US005109390A

United States Patent [19]

Gilhousen et al.

[11] Patent Number: 5,109,390

[45] Date of Patent: Apr. 28, 1992

[54] DIVERSITY RECEIVER IN A CDMA CELLULAR TELEPHONE SYSTEM

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[21] Appl. No.: **432,552**

[22] Filed: **Nov. 7, 1989**

[51] **Int. Cl.**[5] **H04L 27/30**

[52] **U.S. Cl.** **375/1**; 375/40; 375/100; 455/10; 455/59; 455/68; 455/70; 455/33.2; 455/52.3; 455/56.1; 370/18

[58] **Field of Search** 370/18, 50; 455/33, 455/54, 56, 59, 10, 52, 68, 70; 375/40, 100

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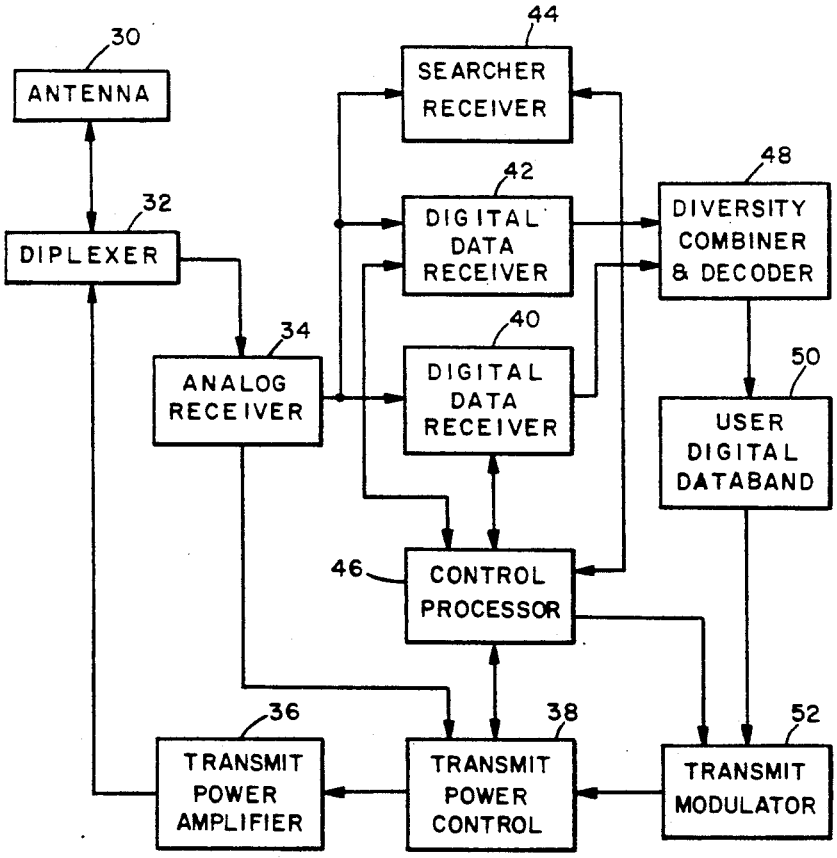
[57] **ABSTRACT**

A spread spectrum receiver subsystem for utilization in a CDMA cellular telephone having a searcher receiver for scanning the time domain so as to use the PN processing gain and time discrimination properties of spread spectrum coding to determine the location in the time domain and the received signal strength of multiple receptions of a pilot signal traveling upon one or more physical propagation paths to reception. The searcher receiver provides a control signal indicative of the received pilot signals of greatest strength and corresponding time relationship. A data receiver receives spread spectrum communication signals accompanying each received pilot signal and is responsive to the searcher control signal for acquiring and demodulating a spread spectrum communication signal, concomitant with the pilot signal of greatest signal strength, and thus providing a corresponding information bearing encoded output signal.

18 Claims, 4 Drawing Sheets