

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

LONGHORN AUTOMOTIVE GROUP LLC,

Plaintiff,

v.

MITSUBISHI MOTORS CORPORATION,

Defendant.

Case No. 2:24-cv-

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Longhorn Automotive Group LLC (“LAG” or “Plaintiff”) for its Complaint for patent infringement against Defendant Mitsubishi Motors Corporation (“Mitsubishi” or “Defendant”) alleges as follows:

THE PARTIES

1. LAG is a limited liability company organized and existing under the laws of the State of Texas, with its principal place of business located at 104 E. Houston Street, Marshall, Texas 75670.

2. Upon information and belief, Mitsubishi is a Japanese corporation with its principal place of business located at Mitsubishi Shoji Building, 3-1, Marunouchi 2-Chome, Chiyoda-ku, Tokyo, 100-8086, Japan. Mitsubishi is one of the largest car manufacturers and sellers in the world and in the United States. Upon information and belief, Mitsubishi does business in Texas and in the Eastern District of Texas, directly or through intermediaries.

JURISDICTION

3. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.* This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

4. This Court has personal jurisdiction over Defendant. Defendant regularly conducts business and has committed acts of patent infringement and/or has induced acts of patent infringement by others in this Judicial District and/or has contributed to patent infringement by others in this Judicial District, the State of Texas, and elsewhere in the United States.

5. Venue is proper in this Judicial District pursuant to 28 U.S.C. § 1391 because, among other things, Defendant is not a resident in the United States, and thus may be sued in any judicial district pursuant to 28 U.S.C. § 1391(c)(3).

6. Defendant is subject to this Court's jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to its substantial business in this State and Judicial District, including (a) at least part of its past infringing activities, (b) regularly doing or soliciting business in Texas, and/or (c) engaging in persistent conduct and/or deriving substantial revenue from goods and services provided to customers in Texas.

PATENTS-IN-SUIT

7. On August 19, 2014, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,810,803 (the "'803 Patent") entitled "Lens System". A true and correct copy of the '803 Patent is available at: <https://patentimages.storage.googleapis.com/b8/ee/03/9912346a786072/US8810803.pdf>.

8. On July 26, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,987,002 (the "'002 Patent") entitled "Arrangement for Distributed Measurement System for Measurement and Simulation in Distributed Control Systems". A true

and correct copy of the '002 Patent is available at:
<https://patentimages.storage.googleapis.com/2e/7c/c3/eaf362f9a8faf3/US7987002.pdf>.

9. On April 7, 2009, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,513,238 (the "'238 Patent") entitled "Directly Injecting Internal Combustion Engine." A true and correct copy of the '238 Patent is available at:
<https://patentimages.storage.googleapis.com/23/6c/e0/5d3e6ec82760c9/US7513238.pdf>.

10. On September 11, 2012, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,265,353 (the "'353 Patent") entitled "Method of Reconstructing an Image Acquired Using Several Imagery Modes." A true and correct copy of the '353 Patent is available at:
<https://patentimages.storage.googleapis.com/c3/ee/14/9676306bcc9887/US8265353.pdf>.

11. LAG is the sole and exclusive owner of all right, title, and interest in the '803 Patent, the '002 Patent, the '238 Patent, and the '353 Patent (collectively, the "Patents-in-Suit") and holds the exclusive right to take all actions necessary to enforce its rights to the Patents-in-Suit, including the filing of this patent infringement lawsuit. LAG also has the right to recover all damages for past, present, and future infringement of the Patents-in-Suit and to seek injunctive relief as appropriate under the law.

12. LAG has at all times complied with the marking provisions of 35 U.S.C. § 287 with respect to the Patents-in-Suit.

FACTUAL ALLEGATIONS

13. The '803 Patent generally relates to a plurality of lenses used for focusing and projecting the light in plurality of directions. Such patterns include those generated by systems from an emitted light source. These patterns may be analyzed by computers to identify and

determine aspects of the light patterns. The technology described in the '803 Patent was developed by inventor Matt Bell. For example, this technology is implemented in Mitsubishi's headlight systems included in vehicles, in all trims and configurations, such as the Outlander PHEV, Outlander, Eclipse Cross, Outlander Sport, Mirage G4, and Mirage, among other vehicles (collectively, the "Accused Vehicles").

14. The '002 Patent generally relates to a monitoring system with plurality of monitoring units communicating with a first interface in a first protocol which in turn is connected to a distributed control systems using a second protocol. The technology described in the '002 Patent was developed by inventor Lars-Berno Fredriksson. For example, this technology is implemented through the Mitsubishi Connect system with the My Mitsubishi Connect App, and all previous versions and iterations, included with vehicles, in all trims and configurations, including the Accused Vehicles.

15. The '238 Patent generally relates to novel direct injection in internal combustion engines where the shapes of the piston allow for early or late injection to optimize the direct injection. The technology described in the '238 Patent was developed by inventors Ruediger Pfaff, Martin Schnabel, and Joachim Suess at Daimler AG. For example, this technology is implemented in Mitsubishi internal combustion engines included in Mitsubishi vehicles, in all trims and configurations, including certain Accused Vehicles.

16. The '353 Patent generally relates to measuring a mobile object using a plurality of imaging techniques in synchronization to provide video images of an object's state. The technology described in the '353 Patent was developed by Stéphane Bonnet and Pierre Grangeat. For example, this technology is implemented in Mitsubishi's driver assistance systems, including

Mitsubishi MI-PILOT Assist, and all previous versions and iterations, in all trims and configurations, including the Accused Vehicles.

17. Mitsubishi has infringed and is continuing to infringe the Patents-in-Suit by one or more of making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or importing commercial and personal vehicles (including, but not limited to, commercial and personal vehicles), which are used or tested by Mitsubishi and its direct or indirect customers or users in the United States.

COUNT I
(Infringement of the '803 Patent)

18. Paragraphs 1 through 17 are incorporated by reference as if fully set forth herein.

19. LAG has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '803 Patent.

20. Defendant has and continues to directly infringe the '803 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by one or more of making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '803 Patent. Such products include, but are not limited to, Mitsubishi's headlight system, included in vehicles, in all trims and configurations, such as the Mitsubishi Outlander PHEV, among other vehicles.

21. For example, Defendant has and continues to directly infringe at least claim 1 of the '803 Patent by making, using, offering to sell, selling, and/or importing the Accused Vehicles into the United States that include LED headlights, or equivalent thereof, such as the Mitsubishi Outlander PHEV, among other products.

22. The Mitsubishi Outlander PHEV comprises a system for projecting a pattern of light (e.g., through incorporation of an LED headlight system):


ES

64 MPGe² • 7 Airbags¹⁵ • S-AWC⁸

From \$40,345¹

Top Features


- 12.3" Full Digital Driver Display
- 120V/240V Charging Capability
- 18-inch Alloy Wheels
- 2.4L MIVEC DOHC 4-cylinder
- 20.0 kWh Lithium-Ion Drive Battery
- 7 Passenger Seating
- Automatic Headlights
- Drive Mode Selector (Normal, Power, Eco, Tarmac, Gravel, Snow, Mud)
- Forward Collision Mitigation (FCM) with Pedestrian Detection
- LED Low and High Beam Headlights
- LED Tail Lights
- Twin Motor S-AWC (Super All-Wheel Control)



Model shown may not represent actual production model and may include optional features, which are an extra cost.

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DETAILS
ALSO PURCHASED
VEHICLE FITMENT
POLICIES

Brand:		
SKU:	MS820959	
Positions:	Left, Right	
Other Names:	Headlamp Bulb, Low Beam Bulb, Bulb, Headlamp, Halogen	
Description:	Lancer. 12v60w. High beam. Halogen bulb. Outlander PHEV. Without hid. Without high-intensity discharge. Led. With projector type, 12v-60w. Galant. Ralliart. 12v60w.	
	This item is non-returnable.	
Condition:	New	
Notes:	Included with headlamp assembly.	
Sold In Quantity:	1	

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¹ <https://www.mitsubishicars.com/cars-and-suvs/outlander-phev/trims>.

² <https://mitsubishi.oempartsonline.com/oem-parts/mitsubishi-high-beam-bulb-ms820959?c=bD01MCZuPVNIYXJjaCBSZXN1bHRz>.



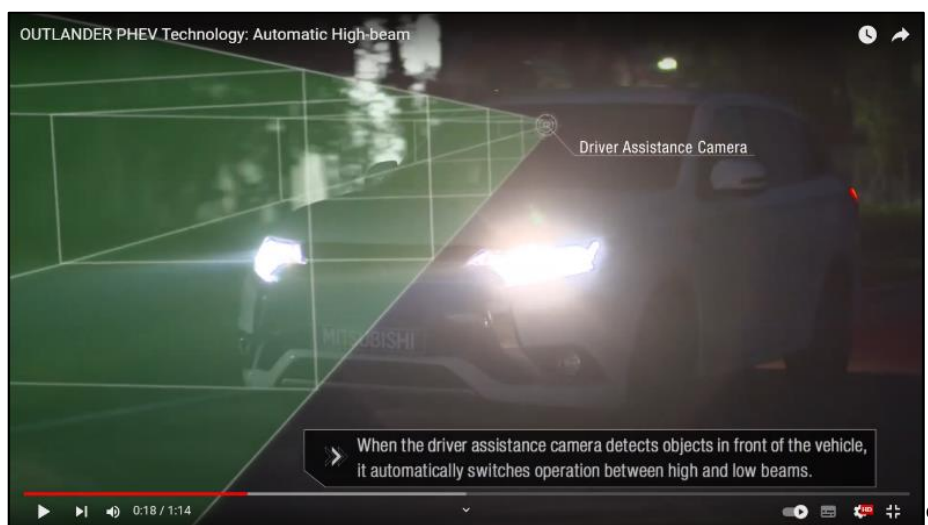
Safety & Security		
Active Stability Control (ASC)	STD	STD
Adjustable Front Seat Shoulder Belt Anchors	STD	STD
Advanced Dual-Stage Front Airbags	STD	STD
Anti-Theft Alarm System	STD	STD
Anti-Theft Engine Immobilizer	STD	STD
Anti-lock Braking System (ABS) with Electronic Brakeforce Distribution (EBD) and brake assist	STD	STD
Automatic High Beam (AHB)	STD	STD

³ <https://www.youtube.com/watch?v=iq60yJLDoho>.

⁴ <https://www.mitsubishicars.com/cars-and-suvs/outlander-phev/specs>.

Depending on trim level, Outlander Plug-in Hybrid also offers: Forward Collision Mitigation (FCM), Predictive Forward Collision Warning (PFCW), Active Blind Spot Assist (ABSA), Blind Spot Warning (BSW), Lane Change Assist (LCA), Lane Departure Warning and Prevention (LDW & LDP), Driver Attention Alert, Rear Automatic Emergency Braking, Rear Cross Traffic Alert, Automatic High Beam (AHB), Hill Descent Control (HDC), Trailer Stability Assist (TSA) and a Multiview Camera system.^{2, 3, 4, 5, 7}

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23. The Mitsubishi Outlander PHEV comprises a light source (e.g., the LED lights) including a plurality of emitters configured to emit light, the plurality of emitters arranged in a pattern (e.g., a horizontal row):

⁵ <https://media.mitsubishicars.com/en-US/releases/release-421675846263437c1e1b0a633600693c-2024-mitsubishi-outlander-named-iihs-top-safety-pick#:~:text=The%202024%20Outlander%20earned%20the,overlap%20frontal%20crash%20test%20evaluation.>

⁶ [https://www.youtube.com/watch?v=2VHsMgFxnU.](https://www.youtube.com/watch?v=2VHsMgFxnU)


ES

64 MPGe² • 7 Airbags¹⁵ • S-AWC⁸

From \$40,345¹

Top Features

- 12.3" Full Digital Driver Display
- 120V/240V Charging Capability
- 18-inch Alloy Wheels
- 2.4L MIVEC DOHC 4-cylinder
- 20.0 kWh Lithium-Ion Drive Battery
- 7 Passenger Seating
- Automatic Headlights
- Drive Mode Selector (Normal, Power, Eco, Tarmac, Gravel, Snow, Mud)
- Forward Collision Mitigation (FCM) with Pedestrian Detection
- LED Low and High Beam Headlights
- LED Tail Lights
- Twin Motor S-AWC (Super All-Wheel Control)



Model shown may not represent actual production model and may include optional features, which are an extra cost.

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24. The Mitsubishi Outlander PHEV comprises a cluster of lenses located in front of the light source, wherein each lens of the cluster of lenses is configured to receive light from the

⁷ <https://www.mitsubishicars.com/cars-and-suvs/outlander-phev/trims>.

⁸ <https://www.youtube.com/watch?v=iq60yJLDoho>.

plurality of emitters and the cluster of lenses is configured to concurrently focus and project light (e.g., control and direct the emitted light) from each of the emitters (e.g., multiple LEDs) in a plurality of directions:


ES

64 MPGe² • 7 Airbags¹⁵ • S-AWC⁸

From \$40,345¹

Top Features


- 12.3" Full Digital Driver Display
- 120V/240V Charging Capability
- 18-inch Alloy Wheels
- 2.4L MIVEC DOHC 4-cylinder
- 20.0 kWh Lithium-Ion Drive Battery
- 7 Passenger Seating
- Automatic Headlights
- Drive Mode Selector (Normal, Power, Eco, Tarmac, Gravel, Snow, Mud)
- Forward Collision Mitigation (FCM) with Pedestrian Detection
- LED Low and High Beam Headlights
- LED Tail Lights
- Twin Motor S-AWC (Super All-Wheel Control)



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DETAILS
ALSO PURCHASED
VEHICLE FITMENT
POLICIES

Brand:		
SKU:	MS820959	
Positions:	Left, Right	
Other Names:	Headlamp Bulb, Low Beam Bulb, Bulb, Headlamp, Halogen	
Description:	Lancer. 12v60w. High beam. Halogen bulb. Outlander PHEV. Without hid. Without high-intensity discharge. Led. With projector type. 12v-60w. Galant. Ralliart. 12v60w.	
	This item is non-returnable.	
Condition:	New	
Notes:	Included with headlamp assembly.	
Sold In Quantity:	1	

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⁹ <https://www.mitsubishicars.com/cars-and-suvs/outlander-phev/trims>.

¹⁰ <https://mitsubishi.oempartsonline.com/oem-parts/mitsubishi-high-beam-bulb-ms820959?c=bD01MCZuPVNIYXJjaCBSZXN1bHRz>.



