# (19) World Intellectual Property Organization International Bureau





## (43) International Publication Date 2 October 2003 (02.10.2003)

### **PCT**

# (10) International Publication Number WO 03/081769 A3

(51) International Patent Classification<sup>7</sup>: H01J 40/14

(21) International Application Number: PCT/US03/08069

(22) International Filing Date: 18 March 2003 (18.03.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/365,603 18 March 2002 (18.03.2002) US Not furnished 17 March 2003 (17.03.2003) US

- (71) Applicant (for all designated States except US): XANOP-TIX, INC. [US/US]; 10 Al Paul Lane, Merrimack, NH 03054 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KIAMILEV, Fouad [US/US]; 12 Longacre Court, Hockessin, DE 19707 (US). WYMAN, Theodore, Ted, J. [US/US]; 37 Francestown TPK, Mont Vernon, NH 03057 (US).

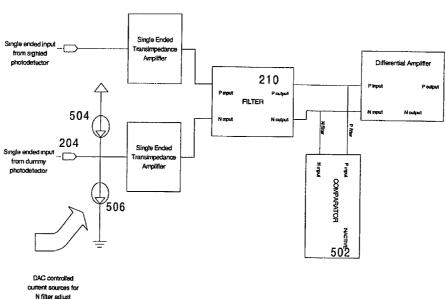
- (74) Agent: STRAUSSMAN, Richard; Morgan & Finnegan, L.L.P., 345 Park Avenue, New York, NY 10154 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, 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, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, 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

[Continued on next page]

#### (54) Title: ACTIVITY DETECTOR CIRCUIT



(57) **Abstract:** An activity detection system for use with an optoelectronic circuit has a pair of single- ended transimpedance amplifiers, each having an input and an output, where the input of one amplifier receives a signal from a photodetector and the input of the other amplifier receives a dummy signal (204) from a dummy photodetector, a filter (210) coupled to the outputs of the amplifiers, a differential amplifier coupled to the filter outputs, and a comparator (502) to determine if the photodetector signal is below a variable threshold established by the dummy signal, indicating that the photodetector signal is inactive.



WO 03/081769 A3

## WO 03/081769 A3



 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 "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

4 December 2003

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/08069

		PCT	/US03/08069
A. CLASSIFICATION OF SUBJECT MATTER			
IPC(7) : H01J 40/14			
US CL : 250/214R; 375/318			
According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Vinimum de um estation counted (classification gustom followed by classification gunted)			
Minimum documentation searched (classification system followed by classification symbols) U.S.: 250/214R; 340/511; 375/316-318			
U.S. : 250/214K; 540/511; 5/5/510-516			
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)			
Electronic data base consumed during the international scarci (name of data base and, where practicable, search terms used)			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where ap	propriate, of the relevant pa	ssages Relevant to claim No.
X	US 5,920,259 A (Shpater) 06 July 1999 (06.07.1999)		1-3
^	05 3,920,239 A (Supater) 00 July 1999 (00.07.199)	), 11g. 2.	1-3
37	US 5,084,696 A (Guscott et al) 28 January 1992 (28.01.1992), Fig. 1		1.2
X	US 5,084,096 A (Guscott et al) 28 January 1992 (28.01.1992), Fig. 1		1-3
	110 6 001 550 A (North 07 Inn 2000 (og oc 2000) D'		1 1 1
A	US 6,081,558 A (North) 27 June 2000 (27.06.2000), Fig. 5		1-3
			ľ
1			
Further	documents are listed in the continuation of Box C.	See patent family	annex.
* Special categories of cited documents: "T" later document publi		shed after the international filing date or priority	
			ict with the application but cited to understand the
"A" document defining the general state of the art which is not considered to be		principle or theory u	nderlying the invention
of particular relevance		"X" document of particul	ar relevance; the claimed invention cannot be
"E" earlier ap	plication or patent published on or after the international filing date	considered novel or	cannot be considered to involve an inventive step
when the document is taken alone  "L" document which may throw doubts on priority claim(s) or which is cited to			s taken alone
	the publication date of another citation or other special reason (as	"Y" document of particul	ar relevance; the claimed invention cannot be
specified)		considered to involve	e an inventive step when the document is
"O" document referring to an oral disclosure, use, exhibition or other means			or more other such documents, such combination erson skilled in the art
document reterring to an oral disclosure, use, exhibition of other means		being obvious to a pa	erson skined in the art
"P" documen	t published prior to the international filing date but later than the	"&" document member o	f the same patent family
priority d	late claimed		
Date of the actual completion of the international search		Date of mailing of the international search report	
		SA OCT 2002	
13 June 2003 (13.06.2003)			
The same same same same same same same sam		Authorized officer	
Mail Stop PCT, Attn: ISA/US			6 13 )_
Commissioner for Patents		David Porta Dia Smith	
P.C.	D. Box 1450 exandria, Virginia 22313-1450	Telephone No. (703)308-0	0956
	2010111, Virginia 22010 1100	-	