

# United States Patent [19]

**Kudo**

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[45] **Date of Patent:** Aug. 12, 1986

[54] **ADJUSTING DATA TRANSMISSION RATE BASED ON RECEIVED SIGNAL QUALITY**

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[73] **Assignee:** Ricoh Company, Ltd., Tokyo, Japan

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[22] **Filed:** Mar. 5, 1984

[30] **Foreign Application Priority Data**

Mar. 9, 1983 [JP] Japan ..... 58-37274

[51] **Int. Cl.<sup>4</sup>** ..... H04J 3/22

[52] **U.S. Cl.** ..... 375/13; 375/58; 370/84

[58] **Field of Search** ..... 375/13, 58, 109, 121; 371/5; 370/79, 84; 178/69 A, 69 M

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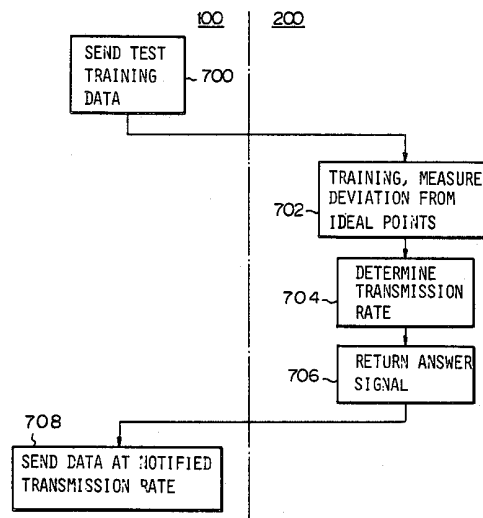
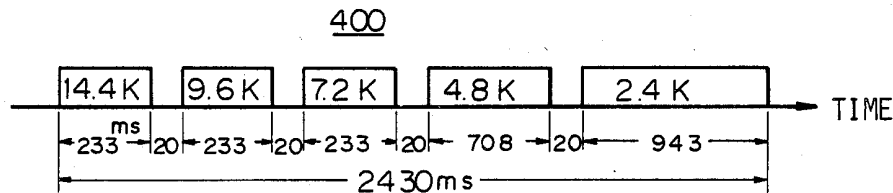
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### [57] ABSTRACT

A data transmission control system for allowing remote transceiver stations to transmit data via a telephone line or like analog transmission line through modems. When transmit and receive stations have been interconnected by a call, a training sequence for the modem is executed and, also, a test signal transmission sequence is effected to set up a data transmission rate before delivery of information. When the receive station has received test training data inclusive of a plurality of transmission rates from the transmit station, the function of the modem at the receive station is checked with respect to each of the transmission rates on a signal space diagram, thereby determining whether the receive station is capable of normally receiving data at the transmission rate. Training on the transmission rates which a modem can use is executed satisfying a predetermined protocol and without increasing the protocol time.

