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

AMERICAN VEHICULAR SCIENCES LLC	§	
	§	
Plaintiff,	§	
	§	
v.	§	
	§	**Civil Action No. 6:13-cv-308-MHS**
MERCEDES-BENZ U.S. INTERNATIONAL, INC. AND MERCEDES-BENZ USA, LLC	§	**JURY TRIAL REQUESTED**
	§	
Defendants.	§	

AMERICAN VEHICULAR SCIENCES LLC'S PR 3-1 DISCLOSURE OF ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS AND PR 3-2 IDENTIFICATION OF DOCUMENT PRODUCTION ACCOMPANYING DISCLOSURE

Pursuant to Local Patent Rules 3-1 and 3-2, Plaintiff American Vehicular Sciences LLC ("AVS") hereby provides its Disclosure of Asserted Claims and Infringement Contentions against Defendants Mercedes-Benz U.S. International, Inc. and Mercedes-Benz USA, LLC (collectively "Mercedes") and its Identification of Document Production Accompanying Disclosure.

AVS presents these Infringement Contentions based on AVS's analysis of the facts currently known to it based on AVS's review of certain publicly available information. AVS's statements concerning Mercedes' accused products are based on publicly available materials which identify Mercedes' products that include the infringing technology referred to by Mercedes as Adaptive Highbeam Assist, Intelligent Light, and/or Night View Assist technology. At this time, AVS has had no discovery to date from Mercedes. Accordingly, AVS reserves the

Mercedes-Benz USA, LLC, Petitioner - Ex. 1012

right to supplement or alter its disclosure herein based on additional information obtained through formal discovery or other means concerning Mercedes' products.

I. INFRINGED CLAIMS- P.R. 3-1(a)

AVS asserts that Mercedes infringe directly, contributorily, and/or by inducement one or more of the flowing claims:

Claims **10, 11, 15-17, 19, 20, and 23** of U.S. Patent No. 5,845,000 ("**the '000 Patent**").

AVS has identified these claims based on information currently known to it. Other claims of the asserted patents include limitations based on certain discrete components of the claimed apparatus or certain discrete steps of the claimed method that AVS has been unable to definitively determine based on information currently known to AVS. AVS, however, believes that discovery and further investigation may likely identify such additional claims that are infringed by the Accused Instrumentalities or use thereof, and AVS accordingly reserves the right to supplement its identification of claims and other disclosures in the course of discovery or further investigation.

II. INDENTIFICATION OF ACCUSED INSTRUMENTALITIES AND CLAIM CHARTS- P.R 3-1(b)-(c)

Based on present information and belief, AVS contends that the Asserted Claims are infringed by Mercedes motor vehicles of various versions and model years ("Mercedes Vehicles"), having the functionality described in the provided claim charts that have been made, used, sold, offered for sale, or imported by Mercedes and/or that have otherwise been used as intended by Mercedes ("Accused Instrumentalities").

Attached as Exhibit A, and incorporated herein in their entirety, is a chart identifying where each element of the Asserted Claims is met by various features or functionalities

possessed by a representative Mercedes Vehicle or implicated by the use of Mercedes Vehicles (Accused Instrumentalities). In certain instances, the claim charts identify the features and functionality by a Feature or Option name that AVS has determined Mercedes uses for the described features and functionalities. Other Features or Options with different names may be used within or by Mercedes to describe the same or similar features and functionalities. Similarly, in certain instances, the claim charts identify certain models of Mercedes Vehicles that AVS has determined possess the described features and functionalities. AVS has not, however, determined every model and model version that possesses the described features and functionalities, nor has AVS determined for each model and model version the model years in which the model and model versions possessed the described features and functionalities. The descriptions of the features and functionalities in the provided claim charts provide Mercedes with sufficient information to identify the Features and Options implicated by AVS's contentions as well as the Models and Model Versions and their associated Model Years implicated by AVS's contentions.

