



(51) International Patent Classification:
G02B 6/35 (2006.01) *G02B 26/08* (2006.01)

(21) International Application Number:
PCT/US2011/067132

(22) International Filing Date:
23 December 2011 (23.12.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/428,154 29 December 2010 (29.12.2010) US
13/012,712 24 January 2011 (24.01.2011) US

(71) Applicant (for all designated States except US): **ALCATEL LUCENT** [FR/FR]; 3, avenue Octave Gréard, F-75007 Paris (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DOERR, Christopher** [US/US]; 17 Johnson Terrace, Middletown, NJ 07748 (US). **WINZER, Peter** [AT/US]; 209 Cashel Drive, Aberdeen, NJ 07747 (US).

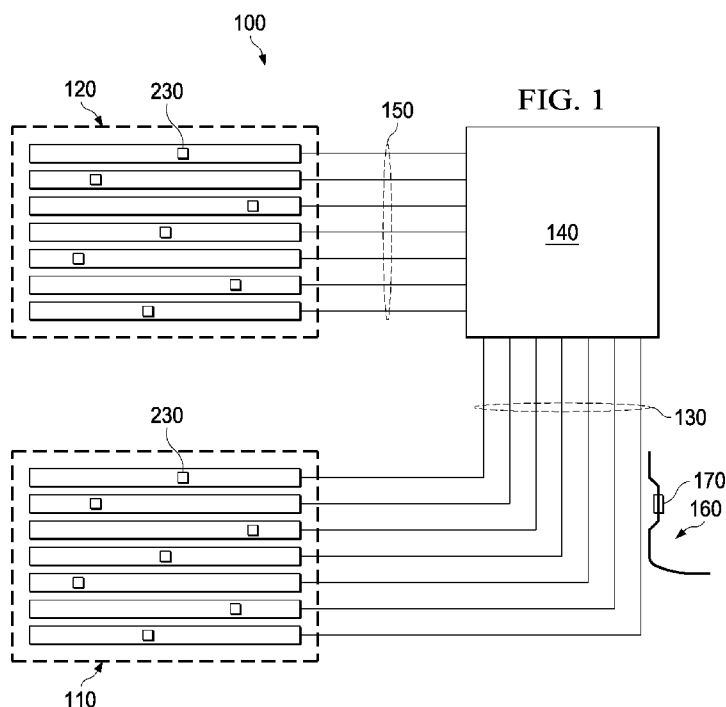
(74) Agent: **MC CABE, John, F.**; Alcatel-lucent USA Inc., Attention: Docket Administrator-room 3D-201, 600-700 Mountain Avenue, Murray Hill, NJ 07974-0636 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: CORE-SELECTIVE OPTICAL SWITCHES



(57) Abstract: An optical device includes a substrate with first and second arrays of optical couplers located along a planar surface thereof. The optical couplers of the first array are laterally arranged along the surface to end-couple in a one-to-one manner to corresponding optical cores of a first multi-core fiber whose end is facing and adjacent to the first array. The optical couplers of the second array of optical couplers are laterally arranged along the surface to end-couple in a one-to-one manner to corresponding optical fiber cores of one or more optical fiber ends facing and adjacent to the second array. An optical switch network is optically connected to selectively couple some of the optical couplers of the first array to the optical couplers of the second array in a one-to-one manner.



Published:

— with international search report (Art. 21(3))

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))