UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

VOLKSWAGEN GROUP OF AMERICA, INC.,
Petitioner,

v.

SIGNAL IP, INC.,
Patent Owner.

_____

Case IPR2015-01088
Patent 5,954,775

_____

Before JOSIAH C. COCKS, MITCHELL G. WEATHERLY, and
CHARLES J. BOUDREAU, *Administrative Patent Judges*.

BOUDREAU, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Petitioner Volkswagen Group of America, Inc. ("Volkswagen") filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claim 6 of U.S. Patent No. 5,954,775 (Ex. 1001, "the '775 patent"). Patent Owner Signal IP, Inc. ("Signal IP") timely filed a Preliminary Response (Paper 5, "Prelim. Resp."). We review the Petition under 35 U.S.C. § 314, which provides that *inter partes* review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). Upon consideration of Volkswagen's Petition, Signal IP's Preliminary Response, and the evidentiary record developed thus far, we are persuaded that Volkswagen has demonstrated a reasonable likelihood that it would prevail in challenging the patentability of claim 6 on one of the grounds presented in the Petition. Accordingly, pursuant to 35 U.S.C. § 314, we hereby institute an *inter partes* review of that claim.

B. Related Proceedings

The '775 patent is the subject of three district court actions: *Signal IP, Inc. v. Mercedes-Benz USA, LLC et al.*, 2:14-cv-03109 (C.D. Cal.); *Signal IP, Inc. v. BMW of North America, LLC et al.*, 2:14-cv-03111 (C.D. Cal.); and *Signal IP, Inc. v. Volkswagen Group of America, Inc. d/b/a Audi of America, Inc. et al.*, 2:14-cv-03113 (C.D. Cal.).[1]

---

[1] The parties are reminded of their continuing obligation to update their mandatory notices within 21 days of any change of the information listed in 37 C.F.R. § 42.8(b) stated in an earlier paper, including, *inter alia*, changes in related matters. 37 C.F.R. §§ 42.8(a)(3), 42.8(b)(2).
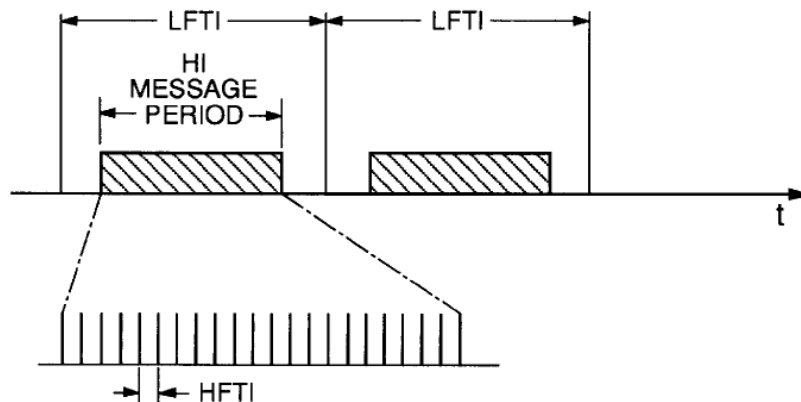
C. The '775 Patent

The '775 patent, entitled "Dual Rate Communication Protocol," issued September 21, 1999, from U.S. Patent Application No. 08/795,999, filed February 5, 1997. Ex. 1001, [21], [22], [45], [54].

The '775 patent describes a method for simultaneously communicating low- and high-rate information over a common communication link, such as for communicating occupant-presence and occupant-position information to a control circuit in an automotive supplemental inflatable restraint ("SIR"), or air-bag, system. *Id.* at Abstract, col. 1, ll. 5–9, col. 2, ll. 21–24. According to the '775 patent, because occupant-presence information changes only infrequently and slowly, such as when an occupant exits the vehicle or a child crawls from one seat to another, such information requires only a relatively slow update rate, on the order of seconds. *Id.* at col. 1, ll. 52–57. Occupant-position information, on the other hand, is subject to continuous and more rapid change and requires updating at a faster rate, on the order of milliseconds. *Id.* at col. 1, ll. 59–62. According to the '775 patent, "these divergent requirements would ordinarily necessitate separate systems and communication techniques," but "[i]t is . . . an object of the invention to communicate at low and high bandwidths over the same communication link." *Id.* at col. 1, l. 67–col. 2, line 1, col. 2, ll. 21–23. The '775 patent thus discloses a combined protocol that "can support both bandwidth needs separately or simultaneously," "consist[ing] of a low rate protocol for occupant presence information . . . combined with a high rate protocol for occupant position information." *Id.* at col. 2, ll. 38–40, 42–45; *see also id.* at col. 3, ll. 37–42. Each protocol is based on a fundamental time interval ("FTI")—specifically, a "low rate FTI

(LFTI) for the occupant presence component, and a high rate FTI (HFTI) for the occupant position component"—that "defines the shortest meaningful time interval for that protocol." *Id.* at col. 2, ll. 45–47, col. 3, ll. 43–46. According to the '775 patent, "[t]he ratio of the LFTI to the HFTI must be great enough to allow at [least] one complete high rate message to be contained within the LFTI and leave sufficient time remaining within the LFTI that its state can be determined without ambiguity." *Id.* at col. 3, ll. 47–51.

This relationship is illustrated in Figure 2 of the '775 patent, which is reproduced below.

FIG - 2

According to the '775 patent, Figure 2 "is a diagram of combined high rate and low rate message protocols according to the invention" and "shows two consecutive LFTI intervals," each having "a nominal logic state which is interrupted by the high rate message." *Id.* at col. 3, ll. 1–2, 52–55. As depicted, within a given LFTI, there can be multiple HFTIs, providing sufficient bandwidth to contain at least one complete high-rate message and still leave the remainder of the LFTI available for a portion of a low rate message. *Id.* at col. 3, ll. 57–60, col. 4, ll. 11–16. For example, if the LFTI

is 50 ms and the HFTI is 0.5 ms, then a high rate message requiring 54

HFTIs (i.e., 27 ms) would fit entirely within a single LFTI. *Id.* at col. 4, ll.

11–17. A low rate message, in contrast, requires multiple LFTIs to

complete. *Id.* at col. 4, ll. 43–44. Figure 4 of the '775 patent, reproduced
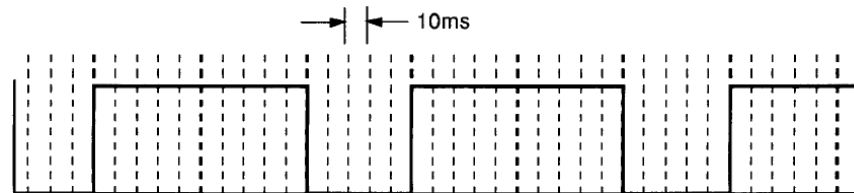
below, provides an example.

FIG - 4

Figure 4 "is a waveform illustrating the structure of a low rate message." *Id.*

at col. 3, ll. 5–6. According to the '775 patent, Figure 4 depicts the low rate

presence message for a rear facing infant seat, which, according to the

following table, consists of one low and two high binary values:

CONDITION	LOW PULSE WIDTH	HIGH PULSE WIDTH
Occupant Present	1	1
Occupant Not Present	2	2
Infant Seat Facing Rearward	1	2
Infant Seat Facing Forward	2	1

Id. at col. 4, ll. 31–42. That message "requires 150 ms and . . . continuously

repeated." *Id.* at col. 4, ll. 46–47. The signals corresponding to the other

conditions set forth in the above table require from two to four LFTIs, or

100–200 ms, to complete. *Id.* at col. 4, ll. 43–44.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.

fastcase®
Smarter legal research.