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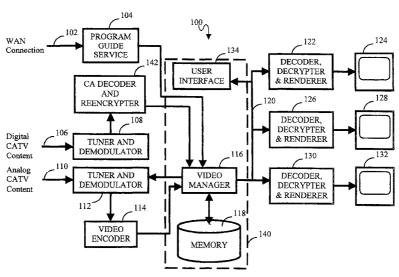
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(54) Title: CENTRALIZED DIGITAL VIDEO RECORDING AND PLAYBACK SYSTEM ACCESSIBLE TO MULTIPLE RE-PRODUCTION AND CONTROL UNITS VIA A HOME AREA NETWORK



(57) Abstract: A centralized Digital Video Recording (DVR) and reproduction system (100) links several reproduction and control units (124)(such as television receivers, etc.) and a centralized server (134) via a home area network. This allows programming to be distributed throughout the premises, and novelty allows live-pause recording and playback to be effected from more than one reproduction and control unit (124) in a seamless manner. For example, during a live-pause episode, a viewer can pause a program from one control and reproduction unit, and resume viewing the program from the same pause point at another control and reproduction unit on the premises. The present invention also allows a viewer to view multiple programs from the server on the same monitor using a multiple picture-in-picture display.



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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 For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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Minimum documentation searched (classification system followed by classification symbols) U.S.: 386/46, 125, 126; 725/46, 102			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST data base search			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a		Relevant to claim No.
х	US 5,867,223 A (SCHINDLER et al) 02 February 1999 (02.02.1999), column 1, lines 20-30, column 22 lines 1-25, figure 1B.		1-4, 8-12, 16-17
Y			5-7, 13-15
Y	WO 00/58967 A1 (BROWN et al) 05 October 2000 (05.10.2000), Absract.		5-7, 13-15
A	5,945,988 A (WILLIAMS et al) 31 August 1999 (31.8.1999), column 5.		1-16
A	4,792,849 A (MCCALLEY et al) 20 December 1988 (2012.1988), Abstract.		1-4, 8-12,16-17
	documents are listed in the continuation of Box C.	See patent family annex.	
* Special categories of cited documents: "T"		"T" later document published after the inte date and not in conflict with the applic	
"A" document defining the general state of the art which is not considered to be of particular relevance		principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be	
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"O" document referring to an oral disclosure, use, exhibition or other means			
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