## United States Patent [19]

### Thompson

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[54] COMPUTER NETWORK SYSTEM WITH CONTENTION MODE FOR SELECTING MASTER

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[73] Assignee: International Computers Limited,

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[21] Appl. No.: 33,820

[22] Filed: Apr. 3, 1987

[30] Foreign Application Priority Data

May 30, 1986 [GB] United Kingdom ...... 8613152

[58] Field of Search ... 364/200 MS File, 900 MS File

[56] References Cited

### U.S. PATENT DOCUMENTS

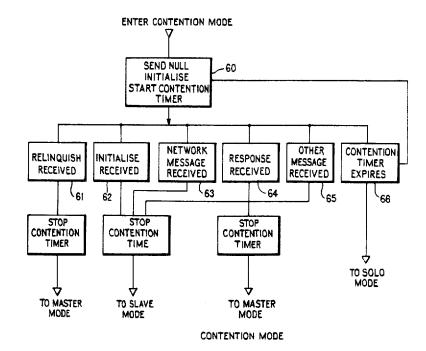
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Primary Examiner—Eddie P. Chan Attorney, Agent, or Firm—Lee & Smith

#### [57] ABSTRACT

A computer network is described, consisting of a number of computers connected by a bus. Each computer in turn becomes master, and can send messages to the other computers. When it is finished its turn as master, it passes control on to the next computer by means of a relinquish message. Each computer, when it is not master, monitors the bus for messages destined for it. If it does not detect any messages within a predetermined time interval, it enters a contention mode in which it repeatedly sends a message until either (a) it receives a response to the message in which case it becomes master or (b) it receives another message, in which case it becomes a slave. Each computer sends the contention messages at a different repetition rate, chosen such that, whatever the initial phasing of the contention messages, one message from one computer will always get through within a predetermined number of transmission attempts.

9 Claims, 8 Drawing Sheets







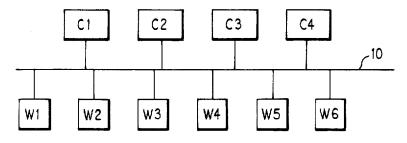


FIG.1

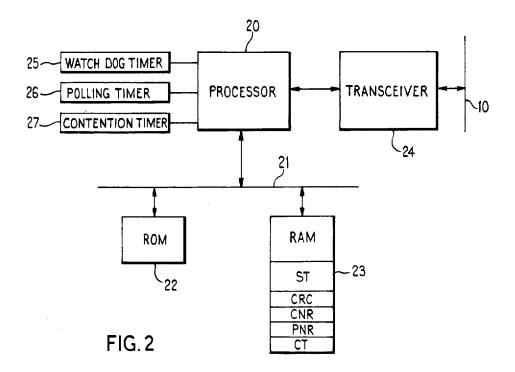




FIG. 3a RELINQUISH MESSAGE

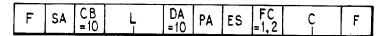


FIG. 3b INITIALISE MESSAGE

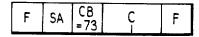


FIG. 3c RESPONSE TO INITIALISE MESSAGE

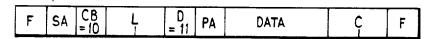


FIG. 3d NETWORK MESSAGE

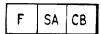


FIG. 3e RESPONSE TO NETWORK MESSAGE

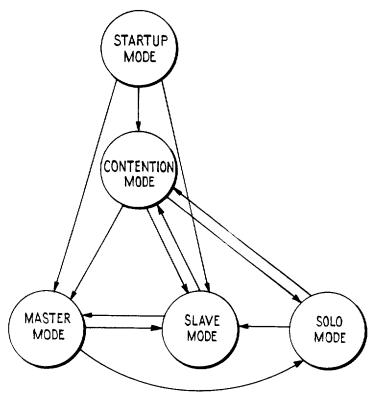


FIG.4

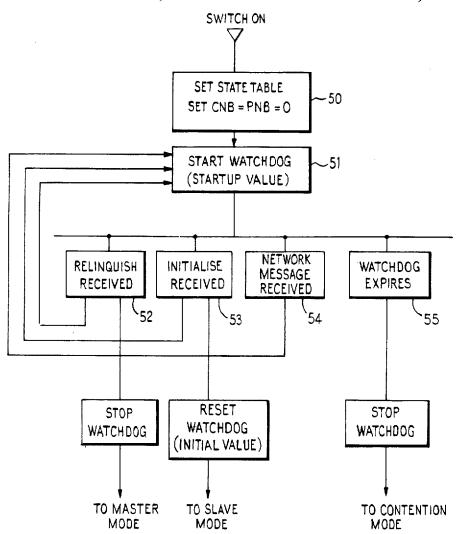


FIG.5 STARTUP MODE



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