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(54) Title: METHODS AND DEVICES FOR GENERATING BIPOLAR SIGNALS FROM UNIPOLAR SIGNALS

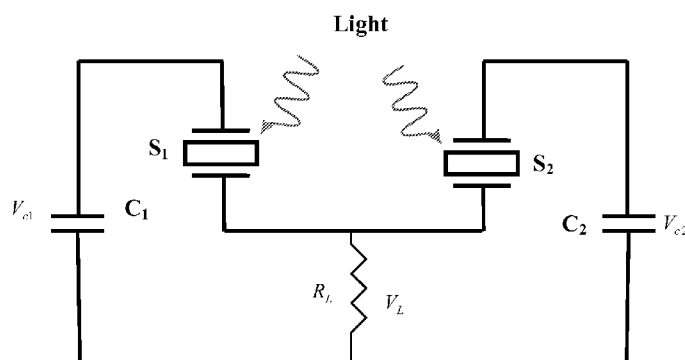


FIG. 6(A)

(57) Abstract: Methods, circuits and systems are provided to produce a bipolar signal across a load from two or more unipolar signals. In a circuit that includes a first and a second energy source, as well as a first and a second photonic switch, a first unipolar signal is generated from a first current flow across the load upon activation of the first switch. A second unipolar signal is generated from a second current flow across the load upon activation of the second switch. The bipolar signal with any desired spectral and amplitude characteristics is produced across the load by controlling the relative delay between the activation of the first and second photonic switches. Spectral content and shape of the bipolar signal can be adjusted by controlling the current flows from the one or more energy sources through, for example, modulation of the optical beams incident on the photonic switches.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/039883**A. CLASSIFICATION OF SUBJECT MATTER****H03K 4/02(2006.01)i**

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)

H03K 4/02; G05F 1/40; H02M 3/18; H02M 3/24; G01V 1/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: bipolar signal, optical, capacitor

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2006-0034107 A1 (WEST, RICK) 16 February 2006 See abstract; claim 1; and figure 3.	1-4, 14, 16, 28 5-13, 15, 17-27
A	US 5187473 A (GUEST, ROBERT J.) 16 February 1993 See abstract; claims 1, 7, 9; and figure 5.	1-28
A	US 5880581 A (YANG, TAI-HER) 09 March 1999 See abstract; claims 1, 7; and figure 2.	1-28
A	US 2005-0099831 A1 (WONG, HENRY et al.) 12 May 2005 See abstract; claims 1, 3, 5-8; and figure 1.	1-28

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

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0034107 A1	16.02.2006	US 7248093 B2	24.07.2007
US 5187473 A	16.02.1993	EP 0473461 A2	04.03.1992
		EP 0473461 A3	06.05.1992
US 5880581 A	09.03.1999	None	
US 2005-0099831 A1	12.05.2005	None	