

[54] **TIME DIVERSITY TRANSMISSION-RECEPTION SYSTEM**

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[30] **Foreign Application Priority Data**
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[51] **Int. Cl.⁶** **H04B 7/02**

[52] **U.S. Cl.** **375/200; 375/267; 370/441; 455/103; 455/137**

[58] **Field of Search** **375/200, 202, 375/203, 206, 207, 208, 260, 267, 299, 347, 367; 370/441, 515; 455/102, 103, 137, 139, 273, 276.1**

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Primary Examiner—Young T. Tse
Attorney, Agent, or Firm—Sughrue, Mion, Zinn, Macpeak & Seas, PLLC

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[57] **ABSTRACT**

A time diversity transmission-reception system has, on transmit side, at least one delay of a predetermined delay for providing at least a pair of delayed and undelayed data symbol sequences, at least a pair of modulators for modulating the data symbol sequences into modulated intermediate frequency signals, and at least a pair of spread spectrum signal generators employing mutually different pseudo-random code sequences for code division multiplexing. On receive side, the received signals are subjected to code division demultiplexing, demodulation, and delaying to restore at least a pair of timed demodulated signals. These signals are then subjected to adaptive matched filtering, whose outputs are combined and applied to adaptive equalization to provide diversity reception signal. The present system provides a plurality of diversity branches without employing a plurality of frequencies, planes of polarization of a carrier wave or receiving antennas. Also, principal part of the system of the present invention can be readily integrated into LSI's, contributing to the reduction of manufacturing cost.

