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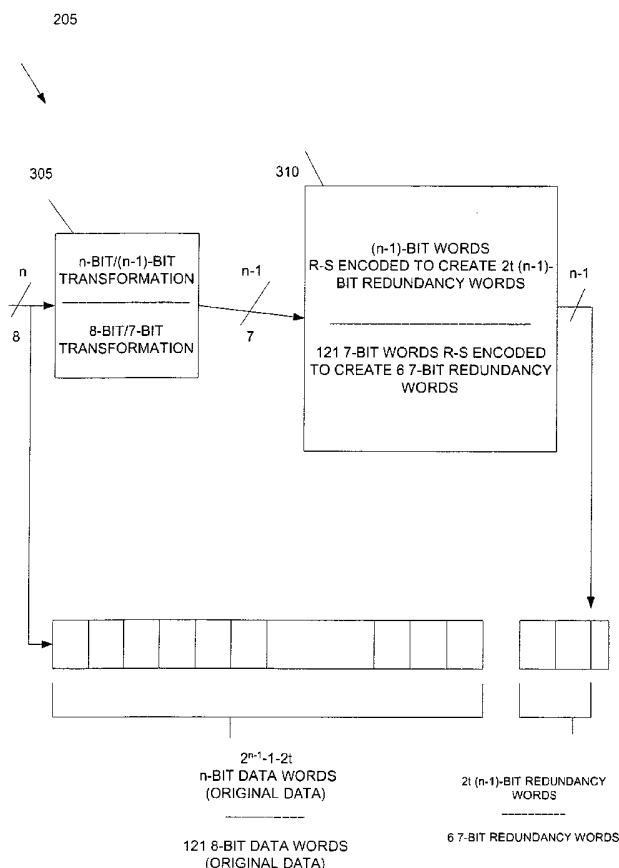
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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR ENCODING AND DECODING DATA UTILIZING MODIFIED REED-SOLOMON CODES



(57) Abstract: A system and method for coding technique which achieves a high coding gain with simple, low-price implementation. The system comprises a transmitter for transmitting encoded code words, and a receiver for receiving and decoding the code words, via a network. In one embodiment, a low complexity modified R-S coding process is used to R-S encode smaller-bit words (e.g., 7-bit words, instead of 8-bit words). In a second embodiment, a feed-back block concatenated coding process improves coding gain by utilizing concatenation and an erasure algorithm. In a third embodiment, a feed-back block concatenated coding process is designed for an Ethernet. The decoding processes utilize error-correcting capabilities built in during the three encoding processes described herein.

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INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**

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US CL :714/784

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. : 714/784

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)

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**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,245,609 A (OFEK et al) 14 September 1993, col. 5 lines 9-35.	1-14.
Y	US 4,413,339 A (RIGGLE et al) 1 November 1983, abstract.	1-14.

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

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"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		

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