

[54] MULTIPATH ELIMINATING FILTER

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[52] U.S. Cl. .... 375/346; 375/347; 375/350; 375/232; 455/307

[58] Field of Search ..... 375/350, 346, 375/230, 231, 232, 233; 364/724.19, 724.2; 455/52.3, 63, 296, 307, 340, 266, 42

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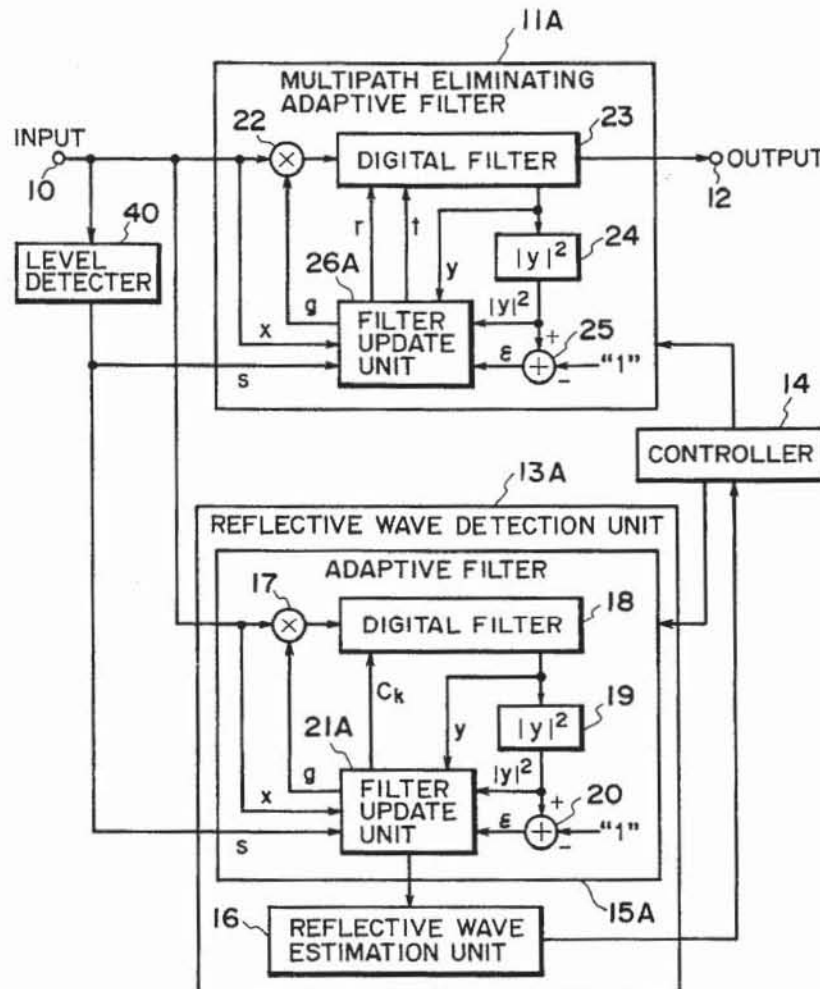
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[57] ABSTRACT

First, an adaptive filter 15 provided in a reflective wave detection unit 13 performs an adaptive operation on a digital signal inputted to an input terminal 10 for eliminating a multipath component from the digital signal. Also, a filter update unit 21 updates filter coefficient for a digital filter 18 comprising an FIR filter of lower degree. After the elapse of a predetermined time, reflective wave estimation unit 16 estimates reflection coefficient and delay time of a reflected wave contained in the digital signal from a filter coefficient at that point of time, and outputs the estimated values to a controller 14. Based on the input estimated values, the controller 14 initializes a delay time of a delay element of a digital filter 23 comprising an IIR filter of first degree of a multipath eliminating adaptive filter 11 and a multiplication coefficient of a multiplication element of the same. Then, the controller 14 causes the multipath eliminating adaptive filter 11 to performance adaptive filter for eliminating a multipath component.

