

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION

**AUTOCONNECT HOLDINGS LLC,**

***Plaintiff,***

**v.**

**TOYOTA MOTOR CORPORATION, ET**

**AL.,**

***Defendants.***

**Case No. 2:24-cv-00802-JRG-RSP**  
(Lead Case)

**AUTOCONNECT HOLDINGS LLC,**

***Plaintiff,***

**v.**

**GENERAL MOTORS LLC**

***Defendants.***

**Case No. 2:24-cv-00877-JRG-RSP**  
(Member Case)

**DEFENDANTS' PRELIMINARY INVALIDITY CONTENTIONS**

Pursuant to Patent Local Rules ("P.R.") 3-3 and 3-4 and the Court's First Amended Docket Control Order (Dkt. No. 53), Defendants Toyota Motor Corporation ("TMC"), Toyota Motor North America, Inc. ("TMNA"), Toyota Motor Engineering & Manufacturing North America, Inc. ("TME"), and Toyota Motor Sales, U.S.A, Inc. ("TMS") (collectively, the "Toyota Defendants"); and General Motors LLC ("GM") (collectively with the Toyota Defendants, "Defendants") hereby make the following initial Invalidity Contentions and provide accompanying document production.

in the art. Defendants identify the following prior art patents and publications as anticipating or rendering obvious, either alone or in combination with one or more other prior art references, one or more asserted claims of the Patents-in-Suit under pre-AIA 35 U.S.C. §§ 102(a), (b), and/or (e)/ AIA 35 U.S.C. §§ 102(a)(1) and/or (a)(2), and/or 35 U.S.C. § 103.

**1. U.S. Patent No. 8,793,034**

<b>Ex.</b>	<b>Country</b>	<b>Name/Patent/ Application No.</b>	<b>Filing/Publication/ Issue Date</b>	<b>Inventor(s)</b>	<b>35 U.S.C. Section 102</b>
A-1	US	7,653,467	Jan 24, 2004 / Aug. 26, 2004 / Jan. 26, 2010	Bachmann et al.	Pre-AIA 102(a), (b), and (e)
A-2	JP	2003312391	April 17, 2002 / Nov. 6, 2003 / N/A	Bando	Pre-AIA 102(a) and (b)
A-3	US	20080306656	April 22, 2006 / Dec. 11, 2008 / N/A	Baumann et al.	Pre-AIA 102(a), (b), and (e)
A-4	US	7768380	Oct. 29, 2007 / Nov. 27, 2008 / Aug. 3, 2010	Breed et al.	Pre-AIA 102(a), (b), and (e)
A-5	US	9,532,207	April 30, 2012 / March 6, 2014 / Dec. 27, 2016 Claims priority to provisional No. 61/480,354, filed on Apr. 28, 2011.	Cho et al.	Pre-AIA 102(e)
A-6	EP	2028062	July 30, 2008 / Feb. 25, 2009 / Jan. 12, 2011	Coon et al.	Pre-AIA 102(a), (b)
A-7	JP	2010163092	Jan. 16, 2009 / July 29, 2010 / July 24, 2013	Endo	Pre-AIA 102(a) and (b)
A-8	US	2007/0238491	Mar. 31, 2006 / Oct. 11, 2007 / N/A	He	Pre-AIA 102(a), (b), and (e)
A-9	US	2008/0215209	Feb. 28, 2008 / Sep. 4, 2008 / Nov. 3 2015	Ikeda et al.	Pre-AIA 102(a), (b), and (e)
A-10	JP	2008213634	March 2, 2007 / Sep. 18, 2008 / Aug. 15, 2008	Ikeda et al.	Pre-AIA 102(a) and (b)
A-11	JP	2010012823	July 1, 2008 / Jan. 21, 2010 / July 24, 2013	Ikeda	Pre-AIA 102(a) and (b)
A-12	US	7,602,947	Oct. 3, 2006 / Oct. 13, 2009 / Oct. 13, 2009	Lemelson et al.	Pre-AIA 102(a), (b), and (e)
A-13	EP	EP1211141	Oct. 31, 2001 / June 5, 2002 / N/A	Morehouse	Pre-AIA 102(a) and (b)
A-14	US	6,584,389	Sept. 11, 2000 / June 24, 2003 / June 24, 2003	Reimann et al.	Pre-AIA 102
A-15	JP	2009262654	April 23, 2008 / Nov. 12, 2009 / N/A	Suzuki et al.	Pre-AIA 102(a) and (b)

