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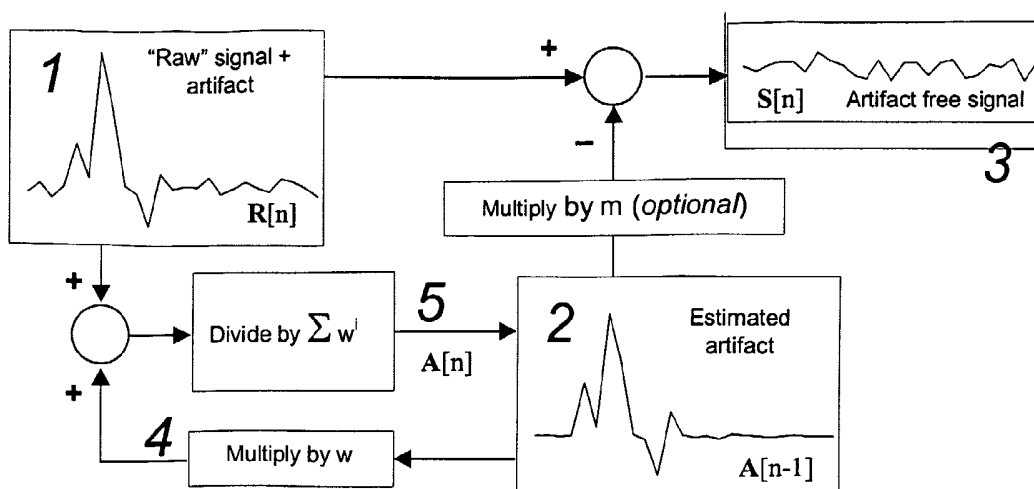
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- Declaration under Rule 4.17:**
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(54) Title: METHOD AND APPARATUS FOR REDUCING CONTAMINATION OF AN ELECTRICAL SIGNAL



(57) **Abstract:** The method of reducing contamination of electrical signals recorded in the presence of repeated interference contamination comprises obtaining an electrical signal recorded in the presence of a contaminating signal, and detecting a timing signal that occurs at a fixed time point during the electrical signal relative to the onset of the contaminating signal. The electrical signal is digitized, wherein the digitizing begins with the timing signal. A plurality of digitized electrical signals is analyzed, wherein the electrical signals are synchronized with respect to the timing signal, to obtain an estimated contaminating signal that is subtracted from the digitized electrical signal. This method can be used with electrophysiological signals, such as EEG, ECG, EMG and galvanic skin response, and for elimination of noise associated with concurrently used methods such as MRI. The method of noise reduction is applicable to recordings of other electrical signals, including audio recordings.



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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)
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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, WPI Data, PAJ, IBM-TDB, INSPEC, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 513 649 A (GEVINS ET AL) 7 May 1996 (1996-05-07)	1,6,38
Y	column 3, line 12 -column 4, line 31; figures 1,1A	2,3,14
Y	WO 94 27497 A (SJOESTROEM SVEND OLOF ;BANG & OLUFSEN TECH AS (DK)) 8 December 1994 (1994-12-08) page 6, line 13 -page 11, line 1; figures 1-6	2,3
Y	US 4 887 609 A (COLE JR MALCOLM P) 19 December 1989 (1989-12-19) abstract	14
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *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.
- *Z* document member of the same patent family

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	abstract column 10, line 6 -column 12, line 2; figures 4,5 -----	35, 36
Y	US 5 230 344 A (OEZDAMAR OEZCAN ET AL) 27 July 1993 (1993-07-27)	35, 36
A	abstract column 4, line 1 - line 68 column 5, line 54 -column 15, line 29; figures 1-16 -----	1, 2

INTERNATIONAL SEARCH REPORT

Info on patent family members

International Application No

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