4 Claims, 7 Drawing Sheets

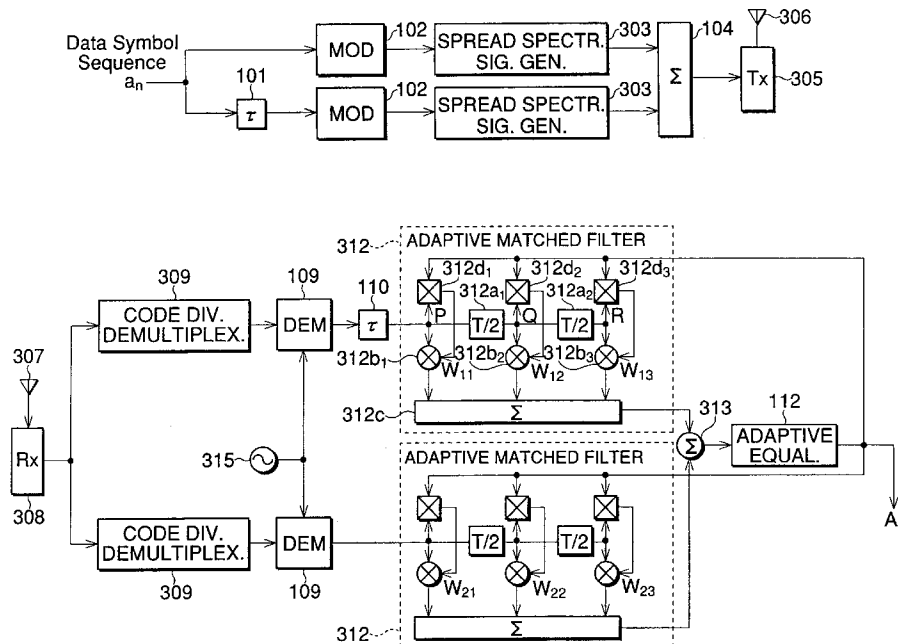


FIG.1(a) PRIOR ART

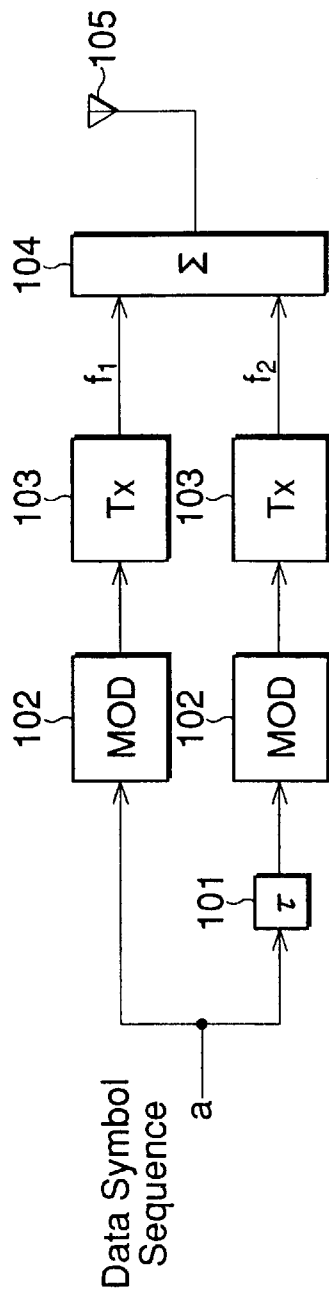


FIG.1(b) PRIOR ART

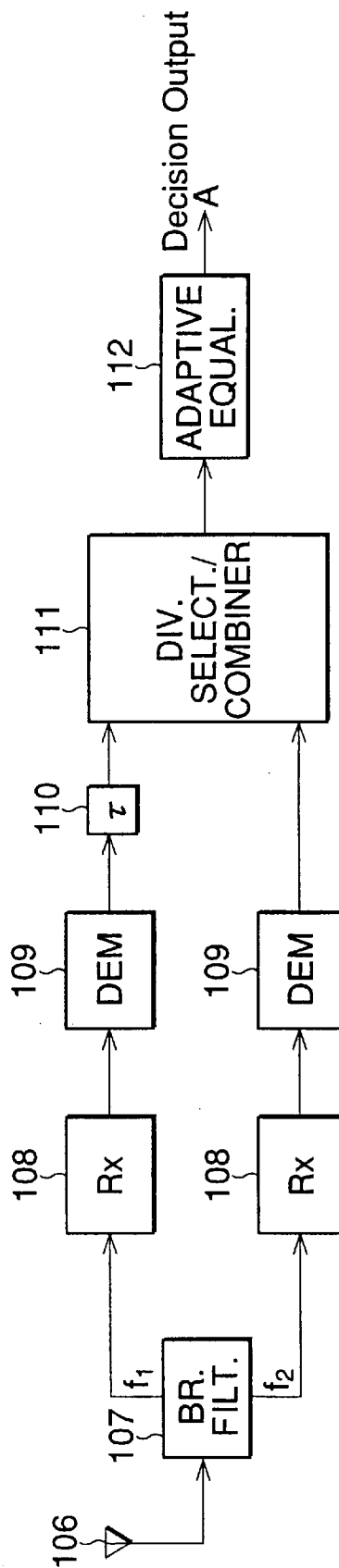


