# (19) World Intellectual Property Organization International Bureau





## (43) International Publication Date 27 December 2002 (27.12.2002)

### **PCT**

# (10) International Publication Number $WO\ 02/103408\ A3$

(51) International Patent Classification<sup>7</sup>: G02B 27/00

(21) International Application Number: PCT/US02/19168

(22) International Filing Date: 14 June 2002 (14.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/299,540 19 June 2001 (19.06.2001) US 10/165,686 6 June 2002 (06.06.2002) US

(71) Applicant (for all designated States except US): TER-ALUM LLC [US/US]; 200 Western Avenue, Brattleboro, VT 05301 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): JAIN, Ajaykumar, R. [IN/US]; 565 Matadero Avenue, Apt.#9, Palo Alto, CA 94306 (US).

(74) Agents: GALLENSON, Mavis, S. et al.; LADAS & PARRY, 5670 Wilshire Blvd., Suite 2100, Los Angeles, CA 90036 (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, US, UZ, VN, YU, ZA, ZM, ZW.

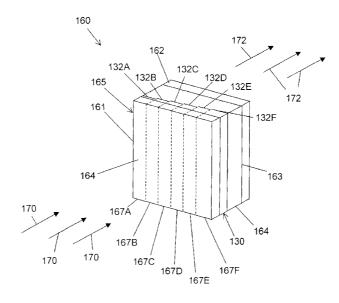
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,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

#### **Published:**

with international search report

[Continued on next page]

#### (54) Title: OPTICAL DEVICE FOR DISPERSION COMPENSATION



(57) Abstract: An optical device for receiving input light (170) and for acting on the input light to produce output light (172) includes a first reflector (165) and a second reflector (163) supported in a spaced-apart, confronting relationship with the first reflector such that the input light received by the optical device, at least potentially, undergoes multiple reflections between the first and second reflectors. At least a selected one of the first and second reflectors is configured to subject each one of the plurality of different portions of the input light to one of the plurality of different reflectance values to produce an emitted light passing through at least the selected reflector in a way which is combinable to generate the output light.



D 02/103408 A3

### WO 02/103408 A3



(88) Date of publication of the international search report: 3 April 2003

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.

### INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/19168

A. CLASSIFICATION OF SUBJECT MATTER  IPC(7) : G02B 27/00			
US CL : 359/578			
According to International Patent Classification (IPC) or to both national classification and IPC  B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols)			
U.S.: 359/578, 577, 260, 261; 372/92, 99; 356/454, 506			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) USPTO APS EAST			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where ap		Relevant to claim No.
X,P  Y,P	US 6,292,299 B1 (LIOU) 18 September 2001 (18.9 particularly Figures 1,3,4.	.2001), see enire document,	1-10,16,20,25-27,35- 37,40-41,43,45-46, 56-62,64,67,71,74- 76,84-87,89
			29-32,38-39,78-81
X,P US 6,323,987 B1 (RINAUDO et al) 27 November 2 document, particularly Figures 3A-3D,4,5A-5C.		2001 (27.11.2001), see entire	1-15,17-28,33-37,40- 66,68-77,82-89 
			29-32,38-39,78-81
X US 4,822,998 A (YOKOTA et al) 18 April 1989 (18 Y particularly Figure 1.		8.4.1989), see entire document,	1-15,17,20-28,33-37, 40-46,51,53-66,68,71- 77,82-89
			29-32,38-39,78-81
Further documents are listed in the continuation of Box C.		See patent family annex.	
* Special categories of cited documents:		"T" later document published after the inte date and not in conflict with the applic	rnational filing date or priority
"A" document defining the general state of the art which is not considered to be of particular relevance		principle or theory underlying the inve	ntion
"E" earlier app	plication or patent published on or after the international filing date	"X" document of particular relevance; the considered novel or cannot be consider when the document is taken alone	claimed invention cannot be red to involve an inventive step
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination	
"O" document	referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in the	
"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent family	
		Date of mailing of the platicipal search report	
27 August 2002 (27.08.2002)  Name and mailing address of the ISA/US		Authorized officer	
Commissioner of Patents and Trademarks Box PCT		LAVARIAS ARNEL	
Washington, D.C. 20231			
Facsimile No. (703) 305-3230		Telephone No. (703) 308-1782	Reme thistory

Form PCT/ISA/210 (second sheet) (July 1998)