11

Safety & Security		
Active Stability Control (ASC)	STD	STD
Adjustable Front Seat Shoulder Belt Anchors	STD	STD
Advanced Dual-Stage Front Airbags	STD	STD
Anti-Theft Alarm System	STD	STD
Anti-Theft Engine Immobilizer	STD	STD
Anti-lock Braking System (ABS) with Electronic Brakeforce Distribution (EBD) and brake assist	STD	STD
Automatic High Beam (AHB)	STD	STD

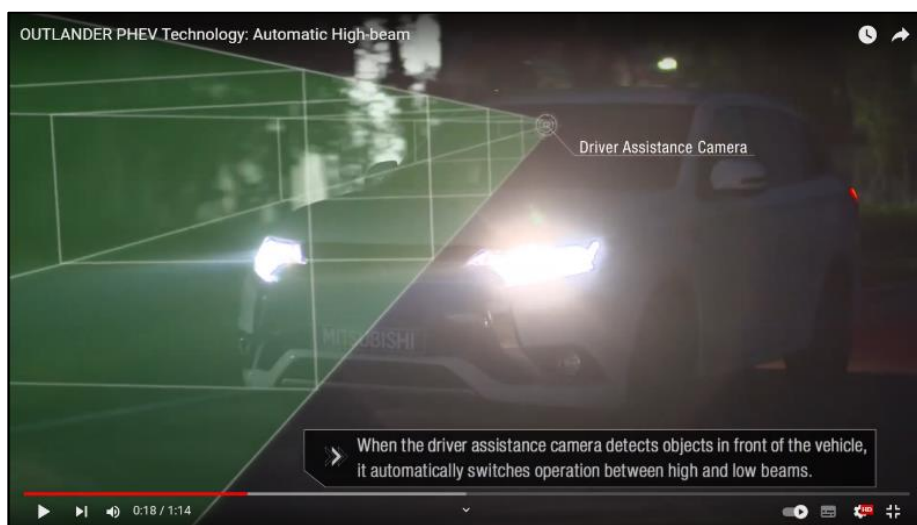
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¹¹ <https://www.youtube.com/watch?v=iq60yJLDoho>.

¹² <https://www.mitsubishicars.com/cars-and-suvs/outlander-phev/specs>.

Depending on trim level, Outlander Plug-in Hybrid also offers: Forward Collision Mitigation (FCM), Predictive Forward Collision Warning (PFCW), Active Blind Spot Assist (ABSA), Blind Spot Warning (BSW), Lane Change Assist (LCA), Lane Departure Warning and Prevention (LDW & LDP), Driver Attention Alert, Rear Automatic Emergency Braking, Rear Cross Traffic Alert, Automatic High Beam (AHB), Hill Descent Control (HDC), Trailer Stability Assist (TSA) and a Multiview Camera system.^{2,3,4,5,7}

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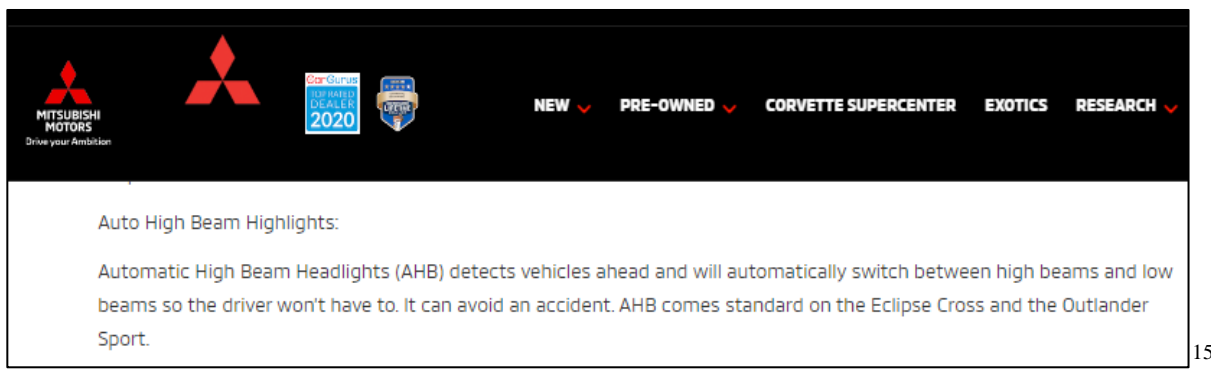


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25. The Mitsubishi Outlander PHEV comprises a condenser lens (e.g., a projector lens) located between the light source (e.g., LEDs) and the cluster of lenses, wherein the condenser lens is configured to concentrate light from each of the plurality of emitters towards a center of the cluster of lenses (e.g., to enhance light concentration and shapes the beam pattern):

¹³ <https://media.mitsubishicars.com/en-US/releases/release-421675846263437c1e1b0a633600693c-2024-mitsubishi-outlander-named-iihs-top-safety-pick#:~:text=The%202024%20Outlander%20earned%20the,overlap%20frontal%20crash%20test%20evaluation.>

¹⁴ <https://www.youtube.com/watch?v=2VHsMgFxnU>.



26. Defendant has and continues to indirectly infringe one or more claims of the '803 Patent by knowingly and intentionally inducing others, including Mitsubishi customers and end-users, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology.

27. Defendant, with knowledge that these products, or the use thereof, infringe the '803 Patent at least as of the date of this Complaint, knowingly and intentionally induced, and continue to knowingly and intentionally induce, direct infringement of the '803 Patent by providing these products to customers and end-users for use in an infringing manner. Alternatively, on information and belief, Defendant has adopted a policy of not reviewing the patents of others, including specifically those related to Defendant's specific industry, thereby remaining willfully blind to the Patent-in-Suits at least as early as the issuance of the Patent-in-Suits.

28. Defendant has and continues to induce infringement by others, including customers and end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end-users, infringe the '803 Patent, but while remaining willfully blind to the infringement. Defendant has and continues to induce

¹⁵ <https://www.universitymitsubishi.com/mitsubishi-safety-features-for-2019/>.

infringement by its customers and end-users by supplying them with instructions on how to operate the infringing technology in an infringing manner, while also making publicly available information on the infringing technology via Defendant's websites, product literature and packaging, and other publications.¹⁶

29. LAG has suffered damages as a result of Defendant's direct and indirect infringement of the '803 Patent in an amount to be proved at trial.

30. LAG has suffered, and will continue to suffer, irreparable harm as a result of Defendant's infringement of the '803 Patent, for which there is no adequate remedy at law, unless Defendant's infringement is enjoined by this Court.

COUNT II
(Infringement of the '002 Patent)

31. Paragraphs 1 through 17 are incorporated by reference as if fully set forth herein.

32. LAG has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '002 Patent.

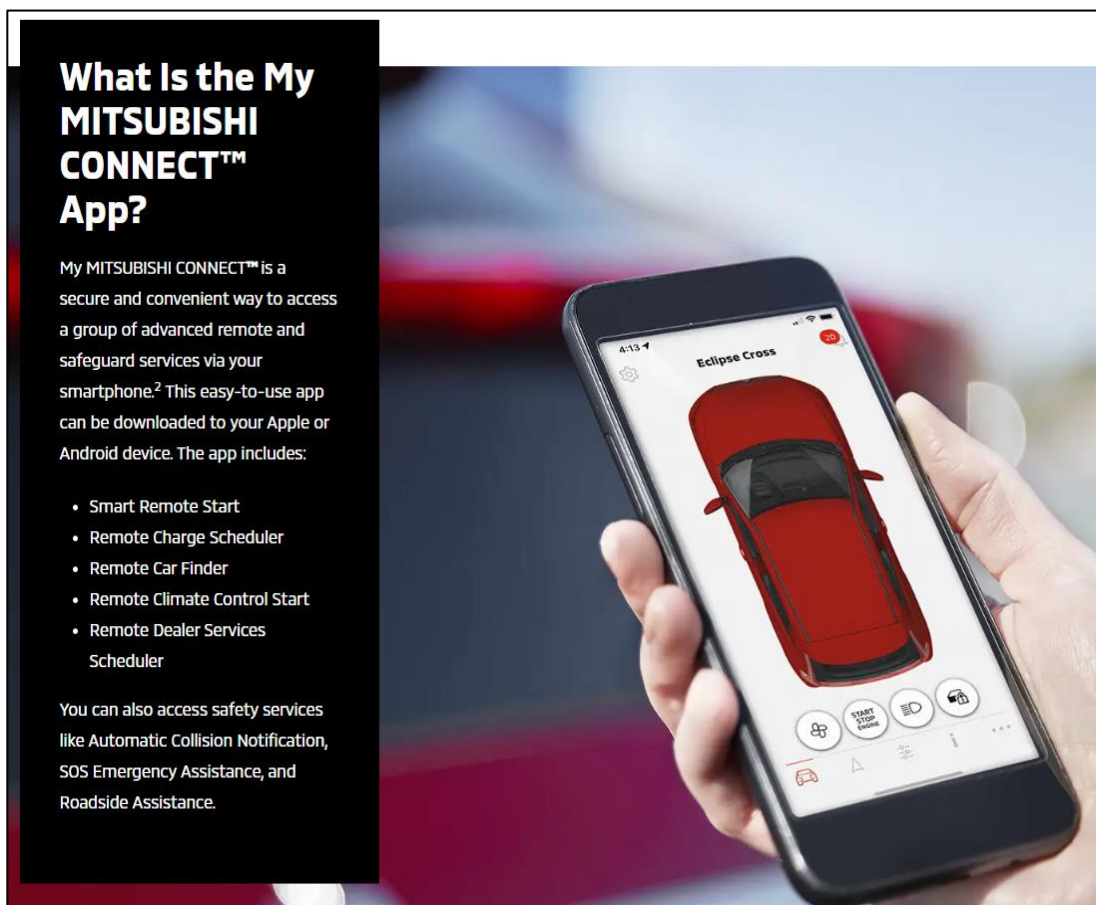
33. Defendant has and continues to infringe the '002 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by one or more of making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '002 Patent. Such products include, but are not limited to, the Mitsubishi Connect system with the My Mitsubishi Connect App, included in vehicles, in all trims and configurations, including the Accused Vehicles, such as the Mitsubishi Eclipse Cross.

34. For example, Defendant has and continues to directly infringe at least Claim 15 of

¹⁶ See Mitsubishi Outlander PHEV Owner's Manual and other materials, available with an account at: <https://owners.mitsubishicars.com/s/login/>.

the '002 Patent by making, using, offering to sell, selling, and/or importing into the United States products that include the Mitsubishi Connect system with the My Mitsubishi Connect App, included in vehicles, in all trims and configurations, including the Accused Vehicles, such as the Mitsubishi Eclipse Cross.

35. The Mitsubishi Eclipse Cross comprises a monitoring system (e.g., the implementation of the My Mitsubishi Connect App and the Mitsubishi Connect system servers):



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¹⁷ <https://www.mitsubishicars.com/mitsubishi-connect>.

MITSUBISHI CONNECT is provided through a simple subscription-based service comprised of an embedded Telematics Control Unit equipped with a 4G LTE cellular modem and GPS capability that operates on a cellular network and is factory-installed within the vehicle. Two in-vehicle buttons connect the vehicle to a call center – one being the SOS Emergency Assistance button and the other an Information/Roadside Assistance button.

"Cloud Based" connected AI and advanced voice-recognition technologies are expanding into the automotive ecosystem and Mitsubishi wants to ensure our vehicles are one of the many devices keeping our consumers connected on a personalized level," said Bryan Arnett, senior manager, product planning, MMNA. "We're excited to enter the connected car space and transition into an automotive manufacturer that provides innovative connected services to our customers."

The Safeguard services package within MITSUBISHI CONNECT includes Automatic Collision Notification, SOS Emergency Assistance, Information Assistance, Roadside Assistance, Stolen Vehicle Assistance, Alarm Notification and Mileage Tracker. The Remote services package include Remote Climate Control, Remote Door Lock/Unlock, Remote Horn, Remote Lights, Car Finder, Vehicle Settings, and Parental Controls (Geo Fence, Speed Alert and Curfew Alert).

The My MITSUBISHI CONNECT app is available on both Android and Apple devices. Once downloaded and registered, users can access both MITSUBISHI CONNECT Safeguard and Remote services from their mobile device at their convenience. Additionally, MITSUBISHI CONNECT can be paired with both Amazon Alexa-enabled devices, and the Google Assistant on eligible Android phones, iPhones and Google Home™.

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1. What is Mitsubishi Connect?

Mitsubishi Connect is a platform of services that provide vehicle owners with a safe, secure and convenient driving experience. Mitsubishi Connect is provided through a simple, subscription-based service that is comprised of the following components:

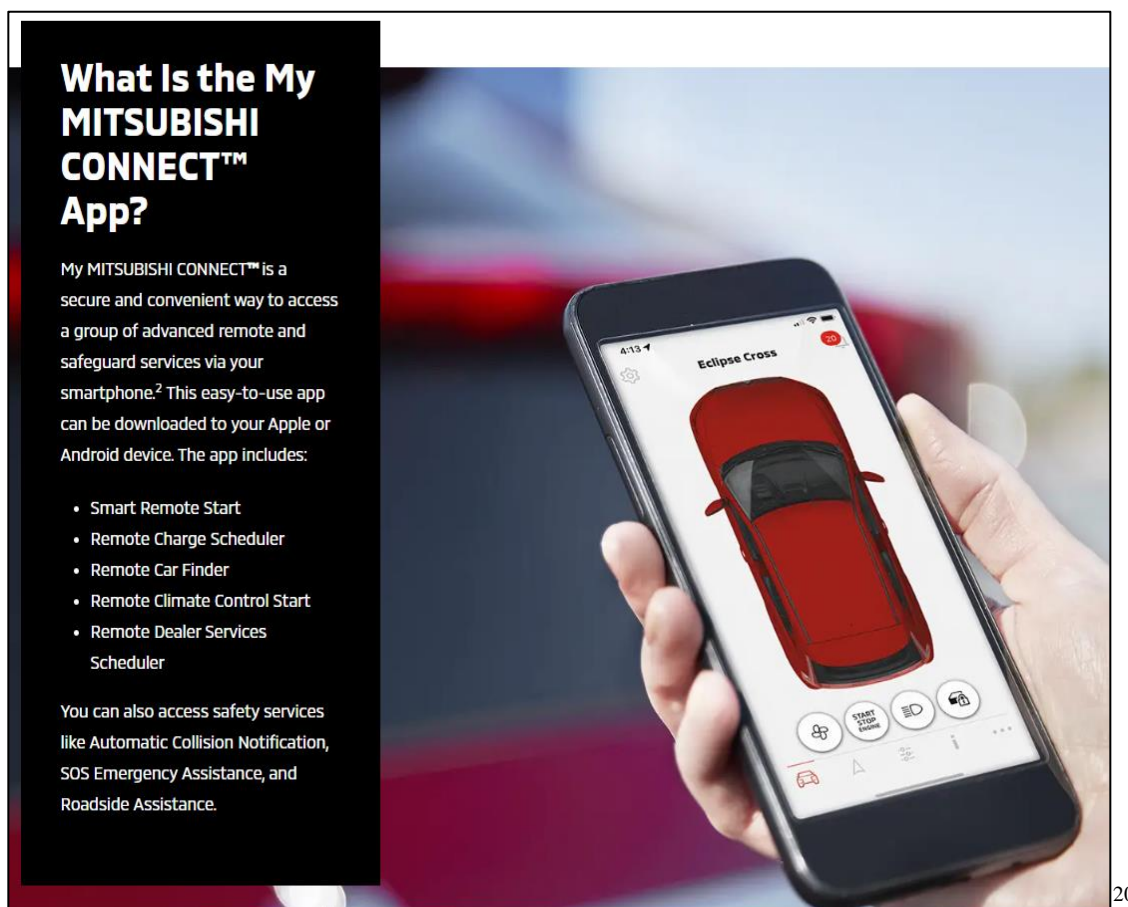
- An embedded Telematics Control Unit equipped with a4G LTE cellular modem and GPS capability that operates on a cellular network and is factory-installed within the vehicle.
- Two in-vehicle buttons that connect to a call center. One is the SOS Button to be used in the event of an emergency. The other is the Information Button to be used in the event of a breakdown or if account services are required.
- The My Mitsubishi Connect Mobile Application that can be downloaded through the app store on a compatible Apple or Android smartphone.
- A Mitsubishi Connect Owner's Portal that can be accessed through a compatible web browser on your computer.