AVS contends that any other Accused Instrumentality functions and/or operates in substantially the same manner as shown in the representative chart, thereby infringing the Asserted Claims. Unless otherwise indicated, the information provided that corresponds to each claim element is considered to indicate that each claim element is found within each of the above-described models and/or versions of Mercedes' Accused Instrumentalities.

As described further in the provided claim chart, Exhibit A, AVS accuses various Mercedes Vehicles (various model years and trim levels) equipped with technology referred to by Mercedes as Adaptive Highbeam Assist, Intelligent Light, and/or Night View Assist technology including but not limited to the A-Class, B-Class, C-Class, CL-Class, CLS-Class, E-

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Class, GL-Class, GLK-Class, GLS-Class, M-Class, S-Class, SL-Class Mercedes Vehicles of infringing at least claims 10, 11, 15-17, 19, 20, and 23 of the ’000 Patent.

III. IDENTIFICATION OF TYPE OF INFRINGEMENT ASSERTED- P.R 3-1(d)

At this time, AVS knows of no specific limitations of the asserted claims where infringement depends on the doctrine of equivalents. AVS expressly reserves the right to modify, augment, and/or supplement its assertion of infringement under the doctrine of equivalents of any elements of any of the asserted claims after discovery from Mercedes and/or third parties and/or after this Court has set forth its construction of the asserted claims.

IV. PRIORITY DATES OF ASSERTED CLAIMS -P.R. 3-1(e)

U.S. Patent Application No. 08/474,786 filed on June 7, 1995 resulted in the ’000 Patent. The 08/474,786 application claims priority to U.S. Patent Application No. 08/247,760 filed on May 23, 1994. Claims 10, 11, 15, 19, and 23 of the ’000 Patent have an effective filing date of May 23, 1994. Claims 16, 17, and 20 of the ’000 Patent have an effective filing date of June 7, 1995.

V. PLAINTIFF'S PRODUCTS- P.R. 3-1(f)

AVS is not presently relying on any assertion that its own apparatus, product, device, process, method, act, or other instrumentality practices the claimed inventions.

VI. DOCUMENT PRODUCTION ACCOMPANYING DISCLOSURE

Pursuant to Patent Rule 3-2, AVS hereby provides its Document Production Accompanying Disclosure along with an identification of the categories to which each of the documents corresponds.

A. Documents Responsive to P.R. 3-2(a)

AVS is presently unaware of any relevant, non-privileged documents responsive to P.R. 3-2(a). AVS will supplement this response should any relevant, non-privileged documents be identified in the future.

B. Documents Responsive to P.R. 3-2(b)

AVS is presently unaware of any relevant, non-privileged documents responsive to P.R. 3-2(b). AVS will supplement this response should any relevant, non-privileged documents be identified in the future.

C. Documents Responsive to P.R. 3-2(c)

Pursuant to P.R. 3-2(c), copies of the file histories of the five AVS patents asserted in Action Nos. 6:13cv307-MHS, 6:13cv308-MHS, 6:13cv309-MHS, and 6:13cv310-MHS, as well as the file histories for patents to which they are related and/or claim priority, are being concurrently produced in all actions under Bates Numbers AVSFH0000000l - AVSFH00058395.

VII. CONCLUSION

The information contained in these disclosures is based on AVS's analysis of the facts currently known to it based on AVS's review of publicly information reasonably available to it. Pertinent information about Mercedes' Accused Instrumentalities is not available without engaging in further discovery. Thus, AVS reserves the right to supplement, modify, and/or amend these disclosures as new information becomes available and discovery progresses. AVS anticipates that additional facts and relevant documents will be uncovered that will warrant supplementing and/or amending these disclosures.

DATED: July 22, 2013

Respectfully submitted,

/s/ Miranda Y. Jones

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record are being served with a copy of this document by e-mail on July 22, 2013.

