United States Patent [19]

Reed et al.

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[54] **METHOD AND APPARATUS FOR CONTROLLING A POWER LEVEL OF A BASE STATION OF A WIRELESS COMMUNICATION SYSTEM**

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[73] Assignee: **Motorola, Inc.**, Shaumburg, Ill.

[21] Appl. No.: **354,297**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 16,446, Feb. 11, 1993, abandoned.

[51] **Int. Cl.^{6}** **H04B 7/00**

[52] **U.S. Cl.** **455/69**; 455/52.1; 455/56.1; 455/63; 455/67.1

[58] **Field of Search** 455/69, 70, 52.1, 455/52.3, 65, 54.1, 54.2, 67.1, 89, 83, 67.6, 67.4, 63, 127, 226.1, 226.2, 226.3

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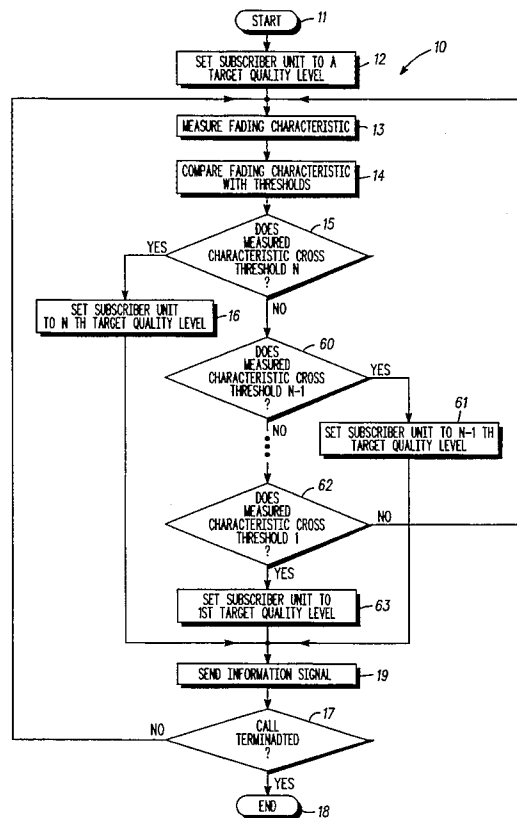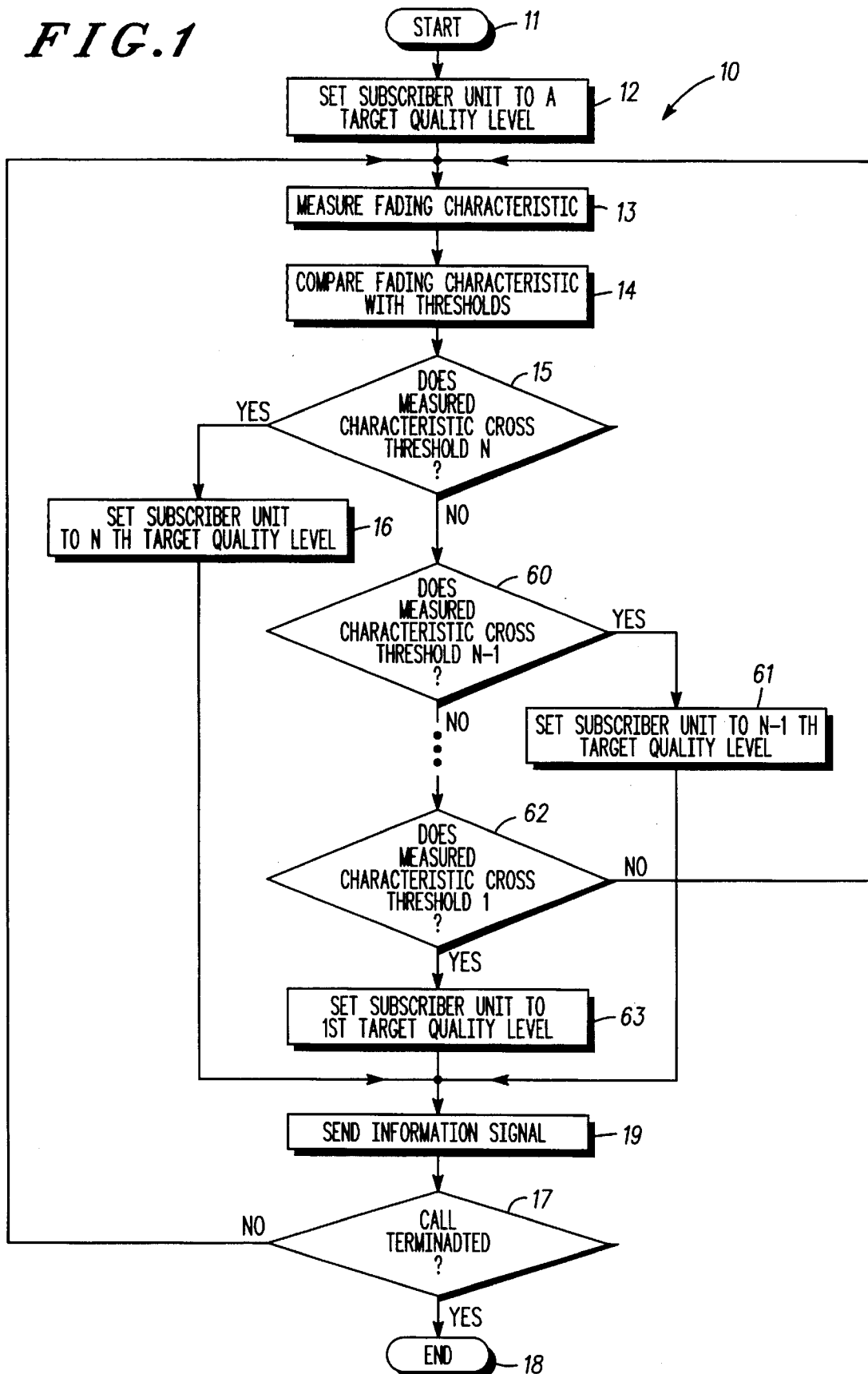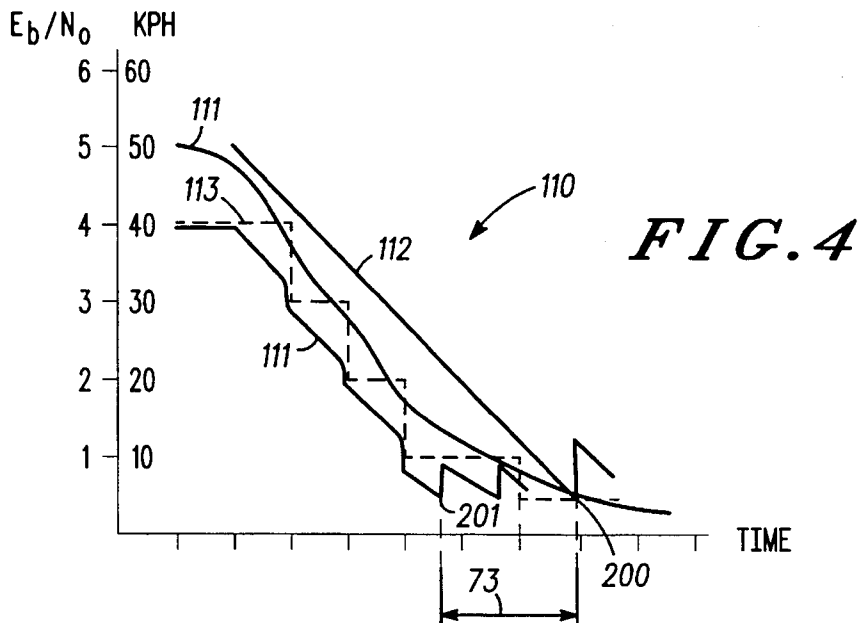|		
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[57] **ABSTRACT**

After setting a base station to a transmit power level (**12**) which provides a signal at a subscriber unit having a target quality level, a fading characteristic of a communication channel between the subscriber unit and a base site is measured (**13**). The fading characteristic is then compared with a threshold value (**14**). The measuring (**13**) and comparing (**14**) are repeated until the fading characteristic crosses a threshold (**15**). Once the fading characteristic crosses the threshold for a receive Eb/No level that is representative of a e.g. static fading condition, the base transmit power that is transmitted to the subscriber is increased by a predetermined amount in anticipation of the need for an increased Eb/No for the case of a faded signal (**61**). The determination of the fading characteristic and threshold comparison may be performed at either the subscriber unit or the base station.

