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**Aker**

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(54) **VEHICULAR TRAFFIC SURVEILLANCE  
DOPPLER RADAR SYSTEM**

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See application file for complete search history.

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(57) **ABSTRACT**

A vehicular traffic surveillance Doppler radar system and method for use of the same are disclosed. In one embodiment, the system comprises a modulation circuit portion for generating modulated FM signals. An antenna circuit portion transmits the modulated FM signals to a target and receives the reflected modulated FM signals therefrom. A ranging circuit portion performs a quadrature demodulation on the reflected modulated FM signals and determines a range measurement based upon phase angle measurements derived therefrom.

**42 Claims, 9 Drawing Sheets**