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¹⁸ <https://media.mitsubishicars.com/en-US/releases/release-5352b134241c443a89587feca5be3d3b-mitsubishi-connect-provides-enriched-more-personalized-driving-experience>.

¹⁹ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_04_FAQ.html.

36. The Mitsubishi Eclipse Cross comprises a plurality of monitoring units (e.g., the implementation of the My Mitsubishi Connect App and the Mitsubishi Connect system servers) configured to communicate with at least one interface unit (e.g., the telematics control unit (TCU)) using a first protocol (e.g., a cellular network), wherein the at least one interface unit is communicably connected to a distributed control system (e.g., the vehicle's electronic control modules (ECUs), such as the Body Control Module (BCM) or Engine Control Module (ECM)), and the at least one interface unit is further configured to receive data values from the distributed control system using a second protocol (e.g., CAN communication):



²⁰ <https://www.mitsubishicars.com/mitsubishi-connect>.

1. What is Mitsubishi Connect?

Mitsubishi Connect is a platform of services that provide vehicle owners with a safe, secure and convenient driving experience. Mitsubishi Connect is provided through a simple, subscription-based service that is comprised of the following components:

- An embedded Telematics Control Unit equipped with a4G LTE cellular modem and GPS capability that operates on a cellular network and is factory-installed within the vehicle.
- Two in-vehicle buttons that connect to a call center. One is the SOS Button to be used in the event of an emergency. The other is the Information Button to be used in the event of a breakdown or if account services are required.
- The My Mitsubishi Connect Mobile Application that can be downloaded through the app store on a compatible Apple or Android smartphone.
- A Mitsubishi Connect Owner's Portal that can be accessed through a compatible web browser on your computer.

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MITSUBISHI CONNECT Remote Services

Your subscribed telematics service can remotely lock or unlock doors, and help you find your vehicle. With Parental Control, the primary user can receive notifications regarding the secondary user's driving records of the vehicle. For example, the parents are notified of their children's driving records, such as whether they are driving past curfew, driving beyond a designated area, and/or speeding.

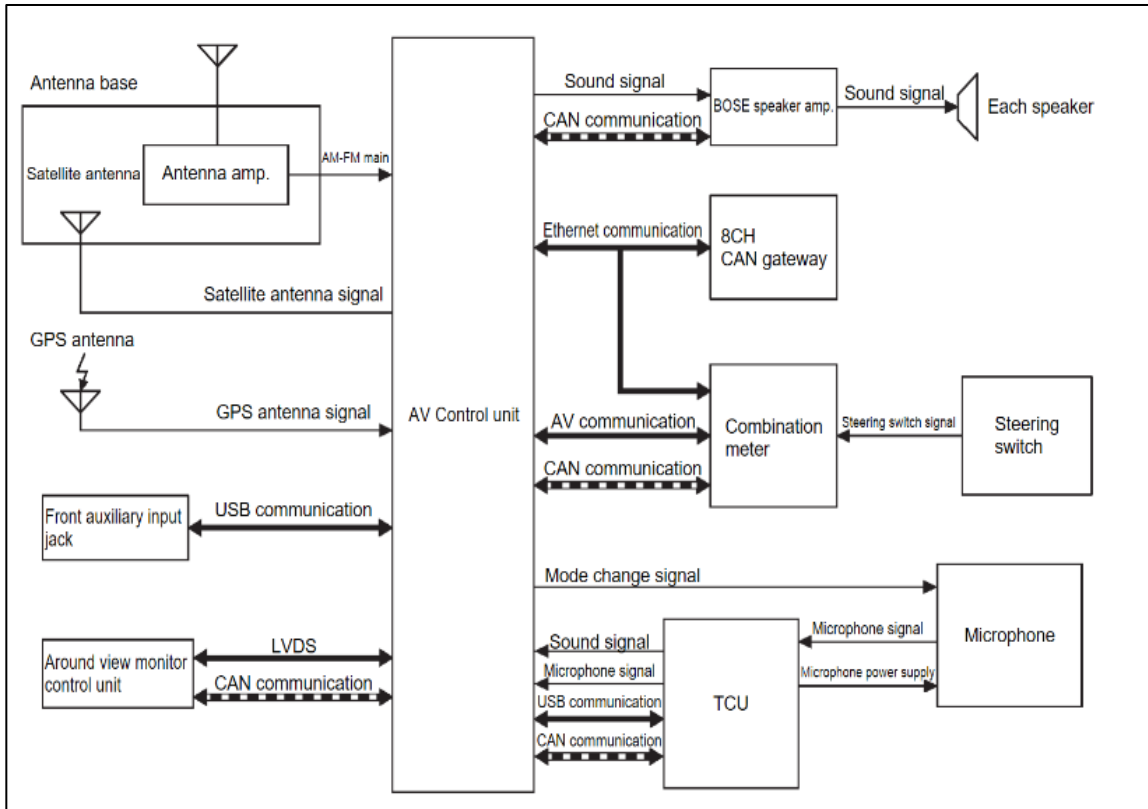
Below are the available items:

- [Remote Door Lock/Unlock](#)
- [Remote Lights](#)
- [Remote Climate Control](#)
- [Vehicle Settings \(Customization\)](#)
- [Car Finder/Remote Horn](#)
- [Parental Controls - Curfew Alert](#)
- [Parental Controls - Geofence](#)
- [Parental Controls - Speed Alert](#)

22

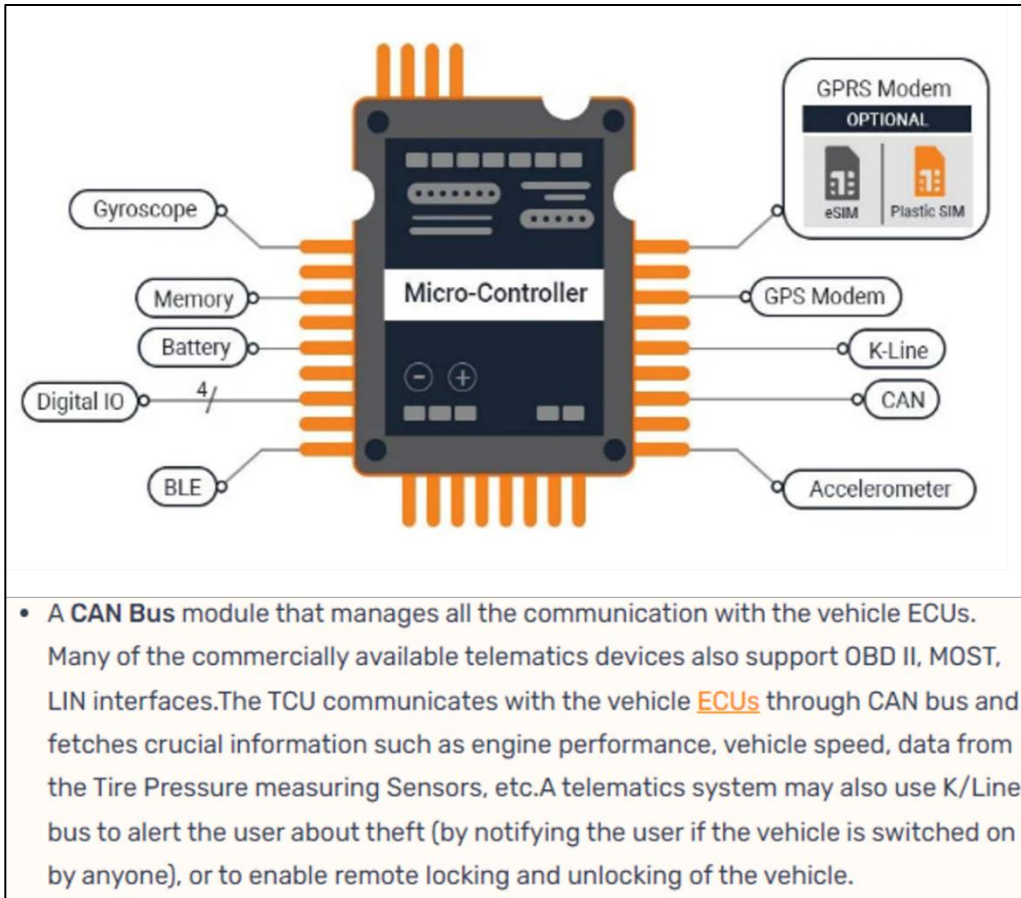
²¹ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_04_FAQ.html.

²² https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_03_MITSUBISHI_CONNECT_Remote_Services.html.



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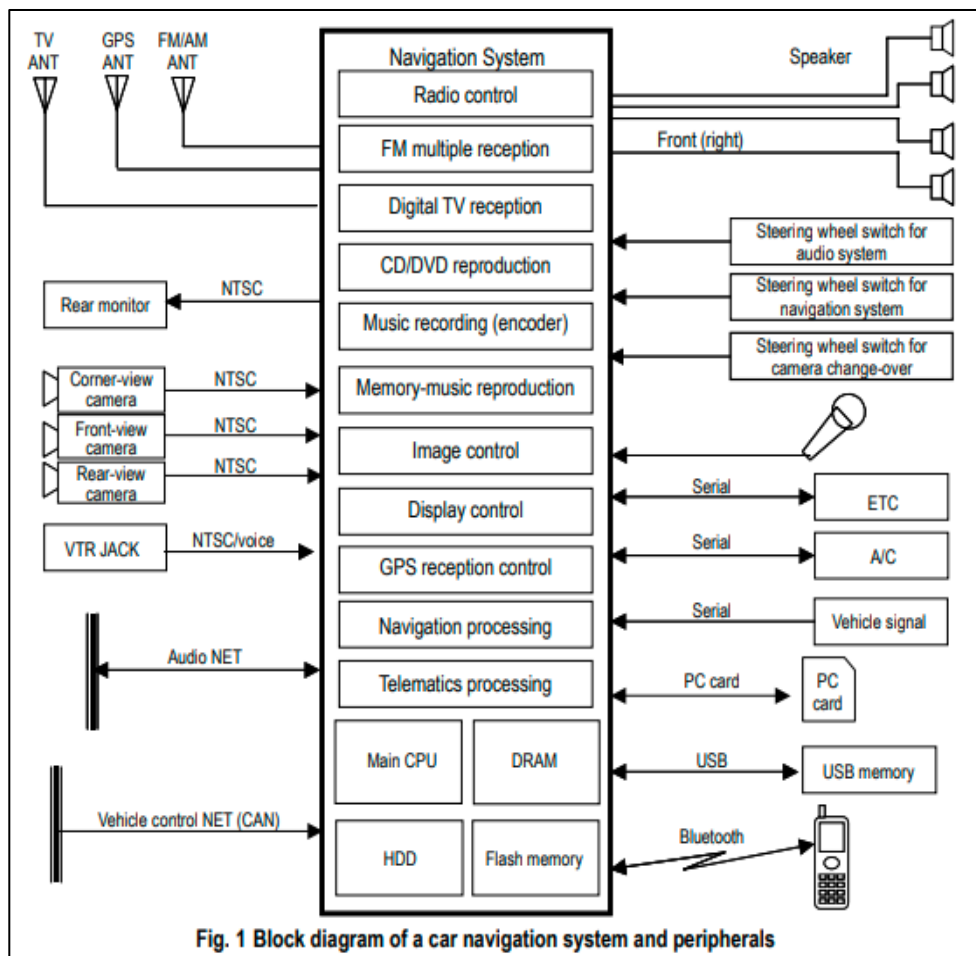
²³ <https://mitsubishitechinfo.com/data/DG/2022/16/HTML/N5160405X0000L00USA.htm>.



- A **CAN Bus** module that manages all the communication with the vehicle ECUs. Many of the commercially available telematics devices also support OBD II, MOST, LIN interfaces. The TCU communicates with the vehicle **ECUs** through CAN bus and fetches crucial information such as engine performance, vehicle speed, data from the Tire Pressure measuring Sensors, etc. A telematics system may also use K/Line bus to alert the user about theft (by notifying the user if the vehicle is switched on by anyone), or to enable remote locking and unlocking of the vehicle.

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²⁴ <https://www.embitel.com/blog/embedded-blog/tech-behind-telematics-explained-how-does-a-vehicle-telematics-solution-work>.



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Curfew Alerts

Curfew Alerts provide notifications when your vehicle is being driven outside of a specified time period. You can create the curfew alert by using the My Mitsubishi Connect App. If the vehicle ignition is turned on during a restricted day and time, a message is sent based on your notification preferences.

Geofence Alerts

Geofence Alerts provide notifications when your vehicle leaves a circular geographical area that you define. You can create geofences by using the My Mitsubishi Connect App. If your vehicle leaves the geofence area, a message is sent based on your notification preferences.

Speed Alerts

Speed Alerts provide notifications when your vehicle exceeds a speed limit that you specify. You can create speed alerts by using the My Mitsubishi Connect App. If the speed limit you specify is exceeded, a message is sent based on your notification preferences.

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²⁵ <https://www.advance.mitsubishielectric.com/advance/pdf/2008/vol121.pdf>.

²⁶ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/outlander_Quick_US/contents/.

MITSUBISHI CONNECT Remote Services provide remote control services, such as Remote Start, to vehicle owners via smartphones and smart speakers.



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37. The Mitsubishi Eclipse Cross comprises a plurality of monitoring units configured to communicate with at least one interface unit using a first protocol, wherein the at least one interface unit is communicably connected to a distributed control system, and the at least one interface unit is further configured to receive data values from the distributed control system using a second protocol; wherein the plurality of monitoring units comprises at least one complex monitoring unit (e.g., the Mitsubishi server platform) and at least one basic monitoring unit (e.g., the My Mitsubishi Connect App with the Mitsubishi Connect system servers):

²⁷ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/outlander_Quick_US/contents/.

1. What is Mitsubishi Connect?

Mitsubishi Connect is a platform of services that provide vehicle owners with a safe, secure and convenient driving experience. Mitsubishi Connect is provided through a simple, subscription-based service that is comprised of the following components:

- An embedded Telematics Control Unit equipped with a4G LTE cellular modem and GPS capability that operates on a cellular network and is factory-installed within the vehicle.
- Two in-vehicle buttons that connect to a call center. One is the SOS Button to be used in the event of an emergency. The other is the Information Button to be used in the event of a breakdown or if account services are required.
- The My Mitsubishi Connect Mobile Application that can be downloaded through the app store on a compatible Apple or Android smartphone.
- A Mitsubishi Connect Owner's Portal that can be accessed through a compatible web browser on your computer.

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MITSUBISHI CONNECT Remote Services

Your subscribed telematics service can remotely lock or unlock doors, and help you find your vehicle. With Parental Control, the primary user can receive notifications regarding the secondary user's driving records of the vehicle. For example, the parents are notified of their children's driving records, such as whether they are driving past curfew, driving beyond a designated area, and/or speeding.

