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**Aker**

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(54) **MODULATION CIRCUIT FOR A VEHICULAR TRAFFIC SURVEILLANCE DOPPLER RADAR SYSTEM**

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See application file for complete search history.

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(57) **ABSTRACT**

A modulation circuit for a traffic surveillance Doppler radar system is disclosed. In one embodiment, the modulation circuit is utilized in a vehicular traffic surveillance Doppler radar system that processes a reflected double-modulated FM signal to determine a target range based upon a phase angle signal differential associated with the target. The modulation circuit may include a digital-to-analog (D/A) converter/voltage regulator/oscillator arrangement or a D/A converter/varactor device/oscillator arrangement. The modulation circuit generates a double-modulated FM signal based upon a frequency versus voltage characteristic associated with the oscillator.

**25 Claims, 4 Drawing Sheets**