<b>Ex.</b>	<b>Country</b>	<b>Name/Patent/ Application No.</b>	<b>Filing/Publication/ Issue Date</b>	<b>Inventor(s)</b>	<b>35 U.S.C. Section 102</b>
A-16	JP	2008017227	July 6, 2006 / Jan. 14, 2008 / Oct. 13, 2010	Yasui	Pre-AIA 102(a) and (b)
	DE	102006054738	Nov. 21, 2006 / May 29, 2008 / N/A	Heinzelmann	Pre-AIA 102(a) and (b)
	JP	2003130649	Oct. 22, 2001 / May 8, 2003 / N/A	Yamada	Pre-AIA 102(a) and (b)
	JP	2006008098	Nov. 8, 2004 / Jan. 12, 2006 / N/A	Harumoto et al.	Pre-AIA 102(a) and (b)
	JP	2006131031	Nov. 4, 2004 / May 25, 2006 / N/A	Endo	Pre-AIA 102(a) and (b)
	JP	2006190206	Jan. 7, 2005 / July 20, 2006 / N/A	Nonaka et al.	Pre-AIA 102(a) and (b)
	JP	2007251383	March 14, 2006 / Sep. 27, 2007 / N/A	Yuhara	Pre-AIA 102(a) and (b)
	JP	2010208416	March 9, 2009 / Sep. 24, 2010 / N/A	Miyake et al.	Pre-AIA 102(a) and (b)
	US	20020197976	Oct. 15, 2001 / Dec. 26, 2002 / N/A	Liu et al.	Pre-AIA 102(a), (b), and (e)
	US	20030130649	Oct. 23, 2002 / July 10, 2003 / N/A	Murray et al.	Pre-AIA 102(a), (b), and (e)
	US	20050017842	July 25, 2003 / Jan. 27, 2005 / N/A	Dematteo	Pre-AIA 102(a), (b), and (e)
	US	20070118259	Sep. 27, 2006 / May 24, 2007 / N/A	Chernoff et al.	Pre-AIA 102(a), (b), and (e)
	US	20070238491	March 31, 2006 / Oct. 11, 2007 / N/A	He	Pre-AIA 102(a), (b), and (e)
	US	20070289800	June 19, 2007 / Dec 20, 2007 / N/A	Aoki et al.	Pre-AIA 102(a), (b), and (e)
	US	20090010502	Sep. 15, 2006 / Jan. 8, 2009 / N/A	Hackbarth et al.	Pre-AIA 102(a), (b), and (e)
	US	20100280711	Jan. 22, 2010 / Nov. 4, 2010 / N/A	Chen et al.	Pre-AIA 102(a), (b), and (e)
	US	6100811	Dec. 22, 1997 / Aug. 8, 2000 / Oct. 8, 2000	Hsu et al.	Pre-AIA 102(a), (b), and (e)
	US	6449572	Dec. 23 1999 / Sep. 10, 2002 / Sep. 10, 2002	Kurz et al.	Pre-AIA 102(a), (b), and (e)
	US	7379541	Sep. 10, 2004 / Feb. 10, 2005 / May 27, 2008	Iggulden et al.	Pre-AIA 102(a), (b), and (e)
	US	7653467	Jan. 24, 2004 / Oct. 12, 2006 / Jan. 26, 2010	Bachmann et al.	Pre-AIA 102(a), (b), and (e)
	US	8977408	Sep. 23, 2011 / March 3, 2015 / March 3, 2015	Cazanas et al.	Pre-AIA 102(e)
	WO	2009000743	June 19, 2008 / Dec. 31, 2008 / N/A	Diebold et al.	Pre-AIA 102(a), (b)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
	WO	2011111056	Aug. 31, 2010 / Sep. 15, 2011 / N/A	Jayaraman et al.	Pre-AIA 102(a), and (e)
	US	20120303178	May 26, 2011 / Nov. 29, 2012 / N/A	Hendry et al.	Pre-AIA 102(e)
	JP	2006117198	Oct. 25, 2004 / May 11, 2006 / N/A	Ogawa et al.	Pre-AIA 102(a), (b)
	US	20090228908	Jan. 6, 2009 / Sept. 10, 2009 / Oct. 11, 2011	Margis et al.	Pre-AIA 102(a), (b), and (e)
	JP	2010199717	Feb. 23, 2009 / Sept. 9, 2010 / N/A	Kitahara	Pre-AIA 102(a) and (b)
	US	20070067415	Sept. 20, 2006 / Mar. 22, 2007 / N/A	Kawaguchi	Pre-AIA 102(a), (b), and (e)
	US	6937732	April 4, 2001 / Dec. 6, 2001 / Aug. 30, 2005	Ohmura et al.	Pre-AIA 102(a), (b), and (e)
	JP	JP2003283421	May 10, 2002 / Oct. 3, 2003 / Dec. 12, 2007	Fujita et al.	Pre-AIA 102(a) and (b)
	US	2012/0254960	Mar. 31, 2011 / Oct. 4, 2012 / N/A	Lortz	Pre-AIA 102(e)
	US	8,473,575	Aug. 26, 2010 / March 1, 2012 / June 25, 2013	Marchwicki et al.	Pre-AIA 102(e)
	US	20070208861	Mar. 2, 2006 / Sept. 6, 2007 / N/A	Zellner et al.	Pre-AIA 102(a), (b), (e)
	NPL	Image-Based Passenger Detection And Localization Inside	Jan. 2000	Faber	Pre-AIA 102(a) and (b)
	NPL	A Drowsy Driver Detection System For Heavy Vehicles	1998	Grace et al.	Pre-AIA 102(a) and (b)
	NPL	Supporting Implicit Human-to-Vehicle Interaction: Driver Identification from Sitting Postures	Aug. 2008	Riener et al.	Pre-AIA 102(a) and (b)
	NPL	Smarteye - Vehicle Security System Using Facial Recognition	May 2007	Ritikos	Pre-AIA 102(a) and (b)
	NPL	See also documents related to system art listed <i>infra</i> II.C			

solutions available in relation to such missing express disclosure and/or because known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. The combination of prior art references identified in these contentions would have been obvious because the combination represents the potential options for a combination of structure/functions/features that could be achieved with a reasonable expectation of success in view of the predictability in the computing (and/or automotive) arts in the relevant timeframes. One of ordinary skill in the art would have been motivated to create, and would have understood the ready availability, of the combinations identified in these contentions using: known methods to yield predictable results; known techniques performed in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. Also, market forces in the industry, and the desire to improve features and performance, would motivate the addition of features to systems as they become available, become less expensive, become more commonly used, provide better performance, reduce costs, size or weight, or predictably achieve other clearly desirable results.