7 Claims, 4 Drawing Sheets

FIG.1

FIG.2

— PRIOR ART —

FIG.3

— PRIOR ART —

FIG.4

FIG.5

— PRIOR ART —

FIG.6

— PRIOR ART —

FIG.7

— PRIOR ART —

FIG.8

FIG.9
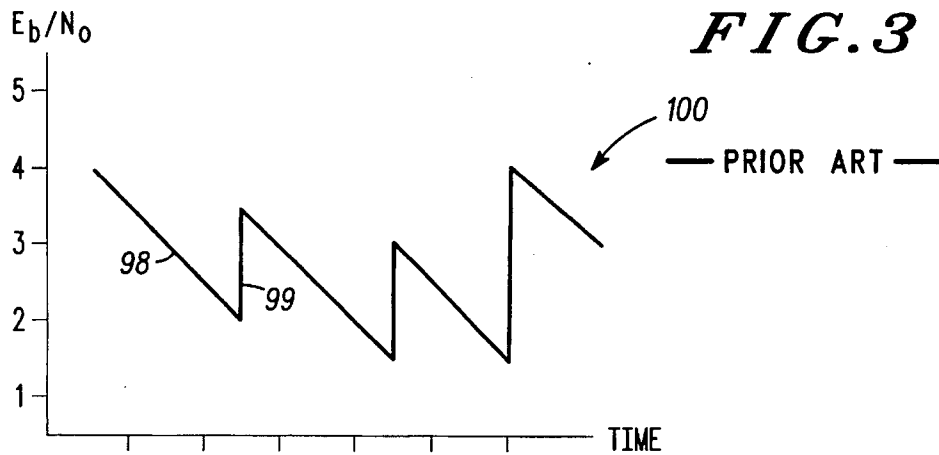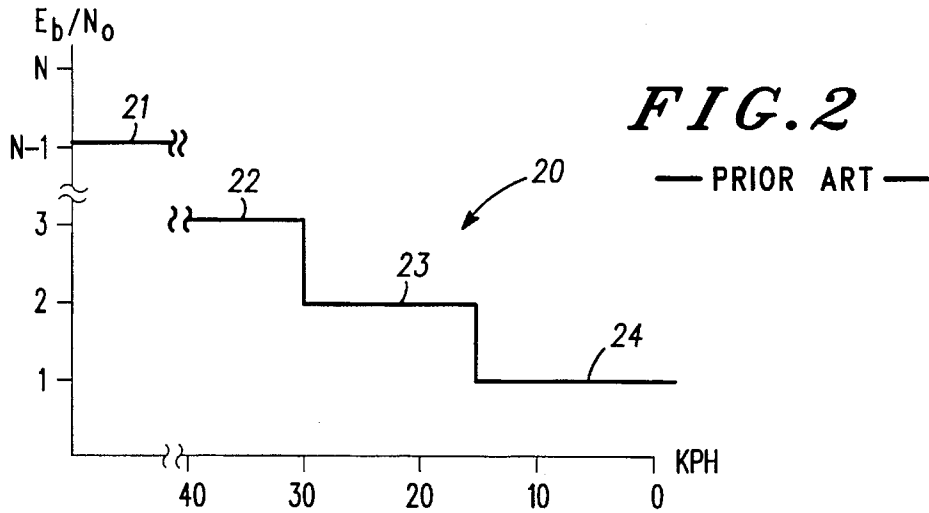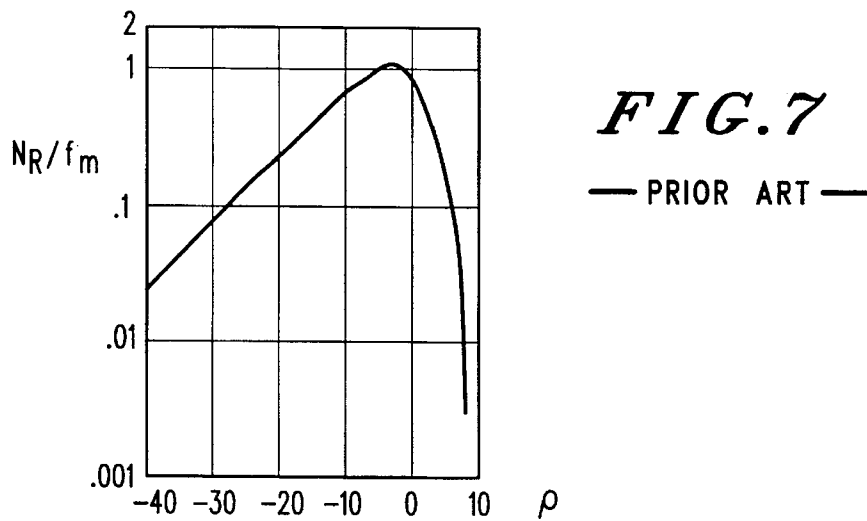
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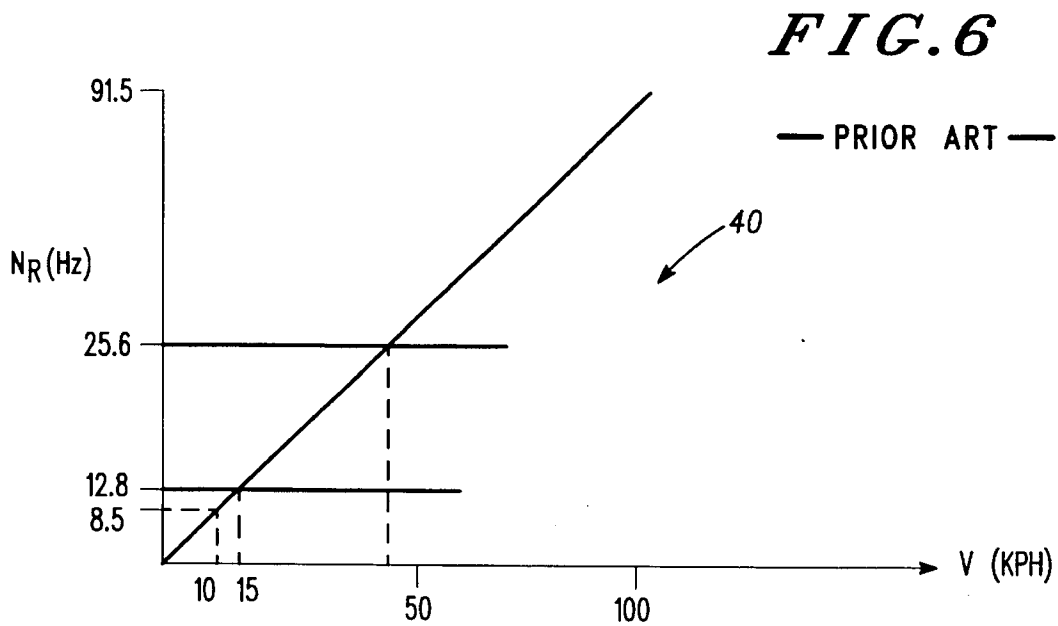