

ABSTRACT OF THE DISCLOSURE

DYNAMICALLY RECONFIGURABLE

FREQUENCY DIVISION MULTIPLEXER AND MODULATOR

A dynamically reconfigurable frequency division multiplexer and modulator accepts multiple input signals, each of which is individually time division multiplexed. Each input signal is used to modulate a carrier signal having a unique frequency. Switches are used to selectively form one or more groups from the modulated signals, and the signals in each group are frequency division multiplexed by summing them together. In a Personal Communication Service environment, the output for each group may be fed to a respective antenna and the switches and carrier signals controlled to selectively associate inputs signals, carrier frequencies and antennas to implement antenna diversity operations and compensate for signal degradation due to multipath propagation effects.