

ADAPTABLE MULTI-BAND ANTENNA SYSTEM

ABSTRACT OF THE DISCLOSURE

An adaptable antenna system includes a switched-segment antenna having an adjustable electrical length, such that the frequency band of the antenna may be changed to adapt the antenna for use at different frequencies. In an exemplary embodiment, a microprocessor-based control circuit monitors a detection circuit that includes an array of frequency-selective magnetic field sensors. These H-field sensors drive a corresponding array of RF frequency resonators, such that a particular resonator circuit is vibrated responsive to a center frequency of an incident electromagnetic signal matching the sensing frequency of one of the H-field sensors. The control circuit detects the frequency of the incident signal by determining which resonator circuit is active and drives an antenna interface to selectively open and close inter-segment switches in the antenna to adjust its length to a frequency band appropriate for the detected frequency. The antenna may be reconfigured in response to detecting a new frequency.

(Fig. 1)