FIG.2 PRIOR ART

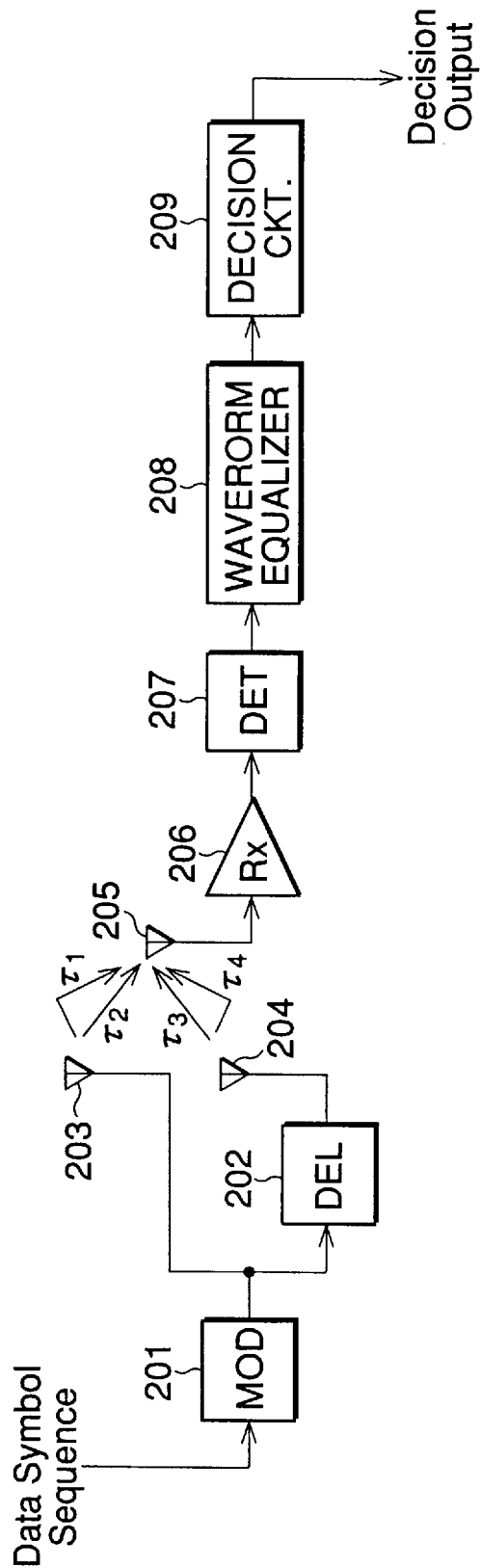
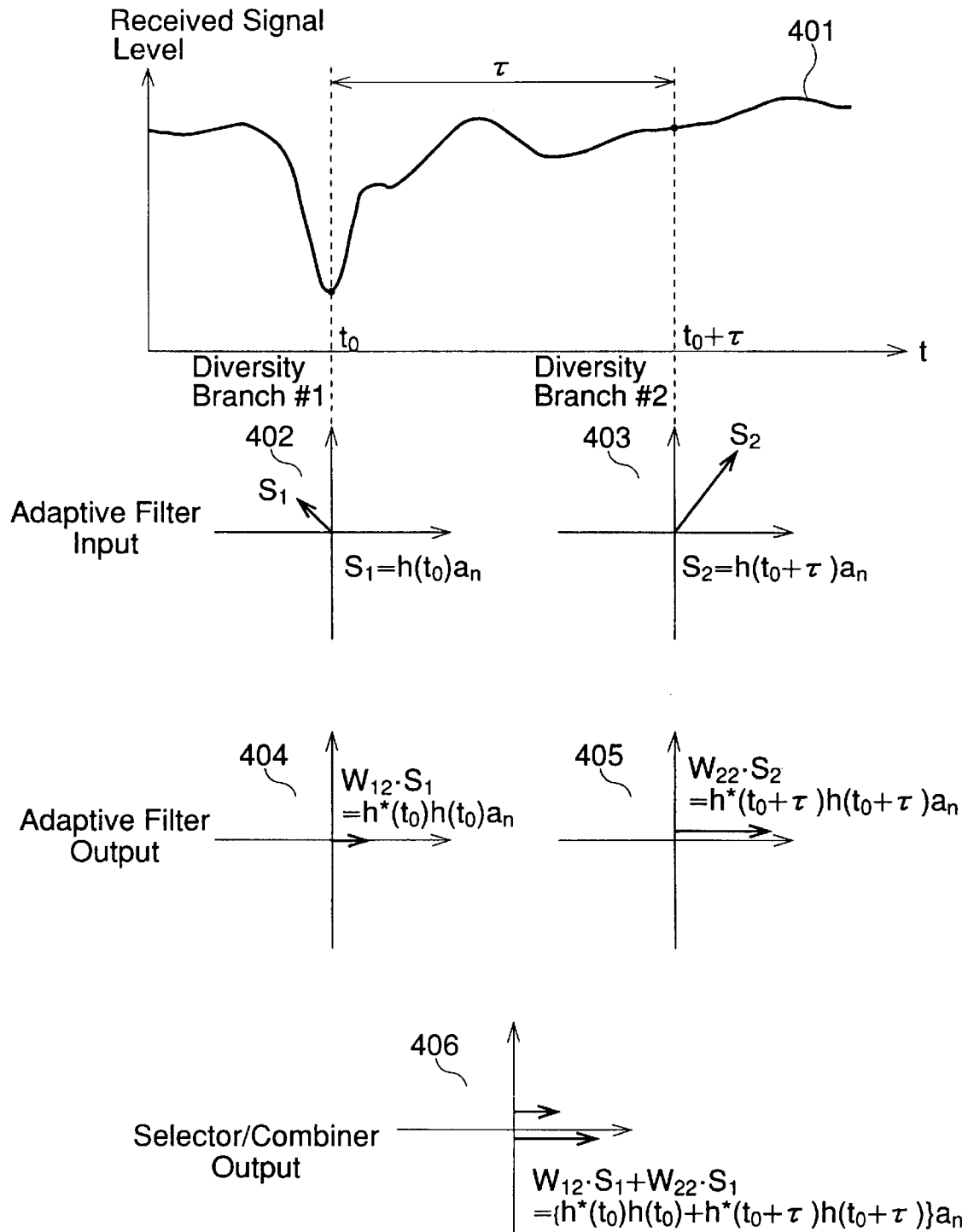


FIG. 4



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