**A. Regarding the '034, '296, and '243 Patents**

**Analogous Art.** Each of the references cited in the Exhibit A, G, and K charts are analogous prior art to the '034, '296, and '243 patents and to one another because they are directed to the same or similar fields and aim to solve the same or similar problems. For example, all of the prior art references cited in the Exhibit A, G, and K charts are directed to systems and methods for accessing and implementing user profiles that contain settings for adjustable components of the vehicle. *E.g.*, Ikeda '209 at Abstract, Figure 1, Figure 2, [0005], [0009], [0061], [0063], [0065], [0092], [0093]; Ikeda '823 MT at claim 1, [0001], [0058], [0061], [0073]-[0075], [0114]; Ikeda '634 MT at claim 1, [0001], [0007], [0028], [0050], [0068]; He '491 at

Figure 3, [0002], [0009], [0011], [0013], [0027], [0033], claim 11; Morehouse '141 at Abstract, [0001], [0002], [0007], [0021]; Yasui '227 MT at [0064]; Bachmann '467 at Abstract, 4:12–21, 6:3–12, 6:21–33, 6:50–65; Suzuki '654 MT at claim, [0004], [0010], [0012]–[0014]; Cho '207 at 4:15–26, 7:31–37, 12:3–14, 13:39–14:5; Baumann '656 at [0001], [0006], [0012]; Bando '391 MT at claims 1 and 3–6, [0001], [0047], [0048]; Lemelson '947 at Figure 3, 11:55–12:6; Coon '062 at Abstract, [0013], Figures 2A–2D; Breed '380 at 112:8–35; Endo '092 MT at [0001], [0007], [0008], [0021], [0062]; Breed '854 at 30:29–47, 86:63–87:7; Reimann '389 at Abstract, 2:27–42; Demeniuk '289 at 3:26–28, 19:50–56; Hendry at [0002], [0026], [0030], Figure 4a, Figure 4b; Penilla '900 16:31–53, 17:41–52, 19:9–17, 20:35–42, Figure 6, Figure 7, Figure 10.

**The recited features were well-known in the art.** The prior art references cited in the Exhibit A, G, and K charts disclose each of the purported claimed inventions recited in the '034, '296, and '243 patents. For example, claims 1, 9, and 14–16 of the '034 patent, claims 1, 7, 8, 9, 14, 15, and 20 of the '296 patent, and claims 1 and 11 of the '243 patent recite systems and methods for accessing and implementing user profiles that contain settings for adjustable components related to a location inside the vehicle, along with various techniques for implementing these systems and methods, including determining the presence of a user, identifying the user, and determining whether a request to access a profile is authorized. Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art were well aware of systems, methods, and computer readable mediums for such configurations. *E.g.*, He '491 at [0002], [0026]; Rovik at 1:22–47; Hafner at [0061]; Ikeda '209 at [0013], [0079], [0093]; Ikeda '634 at [0050]; Ikeda '823 at claim 1, [0011]; Ikeda '634 at claim 10, [0060];

Morehouse '141 at [0002]; Yasui '227 at [0022], [0048]; Bachmann '467 at Abstract, 6:3-12; Suzuki '654 at claim 2, [0006]; Endo '092 at [0012]-[0013].

Claims 7 and 17 of the '034 patent further recite storing settings in cloud storage. Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art were well aware of systems, methods, and computer readable mediums for such configurations. *E.g.*, Yasui '227 at [0103]; Ikeda '209 at [0072], [0092]; Ikeda '823 MT at [0101]; Ikeda '634 MT at [0067]; Cho '207 at 12:60-13:3; Baumann '656 at [0016]-[0017]; Breed '380 87:62-88:7; Breed '854 at 57:44-52; Cazanas at 1:44-54; *see also* Margis '908, Kitahara '717, Kawaguchi '415, Ohmura '732, Fujita '421; *see also* Lortz '960 at [0050] ("Access rights are directed to the cloud-based service providing control and services to the vehicle. Determining access rights may involve identifying who is providing the access rights....a determination can be made if an owner or a person with authority is providing the access rights."); Marchwicki '575 at 1:27-2:36 (cloud services includes a provision of data or execution of an application from a device); Kawaguchi '415 at [0007]-[0008], [0026]-[0027], [0107]-[0110], [0113], [0121]-[0122], [0128]-[0130], [0135]-[0136], [0144]-[0145], [0177]-[0179], [0189]-[0191], Figs. 1-3, 6-7, 9-10; Kitahara '717 at Figs. 1-3, 6, Claims 2-3, [0001], [0003]-[0004], [0008]-[0012], [0014]-[0015], [0017], [0019]-[0021], [0023]-[0025], [0029], [0031]-[0032], [0056]-[0057], [0064]; Zellner '861 at [0091] ("Still other configurations can provide priority settings between the user device 106 and the remote network 210 (universally for the environment, for each setting, for each type of setting, for particular users, etc.)").

