal
101. ...For supertwisted nematic liquid crystal
102. ...With particular non-zero angle between polarization axis and compensator optical axis
103. ...With particular non-zero and non-90 angle between opposite polarization axes
104. Filter
105. ...Interference filter
106. ...Color filter
107 ....With different liquid crystal thickness for each color of filter
108 ....With plural colors for each display element (i.e., each pixel or segment)
109 ....With unequal areas for different colors or with fractional shift between one line of colors and the next
110 ....Opaque mask or black mask
111 ....Conductive mask
112 ...Diffuser (on viewer side of liquid crystal)
113 ...Reflector
114 ...Dielectric mirror (i.e., in devices excited other than by photoconductive layer) or transflector
115 ...Cholesteric reflector
116 ...Photoconductive element (i.e., not used for exciting)
117 ...Compensator or retarder (i.e., not using liquid crystal cell)
118 ...With refractive indices in the x, y, and z directions
119 ...Multiple compensators
120 ....Including at least one with negative intrinsic birefringence
121 ...With particular non-zero angle between compensator optical axis and orientation direction
122 ...Particular nonoptical film or layer (e.g., adhesive layer, barrier layer)
123 ...Alignment layer
124 ....Formed by particular technique (e.g., Langmuir Blodgett, stretching, etc.)
125 .....Having particular deposited structure (e.g., angled, plural layered) produced by vapor deposition
126 .....Having structure produced by rubbing under particular rubbing conditions (e.g., particular direction, rubbing force, by using named rubbing material or roller, etc.)
127 ....Formed of a liquid crystal material
128 ....With different alignments on opposite substrates
129 ....With plural alignments on the same substrate
130 ....For perpendicular alignment
131 .....Silanes
132 ....For parallel alignment
133 .....With chiral smectic liquid crystal (includes ferroelectric liquid crystal)
134 .....With particular pretilt angle from the alignment layer
135 .....With particular polymer composition of the alignment layer (e.g., fluorine-containing aliphatic polyamide)
136 .....With particular pretilt angle (i.e., with liquid crystal other than chiral smectic)
137 ...Antireflection layer
138 ...Insulating layer
139 ...Electrode or bus detail (i.e., excluding supplemental capacitor and transistor electrodes)
140 ...Formed of semiconductor material
141 ...Interdigitated (comb-shaped) electrodes
142 ...Segmented or fixed pattern
143 ...Matrix electrodes
144 .....Split pixels
145 .....Nonrectilinear rows and columns
146 .....Nonrectangular (odd) shaped pixels
147 .....Multilayer electrodes
148 .....Resistance reducing electrodes
149 .....Having connection detail to external circuit
150 .....Featuring flexible circuit (i.e., tape automated bonding (TAB), etc.)
151 .....With driving circuit having input and output electrodes on liquid crystal substrate
152 .....With detail of terminals to external circuit
153 ...Liquid crystal seal
154 .....With particular injection port or injection plug
155 ...Spacer
...Formed as walls (e.g., between pixels) or integral with substrate

...Plural types in single liquid crystal cell

...Substrate

...Fiberoptic faceplate

...With particular topology (i.e., other than for diffraction and spacers)

...Heating or cooling element other than for exciting

...Dual function layer or element

...Nonchiral additive in the liquid crystal material

...Fluorescent additive

...Pleochroic dye

...Nonspace particles significantly smaller than liquid crystal thickness (e.g., scattering centers, ferromagnetic particles, etc.)

WITH SPECIFIED NONCHEMICAL CHARACTERISTIC OF LIQUID CRYSTAL MATERIAL

. Utilizing change between diverse phases (e.g., cholesteric to nematic)

. Utilizing change within liquid crystal phase (e.g., Grandjean to focal conic, etc.)

