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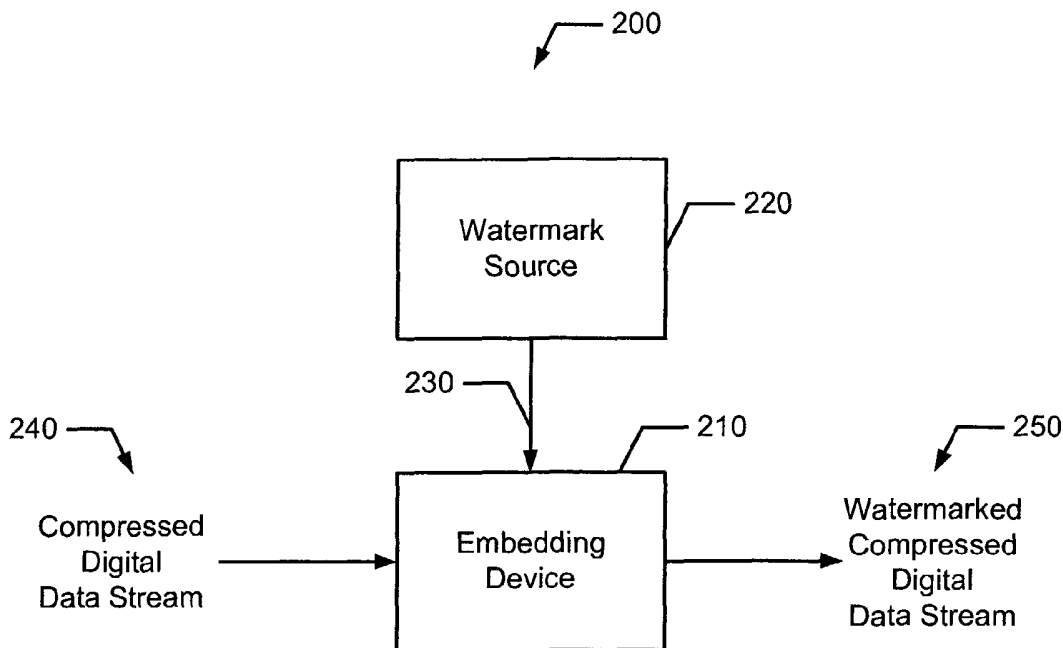
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[Continued on next page]

(54) Title: METHODS AND APPARATUS FOR EMBEDDING WATERMARKS



(57) Abstract: Methods and apparatus for embedding a watermark are disclosed. In an example method, one or more frames associated with a compressed digital data stream (240) is identified. Each of the one or more frames to identify a plurality of transform coefficient sets (320) is unpacked. The plurality of transform coefficient sets (320) is modified to embed the watermark (230).

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US04/18645

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : H04K 1/02  
 US CL : 380/252

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. : 380/252, 200, 203, 205, 210, 217, 220, 238; 713/176, 200

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)  
 Please See Continuation Sheet

**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 6,373,960 B1 (CONOVER et al) 16 April 2002 (16.04.2002), abstract, column 3, lines 10-61; column 4, lines 6-30; column 4 line 62 to column 5 line 27; column 6, lines 34-59; column 7, lines 38-61; column 8, lines 34-63; column 9, lines 18-54; column 10, lines 30-44; column 11, lines 45-67; column 14, lines 12-39.	1, 2, 13, 16, 17, 20-22, 34, 36-38, 41, 43, 44, 57, 58, 62, 63 ----- 3-12, 14, 15, 18, 19, 23-33, 35, 39, 40, 42, 45-56, 59-61
Y	deCarmo, Linden Pirates on the Airwaves Emedia, 1999 pages 50-56	1-63
Y	Cheung, W. N. Digital Image Watermarking in Spatial and Transform Domains IEEE 2000 pages 374-378	1-63

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

* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"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
"O"	document referring to an oral disclosure, use, exhibition or other means	
"P"	document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search  
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International application No.

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**C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Abdulaziz et al, Wavelet Transform and Channel Coding for Hiding in Video IEEE 2001 pages 791-796	1-63
Y	Liang et al, Video Watermarking Combining with Hybrid Coding Scheme IEEE, 2002 pages 1588-1591	1-63

**INTERNATIONAL SEARCH REPORT**

International application No.  
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Continuation of B. FIELDS SEARCHED Item 3:

EAST, Google, IEEE, Proquest

search terms: watermark, watermarked, watermarking, frames, compressed digital data, coefficient, mantissa, code signal frequency, frequency domain, time domain, audio block