

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TOYOTA MOTOR CORPORATION,

Petitioner,

v.

SIGNAL IP, INC.,

Patent Owner.

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Case IPR2016-00293

Patent 5,714,927

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PATENT OWNER'S PRELIMINARY RESPONSE TO  
PETITION FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 5,714,927  
PURSUANT TO 35 U.S.C. §§ 312 AND 37 C.F.R. § 42.104

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## I. INTRODUCTION

Petitioner Toyota Motor Corporation challenges the patentability of claims 1, 2, and 6 of U.S. Patent No. 5,714,927 (“the ’927 patent”). Petition (“Pet.”) at 4. The Patent Trial and Appeal Board should not institute *inter partes* review of the ’927 patent because Toyota has not met its burden to show a reasonable likelihood that any challenged claim is unpatentable.

Toyota has proposed two independent grounds in its petition, but both of them suffer from the same flaw: they do not teach a method involving “selecting a variable sustain time as a function of relative vehicle speed.” None of the references identified by Toyota were concerned with compensating for the reduced accuracy of radar detection at low relative vehicle speeds by increasing alert signal times as a function of relative vehicle speed. Consequently, both grounds are a product of hindsight reconstruction, and are insufficient to merit an *inter partes* review.

## II. BACKGROUND

### A. Overview of the ’927 patent

The ’927 patent describes an improved method for using side detection radar to warn a driver about other vehicles occupying the blind spot of the driver’s vehicle by controlling an audible or visual alert signal.

Ex. 1001 at Abstract; *id.* at 3:10-13. When the situation warrants it, the alert signal indicating that a target vehicle is in the blind spot should be maintained even where the raw signal sensed by the radar system drops, and a corresponding alert command is turned off. *Id.* at 2:9-34. By implementing rules for maintaining an alert signal for the driver even in the absence of an alert command from the detector (at a particular time point), the method results in a “steady alert signal” and provides “greater assurance that the blind spot is free of an object.” *Id.* at 5:17-23; 4:19-21. The method also reduces alert signal flickering when a target enters or clears a detection zone. *Id.* at 5:23-25.

For example, certain parts of a target vehicle such as wheel wells can give rise to reduced or absent signal from a detector, called alert “dropout.” *Id.* at 1:45-50. Such false negative dropouts should not result in turning off a warning indicator provided to the driver, as in this case the obstacle is still present in the blind spot. *See id.* at Fig. 3. Loss of an alert signal because of a dropout can be avoided by requiring that the alert signal remain active for a threshold period of time if, after activation, the alert command is lost. *Id.* at 2:15-25.

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