(54) Title: WATERMARKING RECURSIVE HASHES INTO FREQUENCY DOMAIN REGIONS AND WAVELET BASED FEATURE MODULATION WATERMARKS

(57) Abstract: A watermark embedder decomposes a media signal from its perceptual domain to subbands (fig. 2) and embeds a message signal in the edge information of neighboring coefficients of those subbands (fig. 1). A compatible watermark decoder decomposes the watermarked signal into subbands and demodulates the message signal from the edge information of neighboring coefficients.
Published: with international search report

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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06K 6/00
US CL. : 382/100, 375/130, 713,176
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)

U.S. : 382/100, 375/130, 713,176

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 practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 5,646,997 A (BARTON) 8 July 1997, col. 8, lines 31-60.</td>
<td>1-30</td>
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Further documents are listed in the continuation of Box C. See patent family annex.

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Date of the actual completion of the international search: 20 SEPTEMBER 2001

Date of mailing of the international search report: 25 FEB 2002

Authorized officer: MAHMOOD B. CHOOBIN
Telephone No. (703) 520-5637

Form PCT/ISA/210 (second sheet) (July 1998)