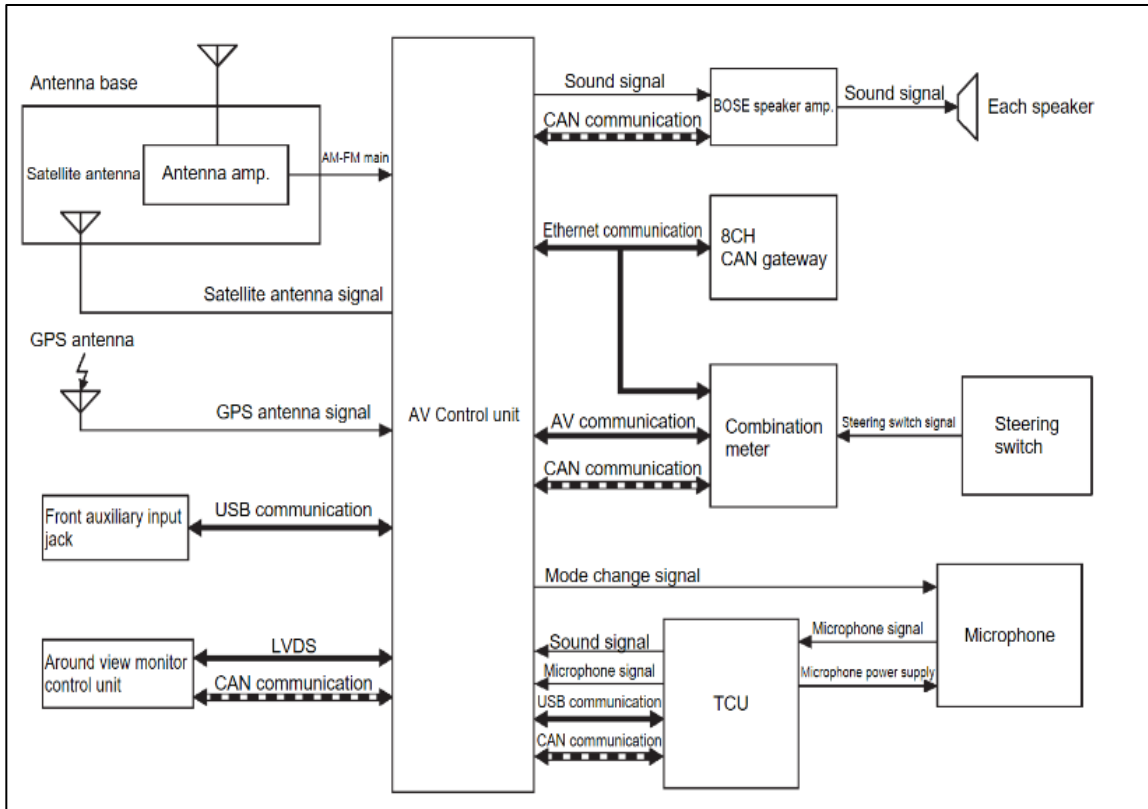
Below are the available items:

- [Remote Door Lock/Unlock](#)
- [Remote Lights](#)
- [Remote Climate Control](#)
- [Vehicle Settings \(Customization\)](#)
- [Car Finder/Remote Horn](#)
- [Parental Controls - Curfew Alert](#)
- [Parental Controls - Geofence](#)
- [Parental Controls - Speed Alert](#)

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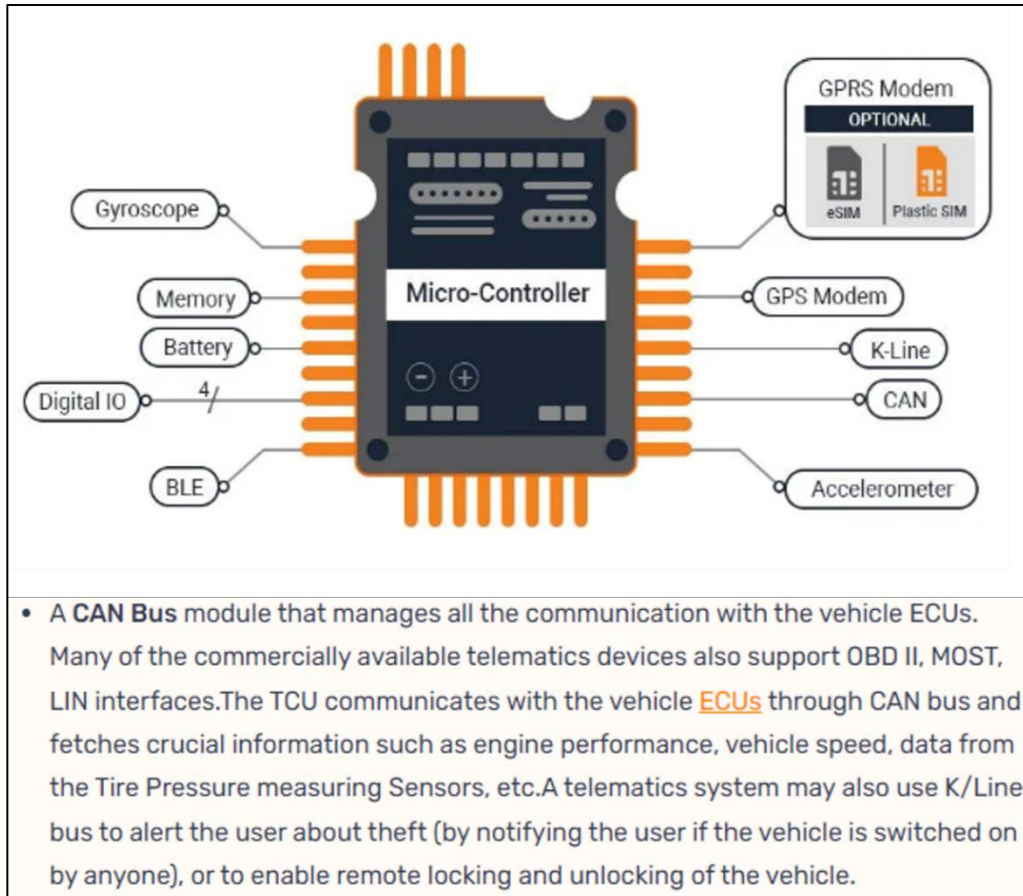
²⁸ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_04_FAQ.html.

²⁹ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_03_MITSUBISHI_CONNECT_Remote_Services.html.



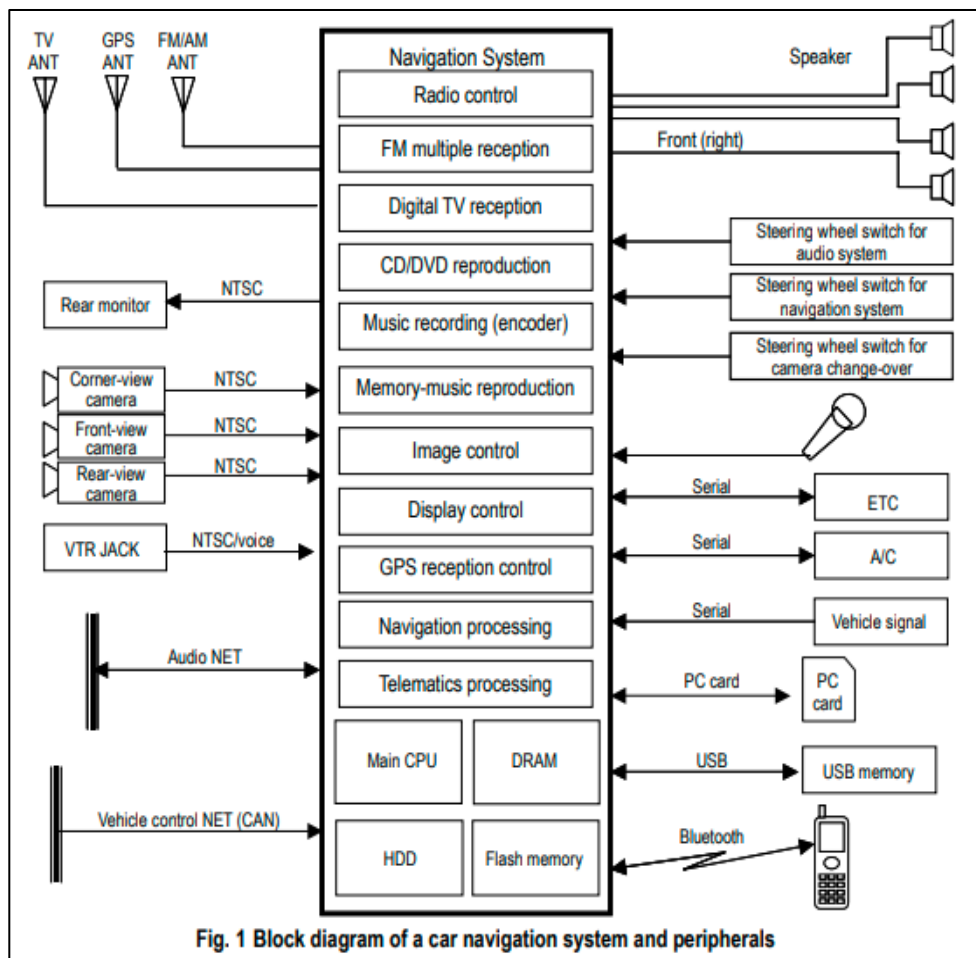
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³⁰ <https://mitsubishitechinfo.com/data/DG/2022/16/HTML/N5160405X0000L00USA.htm>.



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³¹ <https://www.embitel.com/blog/embedded-blog/tech-behind-telematics-explained-how-does-a-vehicle-telematics-solution-work>.



32

Curfew Alerts

Curfew Alerts provide notifications when your vehicle is being driven outside of a specified time period. You can create the curfew alert by using the My Mitsubishi Connect App. If the vehicle ignition is turned on during a restricted day and time, a message is sent based on your notification preferences.

Geofence Alerts

Geofence Alerts provide notifications when your vehicle leaves a circular geographical area that you define. You can create geofences by using the My Mitsubishi Connect App. If your vehicle leaves the geofence area, a message is sent based on your notification preferences.

Speed Alerts

Speed Alerts provide notifications when your vehicle exceeds a speed limit that you specify. You can create speed alerts by using the My Mitsubishi Connect App. If the speed limit you specify is exceeded, a message is sent based on your notification preferences.

33

38. The Mitsubishi Eclipse Cross comprises a plurality of monitoring units configured to communicate with at least one interface unit using a first protocol, wherein the at least one

³² <https://www.advance.mitsubishielectric.com/advance/pdf/2008/vol121.pdf>.

³³ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/outlander_Quick_US/contents/.

interface unit is communicably connected to a distributed control system, and the at least one interface unit is further configured to receive data values from the distributed control system using a second protocol; wherein the at least one complex monitoring unit (e.g., the Mitsubishi server platform) is configured to receive a plurality of data values (e.g., engine performance, vehicle speed, and other data) from the at least one interface unit (e.g., the TCU) using the first protocol (e.g., cellular and/or Bluetooth) and to generate programmatic instructions for the at least one basic monitoring unit (e.g., the My Mitsubishi Connect App):

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³⁴ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_04_FAQ.html.

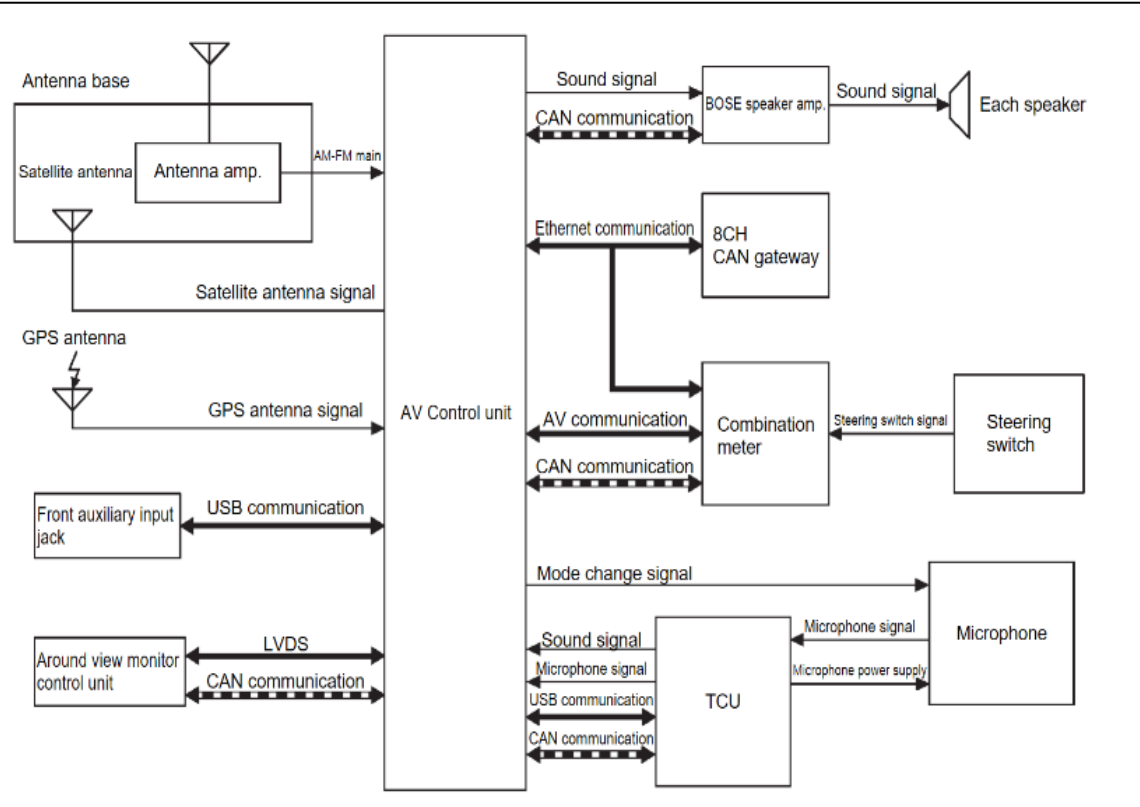
MITSUBISHI CONNECT Remote Services

Your subscribed telematics service can remotely lock or unlock doors, and help you find your vehicle. With Parental Control, the primary user can receive notifications regarding the secondary user's driving records of the vehicle. For example, the parents are notified of their children's driving records, such as whether they are driving past curfew, driving beyond a designated area, and/or speeding.

