Operation Overview

The Digital MicroWave System (DMS) 915 is a microcontroller-based anti-theft system. The DMS 915 produces an alarm when it detects a Sensormatic tag -- a packaged semiconductor diode.

To detect the tag, the system performs the following operations:

- The system generates a "zone of protection," typically at a store exit. This zone consists of two overlapping fields. The first field is either a static or frequency-hopping, frequency modulated RF signal. The second field is a frequency shift key (FSK) modulated and predominately electrostatic field called an E-field.

- When a tag enters the zone, it combines the RF signal and the E-field into a composite signal that radiates to the system RF antennas. The system detects the composite signal, separates the modulation, and compares the recovered modulation to the modulation transmitted. If the two signals match, the system issues an alarm.