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(74) Agent: BELLIVEAU, Michael, J.; Clark & Elbing LLP,
101 Federal Street, Boston, MA 02110 (US).

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(71) Applicant (for all designated States except US): PRESIDENT AND FELLOWS OF HARVARD COLLEGE [US/US]; 17 Quincy Street, Cambridge, MA 02138 (US).

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(72) Inventors; and

(75) Inventors/Applicants (for US only): PEZARIS, John, S. [US/US]; 366 Broadway, Cambridge, MA 02139 (US). REID, R, Clay [US/US]; 8 Mellen Street, Cambridge, MA 02138 (US). ESKANDAR, Emad, N. [US/US]; 72 Little Nahant Road, Nahant, MA 01908 (US).

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(54) Title: A VISUAL PROSTHESIS METHODS OF CREATING VISUAL PERCEPTIONS

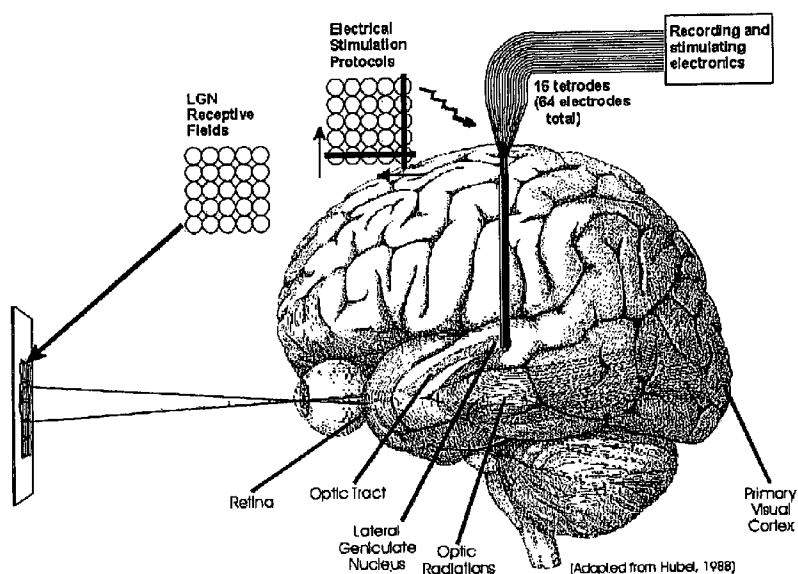


Fig. 10

(57) Abstract: A visual prosthesis and methods of allowing a subject to view visual information from an artificial source are provided. The visual prosthesis has one or more electrodes operative to deliver electrical signals to a lateral geniculate nucleus of a mammal, a power supply operative to provide power to the electrodes, a visual information translator operatively connected to the electrode array, and a visual sensor operatively connected to the visual information translator. The visual prosthesis is operative to translate visual information into an electrical signal and transmit the electrical signal to electrodes to stimulate brain activity to recognize visual information.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61N 1/36 (2008.04)

USPC - 607/54

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)

USPC: 607/54

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USPC: 607/2, 53, 141; 623/6.63, 4.1

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

WEST, PUBMED, CRISP, Google Scholar: (geniculate or lgn or thalamus) near10 electrode and visual near10 prosthesis and gaz\$4 and (teflon or parylene or formvar or silicone or oxide) near10 electrode and puls\$4 and (square or sinusoid\$4 or triang\$4) near5 wave\$4 and wireless and biologic\$4 near5 electrode and analog

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	'Biohybrid Retinal Implant: Research and Development Update in 2005' (YAGI et al.) Proceedings of the 2nd International IEEE EMBS Conference on Neural Engineering (March 16 - 19, 2005) p v, col 2, para 2; p vi, col 1, para 1-6; p vii, col 1, para 2-3 and col 2, para 2-4; p viii, col 1, para 1-2; Fig. 1-2	1-3, 5-11, 15-17, 19-26, 31-33, 36, 43-52, 58-60, 63 and 70-72
Y		4, 12-14, 18, 7-30, 34-35, 37-42, 53-57, 61-62, 64-69
Y	NIH Grant 1R01EY012815-01 (REID) 2000 (Abstract). [online] [retrieved on 2008-06-17]. Retrieved from: NIH CRISP Database.	4, 35 and 62
Y	'Temporal properties of retinal ganglion cell responses to local transretinal current stimuli in the frog retina' (LI et al.) Vision Research 45:263-273 (2005). p 265, col 1, para 1-2; p 266, col 2, para 2	12-14, 29-30, 42, 55-57 and 69
Y	US 2004/0236389 A1 (FINK et al.) 25 November 2004 (25.11.2004) para [0006], [0017]	18, 34, and 61
Y	US 2002/0010496 A1 (GREENBURG et al. 24 January 2002 (24.01.2002) para [0056] and [0146]	27-28 and 53-54
Y	US 2004/0030383 A1 (HAVEY et al.) 12 February 2004 (12.02.2004) para [0023]-[0029] and [0077]	37-39 and 64-66
Y	US 4,628,933 A (MICHELSON) 16 December 1986 (16.12.1986) col 2, ln 21-26	40-41 and 67-68

Further documents are listed in the continuation of Box C.

* 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
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"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 17 June 2008 (17.06.2008)	Date of mailing of the international search report 24 JUN 2008
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/0114886 A1 (GLUCKMAN et al.) 19 June 2003 (19.06.2003) para [0038]-[0042]	28 and 54
Y	US 2003/0151541 A1 (OSWALD et al.) 14 August 2003 (14.08.2003) para [0146, [0254], [0476]	39 and 66