6 Claims, 15 Drawing Sheets



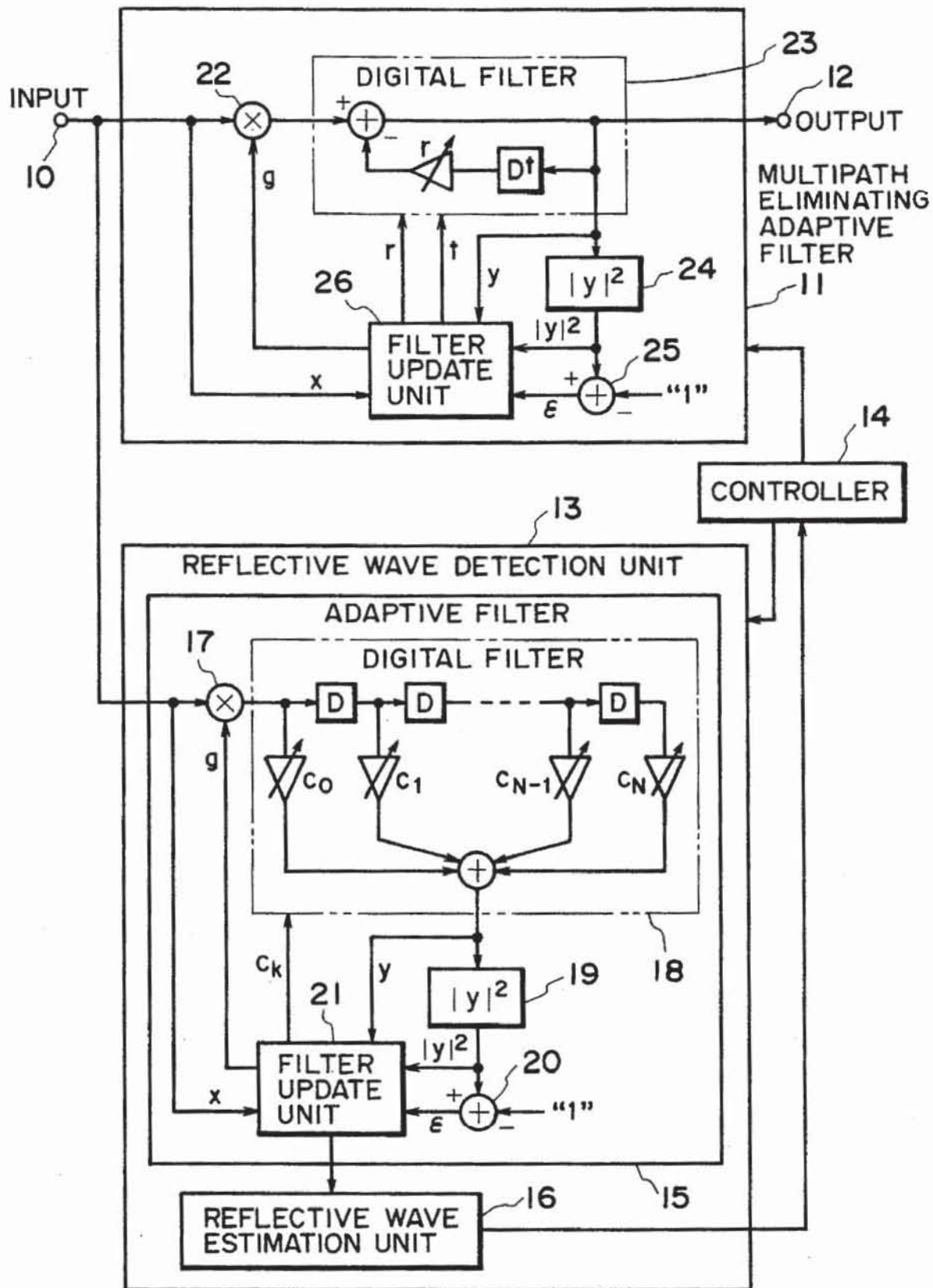


FIG. 1

