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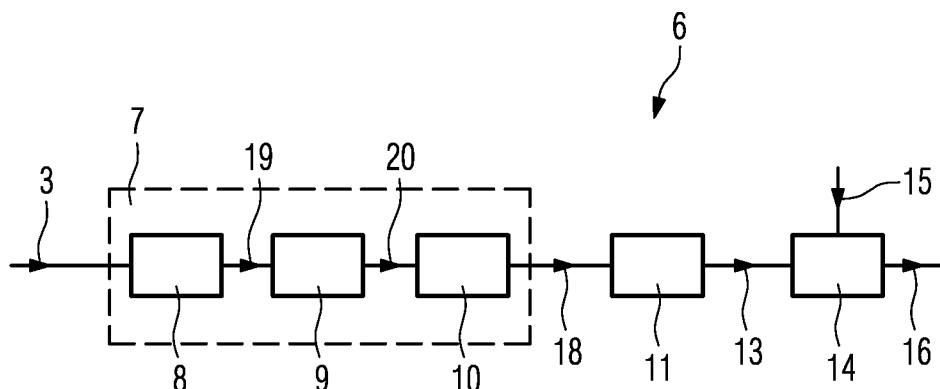
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
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(54) Title: METHOD FOR DEMODULATING A MODULATED SIGNAL, DEMODULATOR AND RECEIVER



(57) Abstract: A demodulator (6) for demodulating a modulated signal (3) comprises a Hubert transformer (7) for generating a Hubert transformed modulated signal (18) of the modulated signal (3). The Hubert transformed modulated signal (18) comprises modulated (5) and unmodulated signal sequences (4) and originates from an unmodulated signal. The demodulator (6) further comprises a comparing device (14) for comparing the Hubert transformed modulated signal (18) with a reference signal (15), which corresponds to the Hubert transformed unmodulated signal. The demodulator (6) is further configured to identify the modulated and unmodulated signal sequences (4, 5) based on the comparison.

WO 2007/148242 A3

INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER
INV. H03D1/00 H04L27/02

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H03D H04L

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 671 333 B1 (LUCIONI GONZALO [DE]) 30 December 2003 (2003-12-30) column 4, line 3 - column 6, line 36; figures 1,3A,3B	1-11
A	GB 2 382 282 A (LUCENT TECHNOLOGIES INC [US]) 21 May 2003 (2003-05-21) page 4, line 13 - page 5, line 24; figure 1	1-11
A	DE 42 19 417 A1 (MEYER BAESE UWE DIPL ING [DE]; HILBERG WOLFGANG [DE] MEYER BAESE UWE D) 16 December 1993 (1993-12-16) page 3, line 16 - line 30	1-11
A	US 5 694 419 A (KOSLOV JOSHUA LAWRENCE [US] ET AL) 2 December 1997 (1997-12-02) figure 5	1-11



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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6671333	B1	30-12-2003 DE 19854458 A1	08-06-2000
GB 2382282	A	21-05-2003 US 2003091128 A1	15-05-2003
DE 4219417	A1	16-12-1993 NONE	
US 5694419	A	02-12-1997 NONE	