Claim 8 of the '034 patent and claims 3, 4, 11, and 17 of the '296 patent recite specific hardware to which settings can apply, such as a seat's position, a mirror's position, or a radio's setting. Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art

were well aware of systems, methods, and computer readable mediums for such configurations. *E.g.*, Ikeda '209 at Fig. 1,, [0005], [0064]; Ikeda '823 MT at [0058]; Ikeda '634 MT at [0049]; He '491 at [0009]; Morehouse '141 at [0016]; Yasui '227 MT at [0059]; Bachmann '467 at 3:58-4:11; Suzuki '654 MT at [0004]; Cho '207 at 12:14-22; Bauman '656 at [0010]; Bando '391 MT at [0015]-[0017]; Lemelson '947 at 11:55-12:6; Coon '062 at [0013]; Breed '380 at 112:8-35; Endo '092 MT at [0002]; Breed '854 at 86:63-87:7; Singh at Abstract.

Claims 10 and 11 of the '034 patent, claims 5, 12, and 18 of the '296 patent, and claims 7 and 17 of the '243 patent recite various means of identifying or verifying a user, including using biometric data and image data. Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art were well aware of systems, methods, and computer readable mediums for such configurations. *E.g.*, Ikeda '209 at Abstract, [0062]; Ikeda '823 MT at [0057]; Ikeda '634 MT at [0048]; Yasui 227 MT at [0006]; Suzuki '654 MT at [0006]; Singh at Abstract, [0034]; Hendry '178 at [0017], [0020], [0030]; Poulson '795 at [0037], [0045]; Rovik '231 at 10:35-57; Addepalli '256 at 3:54-60; Bell '491 at [0035]; Cazanias '408 at 6:50-62; Forstall '070 at [0047]; Hafner '903 at [0074]; Inada '968 at [0042]; Lortz '960 at [0050]; Penilla '900 at 15:25-30; Protopapas '931 at [0070]; Sands '526 at [0065]; Wilkens '655 at [0046]; Yester '603 at 4:44-50.

Claims 6, 13, and 19 of the '296 patent recite determining whether a user adjusted one of the adjustable components in the vehicle and then saving that change to a user profile. Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art were well aware of systems, methods, and computer readable mediums for such configurations. *E.g.*, Ikeda '209 at [0144]; Ikeda '823 MT at [0045]; Ikeda '634 at [0056]; Morehouse '141 at [0002]; He '491 at [0021]; Bachman '467 at 6:50-65.



Claims 1-20 of the '243 patent recite receiving a request to access a user profile, determining whether the request is authorized, and various techniques for implementing and performing the claimed systems and methods, such as using user profiles based on templates, including templates common to more than one vehicle manufacturer. Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art were well aware of systems, methods, and computer readable mediums for such configurations. *E.g.*, Hendry at [0033]; Rovik at 9:3-53.

Thus, the prior art references identified herein, individually and in combination, demonstrate that each purported feature of the '034, '296, and '243 patents was well known to those of ordinary skill in the art.

**The claimed systems and methods would have been obvious to a skilled artisan at the times of the alleged inventions.** A skilled artisan would have been motivated to modify or combine teachings from charts A, G, and K to develop the systems and methods recited in the '034, '296, and '243 patents, and a skilled artisan would have had a reasonable expectation of success in making these modifications and combinations without undue experimentation and using methodologies commonly understood in the art. A skilled artisan would have understood that these references, as well as the skilled artisan's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

Further non-limiting examples as to motivations to combine are discussed below.

In the context of accessing and implementing user profiles that contain settings for adjustable components of the vehicle a skilled artisan would have been motivated to automatically identify and apply a user's preferred settings. For example, automatically

identifying and applying a user's preferred settings would have reduced or eliminated the need to manually adjust the many components of a vehicle each time a user enters the vehicle. Therefore, multiple users could share a vehicle without interfering with each other's preferred configuration, and a single user could use an unfamiliar vehicle and receive the benefits of the user's preferred configuration without having to manually adjust each component. *E.g.*, Ikeda '209 at [0005]-[0009] ("Conventionally, in a vehicle, various setups are possible, such as a seat position, a steering wheel position, angles of various mirrors, an air-conditioning setup, an audio system setup, and a navigation system setup. . . . However, when two or more users share the same vehicle to drive, a driving environment must be set up whenever a driver changes."); Morehouse '141 at [0002] ("Therefore, when one of the users uses the automobile, the seat may be automatically adjusted to the user's desired seat position through entry of a code.").

Similarly, a skilled artisan would have been motivated to combine any of the references in Exs. A-1 through A-16 with any reference disclosing the storage of a user's settings in cloud storage. For example, a skilled artisan would have recognized that storing the user's settings in cloud storage is a straightforward way to allow the system to apply the settings to a new vehicle regardless of where a user first interacts with the vehicle. *E.g.*, Yasui '227 at [0103] ("Furthermore, at least a portion of the various data in the memory unit . . . may be stored in a data server outside the automobile and downloaded to the automobile via wireless communication for use.").

