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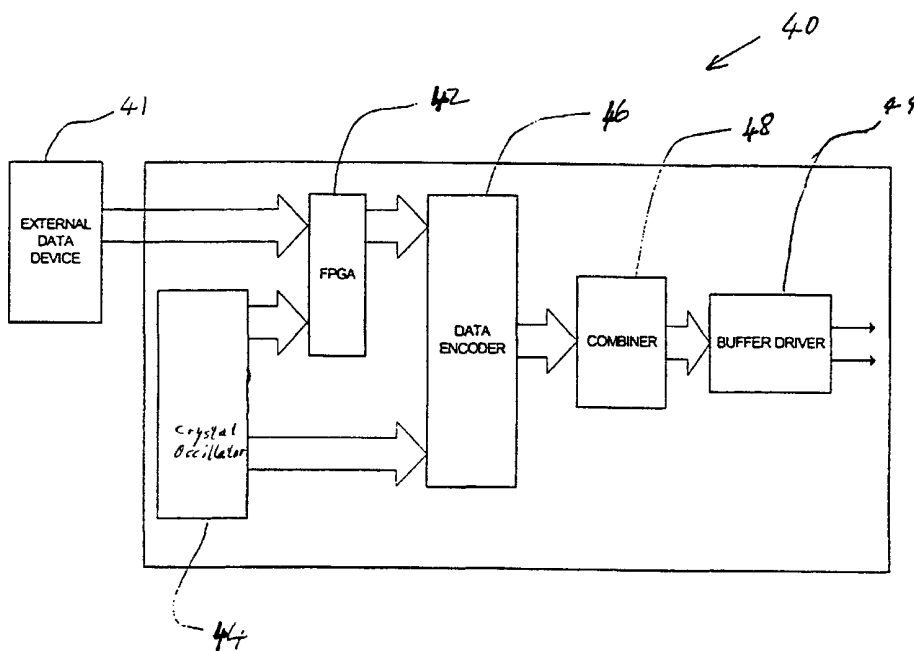
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[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR SENDING INFORMATION OVER METAL WIRE



(57) Abstract: In a system and method of transmitting information over metal wire, a plurality of baseband encoded frequencies (46) are combined (48) to create a single complex, modulated signal that will produce a desired throughput. The various digital signals are encoded using phase shifting to represent logic changes. At the receiver, the signals are separated (74) and each signal is decoded (76) by considering several sidebands for each baseband signal, covering 180° of phase. Synchronicity is ensured by transmitting a pilot frequency.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04K 1/10; H04L 27/20, 27/22, 27/28

US CL : 375/260, 295, 308, 316, 333

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. : 375/257, 259, 260, 271, 279, 280, 281, 282, 295, 308, 316, 322, 324, 329, 332, 333; 370/208, 343, 350, 470, 480, 491

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 --- Y	US 5,351,272 A (ABRAHAM) 27 September 1994 (27.09.94), Figure 5 and column 5, line 65- column 6, line 26.	1-3, 14, 16, 17 ----- 12
X --- Y	US 5,483,529 A (BAGGEN et al) 09 January 1996 (09.01.96), Figure 1.	1-3 ----- 12
X --- Y	US 5,822,372 A (EMAMI) 13 October 1998 (13.10.98), Figures 1 and 2, column 12, lines 51-58.	1-3 ----- 12, 18, 19
Y	US 5,867,528 A (VERBUEKEN) 02 February 1999 (02.02.99), abstract.	12, 18, 19
Y	US 5,903,614 A (SUZUKI et al) 11 May 1999 (11.05.99), Figure 5.	18, 19
Y	US 5,963,592 A (KIM) 5 October 1999 (05.10.99), column 4, lines 19-26.	19

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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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

PLUS, EAST

search terms: frequency, multi-carrier, pilot, frame, period/cycle, throughput

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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	US 5,995,483 A (MARCHOK et al) 30 November 1999 (30.11.99), abstract.	12, 18, 19