

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 May 2006 (18.05.2006)

PCT

(10) International Publication Number
WO 2006/051544 A3

(51) International Patent Classification:
H04N 3/08 (2006.01)

(21) International Application Number:
PCT/IL2005/001194

(22) International Filing Date:
14 November 2005 (14.11.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
165212 15 November 2004 (15.11.2004) IL

(71) Applicant (for all designated States except US): **ELOP ELECTROOPTICAL INDUSTRIES LTD.** [IL/IL]; P.O. Box 1165, 76110 Rechovot (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WEISS, Yizhar** [IL/IL]; 13 Elyakum Street, 75260 Rishon-LeZion (IL). **VELGER, Mordechai** [IL/IL]; 22 Shin-Ben-Zion Street, 76465 Rehovot (IL). **NATAN-KNAZ, Sivan** [IL/IL]; 6/5 Avshalom Street, 75285 Rishon-LeZion (IL). **ERLICH, Raviv** [IL/IL]; 24 Sapir Street, 76227 Rehovot (IL). **SROMIN, Alexander** [IL/IL]; 12 Malachy HaNavie Street, 77476 Ashdod (IL).

(74) Agent: **G.E. EHRLICH (1995) LTD.**; 11 Menachem Begin Street, 52 521 Ramat Gan (IL).

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

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (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

(88) Date of publication of the international search report:
27 July 2006

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: METHOD AND DEVICE FOR SCANNING LIGHT

12
scanning along a first axis in a discrete manner

14
scanning along a second axis in a continuous and periodic manner

(57) Abstract: A method of scanning a light beam is disclosed. The method comprises scanning the light beam along a first axis and scanning the light beam along a second axis, such that a functional dependence of the scanning along the first axis is substantially a step-wave, and a functional dependence of the scanning along the second axis is other than a step-wave.

WO 2006/051544 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/IL2005/001194A. CLASSIFICATION OF SUBJECT MATTER
INV. H04N3/08

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)
H04N G02B

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 practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 140 979 A (GERHARD ET AL) 31 October 2000 (2000-10-31) column 7, line 9 - line 26 column 9, line 8 - line 15 column 7, lines 1-3 -----	1-26, 45-54, 107-127
X	US 4 003 626 A (REINKE ET AL) 18 January 1977 (1977-01-18) column 4, line 36 - line 51 column 5, line 9 - line 22 column 6, line 12 - line 19 -----	1-26, 45-54, 107-127
A	US 2004/207744 A1 (BOCK GERHARD) 21 October 2004 (2004-10-21) paragraph [0017]; figure 2 -----	1, 12, 45, 107

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"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)

"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

"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

"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

"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.

"&" document member of the same patent family

Date of the actual completion of the international search

7 March 2006

Date of mailing of the international search report

06. 06. 2006

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Bequet, T

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL2005/001194

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-54, 107-145

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-54, 107-145

Distortion prevention in a 2D scanning

2. claims: 55-80

Reduction of the inertia of a mirror

3. claims: 81-106

Moving mirror depending on its environment

4. claims: 146-165

Mirror manufacturing method

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IL2005/001194

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6140979	A	31-10-2000	WO 0133281 A1	10-05-2001
US 4003626	A	18-01-1977	NONE	
US 2004207744	A1	21-10-2004	CN 1550099 A	24-11-2004
			WO 03028363 A1	03-04-2003
			EP 1421779 A1	26-05-2004
			JP 2005504487 T	10-02-2005