Likewise, a skilled artisan would have been motivated to automatically adjust all available hardware for which a user had saved settings. For example, a skilled artisan would have recognized that adjusting all of the available hardware to which settings can apply is the only way to achieve the goal of eliminating the need for manual adjustment. Ikeda '209 at [0063]

(“Various control units 51-59 enable a setup (change) of the driving environment according to a driver's liking. In the present embodiment, a seat position controller 51, a steering wheel position controller 52, a mirror attitude controller 53, an air-conditioning controller 54, an audio controller 55, a navigation controller 56, an information display control device 57, an engine controller 58, and a traveling control device 59 are mounted.”); Yasui '227 MT at [0059] (“In addition, other hospitality operating units are connected, such as an air conditioner 514, a car audio system (car stereo) 515, an electric seat 516 and a drive unit 517 for adjusting the angles of side mirrors and rearview mirrors, a car navigation device 534, an assist mechanism for opening and closing doors (hereinafter referred to as a door assist mechanism) 541, a fragrance generating unit 548 for releasing a fragrance inside the vehicle, an ammonia generating unit 549 for notifying and waking up a driver from severe physical condition (including a state of severe drowsiness) (attached to the center of the steering wheel so as to spray ammonia toward the driver's face), a seat vibrator 550 for alerting the driver and waking him up from drowsiness (embedded in the bottom of the seat or in the backrest), a steering wheel vibrator 551 (attached to the shaft of the steering wheel), and a noise canceller 1001B for reducing noise inside the vehicle.”)

Further, a skilled artisan would have been motivated to use biometric data such as image data to identify or authenticate a user. For example, a skilled artisan would have recognized that different methods of authentication or identification, including the use of biometric data such as image data, provides minimal interruption to the user as it allows the vehicle to identify a user when the user enters a vehicle, without requiring further action from the user. Ikeda '209 at [0062] (“Here, the personal identification device 41 is for authenticating a user sitting in the driver's seat based on his or her physical feature. To be specific, a camera 42 is installed ahead of

the driver's seat inside the vehicle 100, and can take an image of a face of a user sitting in the driver's seat. The personal identification device 41 performs authentication by detecting a facial feature point from the taken image of the camera 42 as the driver's physical feature. Other devices for other in-vehicle systems, such as an inattentive driving prevention device, may be used as the personal identification device 41 and the camera 42.”); Yasui ’227 MT at [0020] (“The photographing subject detection unit 31 is provided corresponding to each photographing device 15, and is a proximity sensor that detects a photographing subject that exists within the photographing field of view of the photographing device 15 or a photographing subject approaching the photographing field of view. In this embodiment, the photographing target detection unit 31 corresponding to the outside-vehicle photographing device 15 may be a well-known device that detects intrusion into the measurement area by outputting infrared rays, high frequency waves, ultrasonic waves, etc. In addition, the photographing subject detection unit 31 corresponding to the in-vehicle photographing device 15 may adopt a proximity sensor similar to that described above, or may be a seating sensor provided on the seat or one that detects actions related to the opening and closing of the door (e.g., gripping the door handle).”)

A skilled artisan would have had a reasonable expectation of success in making any such modifications. For example, a skilled artisan would further have known how to implement systems and methods for accessing, modifying, and implementing user profiles that contain settings for adjustable components of the vehicle including determining when the user’s settings have changed by comparing current user settings to saved user settings. *E.g.*, He ’491 at [0002], [0026]; Penilla ’900 at 26:20-30, 22:53-23:2; Hendry at [0027], [0030], Figure 3a, Figure 3b; Forstall at [0090]-[0092], [0099]; Divine at [0061]; Ikeda ’209 at [0013], [0079], [0093]; Ikeda ’634 at [0050]; Ikeda ’823 at claim 1, [0011]; Ikeda ’634 at claim 10, [0060];

Morehouse '141 at [0002]; Yasui '227 at [0022], [0048]; Bachmann '467 at Abstract, 6:3-12; Suzuki '654 at claim 2, [0006]; Endo '092 at [0012]-[0013].

Further, a skilled artisan would also have known how to implement systems and methods for accessing and implementing user profiles that contain settings for adjustable components of the vehicle including by receiving a request to access a user profile and determining whether the request is authorized. *See, e.g.*, Hendry '178 at [0017] (“[T]he external device 100 is initially paired to the communications module 104. In embodiments where the communications module 104 operates according to the Bluetooth<sup>®</sup> protocol, during the pairing state, the communications module 104 will generate and assign a key to the external device 100 and the external device 100 will verify the key. As used herein, the term key refers to any suitable code, password, passcode, or string used to authenticate a device.”); Hendry '178 at [0020] (“Once the external device 100 is verified/authenticated, the communications module 104 transmits a signal via a communication bus in the vehicle 10 to at least one of the HVAC module 108, the seat module 112, the A/V module 116, and the lighting module 120 notifying the modules that the external device 100 associated with the user is in the vicinity of the vehicle 10.”); Hendry '178 at [0030] (“Once a device identifier or user has been associated with the external device 100, the user settings system 102 can begin storing settings corresponding to the external device 100. This can occur in any suitable fashion. For instance, the user can set various settings in the vehicle 10, as shown at step 316 and can command the user settings system to store the settings, as shown at step 318, via the user interface 122. Alternatively, the user can be prompted by the user interface 122 to set his or her personal settings.”); Poulson '795 at [0037] (“[I]f a user desires to select a profile for an automobile, such as seat settings, audio settings, engine performance settings, climate control settings, etc., the user may wish to use his or her name as the profile name. The process of

