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(54) Title: JITTER REDUCTION OF ELECTRICAL SIGNALS FROM LIMITING OPTICAL MODULES

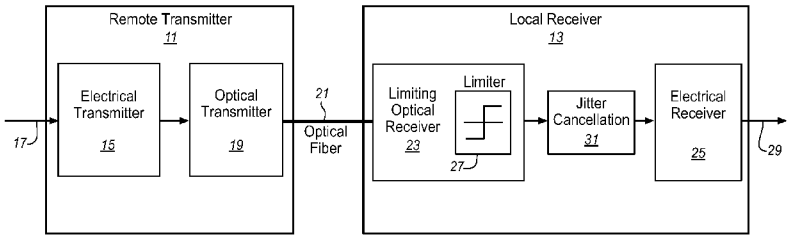


FIG. 1A

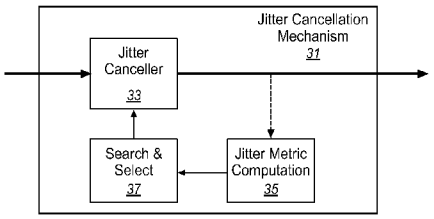


FIG. 1B

(57) Abstract: Jitter reduction of electrical signals from limiting optical modules is described. In one example, a process includes receiving an amplitude limited electrical signal that has been converted from an optical signal, applying a filter to the received electrical signal, measuring an indication of jitter of the filtered signal, and selecting parameters of the linear filter based on the measured indication..

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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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)

H04B 10/18; H04L 7/00; H03D 3/24; H04B 17/00; H04B 10/06; H04B 10/12

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: jitter, limiting, optical, electrical, cancel

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 2009-0168940 A1 (AZIZ PERVEZ M. et al.) 02 July 2009 See abstract, Fig.1, paragraphs [4]-[5],[14]-[15]	1,3,10,13-15,17-19 2,4-9,11-12,16,20
A	US 2008-0069282 A1 (NAOKI KUWATA) 20 March 2008 See abstract, Fig.2	1,15
A	US 2008-0279566 A1 (MILLER FREDERICK W. et al.) 13 November 2008 See abstract, Fig.2	1,15
A	US 2003-0170022 A1 (LOTHAR BENEDICT ERHARD JOSEF MOELLER) 11 September 2003 See abstract, Fig.2	1,15

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0168940 A1	02.07.2009	CN 101478323 A	08.07.2009
		EP 2075930 A1	01.07.2009
		JP 2009-165123 A	23.07.2009
		KR 10-2009-0073982 A	03.07.2009
		KR20090073982A	03.07.2009
		TW 200943755 A	16.10.2009
		US 8040984 B2	18.10.2011
US 2008-0069282 A1	20.03.2008	JP 04-531090 B2	18.06.2010
		JP 4531090 B2	25.08.2010
		US 7831005 B2	09.11.2010
		WO 2006-100745 A1	28.09.2006
US 2008-0279566 A1	13.11.2008	GB 0808497 D0	18.06.2008
		GB 2449177 A	12.11.2008
		GB 2449177 B	09.12.2009
		JP 2009-109474 A	21.05.2009
		US 7881608 B2	01.02.2011
US 2003-0170022 A1	11.09.2003	None	