

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 December 2002 (19.12.2002)

PCT

(10) International Publication Number
WO 02/101645 A3

(51) International Patent Classification⁷: G09G 5/00, G03B 41/00, 17/48, 19/00, 29/00

(21) International Application Number: PCT/US02/18321

(22) International Filing Date: 10 June 2002 (10.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/297,081 8 June 2001 (08.06.2001) US

(71) Applicant: UNIVERSITY OF SOUTHERN CALIFORNIA [US/US]; Office of Technology Licensing, 3716 South Hope Street, Suite 313, Los Angeles, CA 90007-4344 (US).

(72) Inventors: DEBEVEC, Paul, E.; 4105 Pacific Avenue #3, Marina del Rey, CA 90292 (US). WAESE, Jamie; 960-D 19th Street, Santa Monica, CA 90403 (US).

(74) Agents: BROWN, Marc, E. et al.; McDermott, Will & Emery, 2049 Century Park East, Suite 3400, Los Angeles, CA 90067 (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.

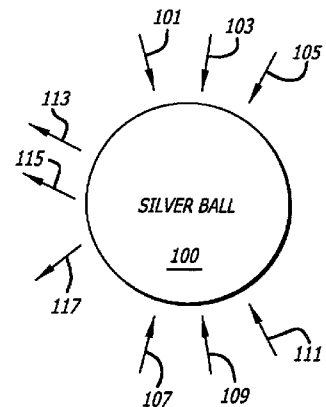
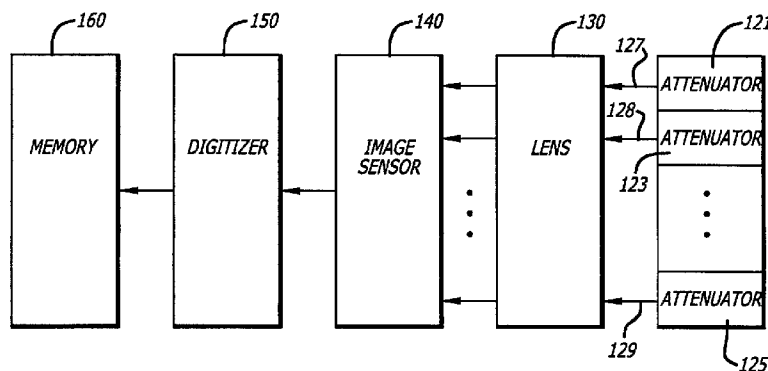
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,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

Published: — with international search report

(88) Date of publication of the international search report: 27 March 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.

(54) Title: REAL TIME HIGH DYNAMIC RANGE LIGHT PROBE



(57) Abstract: A real time high dynamic range light probe. One embodiment advantageously includes a curved, reflective surface for creating a reflected image of the desired image; a plurality of image attenuators, each positioned to receive the reflected image and to create an attenuated image of the reflected image at an attenuation level that is different from the attenuation level of the other images; and an image capturing apparatus positioned to receive and simultaneously capture all of the attenuated images.



WO 02/101645 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/18321

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G09G 5/00; G03B 41/00, 17/48, 19/00, 29/00
 US CL : 345/629; 396/322, 429

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. : 345/629

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/0110376 A1 (MACLEAN et al) 15 August 2002, All	1-22

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 international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"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 being obvious to a person skilled in the art
"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)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 05 September 2002 (05.09.2002)	Date of mailing of the international search report 19 DEC 2002
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer Michael Razavi Telephone No. (703)30610377