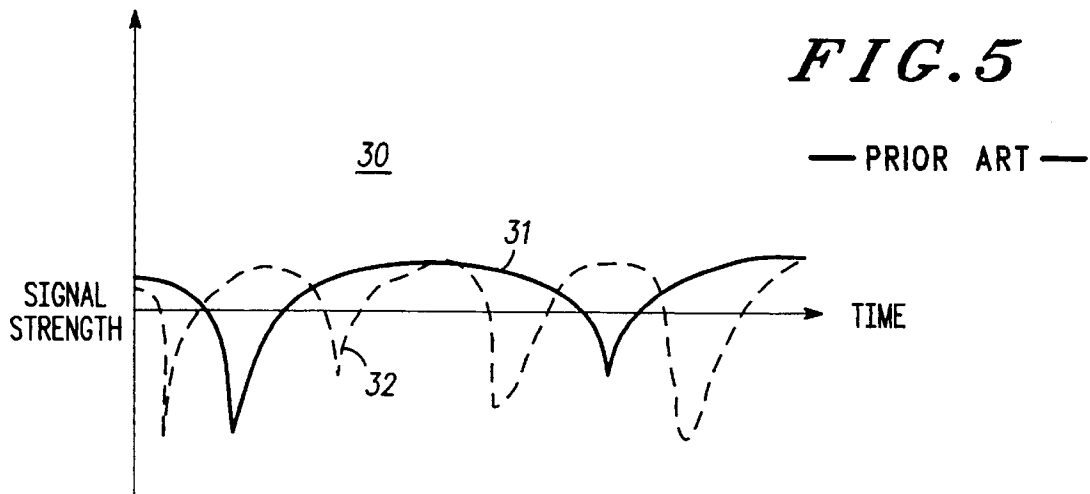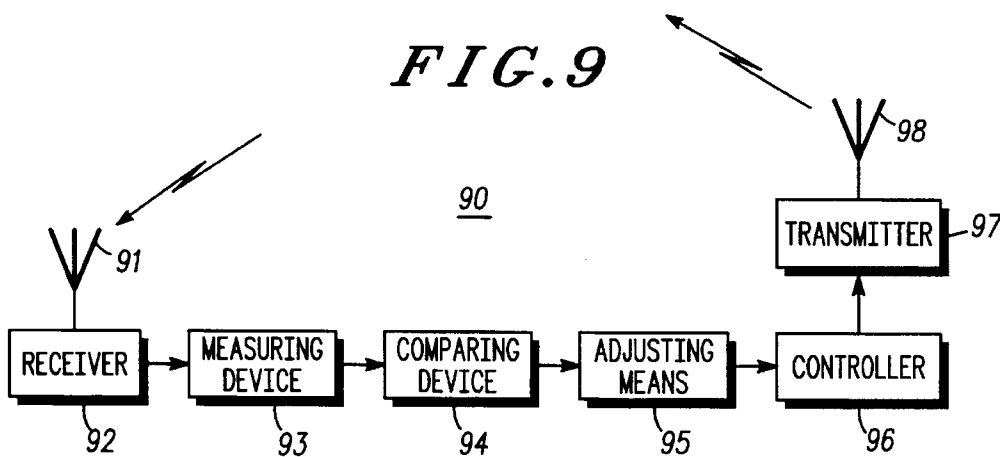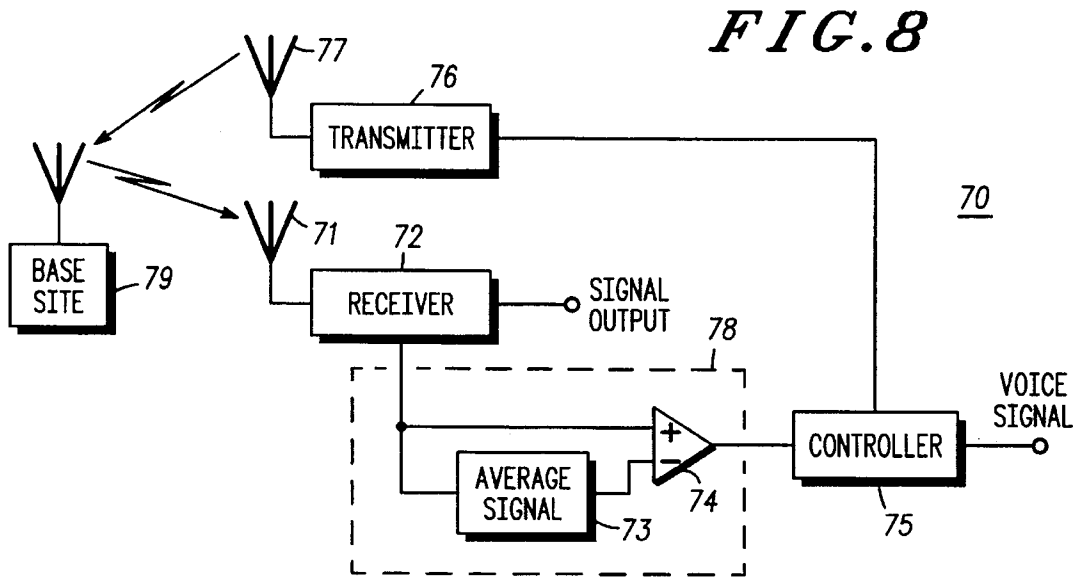
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