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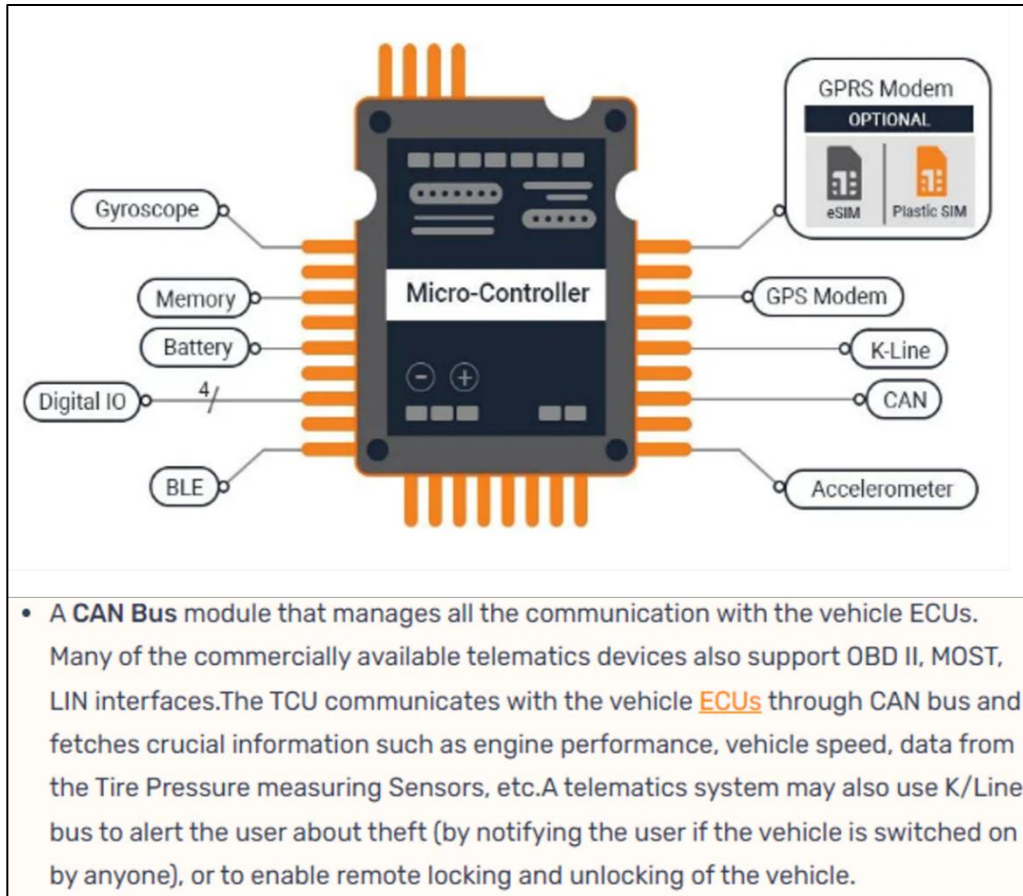
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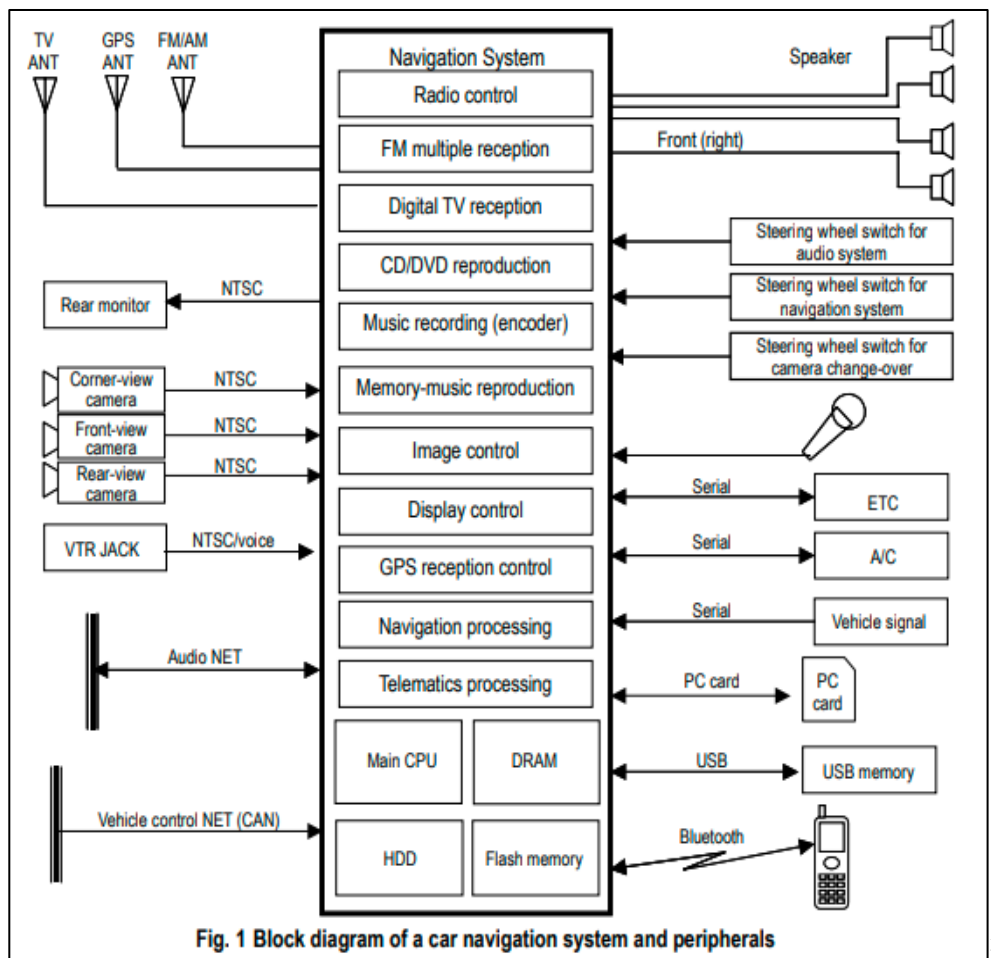
³⁵ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_03_MITSUBISHI_CONNECT_Remote_Services.html.

³⁶ <https://mitsubishitechinfo.com/data/DG/2022/16/HTML/N5160405X0000L00USA.htm>.



37

³⁷ <https://www.embitel.com/blog/embedded-blog/tech-behind-telematics-explained-how-does-a-vehicle-telematics-solution-work>.



38

Curfew Alerts
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Geofence Alerts
 Geofence Alerts provide notifications when your vehicle leaves a circular geographical area that you define. You can create geofences by using the My Mitsubishi Connect App. If your vehicle leaves the geofence area, a message is sent based on your notification preferences.

Speed Alerts
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39

39. The Mitsubishi Eclipse Cross comprises a plurality of monitoring units configured to communicate with at least one interface unit using a first protocol, wherein the at least one

³⁸ <https://www.advance.mitsubishielectric.com/advance/pdf/2008/vol121.pdf>.

³⁹ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/outlander_Quick_US/contents/.

interface unit is communicably connected to a distributed control system, and the at least one interface unit is further configured to receive data values from the distributed control system using a second protocol; wherein the at least one basic monitoring unit (e.g., the My Mitsubishi Connect App) is configured to receive the programmatic instructions (e.g., vehicle status data) and in response thereto to receive a subset of the plurality of data values from the at least one interface unit (e.g., TCU) using the first protocol (e.g., cellular):

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⁴⁰ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_04_FAQ.html.

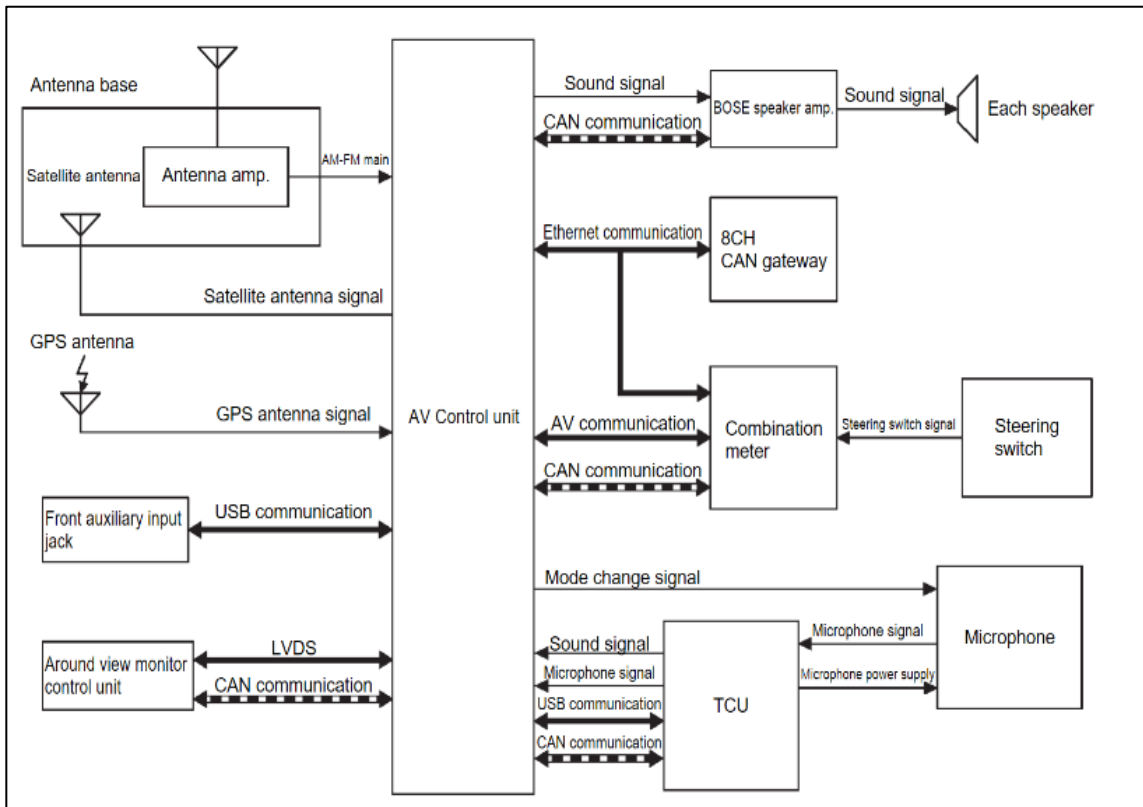
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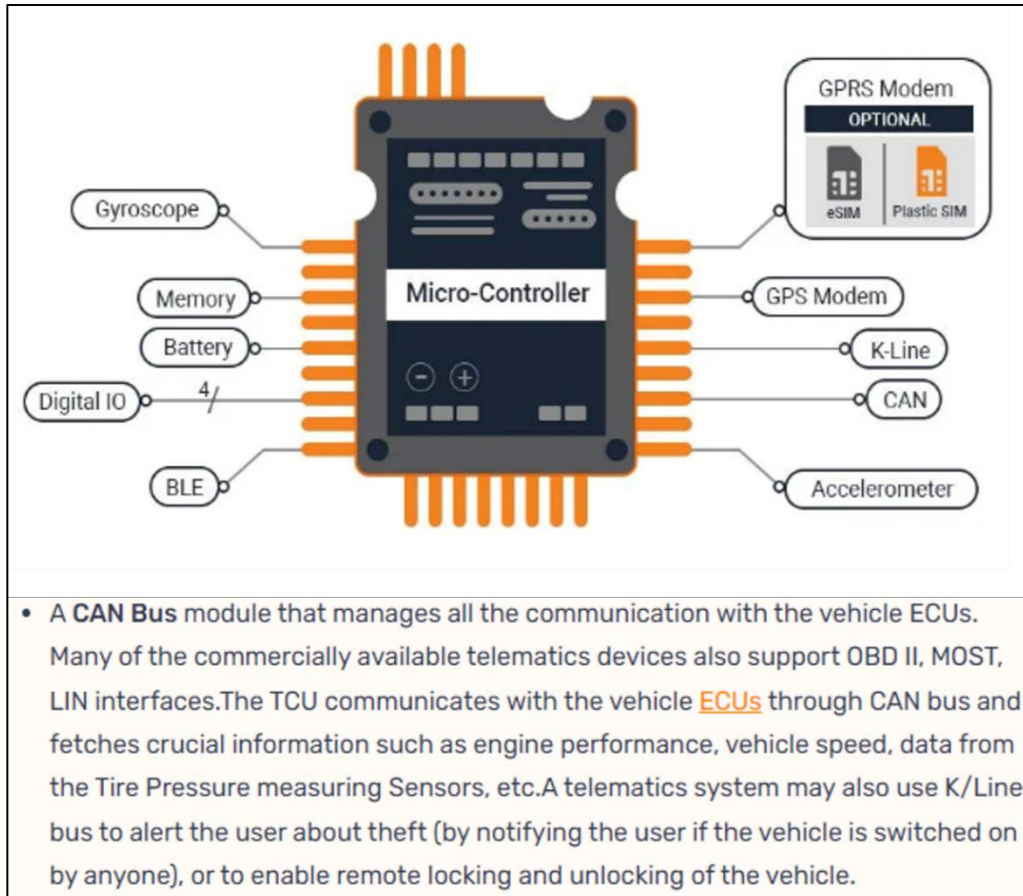
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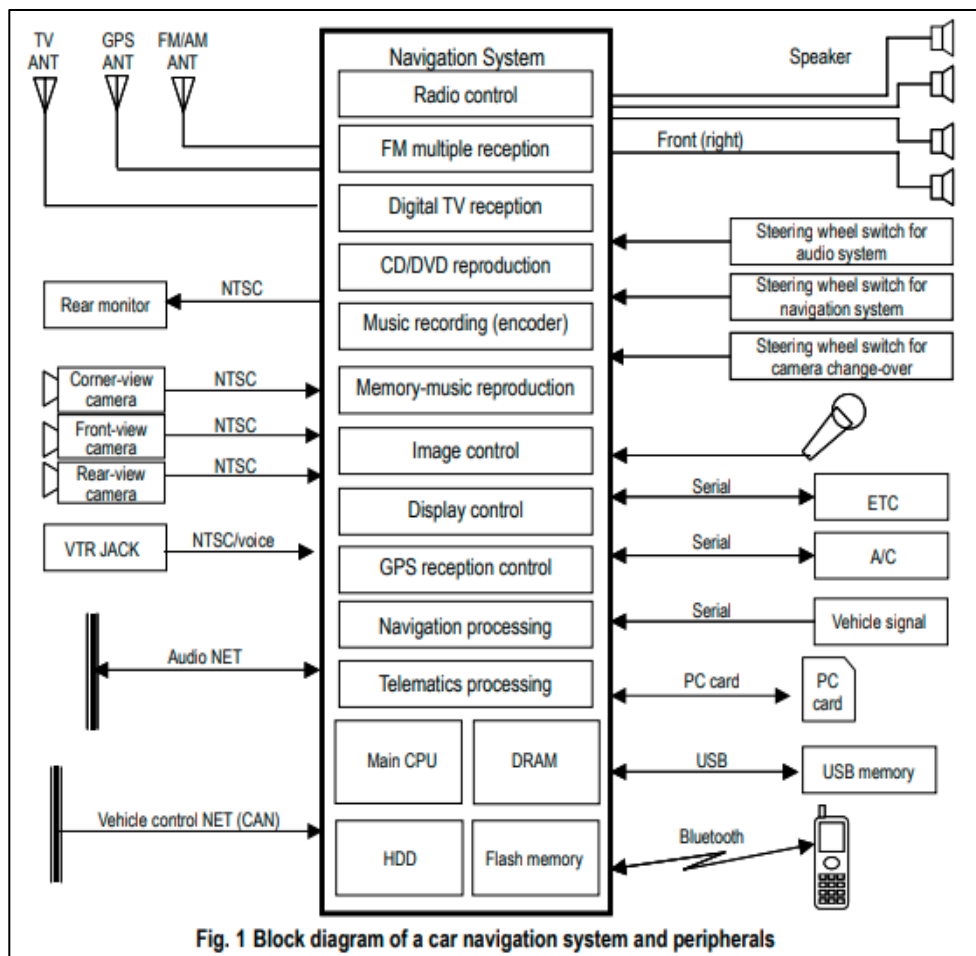
⁴¹ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/eclipse_cross_18MY_US/contents/tp_03_MITSUBISHI_CONNECT_Remote_Services.html.

