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(54) **SYSTEM AND METHOD FOR CALIBRATING A VEHICULAR TRAFFIC SURVEILLANCE DOPPLER RADAR**

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(58) **Field of Classification Search** 342/89-116, 342/118, 127-147, 165-175, 192-197, 27, 342/28, 70-72, 82-88

See application file for complete search history.

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(57) **ABSTRACT**

A system and method for calibrating a vehicular traffic surveillance Doppler radar are disclosed. In one embodiment, a modulation circuit portion generates double-modulated FM signals. An antenna circuit portion transmits the double-modulated FM signals to a target and receives reflected double-modulated FM signals therefrom. A calibration circuit portion responds to the reflected double-modulated FM signals by sending a calibration signal to the modulation circuit. The calibration signal is indicative of a relationship between a first range measurement derived from phase angle measurements associated with the reflected double-modulated FM signals and a second range measurement derived from speed and time measurements associated with the reflected double-modulated FM signals.

32 Claims, 6 Drawing Sheets