. Utilizing reversal in sign of dielectric anisotropy

. Within smectic phase

. Within chiral smectic phase (includes ferroelectric)

...Greyscale resulting from liquid crystal property other than solely Smectic A

...Antiferroelectric

. Within cholesteric phase

. Using reflection characteristic

. Within nematic phase

. Negative dielectric anisotropy only

...Twisted (or chiral) nematic or supertwisted nematic

...Having particular parameter of twist

...Having particular birefringence or retardation

CELL CONTAINING LIQUID CRYSTAL OF SPECIFIC COMPOSITION

. Polymer liquid crystal

. In smectic phase

. In cholesteric phase

. In nematic phase

NOMINAL MANUFACTURING METHODS OR POST MANUFACTURING PROCESSING OF LIQUID CRYSTAL CELL

. Changing liquid crystal phase

. Injecting liquid crystal

. Sealing of liquid crystal

. Aligning liquid crystal with means other than alignment layer

. Defect correction or compensation

LIQUID CRYSTAL OPTICAL ELEMENT

. Passive liquid crystal polarizer

. Antidazzle mirror formed from liquid crystal cell

. Beam dividing switch formed from liquid crystal cell

...Including passive liquid crystal switch portion

. Liquid crystal etalon

. Liquid crystal sensors (e.g., voltmeters, pressure sensors, temperature sensors)

. Liquid crystal lenses other than for eyewear

. Liquid crystal diffraction element

...For beam steering

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

UTILIZING A LIQUID CRYSTAL MATERIAL (359/36)

FOR 100 . With particular illumination (359/48)
FOR 101 ..Having optical element (e.g.,
  curved reflector behind light
  source, etc.) (359/49)
FOR 102 ..Fluorescent light (e.g., FLAD
  type) (359/50)
FOR 103 ..Microencapsulated liquid crystal
  (359/51)
FOR 104 ..With particular encapsulating
  medium (359/52)
FOR 105 ..Plural contiguous cells (359/53)
FOR 106 ..Having electrodes arranged into
  rows and columns (359/54)
FOR 107 ..With liquid crystal electrode
  excitation (359/55)
FOR 108 ..For ferroelectric liquid
  crystal (359/56)
FOR 109 ..With particular switching
  device (359/57)
FOR 110 ..With particular switching
  device (359/58)
FOR 111 ..Transistor (359/59)
FOR 112 ..Diode (359/60)
FOR 113 ..Having particular nonelectrical
  detail of cell structure
  enclosing or adjacent liquid
  crystal material (359/62)
FOR 114 ..Polarizer (359/63)
FOR 115 ..Color (359/64)
FOR 116 ..Circular (359/65)
FOR 117 ..Diffuser (359/69)
FOR 118 ..Dielectric mirror or
  transflector (359/71)
FOR 119 ..Particular nonoptical film or
  layer (e.g., adhesive layer,
  barrier layer, etc.) (359/74)
FOR 120 ..Alignment layer (359/75)
FOR 121 ..Formed by particular
  technique (e.g., vapor
  deposition, rubbing, etc.)
  (359/76)
FOR 122 ..For perpendicular alignment
  (359/77)
FOR 123 ..For parallel alignment (359/
  78)
FOR 124 ..Substrate (359/82)
FOR 125 ..Holder, support, or frame (359/
  83)
FOR 126 ..With specified electrode
  excitation characteristic of
  liquid crystal material (359/
  84)
FOR 127 ..Provided by particular circuit
  (359/85)
FOR 128 ..With detector of liquid crystal
  temperature (359/86)

FOR 129 ..Electrode detail (359/87)
FOR 130 ..Reversal in sign of dielectric
  anisotropy (359/92)
FOR 131 ..Birefringers effect (359/93)
FOR 132 ..Variable index of refraction
  (359/94)
FOR 133 ..Variable diffraction (359/95)
FOR 134 ..Variable absorption of light due
  to an additive in the liquid
  crystal material (359/96)
FOR 135 ..Flurescent additive (359/97)
FOR 136 ..Pleochroic dye (359/98)
FOR 137 ..With specified nonchemical
  characteristic of liquid
  crystal material (359/99)
FOR 138 ..Within smectic phase (359/100)
FOR 139 ..Within cholesteric phase (359/
  101)
FOR 140 ..Within nematic phase (359/102)
FOR 141 ..Cell containing liquid crystal
  of specified composition (359/
  103)
FOR 142 ..In smectic phase (359/104)
FOR 143 ..In cholesteric phase (359/105)
FOR 144 ..In nematic phase (359/106)