⁴² <https://mitsubishitechinfo.com/data/DG/2022/16/HTML/N5160405X0000L00USA.htm>.



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⁴³ <https://www.embitel.com/blog/embedded-blog/tech-behind-telematics-explained-how-does-a-vehicle-telematics-solution-work>.



44

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Speed Alerts

Speed Alerts provide notifications when your vehicle exceeds a speed limit that you specify. You can create speed alerts by using the My Mitsubishi Connect App. If the speed limit you specify is exceeded, a message is sent based on your notification preferences.

45

40. Defendant has and continues to indirectly infringe one or more claims of the '002 Patent by knowingly and intentionally inducing others, including Mitsubishi customers and end-

⁴⁴ <https://www.advance.mitsubishielectric.com/advance/pdf/2008/vol121.pdf>.

⁴⁵ https://www.mitsubishi-connect.com/en/SafeguardRemote/Manual/outlander_Quick_US/contents/.

users, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology.

41. Defendant, with knowledge that these products, or the use thereof, infringe the '002 Patent at least as of the date of this Complaint, knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the '002 Patent by providing these products to customers and end-users for use in an infringing manner. Alternatively, on information and belief, Defendant has adopted a policy of not reviewing the patents of others, including specifically those related to Defendant's specific industry, thereby remaining willfully blind to the Patents-in-Suit at least as early as the issuance of the Patents-in-Suit.

42. Defendant has and continues to induce infringement by others, including customers and end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end-users, infringe the '002 Patent, but while remaining willfully blind to the infringement. Defendant has and continues to induce infringement by its customers and end-users by supplying them with instructions on how to operate the infringing technology in an infringing manner, while also making publicly available information on the infringing technology via Defendant's websites, product literature and packaging, and other publications.⁴⁶

43. LAG has suffered damages as a result of Defendant's direct and indirect infringement of the '002 Patent in an amount to be proved at trial.

44. LAG has suffered, and will continue to suffer, irreparable harm as a result of

⁴⁶ See Mitsubishi Eclipse Cross Owner's Manual and other materials, available with an account at: <https://owners.mitsubishicars.com/s/login/>.

Defendant's infringement of the '002 Patent, for which there is no adequate remedy at law, unless Defendant's infringement is enjoined by this Court.

COUNT III
(Infringement of the '238 Patent)

45. Paragraphs 1 through 17 are incorporated by reference as if fully set forth herein.

46. LAG has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '238 Patent.

47. Defendant has and continues to infringe the '238 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by one or more of making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '238 Patent. Such products include, but are not limited to, Mitsubishi vehicles with direct injection engines, in all trims and configurations, including the Accused Vehicles, such as the Mitsubishi Outlander's 2.5-liter, four-cylinder internal combustion engine.

48. For example, Defendant has and continues to directly infringe at least Claim 1 of the '238 Patent by making, using, offering to sell, selling, and/or importing into the United States products that include Mitsubishi vehicles with direct injection engines, in all trims and configurations, including the Accused Vehicles, such as the Mitsubishi Outlander's 2.5-liter, four-cylinder internal combustion engine.

49. The Mitsubishi Outlander comprises a directly injecting internal combustion engine (e.g., 2.5-liter, four-cylinder internal combustion engine), comprising at least one cylinder which has a combustion space (e.g., combustion chambers in the four-cylinder engine):

Hi, Mileage.

We developed the 2024 Outlander's 2.5-liter 4-cylinder engine to enhance horsepower and torque while also improving fuel economy. By incorporating the latest technologies, like direct injection, an electrically operated valve timing control system, cooled exhaust gas recirculation, and mirror bore coating, the Outlander's engine balances fuel economy with acceleration performance.

47



48

⁴⁷ <https://www.mitsubishicars.com/cars-and-suvs/outlander/performance.>

⁴⁸ https://youtu.be/0E6vdmvCwAo?si=_w0uKIHnrP-MOxHw.

50. The Mitsubishi Outlander comprises a directly injecting internal combustion engine, comprising at least one cylinder which has a combustion space in which a piston executes an oscillating movement (e.g., piston movement is oscillatory, increasing pressure and temperature in preparation for combustion, aided by injectors to maximize the benefits of higher fuel pressure), and an injection nozzle for injection of fuel into the combustion space:



⁴⁹ https://youtu.be/0E6vdmvCwAo?si=_w0uKIHnrP-MOxHw.

⁵⁰ https://youtu.be/0E6vdmvCwAo?si=_w0uKIHnrP-MOxHw.

51. The Mitsubishi Outlander comprises a directly injecting internal combustion engine, comprising at least one cylinder which has a combustion space in which a piston executes an oscillating movement, and an injection nozzle for injection of fuel into the combustion space wherein the piston has a piston recess, which, in a central region thereof, has an elevation extending in a cylinder head direction (e.g., the top of the cylinder with a recess shape), and a surface of the piston recess adjoining the elevation in a recess edge direction is connected to the elevation via a radius:



⁵¹ https://www.ebay.com/itm/394064261501?_ul=IN.

VEHICLE FITMENT				
Year	Make	Model	Body & Trim	Engine & Transmission
2020	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2019	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2018	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2017	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2016	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2015	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2014	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2013	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2012	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2011	Mitsubishi	Outlander	GT, XLS	3.0L V6 - Gas
2010	Mitsubishi	Outlander	GT, XLS	3.0L V6 - Gas
▲ (11 fitments)				

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52. The Mitsubishi Outlander comprises a directly injecting internal combustion engine, comprising at least one cylinder which has a combustion space in which a piston executes an oscillating movement, and an injection nozzle for injection of fuel into the combustion space wherein the piston has a piston recess, which, in a central region thereof, has an elevation extending in a cylinder head direction, and a surface of the piston recess adjoining the elevation in a recess edge direction is connected to the elevation via a radius so that an injection jet impinging the surface and injected as early as possible is distributed both in an elevation direction and in the recess edge direction, and the surface is substantially planar and has an ascending gradient in the recess edge direction such that an injection jet injected as late as possible impinges onto the surface, the last-mentioned injection jet being distributed both in the elevation direction and in the recess edge direction:

⁵² <https://www.mitsubishi-parts.com/oem-parts/mitsubishi-piston-1110c099>.



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VEHICLE FITMENT				
Year	Make	Model	Body & Trim	Engine & Transmission
2020	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2019	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2018	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2017	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2016	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2015	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2014	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2013	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2012	Mitsubishi	Outlander	GT	3.0L V6 - Gas
2011	Mitsubishi	Outlander	GT, XLS	3.0L V6 - Gas
2010	Mitsubishi	Outlander	GT, XLS	3.0L V6 - Gas
^ (11 fitments)				

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53. Defendant has and continues to indirectly infringe one or more claims of the '238 Patent by knowingly and intentionally inducing others, including Mitsubishi customers and end-users, to directly infringe, either literally or under the doctrine of equivalents, by making, using,

⁵³ https://www.ebay.com/itm/394064261501?_ul=IN.

⁵⁴ <https://www.mitsubishi-parts.com/oem-parts/mitsubishi-piston-1110c099>.

offering to sell, selling, and/or importing into the United States products that include infringing technology.

54. Defendant, with knowledge that these products, or the use thereof, infringe the '238 Patent at least as of the date of this Complaint, knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the '238 Patent by providing these products to customers and end-users for use in an infringing manner. Alternatively, on information and belief, Defendant has adopted a policy of not reviewing the patents of others, including specifically those related to Defendant's specific industry, thereby remaining willfully blind to the Patents-in-Suit at least as early as the issuance of the Patents-in-Suit.

55. Defendant has and continues to induce infringement by others, including customers and end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end-users, infringe the '238 Patent, but while remaining willfully blind to the infringement. Defendant has and continues to induce infringement by its customers and end-users by supplying them with instructions on how to operate the infringing technology in an infringing manner, while also making publicly available information on the infringing technology via Defendant's websites, product literature and packaging, and other publications.⁵⁵

56. LAG has suffered damages as a result of Defendant's direct and indirect infringement of the '238 Patent in an amount to be proved at trial.

57. LAG has suffered, and will continue to suffer, irreparable harm as a result of Defendant's infringement of the '238 Patent, for which there is no adequate remedy at law, unless

⁵⁵ See Mitsubishi Eclipse Cross Owner's Manual and other materials, available with an account at: <https://owners.mitsubishicars.com/s/login/>.

Defendant's infringement is enjoined by this Court.

COUNT IV
(Infringement of the '353 Patent)

58. Paragraphs 1 through 17 are incorporated by reference as if fully set forth herein.

59. LAG has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '353 Patent.

60. Defendant has and continues to infringe the '353 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by one or more of making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '353 Patent. Such products include, but are not limited to, the Mitsubishi MI-PILOT Assist system, included in vehicles, in all trims and configurations, including the Accused Vehicles, such as the Mitsubishi Outlander.

61. For example, Defendant has and continues to directly infringe at least Claim 1 of the '353 Patent by making, using, offering to sell, selling, and/or importing into the United States products that include the Mitsubishi MI-PILOT Assist system, such as the Mitsubishi Outlander.

62. The Mitsubishi Outlander performs a method of forming an image of a mobile object:

What Is Mitsubishi MI-PILOT Assist?

Mitsubishi Motors first introduced the **MI-PILOT Assist system** in the 2022 Mitsubishi Outlander. It's just another addition to Mitsubishi's long lineup of driver-assistance software aimed at correcting common driver mistakes. As one of the first automakers to adopt and market adaptive cruise control technology, Mitsubishi knows the importance of safe driving.

The MI-PILOT Assist system assists with single-lane driving on busy highways. Its goal is to help take the stress out of stop-and-go traffic jams. MI-PILOT Assist falls into Mitsubishi's same-lane highway driving assistance technology category and works best on busy highways.

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⁵⁶ <https://www.performancemitsubishidelray.com/mitsubishi-mi-pilot-vehicles/#:~:text=The%20MI%2DPILOT%20Assist%20technology,stop%2Dand%2Dgo%20trafic>.

How Does MI-PILOT Assist Work?

The MI-PILOT Assist system is a forward-facing camera mounted to the vehicle's windshield that pairs with a front-mounted radar device able to detect the vehicle's braking, steering, and acceleration. It's also able to assess and adjust the vehicle's speed on the highway at both low and high speeds. The system can predict dense traffic patterns and make the automatic adjustments necessary to get the vehicle where it needs to go safely and quickly.

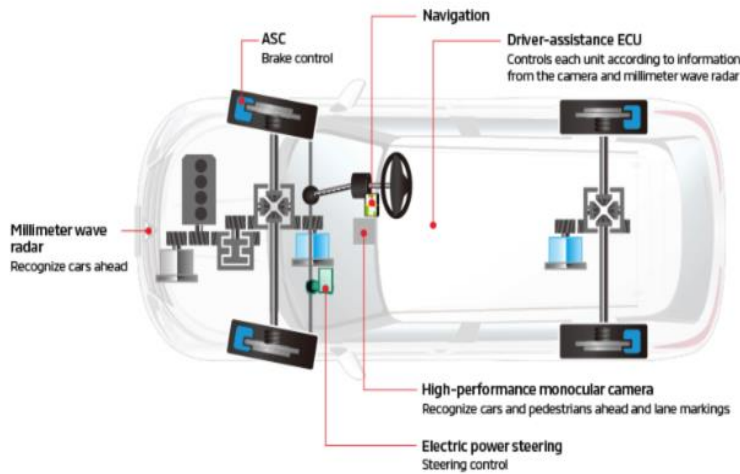
While MI-PILOT Assist's primary component is an adaptive cruise control system with stop-and-go functionality, it also has a road sign recognition system that's able to read speed limit signs and adjust the vehicle's speed accordingly. The technology embedded in MI-PILOT Assist uses data gathered from the vehicle's GPS and navigation systems to make minor adjustments to the vehicle's driving as traffic conditions change.



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◆ System Configuration

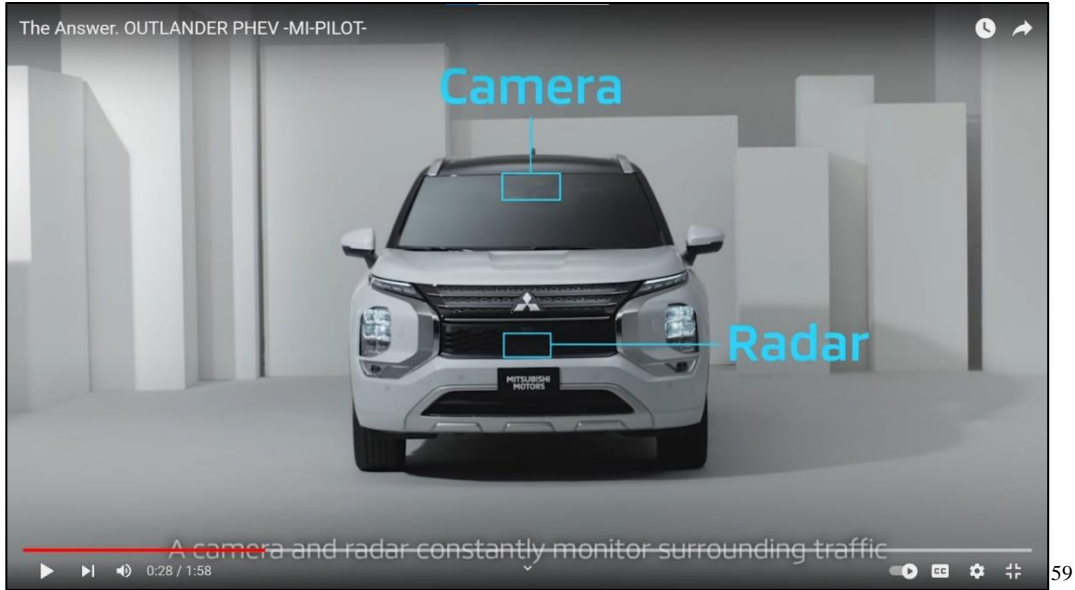
- **High-performance monocular camera and radar automatically measure distance from the vehicle ahead and position of the vehicle within the white lane markings.**
- **Technologically control accelerating, braking and steering.**



58

⁵⁷ *Id.*

⁵⁸ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.



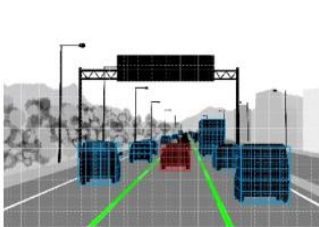
59

◆ High-performance Monocular Camera

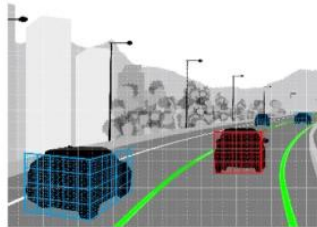
Instantly recognizes the vehicle ahead and lane markings in 3D while measuring them with high accuracy in order to:

- Accurately locate surrounding vehicles even in congested traffic
- Accurately locate white lane markings and surrounding vehicles even on curves in the road
- Quickly detect vehicles changing into your lane

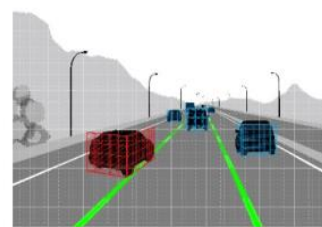
This allows precise control even in congested traffic, enabling quick reactions to changing conditions.



