

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 June 2008 (12.06.2008)

PCT

(10) International Publication Number
WO 2008/068718 A3

(51) International Patent Classification:
H04N 9/73 (2006.01)

AE Eindhoven (NL). **HOOGENSTRAATEN, Willem, F., J.** [NL/NL]; c/o High Tech Campus Building 44, NL-5656 AE Eindhoven (NL).

(21) International Application Number:
PCT/IB2007/054925

(74) Agents: **GROENENDAAL, Antonius, W., M.** et al.; c/o High Tech Campus Building 44, NL-5656 AE Eindhoven (NL).

(22) International Filing Date:
5 December 2007 (05.12.2007)

(25) Filing Language: English

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:
06125637.6 7 December 2006 (07.12.2006) EP

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KRIJN, Marcellinus, P., C., M.** [NL/NL]; c/o High Tech Campus Building 44, NL-5656 AE Eindhoven (NL). **SALTERS, Bart, A.** [NL/NL]; c/o High Tech Campus Building 44, NL-5656

(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,

[Continued on next page]

(54) Title: AN AMBIENT LIGHTING SYSTEM FOR A DISPLAY DEVICE

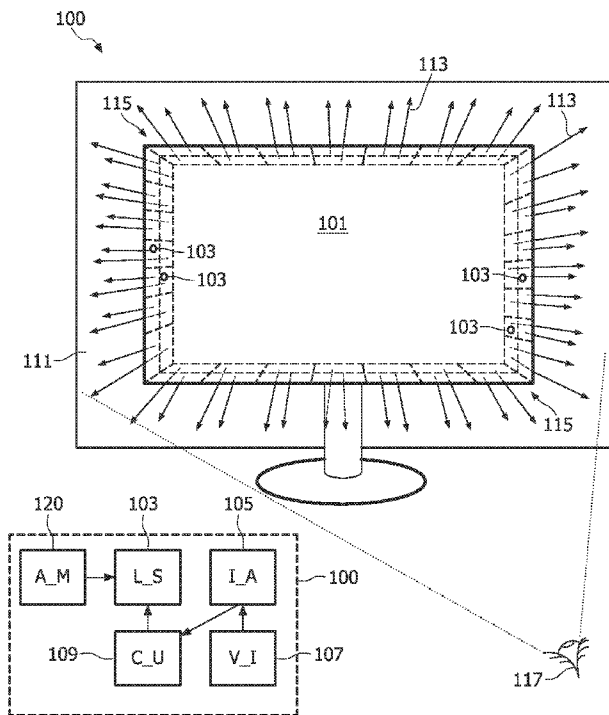


FIG. 1

(57) Abstract: This invention relates to an ambient lighting system for a display device including an image display region. Controllable light sources that are substantial point-like and disposed in an array are provided, each being adapted to emit a light beam of at least one wavelength onto a region visually appearing to the viewer peripherally surrounding the display. An image analyzer determines the color information from video data of the displayed image, the color information being used as a control parameter for controlling the emission color of the emitted light beams. Due to the substantial point-like property of the light sources along with their arrangement within the array the emitted light beams onto the region forms a pixelated image so as to provide at least a partial extension of the image display region.

WO 2008/068718 A3



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, MT, 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*

Declaration under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

(88) Date of publication of the international search report:
31 December 2008

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2007/054925

A. CLASSIFICATION OF SUBJECT MATTER INV. H04N9/73		
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 H05B 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		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2006/003624 A (KONINKL PHILIPS ELECTRONICS NV [NL]; PHILIPS CORP [US]; GUTTA SRINIVAS) 12 January 2006 (2006-01-12)	1-4, 17, 18
Y	page 20, line 18 - line 28 -----	5-8, 14
X	WO 2006/059263 A (KONINKL PHILIPS ELECTRONICS NV [NL]; OVERES THEODORUS F E M [NL]) 8 June 2006 (2006-06-08)	1-4, 15-18
Y	page 10, line 23 - page 11, line 16 ----- US 2006/227302 A1 (HARBERS GERARD [US] ET AL) 12 October 2006 (2006-10-12) paragraph [0033] - paragraph [0035] paragraph [0047] ----- -/--	5-8
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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. *8* document member of the same patent family		
Date of the actual completion of the international search 8 May 2008		Date of mailing of the international search report 06/11/2008
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Lim, Johan

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2007/054925

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2005/076602 A (KONINKL PHILIPS ELECTRONICS NV [NL]; OVERES THEODORUS F E M [NL]; VERH) 18 August 2005 (2005-08-18) page 3, line 27 - page 4, line 11 -----	14
X	WO 2005/062608 A (KONINKL PHILIPS ELECTRONICS NV [NL]; SMITS EMMANUEL [NL]; AARTS RONALD) 7 July 2005 (2005-07-07) page 3, line 1 - line 16 page 17, line 30 - line 33 page 15, line 24 - line 34 page 16, line 32 - page 17, line 20 -----	1-4, 12, 17, 18
X	DE 20 2005 008776 U1 (MERLAKU KASTRIOT [DE]) 20 October 2005 (2005-10-20) paragraphs [0016], [0019] -----	1-4, 17
P,X	WO 2007/072340 A (KONINKL PHILIPS ELECTRONICS NV [NL]; PHILIPS CORP [US]; SALTERS BART A) 28 June 2007 (2007-06-28) page 2, line 3 - line 16 page 8, line 18 - line 30 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2007/054925

Box No. 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 No. 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 allsearchable claims.

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

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.:

1-10, 14-18

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- 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: 1-10, 14-18

Means for collecting, collimating and shaping illumination.

2. claim: 11

Light sources mounted on a a heat conducting printed circuit board

3. claims: 12,13

means for adjusting the angle position of light sources

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2007/054925

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006003624 A	12-01-2006	EP 1763974 A1 JP 2008505384 T	21-03-2007 21-02-2008
WO 2006059263 A	08-06-2006	CN 101069454 A JP 2008522210 T KR 20070086826 A	07-11-2007 26-06-2008 27-08-2007
US 2006227302 A1	12-10-2006	WO 2006109232 A2 JP 2006332042 A US 2008030984 A1	19-10-2006 07-12-2006 07-02-2008
WO 2005076602 A	18-08-2005	CN 1902915 A JP 2007520744 T KR 20060123439 A	24-01-2007 26-07-2007 01-12-2006
WO 2005062608 A	07-07-2005	CN 1894961 A EP 1551178 A1 JP 2007535215 T	10-01-2007 06-07-2005 29-11-2007
DE 202005008776 U1	20-10-2005	NONE	
WO 2007072340 A	28-06-2007	EP 1966998 A2	10-09-2008