selecting a name in accordance with step 114 can be performed at this point, or optionally can be performed at step 124, as disclosed below.”); Poulson ’795 at [0045] (“[T]he stored profile can be encrypted and/or locked (such as with a password) when stored to prevent unauthorized or unintentional changes and/or usage. This security may include one or more authentication methods and technologies such as biometric identification (retinal scan, fingerprint, voice authentication, etc.), SmartCards, USB keys, etc.”); Rovik ’231 at 10:35-57 (“[T]he telematics unit 101 identifies a user, such as the user 10 or the user 12, with a user key associated with the user. In the example embodiment of FIG. 7A, the telematics unit 101 can identify the user in several different ways. For example, the user can be identified using the biometric sensor 144 and then matching biometric information accepted by the biometric sensor 144 with a user key stored in the memory 103 of the telematics unit 101.... “[T]he telematics unit 101 can request if the user would like to download user settings via the user interface 142 once inside the vehicle 100. The user can then enter a personal identification number (PIN) or their user key into the user interface 142 so as to identify the user with the user key.”); Singh at [0034] (“The Controller Unit will act like a central unit which will control the entire process from validating the finger impression of the driver to setting the attributes or preferences of the driver who will be driving the vehicle. The Controller Unit will control the validation of the driver by verifying his password, finger impression recording and matching process, accessing the operator database to locate the user files based on the User Profile and then applying the settings according to the preferences of the driver.”); Addepalli ’256 at 3:54-60 (“Communication system 10 may include on-board unit (OBU) 30 that validates credentials of each agent, grants appropriate levels of access, manages potential conflicts (e.g., by assigning priority to different agents), and provisions the appropriate wireless/mobile connectivity.”); Bell ’491 at [0035] (“A public key stored on the wireless device

104 may be the unique identifier 114. If the wireless device 104 is primarily or exclusively used by one user, then the unique identifier 114 may be used to identify that user. The telephony device 106 may store the unique identifier 114 in the database 122 and associate user data 126 with the unique identifier 114. The user data 126 may include information relating to the user or a group of users of the wireless device 104, such as a name, a phone number, a UID, user schedule information, user meeting information, and/or an account number.”); Cazanas ’408 at 6:50-62 (“[T]he telematics unit 16 detects or receives an identification associated with a user, upon entry of the user to drive the vehicle 14. The user identification can be received in a variety of ways. For example, the user may input an identifier manually, through the user interface element(s) 68 in the vehicle 14....the example relies on an identifier received from a keyless entry token or fob 18.”); Forstall ’070 at [0047] (“Other sensors 316 can also be connected to the peripherals interface 306, such as ... a biometric sensor, ... to facilitate related functionalities.”); Hafner ’903 at [0074] (“When a user, such as user 412, creates a set of preferences and/or updates a pre-existing set of preferences for the user, vehicle preference service 402 uses principal identification mechanism 416 to identify the user that created and/or updated the set of preferences so that the correct set of preferences may later be retrieved when energy transaction planner 422 requests preferences for that particular user. In other words, principal identification mechanism 416 authenticates users of the preference service who request input/access to their preferences, for example, and without limitation, to initiate a planning phase.”); Inada ’968 at [0042] (“The keyless entry system...is combined with a personal authentication system.”); Lortz ’960 at [0050] (“Access rights are directed to the cloud-based service providing control and services to the vehicle. Determining access rights may involve identifying who is providing the access rights....a determination can be made if an owner or a person with authority is providing

the access rights.”); Penilla ’900 at 15:25-30 (“The user supplies login credentials to a vehicle login interface which are sent to the remote distributed or centralized user login authentication system or onboard vehicle authentication system. The processing logic receiving the login credentials processes the data and returns an authentication response to the user attempting to log in.”); Protopapas ’931 at [0070] (“In general, process 800 describes a two tiered authentication process whereby a user may first gain access to the vehicle via a general input (e.g., via transmitter or key fob). A second form of authentication may then be based on a user input. Upon matching the user input with a saved user identification, the profile associated with the user identification is loaded, thereby enabling the selected features within the profile.”); Sands ’526 at [0065] (“The criteria for determining whether a match is sufficiently close to allow the user to be authenticated is determined by the authentication policy engine.”); Wilkens ’655 at [0046] (“User A enters a unique username and password combination for use by the CRS 10 to identify and authenticate User A in subsequent visits to the CRS 10.”); Yester ’603 at 4:44-50 (“Upon receipt and verification/validation (if required) of the user preference data from the portable storage device 12, processor 108 will generate the appropriate control signal(s) to implement the desired preference or setting, or update a system database as required.”).

A person of ordinary skill would also have known techniques and strategies for implementing the above-described systems and methods, including detecting a user’s device in a location of the vehicle, storing data in the cloud, using an image sensor to detect and identify a user, and basing user profiles on templates, including templates common to more than one vehicle manufacturer. For example, one skilled in the art would have looked to references such as Rovik which discloses a system for sharing user profile settings across vehicles via a server. Rovik at Abstract, 1:5-2:29. Rovik teaches user profiles that include common setting options and



common organization (i.e., templates) such that they can be used to generate user settings for different vehicles. *See* Rovik at 9:3-51. Thus, one skilled in the art would have naturally looked to user profile templates in creating user profiles. *See, e.g.,* Penilla '900 at 16:31-42 ("FIG. 6 illustrates an example of utilizing a profile of the user, to access cloud services 120, and a database 115, in accordance with one embodiment of the present invention. In this example, a user may utilize a connected device 110 to access cloud services 120. Using the connected device 110, the user, in this case Bob, is accessing his universal profile settings. His profile settings may include settings that have been selected before in earlier sessions, or default settings implemented by a vehicle manufacturer, or another user such as an administrator. In the example, the user may access particular active settings managed by cloud services 120 which can cause Bob's profile in database 115 to be updated."); Protopapas '931 at [0033] ("Default settings may allow the user to accept the default settings stored within the database 120 and apply them to the new user profile. This may create a short cut for creating a new user thus saving time. Moreover, selecting the default settings may ensure that all of the appropriate features are selected and avoid the possibility of missing, or not selecting, an important feature (e.g., the restraint warning). Although not shown, by selecting the default settings option, a user may be presented to select a category, such as primary or secondary, associated with the new member. Each category may have its own default settings, differing from the other. For example, a primary member may have only a select few features selected while a secondary member may have nearly all of the features enabled."); Protopapas '931 at [0042] ("[I]t may be determined whether the default settings are to be accepted for the new member profile. The default settings may be stored in the database 120. Moreover, the default settings may vary whether the new member is identified as an administrator or not and whether the new member is to be classified as a primary or secondary

