

[54] **METHOD FOR FREQUENCY DIVISION DUPLEX COMMUNICATIONS**

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[51] **Int. Cl.⁶** **H04Q 7/00**

[52] **U.S. Cl.** **370/330; 370/203; 370/281**

[58] **Field of Search** **370/203, 206, 370/329, 330, 337, 336, 343, 344, 321, 280, 281; 375/267, 347, 299**

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[57] **ABSTRACT**

The high quality PCS communications are enabled in environments where adjacent PCS service bands operate with out-of-band harmonics that would otherwise interfere with the system's operation. The highly bandwidth-efficient communications method combines a form of time division duplex (TDD), frequency division duplex (FDD), time division multiple access (TDMA), orthogonal frequency division multiplexing (OFDM), spatial diversity, and polarization diversity in various unique combinations. The method provides excellent fade resistance. The method enables changing a user's available bandwidth on demand by assigning additional TDMA slots during the user's session.

41 Claims, 15 Drawing Sheets

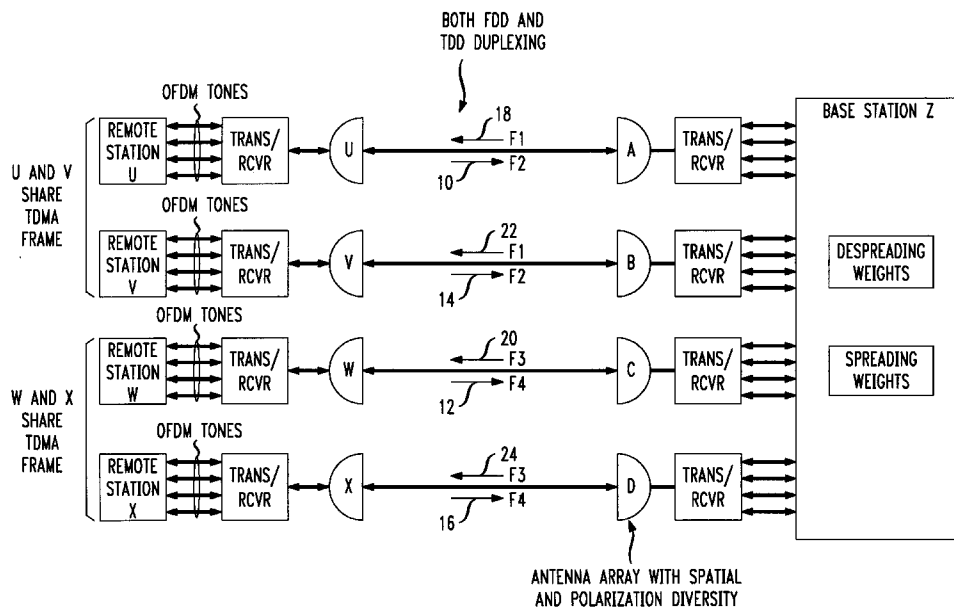


FIG. 1

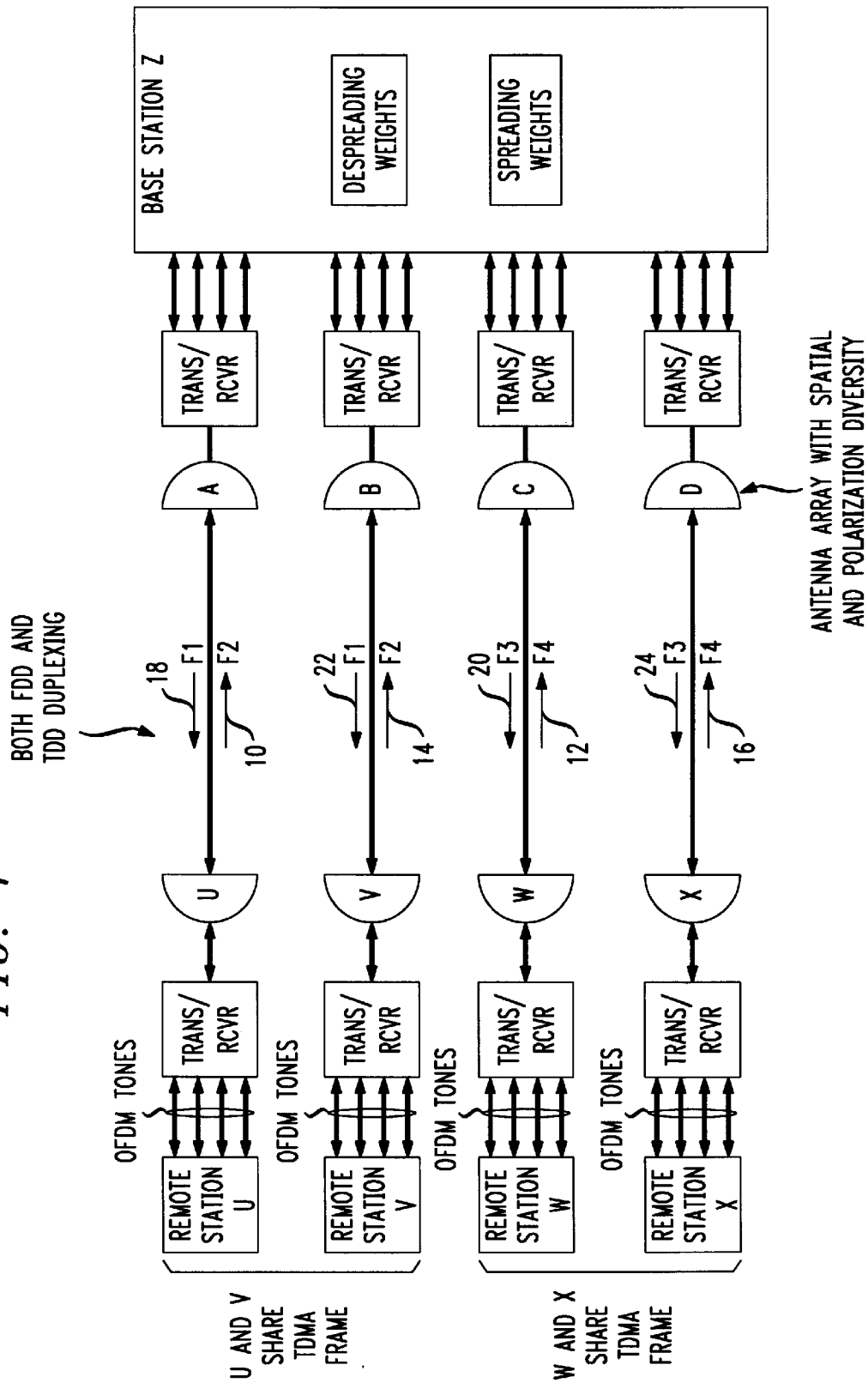


FIG. 1.1