/s/ Miranda Y. Jones
Miranda Y. Jones

EXHIBIT A

EXHIBIT A

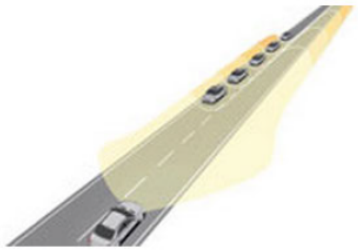
Infringement Claim Chart for U.S. Patent No. 5,845,000

The Features/Options primarily relied upon in this chart is referred to by Mercedes as Adaptive Highbeam Assist, Intelligent Light, and/or Night View Assist technology. On present information and belief, AVS understands the technology referred to by Mercedes as Adaptive Highbeam Assist, Intelligent Light, and/or Night View Assist technology are/have been offered either as a stand-alone feature/option on Mercedes-branded vehicles or as part of other packages. Further, on information and belief, AVS understands that this technology as provided on various Mercedes-branded vehicles operates identically or substantially in the same manner for all such Mercedes-branded vehicles, at least with respect to the elements of the asserted claims. Accordingly, this chart may rely on information obtained with respect to the use of these systems in specific Mercedes-branded vehicles.

To the extent discovery later shows that operation of this technology differs between different Mercedes-branded vehicle models or model years, at least with respect to the elements of the asserted claims, AVS reserves the right to amend or further supplement these contentions with additional information learned in the course of discovery or further investigation. Moreover, based on AVS's current information, the full extent to which these systems interact with or work in conjunction with or in parallel to other Mercedes systems, is not known. Such "interactions," if determined to exist in discovery or further investigation, could provide alternative bases for infringement of the identified claims or bases for

infringement of additional claims. For all these reasons, AVS reserves the right to amend or further supplement these contentions with additional information learned in the course of discovery or further investigation.

Based on the information presently available to it, AVS contends that Mercedes directly infringes United States Patent No. **5,845,000** ("the '000 Patent") by making, using, selling or offering to sell within the United States, or importing into the United States, Mercedes-branded vehicles that include A-Class, B-Class, C-Class, CL-Class, CLS-Class, E-Class, GL-Class, GLK-Class, GLS-Class, M-Class, S-Class, SL-Class vehicles that include Adaptive Highbeam Assist, Intelligent Light, and/or Night View Assist technology ("Accused Instrumentalities"). AVS also contends that Mercedes indirectly infringes the '000 Patent by actively inducing and contributing to its customers' direct infringement of the asserted claims.

'000 Claim 10	Elements in Accused Instrumentality
10. [pre] In a motor vehicle having an interior and an exterior, a monitoring system for monitoring at least one object exterior to said vehicle comprising:	Based on present information and belief, AVS contends that the Accused Instrumentalities include a motor vehicle having an interior and an exterior, and a monitoring system for monitoring at least one object exterior to said vehicle. *See* http://techcenter.mercedes-benz.com/en/adaptive_high_beam_assist/detail.html *See* http://techcenter.mercedes-benz.com/en/night_view_plus_with_spotlight/detail.html *See* http://techcenter.mercedes-benz.com/en/ils/detail.html **ADAPTIVE HIGHBEAM ASSIST:** **Adaptive Highbeam Assist** Engineered to provide the maximum possible road illumination without creating glare for other drivers, this innovative feature uses continuous input from a camera to automatically vary the range of your high beams, based on the distance both to oncoming vehicles and to those ahead of you. Enhancing your ability to identify changes in the road's path and the presence of pedestrians and hazards earlier, Adaptive Highbeam Assist can help you drive more safely and confidently in the dark. 