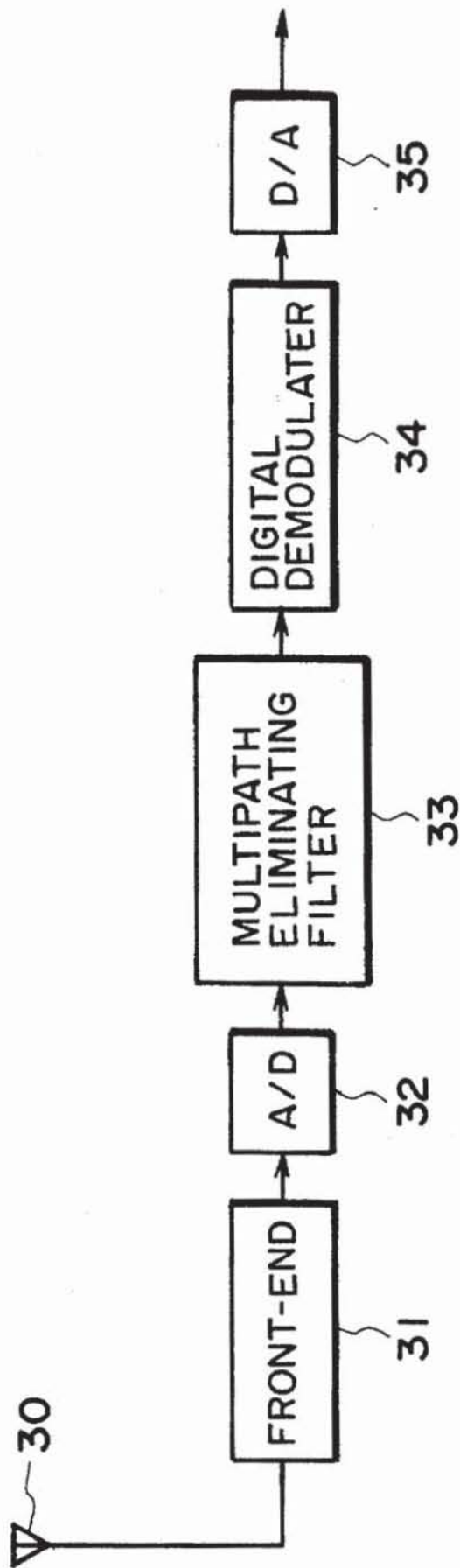


FIG. 2

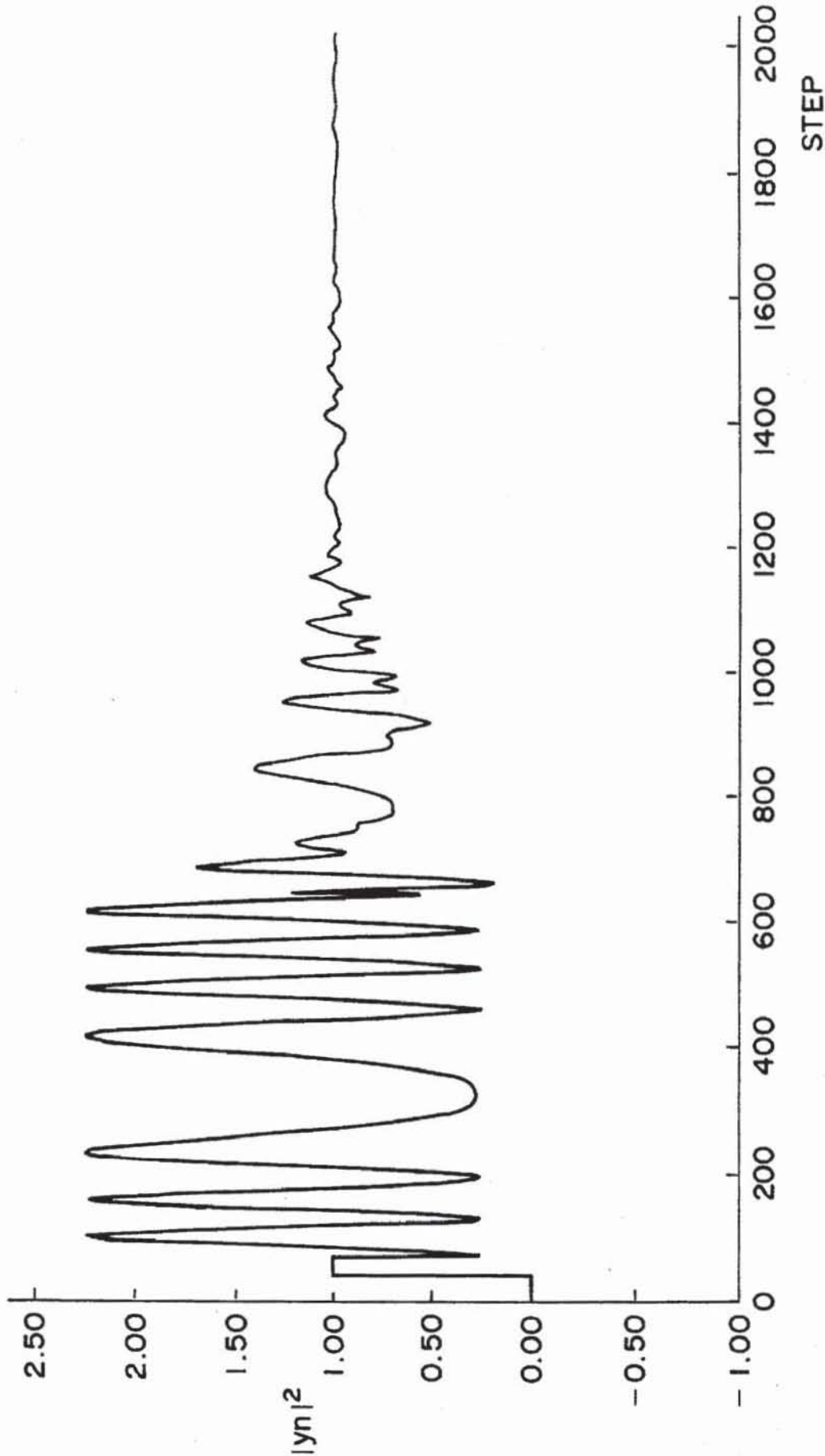


FIG. 3

