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# United States Patent [19]

Aker et al.

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[54] **POLICE TRAFFIC RADAR USING DIGITAL DATA TRANSFER BETWEEN ANTENNA AND COUNTING UNIT**

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[21] Appl. No.: **386,880**

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[51] Int. Cl.<sup>6</sup> ..... **G01S 13/58**

### [57] ABSTRACT

[52] U.S. Cl. .... **342/115**

A police radar utilizing digital data transmission from the antenna unit to a separately housed counting and display unit. The antenna has a double balanced mixer to suppress even order harmonics. The counting and display unit has a computer programmed to perform digital signal processing on the digital data received from the antenna to improve the quality and accuracy of calculated speeds for patrol speed, strongest target speed and fastest target speed. Fastest target speed can be displayed simultaneously with strongest target speed. Signal processing techniques are used to suppress false signals caused by double and triple bounce, harmonics, intermodulation products, video display terminal interference, etc.

[58] Field of Search ..... 342/104, 115, 342/195

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**48 Claims, 46 Drawing Sheets**