**9 Claims, 11 Drawing Figures**



RPX Exhibit 1140  
RPX v. DAE

Fig. 1

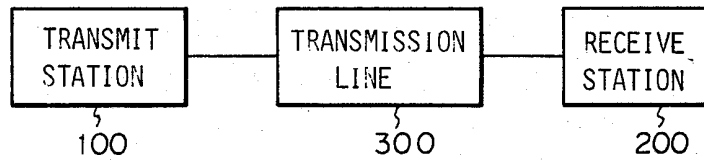


Fig. 2

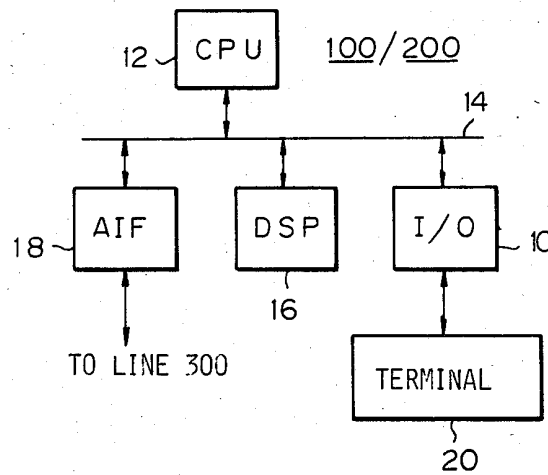


Fig. 3

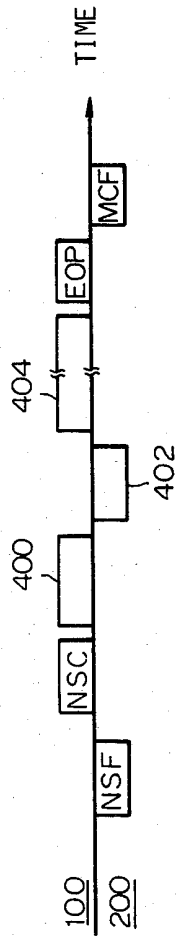


Fig. 4

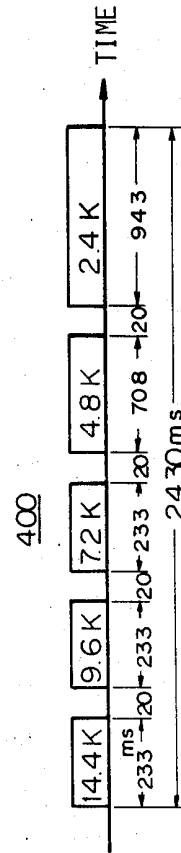


Fig. 5A

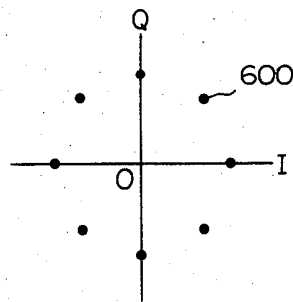
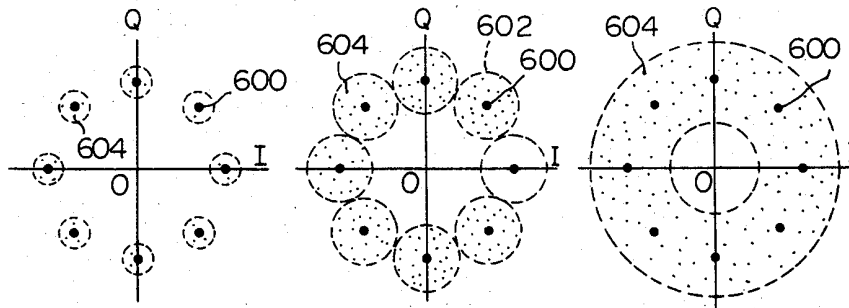
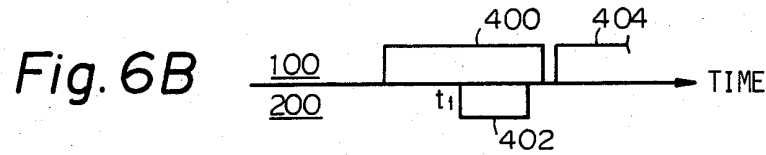
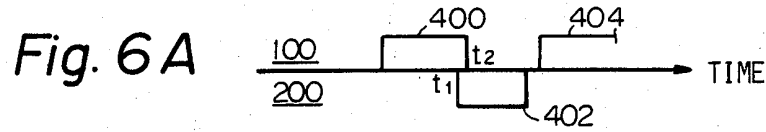


Fig. 5B

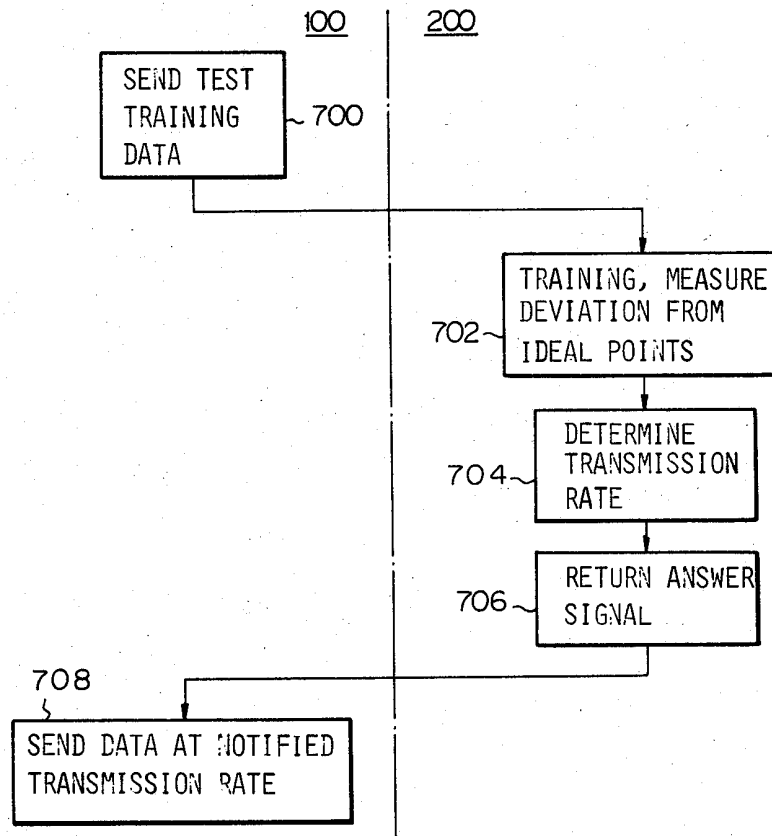
Fig. 5C

Fig. 5D





*Fig. 7*



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