

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 March 2003 (27.03.2003)

PCT

(10) International Publication Number
WO 03/025663 A1

(51) International Patent Classification⁷: **G02F 1/31**,
1/225, 1/01

(21) International Application Number: PCT/US02/26184

(22) International Filing Date: 16 August 2002 (16.08.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/955,235 17 September 2001 (17.09.2001) US

(71) Applicant: **INTEL CORPORATION** [US/US]; 2200
Mission College Boulevard, Santa Clara, CA 95052 (US).

(72) Inventor: **BHOWMIK, Achintya**; 3353 Cortese Circle,
San Jose, CA 95127 (US).

(74) Agent: **MALLIE, Michael, J.**; Blakely Sokoloff Taylor &
Zafman, 7th Floor, 12400 Wilshire Boulevard, Los Ange-
les, CA 90025 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, 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, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN,
YU, ZA, ZM, ZW.

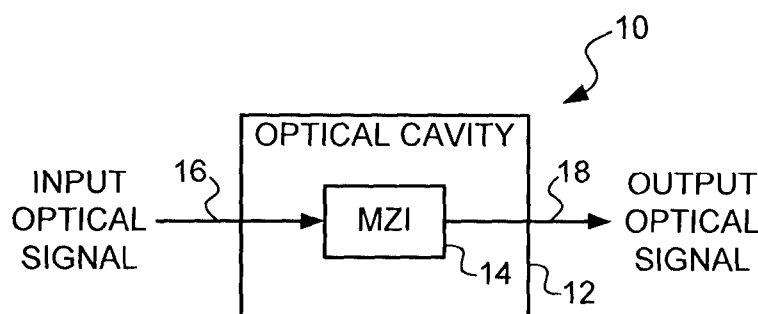
(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI,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

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

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

(54) Title: METHOD AND APPARATUS FOR SWITCHING AND MODULATING AN OPTICAL SIGNAL WITH ENHANCED SENSITIVITY



(57) Abstract: A switching device (10) includes an optical cavity and a phase modulator (14) disposed within the optical cavity. An optical signal is propagated into the cavity. The phase modulator can selectively introduce a phase shift between portions of the optical signals, which are then recombined and propagated out of the optical cavity. The optical cavity confines the optical signal to allow phase shifts to accumulate so that a relatively small drive power to the phase modulator can be used to achieve a relatively large phase shift.