member. For example, the default settings for an administrator may include fewer limitations on the vehicle use than that of a non-administrator member.... These guest profiles may include certain default settings. Certain limitations as to the default setting and customization of certain settings may be placed based on the type of user (e.g., administrator vs. non-administrator) creating the guest profile. For example, if a non-administrator member is creating the new member/guest profile, the non-administrator may not be permitted to adjust or modify the default settings.”); Rovik ’231 at 9:14-26 (“The user profiles 510 and 512 include several physical attributes of the users 10 and 12, respectively, which can be used to generate new user settings for vehicles or vehicle types that the users have not driven before. For example, each of the user profiles 510 and 512 include a user eye point, user hip point, and arm length for the users 10 and 12, respectively. These example user attributes can, for example, represent a measurement relating to the location of the user’s eyes, hips, and hands. Alternatively, these user attributes can represent a deviation from an average location for an eye, hip, or hand. Such average locations can be obtained from guidelines established by standards groups, such as the Society for Automotive Engineers (SAE).”).

As a further example, one skilled in the art would have looked to other references, and it would have been obvious to include in vehicle systems that disclose validating and/or authenticating users, additional details related to enabling remote user-profile storage, transfer of user profiles among vehicles, and resolving conflicts between local and updated user settings such as Poulson, which describes “creating, applying, using and retrieving profile information,” including a vehicle with driver preferences. Poulson at Abstract; *See* Poulson [0085-0087] (disclosing that “if the selected profile has been previously stored in the external location, the user may be prompted to confirm that the profile information should be changed or updated, as

well as to determine whether the profile should be completely overwritten or if only the attributes selected for storage should be updated (allowing the user to easily update a small number of settings without having to redefine the entire profile).”

Thus, one skilled in the art would have been motivated to develop a system that uses the combinations of these features in the same way allegedly disclosed in the Asserted Patents, and to do so without undue experimentation using methodologies that were commonly understood in the art. The prior art references identified herein, individually and in combination, demonstrate that each of the purported features of the Asserted Patents was known to those of ordinary skill in the art. For example, person of ordinary skill in the art would have readily understood the advantages of determining whether a user has settings, storing these settings in a cloud-based server, and basing user profiles on templates, as detailed above. Such a person would have known that these methods of implementing the basic disclosed system would be basic design features of such systems. Thus, a person of ordinary skill in the art would have readily recognized and appreciated that including these capabilities in an electronic vehicle key system would provide functionalities that are desirable, if not necessary, in certain applications.

Based on Defendants’ present understanding of the asserted claims of the Asserted Patent and Plaintiff’s Infringement Contentions, the asserted claims are obvious in light of the disclosures outlined in Exhibits A, G, and K, each of which yields predictable results. Specifically, any combinations of prior art in Exhibits A, G, and K would have involved (A) combining prior-art elements according to known methods to yield predictable results; (B) use of a known technique to improve similar devices in the same way; (C) applying a known technique to a known device ready for improvement to yield predictable results; and/or (D) a teaching, suggestion, or motivation in the prior art.

**It would have been obvious to combine any reference charted in the Exhibit A, G, and K charts with any one or more other references charted in the Exhibit A, G, and K charts.** Some exemplary combinations of references include:

- Ikeda '209 in view of Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Ikeda '634 MT in view of Ikeda '209, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Ikeda '823 MT in view of Ikeda '209, Ikeda '634 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Suzuki '654 MT in view of Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491,

Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.

- Yasui '227 MT in view of Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Baumann '656 in view of Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Breed '380 in view of Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.

- Cho '207 in view of Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Coon '062 in view of Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Lemelson '947 in view of Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, Demeniuk '289, Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, and/or Yester '603.
- Cazanias in view of Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062,

Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467,  
Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.

- Hendry in view of Cazanias, Singh, Rovik, Hafner, Penilla '900, Poulsen '795,  
Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon,  
Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT,  
Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062,  
Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467,  
Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.
- Singh in view of Cazanias, Hendry, Rovik, Hafner, Penilla '900, Poulsen '795,  
Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon,  
Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT,  
Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062,  
Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467,  
Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.
- Rovik in view of Cazanias, Hendry, Singh, Hafner, Penilla '900, Poulsen '795,  
Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon,  
Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT,  
Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062,  
Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467,  
Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.
- Hafner in view of Cazanias, Hendry, Singh, Rovik, Penilla '900, Poulsen '795,  
Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon,  
Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT,

- Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.
- Penilla '900 in view of Cazanias, Hendry, Singh, Rovik, Hafner, Poulsen '795, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.
  - Poulsen '795 in view of Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.
  - Poulsen '795 in view of Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Forstall, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands, Tadayon, Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.
  - Forstall in view of Cazanias, Hendry, Singh, Rovik, Hafner, Penilla '900, Poulsen '795, Addepalli, Bell, Divine, Inada '968, Lortz, Protopapas, Sands,



Tadayon, Tuukkanen '837, Wilkins, Yester '603, Ikeda '209, Ikeda '634 MT, Ikeda '823 MT, Suzuki '654 MT, Yasui '227 MT, Baumann '656, Breed '380, Cho '207, Coon '062, Lemelson '947, He '491, Morehouse '141, Reimann '389, Bachmann '467, Bando '391 MT, Endo '092 MT, Breed '854, and/or Demeniuk '289.