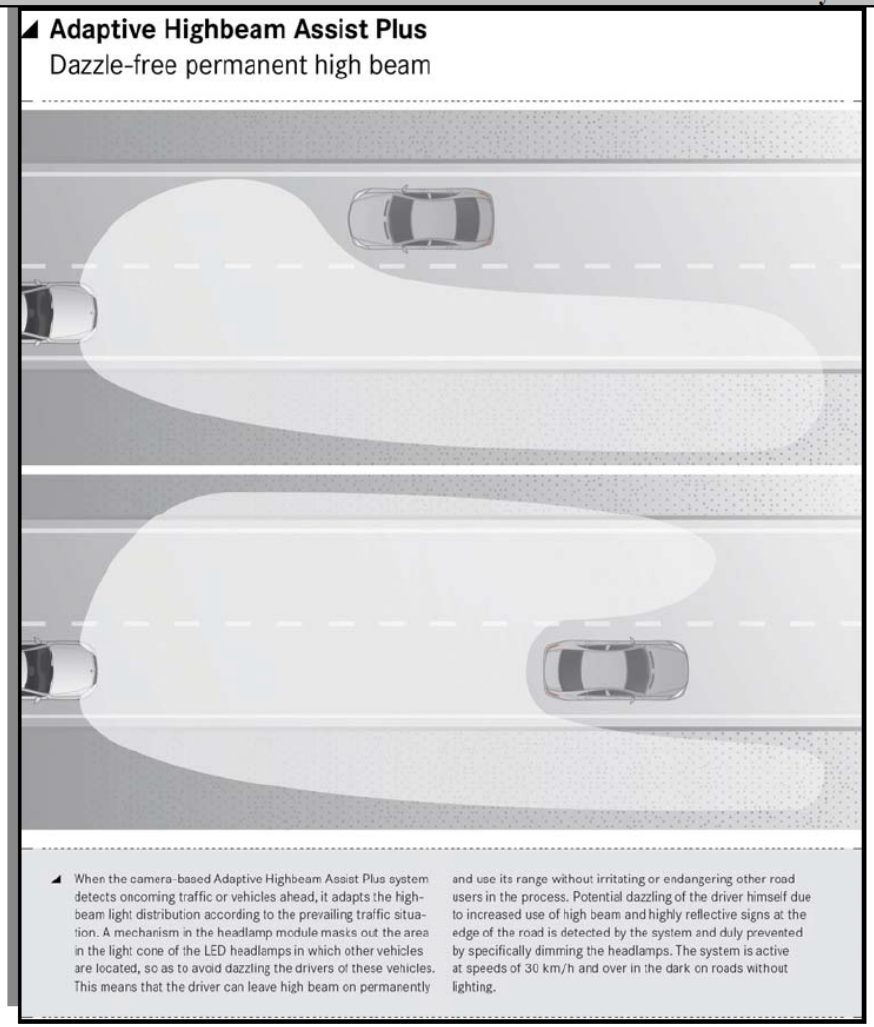
'000 Claim 10	Elements in Accused Instrumentality
	http://www.mbusa.com/mercedes/legacy/vehicles/model?class=S&model=S600V#design http://www.emercedesbenz.com/Nov08/12_001503_Mercedes_Benz_TecDay_Special_Feature_Safety_Systems_In_The_New_E_Class_And_S_Class_From_Spring_2009.html'

'000 Claim 10	Elements in Accused Instrumentality
	Adaptive Highbeam Assist: the best possible light in any traffic situation Tests show that motorists who use Adaptive Highbeam Assist are safer on the road in the dark because they see pedestrians, cyclists or obstacles on the road up to 150 metres earlier than is the case with conventional low beam. What's more, the system helps to **relieve driver stress** as there is no longer any need to repeatedly flick the stalk on the steering wheel. So the driver can concentrate more on actually driving the car. Once activated, Adaptive Highbeam Assist always provides the best possible headlamp range. At the heart of the system is a camera, located on the inside of the windscreen, which sends new data every 40 milliseconds so that the range of the variable-control bi-xenon headlamps can be adjusted. Mercedes-Benz has further developed its **Night View Assist** system, which illuminates a long stretch of the road ahead using invisible infrared light. The second generation of this system features a special pedestrian detection function: as soon as the system detects pedestrians ahead of the car, they are highlighted on the display. http://www.emercedesbenz.com/Nov08/12_001503_Mercedes_Benz_TecDay_Special_Feature_Safety_Systems_In_The_New_E_Class_And_S_Class_From_Spring_2009.html **NIGHT VIEW ASSIST:**

