

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 August 2001 (09.08.2001)

PCT

(10) International Publication Number
WO 01/57587 A1

(51) International Patent Classification⁷: **G02F 1/1347**,
1/1335, 1/141, G02B 5/30, H04N 9/31

(21) International Application Number: PCT/CH01/00068

(22) International Filing Date: 30 January 2001 (30.01.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0002546.0 3 February 2000 (03.02.2000) GB
0011698.8 15 May 2000 (15.05.2000) GB

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

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FUENF-SCHILLING, Jürg** [CH/CH]; Weiherhofstrasse 149, CH-4054 Basel (CH). **SCHADT, Martin** [CH/CH]; Liestalerstrasse 77, CH-4411 Seltisberg (CH).

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

(81) Designated States (national): AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

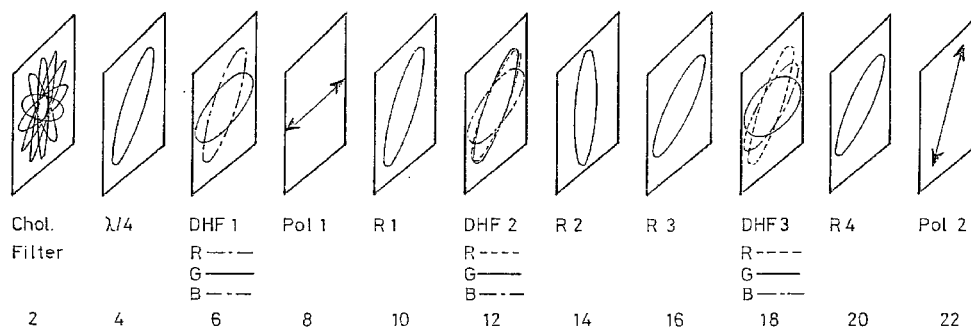
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COLOUR SWITCH



(57) Abstract: A colour switch for selectively switching between colour bands for use in projection optics and in direct view optics has fewer and thinner layers than in the prior art, but exhibits equal or better colour purity and light efficiency. The filter has a first filter section (2-8) for selectively blocking green light and including a cholesteric filter (2), a quarter wave plate (4) and a liquid crystal switch (6). The filter has a second filter section (10-22) for selectively blocking blue and/or red light including a stack of retarder elements (10, 14, 16, 20) and liquid crystal switches (12, 18), preferably DHF switches. The parameters of the filter are determined by an optimisation process including minimising a cost function G with respect to the parameters of the second filter section. Polarising element (8) may be positioned in front of the stack, and of a type which does not absorb radiation.



WO 01/57587 A1