It would further been obvious to combine any system identified in Section II.C.1, 7, or 11 with any of the references charted in Exhibits A, G, and K.

Defendants reserve the right to further specify further motivations to combine the prior art in response to positions that Plaintiff may take later in this case and as fact, expert, and third-party discovery proceeds. Defendants may rely on any and all portions of the prior art, the accompanying exemplary claim charts, other documents, and expert testimony to establish that a person of ordinary skill in the art would have been motivated to modify or combine the prior art so as to render the claims invalid as obvious.

**B. Regarding the '491 and '560 Patents**

**1. '491 Patent**

Each of the references cited in Exhibit B charts are directed to the same, or similar, fields of endeavor. In particular, the cited prior art references relate to the field of vehicle integrated systems. In addition, each reference is directed to solving the same, or similar, problems: to provide an integrated vehicle environment to enhance user experience while driving. With these shared goals in mind, and a limited number of options available to assist in achieving that objective, a person of ordinary skill in the art would have been motivated to consider the disclosed techniques and systems and combine their teachings to develop the alleged inventive systems claimed in the '491 Patent.

The prior art references cited in the Exhibit B charts disclose each of the purported claimed inventions recited in the '491 Patent. For example, claim 11 recites a vehicle

unique ID within the Smart Key using the same communications methods the Smart Key System employed.

Other exemplary combinations of references that render obvious the asserted claims of the '697 and '153 Patents include:

1. Gordon in view of any one or more of Smart Key, Taniguchi, Mimura, Otaki, or Ikeda '209, and in further view of the knowledge of a POSITA.
2. Ikeda '209 in view of any one or more of Smart Key, Taniguchi, Gordon, and/or the knowledge of a POSITA.
3. Mimura in view of any one or more of Smart Key, Taniguchi, Gordon, and/or the knowledge of a POSITA.
4. Evans in view of any one or more of Smart Key, Ikeda '209, Gordon.
5. Ghabra in view of any one or more of Gordon, Evans, or Taniguchi.
6. Girard in view of any one or more of Gordon, Evans, or Taniguchi.

Any of the foregoing combinations would render the asserted claims of the '153 or '697 Patent obvious at least because they (1) demonstrate nothing more than a combination of prior art elements according to known methods to yield predictable results, (2) they apply known techniques (*e.g.*, storing a digital key in a mobile device) to known devices, methods, or products ready for improvement (*e.g.*, passive, two-way door unlocking or engine starting) to yield predictable results, or (3) are nothing more than predictable variations of known work in one field of endeavor (*e.g.*, passive, two-way door unlocking or engine starting) based on design incentives or other market forces (proliferation of smart phones in the market capable of carrying out the same passive, two-way door unlocking or engine starting using the same communications protocols and technology (*e.g.*, RFID and/or Bluetooth<sup>®</sup>)).

1. Taniguchi in view of any one or more of Gordon, Mimura, Ghabra, Girard, or Smart Key, and further in view of the knowledge of a POSITA.
2. Otaki in view of any one or more of Gordon, Mimura, Ghabra, Girard, or Smart Key, and further in view of the knowledge of a POSITA.
3. Gordon in view of Morehouse, and further in view of the knowledge of a POSITA.
4. Eguchi in view of one or more of Ikeda '209, Evans, or Morehouse.
5. Kubota in view of one or more of Ikeda '209, Evans, or Morehouse.

Any of the foregoing combinations would render the asserted claims of the '186 Patent obvious at least because they (1) demonstrate nothing more than a combination of prior art elements according to known methods to yield predictable results, (2) they apply known techniques (*e.g.*, accessing a user account) to known devices, methods, or products ready for improvement (*e.g.*, zone-based, passive, two-way door unlocking or engine starting) to yield predictable results, or (3) are nothing more than predictable variations of known work in one field of endeavor (*e.g.*, zone-based, passive, two-way door unlocking or engine starting) based on design incentives or other market forces (proliferation of smart phones in the market capable of carrying out the same zone-based, passive, two-way door unlocking or engine starting using the same communications protocols and technology (*e.g.*, RFID and/or Bluetooth<sup>®</sup>)).

**E. Regarding the '786 Patent**

Each of the references cited in the Exhibit D tables are analogous prior art because they are directed to the same or similar fields and aim to solve the same or similar problems. For example, all of the prior art references cited in the Exhibit D charts are directed to vehicles and their systems, networks, and components, and each reference discloses enhancements to an automobile user, operator, and vehicle owner's interactions, experience, and control of the

notice of the art. Defendants reserves the right to supplement these contentions to rely on further content from certified translations of those same references.

Defendants' search for prior art references, additional documentation, and/or corroborating evidence concerning prior art systems is ongoing. Defendants reserve the right to continue to supplement their production as Defendants obtain additional prior art references, documentation, and/or corroborating evidence concerning invalidity during the course of discovery.

Dated: April 1, 2025

Respectfully submitted,

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