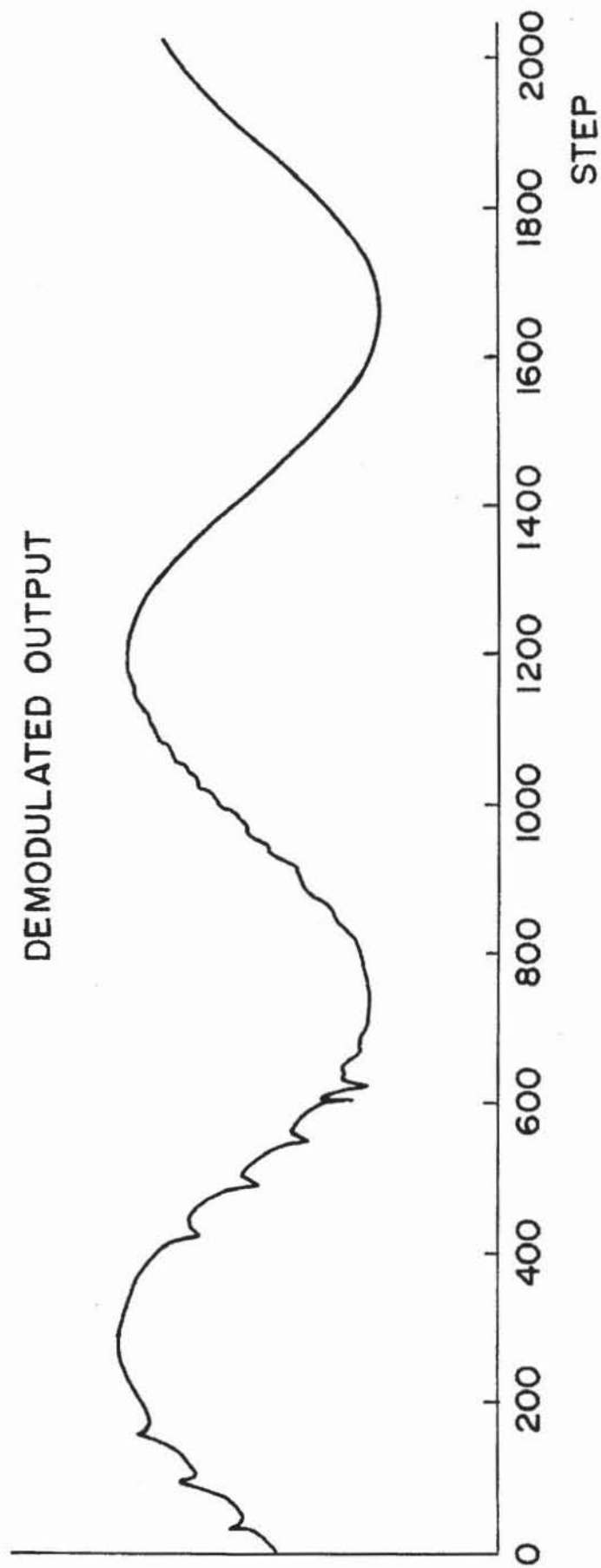


FIG. 4

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