Accurately locate surrounding vehicles even in congested traffic



Accurately locate white lane markings and surrounding vehicles even on curves in the road



Quickly detect vehicles changing into your lane

60

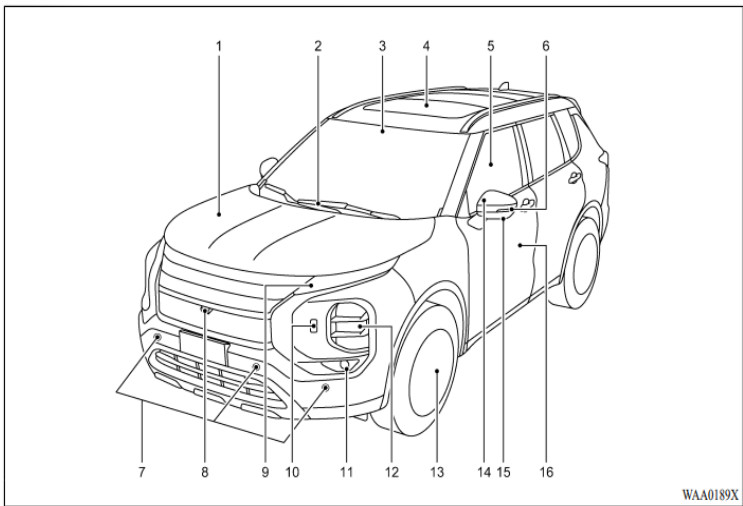
⁵⁹ <https://www.youtube.com/watch?v=6y728rk5vQU>.

⁶⁰ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

The Outlander's available **Multi-View Camera System**⁶¹ helps you confidently maneuver tight corners and navigate parking lots with ease. Using cameras mounted on the front, rear and side of the vehicle to create a composite image, the system creates a 360° view of your surroundings. With a better parking vantage point, getting around hard-to-see areas becomes a lot more convenient.

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EXTERIOR FRONT



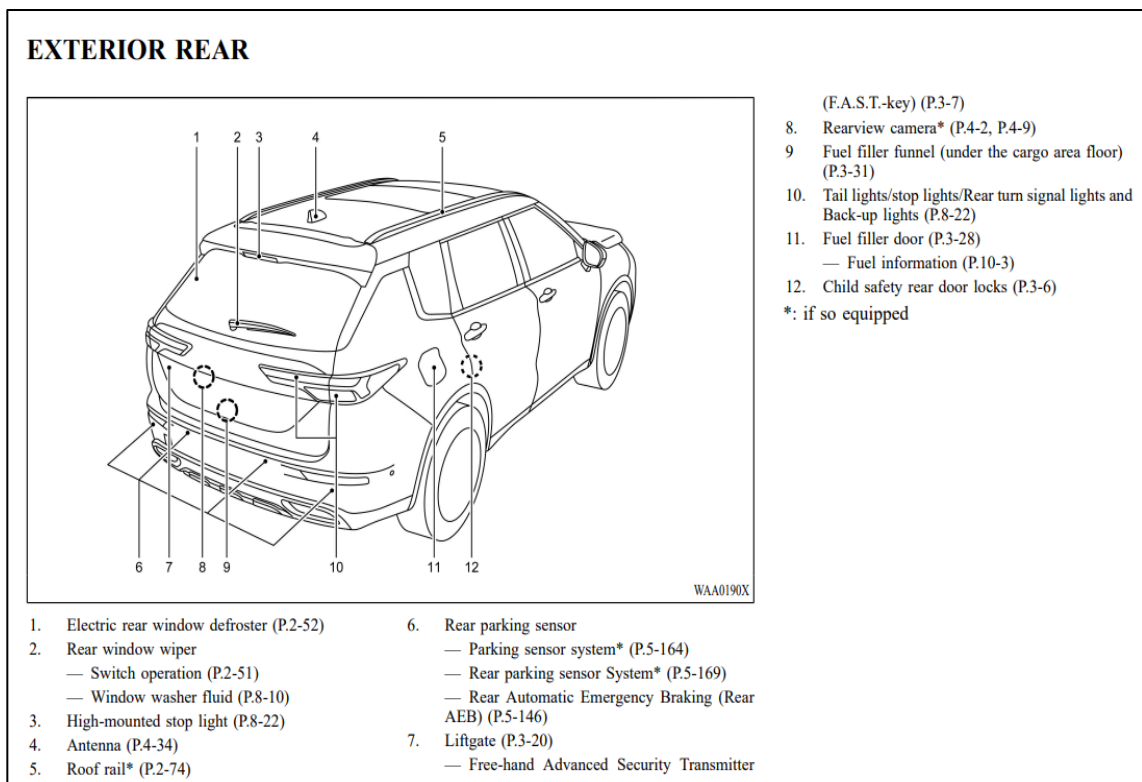
- | | |
|--|--|
| 1. Hood (P.3-19) | 5. Power windows (P.2-75) |
| 2. Windshield wiper and washer
— Switch operation (P.2-48)
— Window washer fluid (P.8-10)
— Windshield wiper deicer* (P.2-53) | 6. Side turn signal light (P.2-59) |
| 3. Front camera* (P.5-33, P.5-38, P.5-90, P.5-126) | 7. Front parking sensor* (P.5-164) |
| 4. Sunroof* (P.2-78) | 8. Front view camera* (P.4-9) |
| | 9. Daytime running lights/parking lights and front turn signal lights (P.2-53) |
| | 10. Headlight cleaners* (P.2-58) |

- 11. Fog lights* (P.2-59)
 - 12. Headlights (P.2-53)
 - 13. Tires
 - Wheels and tires (P.8-24, P.10-8)
 - Flat tire (P.6-3)
 - Tire Pressure Monitoring System (TPMS) (P.2-17, P.5-6)
 - 14. Door mirrors (P.3-34)
 - 15. Side view camera* (P.4-9)
 - 16. Doors
 - Keys (P.3-2)
 - Door locks (P.3-4)
 - Free-hand Advanced Security Transmitter (F.A.S.T.-key) (P.3-7)
 - Security system (P.2-46)
- *: if so equipped

62

⁶¹ https://www.mitsubishicars.com/content/dam/mitsubishi-motors-us/images/siteimages/pdf/request-a-quote/outlander/MMNA_MY23Outlander_eBrochure_R5.pdf.

⁶² https://www.mitsubishi-motors.ca/content/dam/mitsubishi-motors-ca/en/manuals/outlander/22_Outlander_English.pdf



63. The Mitsubishi Outlander performs a method of obtaining a plurality of first images (e.g., images the 360-degree image cameras) of the mobile object using a first imaging technique (e.g., 360-degree image camera processing) while obtaining a plurality of first measurements corresponding to movements of the mobile object using a first sensor system, the first sensor system (e.g., sonar sensors) being independent from the first imaging technique:

⁶³ *Id.*

The Outlander's available **Multi-View Camera System**¹¹ helps you confidently maneuver tight corners and navigate parking lots with ease. Using cameras mounted on the front, rear and side of the vehicle to create a composite image, the system creates a 360° view of your surroundings. With a better parking vantage point, getting around hard-to-see areas becomes a lot more convenient.

64



1 2 3 4

MULTI-VIEW CAMERA SYSTEM⁵

The 360° camera view of your 2024 Outlander lets you park easily and confidently. As the cameras mounted on the vehicle's front, rear, and sides collaborate, Multi-Around View Monitor reduces those pesky blind spots.

65

⁶⁴ https://www.mitsubishicars.com/content/dam/mitsubishi-motors-us/images/siteimages/pdf/request-a-quote/outlander/MMNA_MY23Outlander_eBrochure_R5.pdf.

⁶⁵ <https://www.mitsubishicars.com/cars-and-suvs/outlander/safety>.

ACTIVE BLIND SPOT ASSIST

REAR AUTOMATIC EMERGENCY BRAKING

Sonar sensors near the 2024 Outlander's rear bumper can detect objects behind the vehicle. If something is too close, Rear Automatic Emergency Braking⁷ gives an audible warning and attempts to stop the vehicle, reducing the chance of an accident.

66

64. The Mitsubishi Outlander performs a method of associating the plurality of first images (e.g., images from the 360-degree cameras) with first movement states of the mobile object using the first measurements (e.g., data from sonar sensors):

⁶⁶ <https://www.mitsubishicars.com/cars-and-suvs/outlander>.



1 2 3 4

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67

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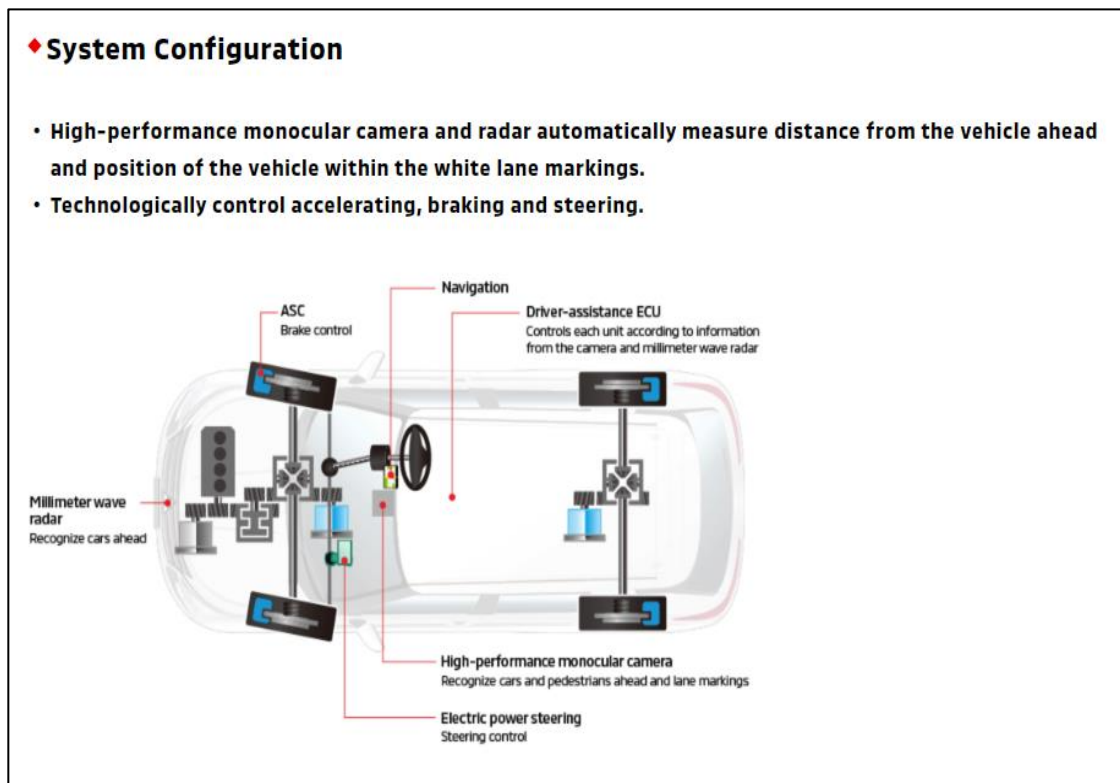
68

65. The Mitsubishi Outlander a method of obtaining a plurality of second images of the

⁶⁷ <https://www.mitsubishicars.com/cars-and-suvs/outlander/safety>.

⁶⁸ <https://www.mitsubishicars.com/cars-and-suvs/outlander>.

mobile object using a second imaging technique (e.g., images from the front camera image processing) while obtaining a plurality of second measurements corresponding to movements of the mobile object using a second sensor system (e.g. radar sensors), the second sensor system being independent from the second imaging technique:



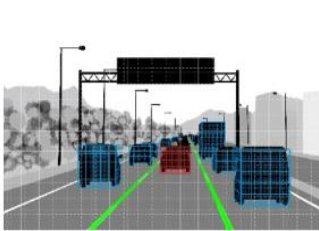
⁶⁹ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

◆ High-performance Monocular Camera

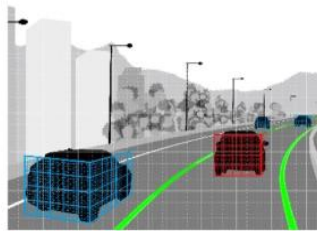
Instantly recognizes the vehicle ahead and lane markings in 3D while measuring them with high accuracy in order to:

- **Accurately locate surrounding vehicles even in congested traffic**
- **Accurately locate white lane markings and surrounding vehicles even on curves in the road**
- **Quickly detect vehicles changing into your lane**

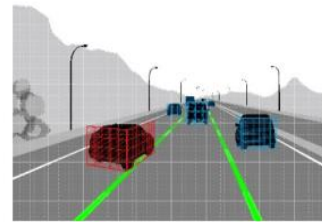
This allows precise control even in congested traffic, enabling quick reactions to changing conditions.



Accurately locate surrounding vehicles even in congested traffic



Accurately locate white lane markings and surrounding vehicles even on curves in the road



Quickly detect vehicles changing into your lane

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⁷⁰ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

◆ Functions on the Outlander PHEV model

- Maintains a constant following distance according to the acceleration and deceleration of the vehicle ahead at a set speed of at least approximately 30 km/h. (Also activated at approximately 30 km/h or below, when there is a vehicle ahead.)
- Stops and then automatically restarts within approximately 30 seconds of stopping¹ in congested traffic, according to the movement of the vehicle ahead.
- Supports steering to keep the vehicle near the center of the lane while driving.
- Reads speed limit signs and automatically adjusts set speed accordingly.
- Utilizes navigation map information to automatically adjust vehicle speed to that appropriate for curves, junctions, and other circumstances in the road ahead.

Following Distance / Speed

When there is no vehicle ahead

- Maintain constant speed

When there is a vehicle ahead

- Follow, stop, standby

Steering

When there are lane dividing lines on both sides

- Steering control

+

ACC³

2 : Only when driving on expressways
3 : ACC = Adaptive Cruise Control

LKA⁴

4 : LKA = Lane Keep Assist

- **Maintain constant speed**
Maintains the same speed set by the driver without pressing the accelerator.
- **Follow, stop, standby**
Follows the vehicle ahead while maintaining the same distance from it. Even when stopped in traffic jams, following will resume if the vehicle ahead begins moving again within 30 seconds².
- **Steering control**
Controls steering to stay near the center of the lane when driving in a straight line and even on turns.

71

1. Adaptive Cruise Control (ACC)

ACC has three interval settings and MI-Pilot Assist helps the system maintain the programmed distance between you and the detected vehicle ahead. ACC will remain on standby when your vehicle is stopped. MI-Pilot Assist helps deactivate the system after three minutes of inactivity and will engage the electric parking brake.

2. Lane Keep Assist (LKA)

LKA can provide steering inputs to keep your vehicle in the center of a recognized lane. MI-Pilot Assist will help activate the system if a vehicle is detected ahead.

