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(71) Applicant (for all designated States except US): **ROLIC AG** [CH/CH]; Chamerstrasse 50, CH-6301 Zug (CH).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **FÜNFSCILLING, Jürg** [CH/CH]; Weiherhofstrasse 138, CH-4054 Basel (CH).

(74) Agent: **LIEBETANZ, Michael**; Isler & Pedrazzini AG, Gothardstrasse 53, Postfach 6940, CH-8023 Zürich (CH).

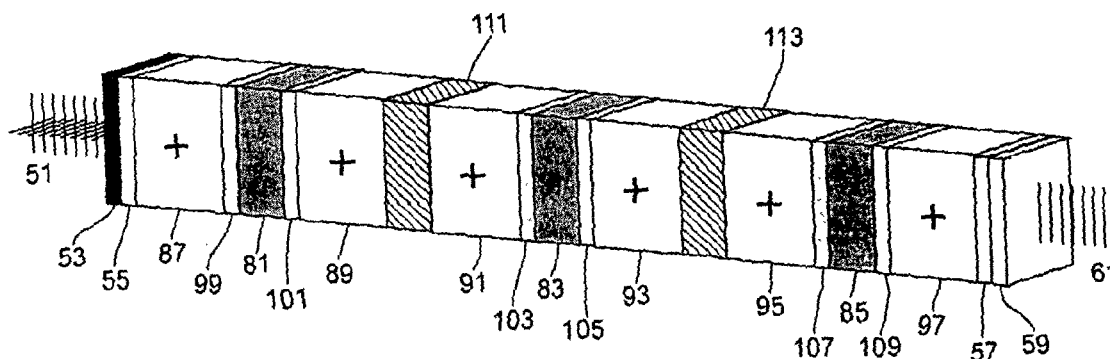
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(54) Title: SWITCHABLE COLOR FILTER



(57) Abstract: The liquid crystal switchable color filter switches between three color bands and is preferably used for time-sequential color devices, as for example projection devices, direct view displays and video cameras. The color filter employs circularly polarizing selective reflection bands of at least four cholesteric filters (89, 91, 93, 95) together with three liquid crystal switches (81, 83, 85) and related retarder layers. Between the first and the second as well as between the third and the fourth cholesteric filter an additional half-wave plate (111, 113) is provided, which makes it possible to use cholesteric filters having all the same handedness. Furthermore, for the blocking state of a color band the optic axis of the corresponding liquid crystal switch is parallel or perpendicular to the polarization direction. This concept simplifies production and still exhibits excellent properties for the color switch. Moreover, it advantageously allows overlapping color transmission bands thus improving the light efficiency.

WO 03/036375 A1