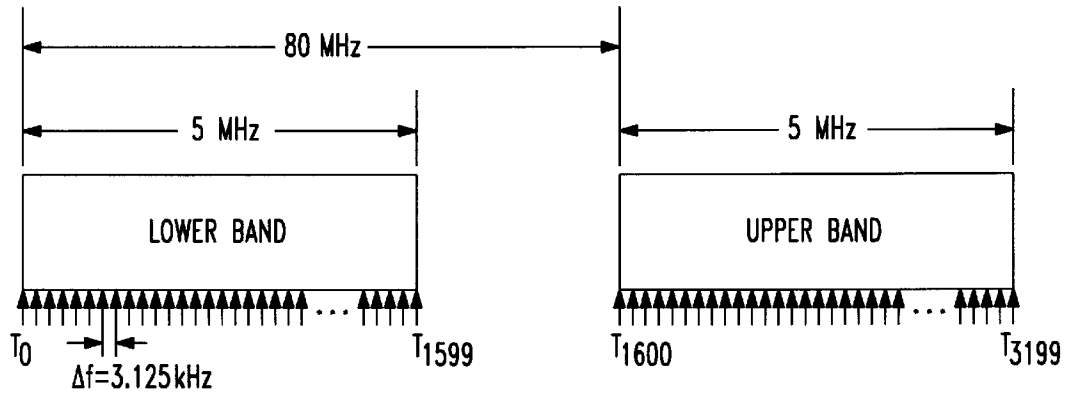


FIG. 1.2

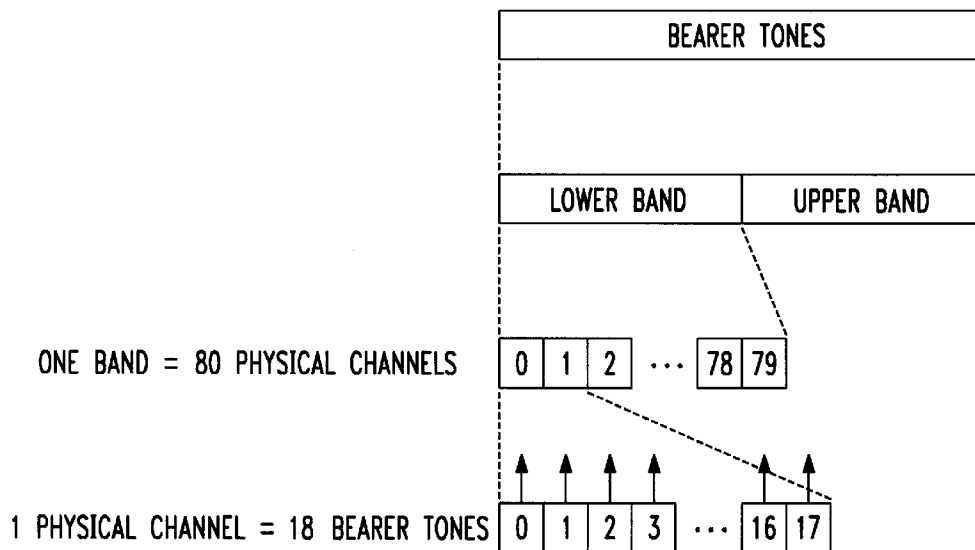


FIG. 1.3

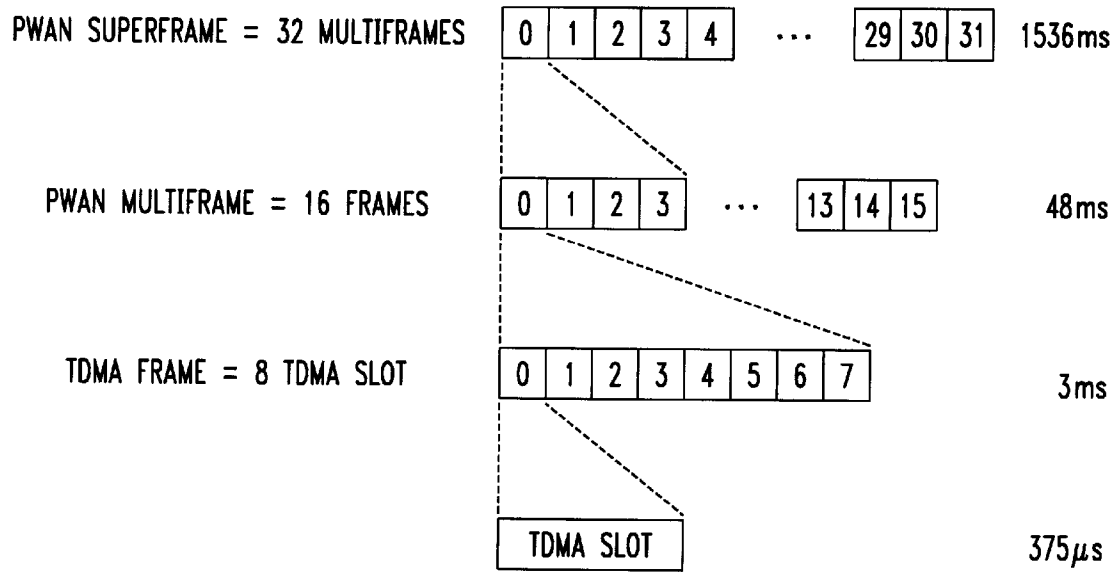


FIG. 1.4

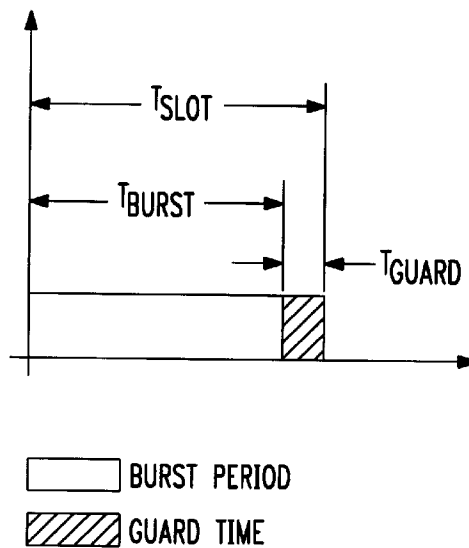
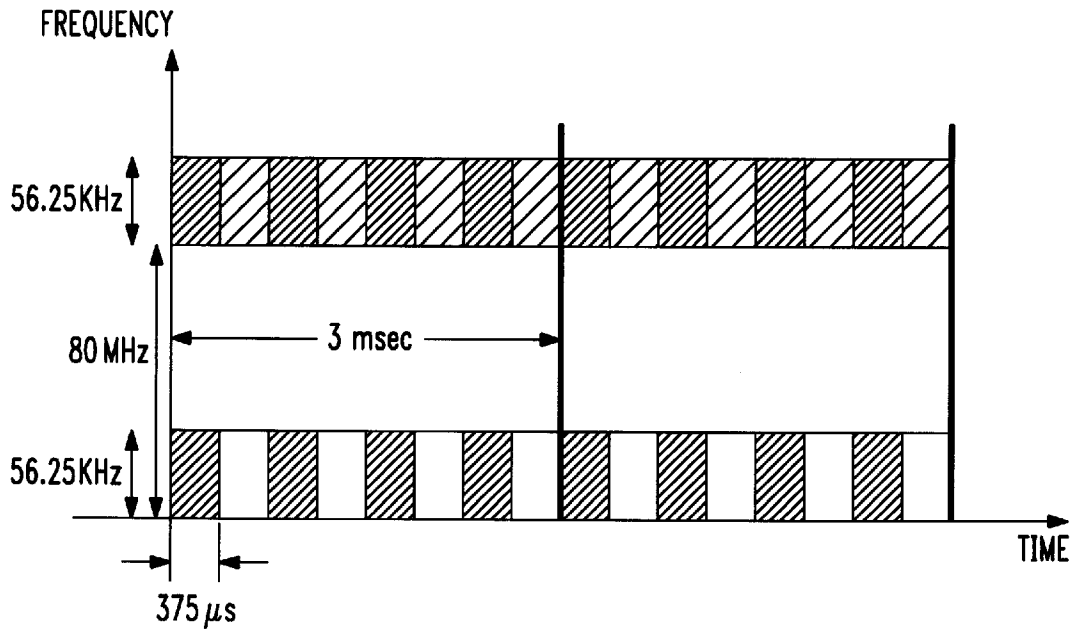






FIG. 1.5



 RU1 Rx
BASE Tx TO RU1

 RU1 Tx
BASE Rx TO RU1

 RU2 Rx
BASE Tx TO RU2

 RU2 Tx
BASE Rx TO RU2

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