3. MI-Pilot Assist Steering Controls

In addition to keeping your vehicle in the center of a detected lane, Mitsubishi's MI-Pilot Assist system will provide steering inputs to help navigate poor road conditions and certain driving scenarios. These aforementioned steering wheel inputs can help avoid the impact of bumps and cracks, lessen the impact of sloping roads, and increase vehicle stability on winding curves while remaining in the detected lane.

MI-Pilot Assist system can even recognize speed limit signs and automatically adjust vehicle speed to comply with them, enhancing the overall safety of Mitsubishi vehicles.

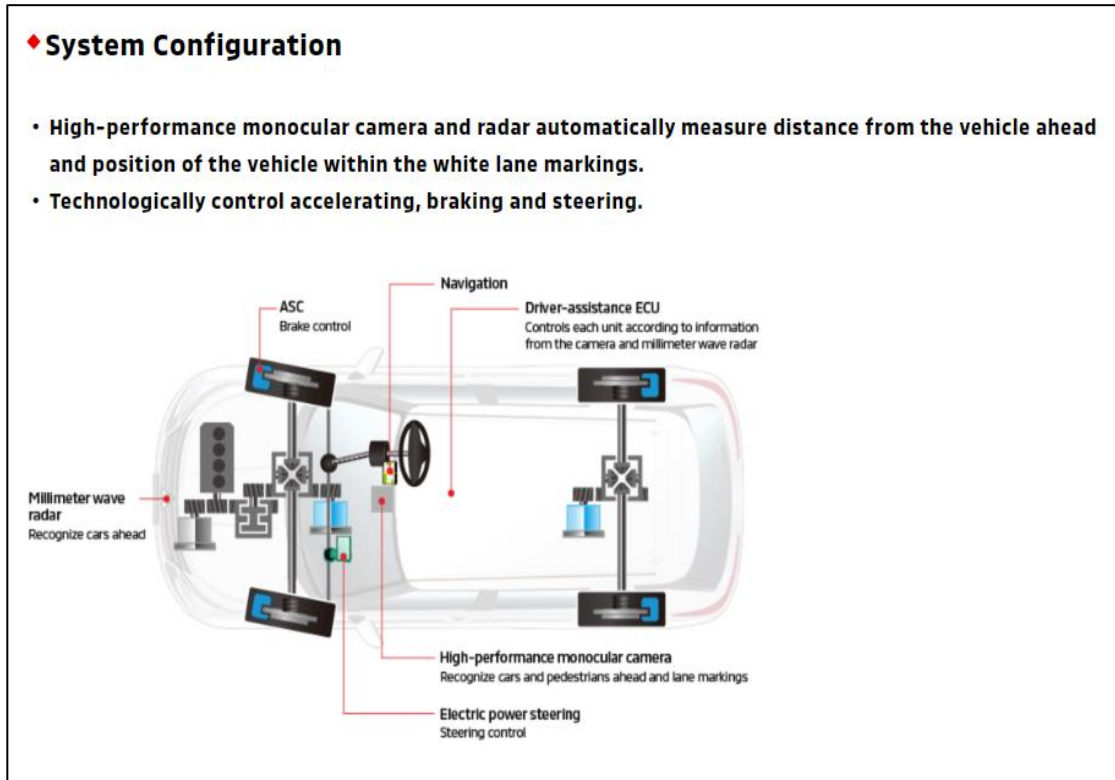
72

66. The Mitsubishi Outlander performs a method of associating the plurality of second

⁷¹ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

⁷² <https://www.verneidemitsubishi.com/mitsubishi-mi-pilot-assist/>.

images (e.g., images from the front camera) with second movement states of the mobile object using the first measurements (e.g., the radar data with the sonar sensor data):



73

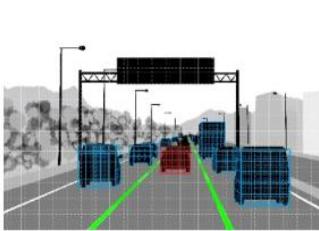
⁷³ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

◆ High-performance Monocular Camera

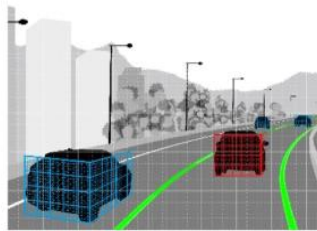
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- **Accurately locate white lane markings and surrounding vehicles even on curves in the road**
- **Quickly detect vehicles changing into your lane**

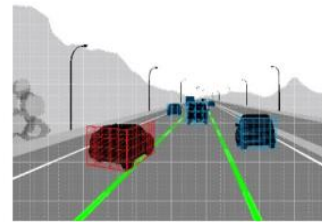
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Accurately locate surrounding vehicles even in congested traffic



Accurately locate white lane markings and surrounding vehicles even on curves in the road



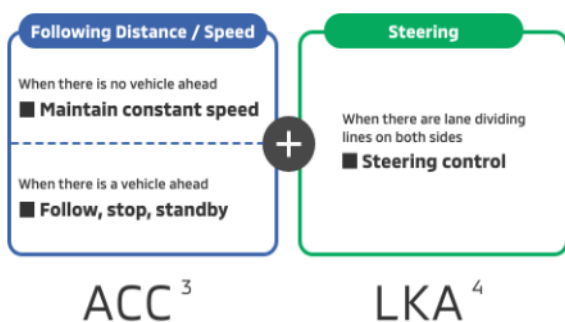
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74

⁷⁴ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

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75

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76

⁷⁵ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

⁷⁶ <https://www.verneidemitsubishi.com/mitsubishi-mi-pilot-assist/>.

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77

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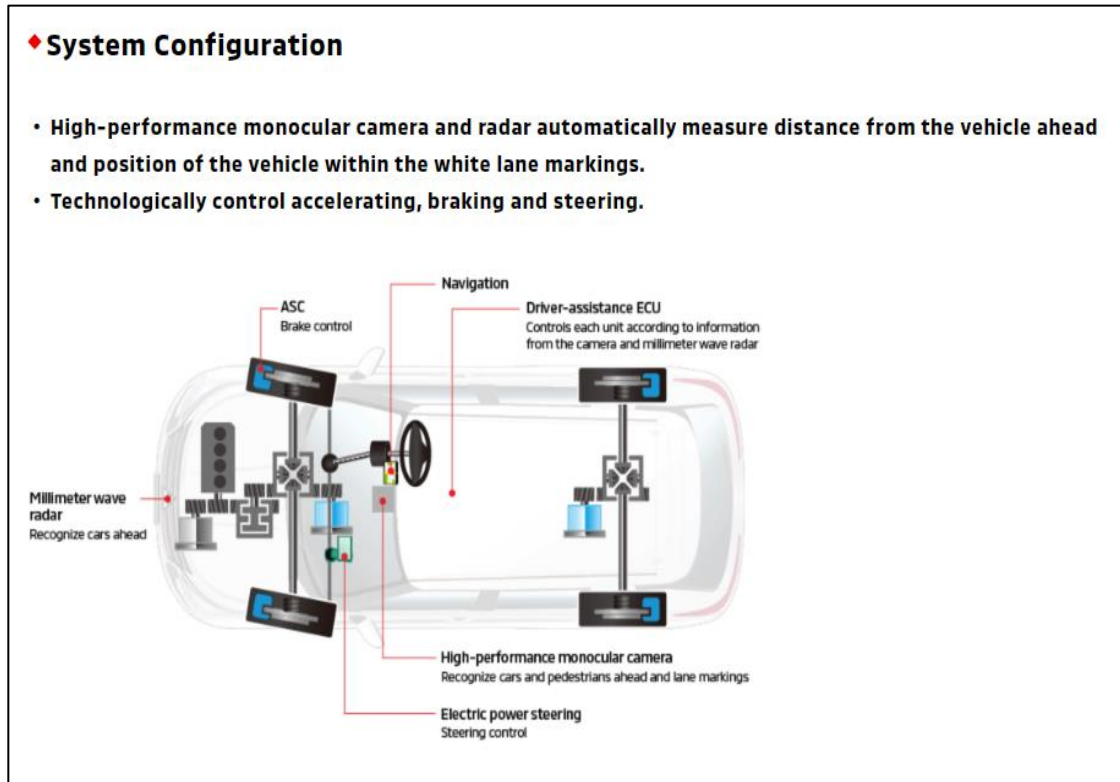
78

67. The Mitsubishi Outlander performs a method of forming an image of the mobile object based on said plurality of first images (e.g., images from the 360-degree cameras), said associated plurality of first movement measurements, and said first movement states (e.g., from the sonar sensors) and on said plurality of second images (e.g., from the front camera), said associated plurality of second movement measurements, and said second movement states (e.g., from the radar sensors), wherein the first imaging technique (e.g., the 360-degree cameras) is

⁷⁷ <https://www.mitsubishicars.com/cars-and-suvs/outlander/safety>.

⁷⁸ <https://www.mitsubishicars.com/cars-and-suvs/outlander>.

different from the second imaging technique (e.g., the front camera):



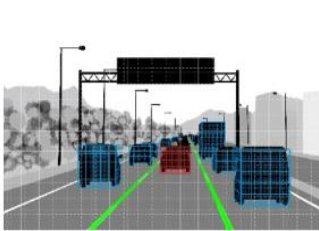
⁷⁹ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.

◆ **High-performance Monocular Camera**

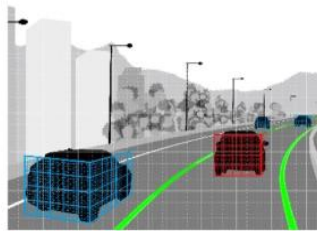
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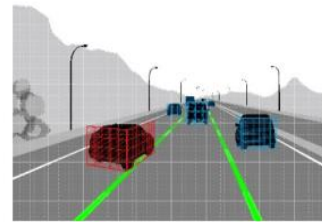
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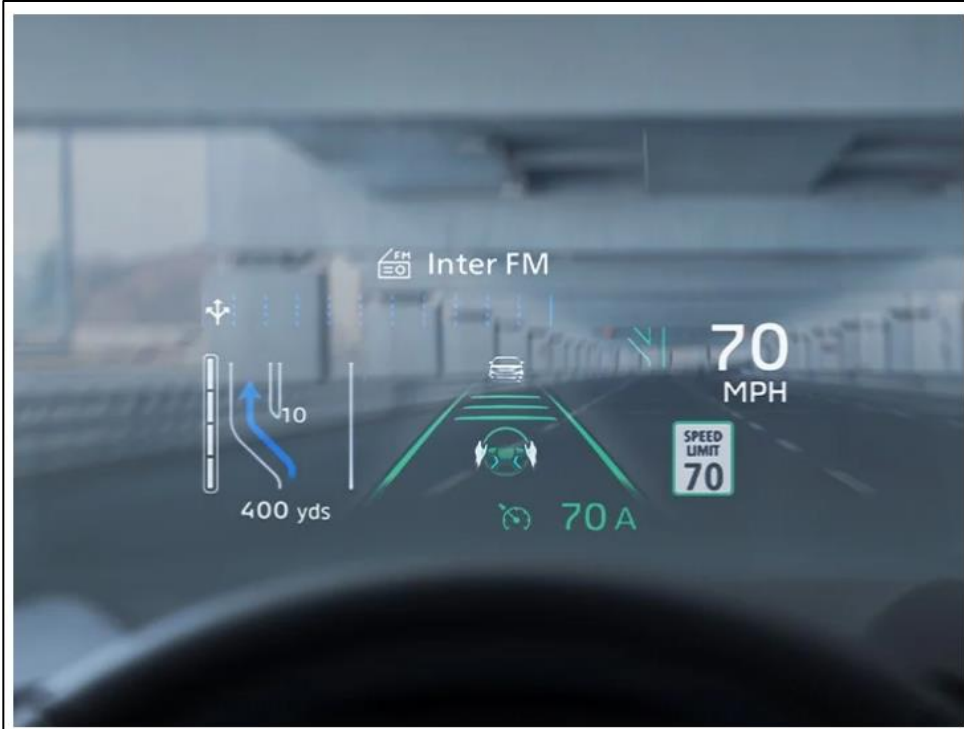
Accurately locate white lane markings and surrounding vehicles even on curves in the road



Quickly detect vehicles changing into your lane

80

⁸⁰ <https://www.mitsubishi-motors.com/en/brand/technology/mipilot2/index.html>.



Head-Up Display

The available 10.8" Head-Up Display³ (HUD) puts a wealth of information right on the windshield, so you know exactly what's going on around you without taking your eyes off the road.

⁸¹

⁸¹ <https://www.mitsubishicars.com/cars-and-suvs/outlander/technology>.

MULTI-VIEW CAMERA SYSTEM⁵

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68. Defendant has and continues to indirectly infringe one or more claims of the '353 Patent by knowingly and intentionally inducing others, including Mitsubishi customers and end-users, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology.

69. Defendant, with knowledge that these products, or the use thereof, infringe the '353 Patent at least as of the date of this Complaint, knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the '353 Patent by providing these products to customers and end-users for use in an infringing manner. Alternatively, on information and belief, Defendant has adopted a policy of not reviewing the patents of others, including specifically those related to Defendant's specific industry, thereby remaining willfully blind to the Patents-in-Suit at least as early as the issuance of the Patents-in-Suit.

70. Defendant has and continues to induce infringement by others, including customers and end-users, with the intent to cause infringing acts by others or, in the alternative, with the

⁸² <https://www.mitsubishicars.com/cars-and-suvs/outlander/safety>.

belief that there was a high probability that others, including end-users, infringe the '353 Patent, but while remaining willfully blind to the infringement. Defendant has and continues to induce infringement by its customers and end-users by supplying them with instructions on how to operate the infringing technology in an infringing manner, while also making publicly available information on the infringing technology via Defendant's websites, product literature and packaging, and other publications.⁸³

71. LAG has suffered damages as a result of Defendant's direct and indirect infringement of the '353 Patent in an amount to be proved at trial.

72. LAG has suffered, and will continue to suffer, irreparable harm as a result of Defendant's infringement of the '353 Patent, for which there is no adequate remedy at law, unless Defendant's infringement is enjoined by this Court.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, LAG prays for relief against Defendant as follows:

- a. Entry of judgment declaring that Defendant has directly and/or indirectly infringed one or more claims of the Patents-in-Suit;
- b. An order pursuant to 35 U.S.C. § 283 permanently enjoining Defendant, its officers, agents, servants, employees, attorneys, and those persons in active concert or participation with them, from further acts of infringement of the Patents-in-Suit;
- c. An order awarding damages sufficient to compensate LAG for Defendant's

⁸³ See Mitsubishi Outlander Owner's Manual and other materials, available with an account at: <https://owners.mitsubishicars.com/s/login/>.

infringement of the Patents-in-Suit, but in no event less than a reasonable royalty, together with interest and costs;

d. Entry of judgment declaring that this case is exceptional and awarding LAG its costs and reasonable attorney fees under 35 U.S.C. § 285; and

e. Such other and further relief as the Court deems just and proper.

Dated: August 20, 2024

Respectfully submitted,

/s/ Vincent J. Rubino, III

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Michael Mondelli III

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Telephone: (201) 341-9445

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**ATTORNEYS FOR PLAINTIFF,
LONGHORN AUTOMOTIVE
TECHNOLIGES LLC**