’000 Claim 10	Elements in Accused Instrumentality
	 his system employs infrared technology to present the ght-time road scene on the display, indicating identified persons; optionally, a spotlight can flash up pedestrians at the side of the road. When the sun has set, driving becomes more dangerous. Night-time accounts for only 20 percent of the total traffic volume – but 40 percent of all fatal accidents! Headlamps offering low and high beam are limited in their ability to counter this problem. Mercedes-Benz thus explores other ways of improving visibility. NIGHT VIEW ASSIST PLUS employs an infrared camera to reveal obstacles that otherwise remain concealed at night. This improves safety for drivers, as well as careless pedestrians. http://techcenter.mercedes-benz.com/en/night_view_plus_with_spotlight/detail.html
[a] transmitter means for transmitting electromagnetic waves to illuminate the at least one exterior object; and	Based on present information and belief, AVS contends that the Accused Instrumentalities comprise a transmitter means for transmitting electromagnetic waves to illuminate the at least one exterior object: **ADAPTIVE HIGHBEAM ASSIST:**

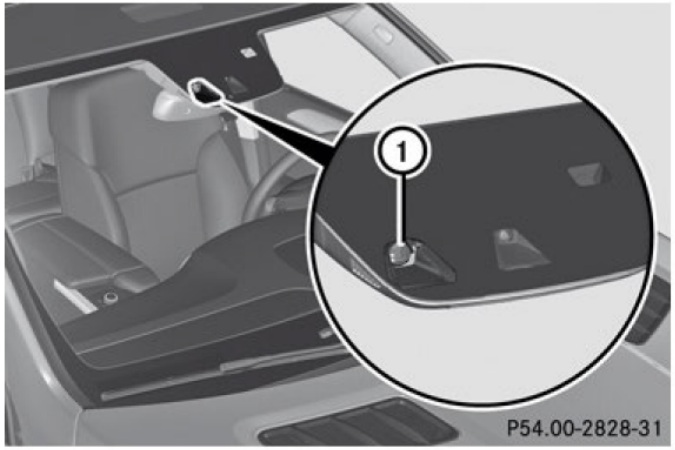
’000 Claim 10	Elements in Accused Instrumentality
	The new E-Class will be the world's first car to feature headlamps that adapt automatically in line with the current driving situation. **Adaptive Highbeam Assist** detects oncoming vehicles or moving vehicles in front with their lights on and adjusts the headlamps continuously so as to always provide the best possible headlamp range – without dazzling other motorists. In this way, the low-beam range can be increased from its current level of 65 metres to up to 300 metres. If the road ahead is clear, the system switches to high beam with a minimum of fuss. This Mercedes development is therefore fundamentally different to conventional systems of this type, since the latter merely switch between low beam and high beam. http://www.emercedesbenz.com/Nov08/12_001503_Mercedes_Benz_TecDay_Special_Feature_Safety_Systems_In_The_New_E_Class_And_S_Class_From_Spring_2009.html

'000 Claim 10	Elements in Accused Instrumentality
	Permanent high beam with no dazzle: Adaptive Highbeam Assist Plus For the first time, Adaptive Highbeam Assist Plus allows the high-beam headlamps to be kept on permanently while driving by masking out any other road user detected in the beams' cone of light. If the camera-based system registers either oncoming traffic or vehicles ahead, it will adapt the light distribution according to the specific situation when the high beam is switched on. Consequently, the driver can simply leave the high-beam headlamps on at all times and use their full range without irritating or even endangering other road users. There is no need to switch them on and off manually, resulting in a significant increase in the overall driving time with high beam. Adaptive Highbeam Assist Plus likewise makes use of the new stereo camera also employed by other assistance systems. If its image recognition algorithm picks up a vehicle that is oncoming or driving ahead, it actuates a mechanism in the headlamp module. This then masks the portion of the LED headlamp's main-beam cone of light where there are other vehicles to prevent their drivers being dazzled. If road users are detected outside the area that can be masked – for instance when cornering with multiple vehicles in the headlamps' beams – the http://media.daimler.com/dcmedia/0-921-1549267-1-1608240-1-0-0-1609495-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374410323331

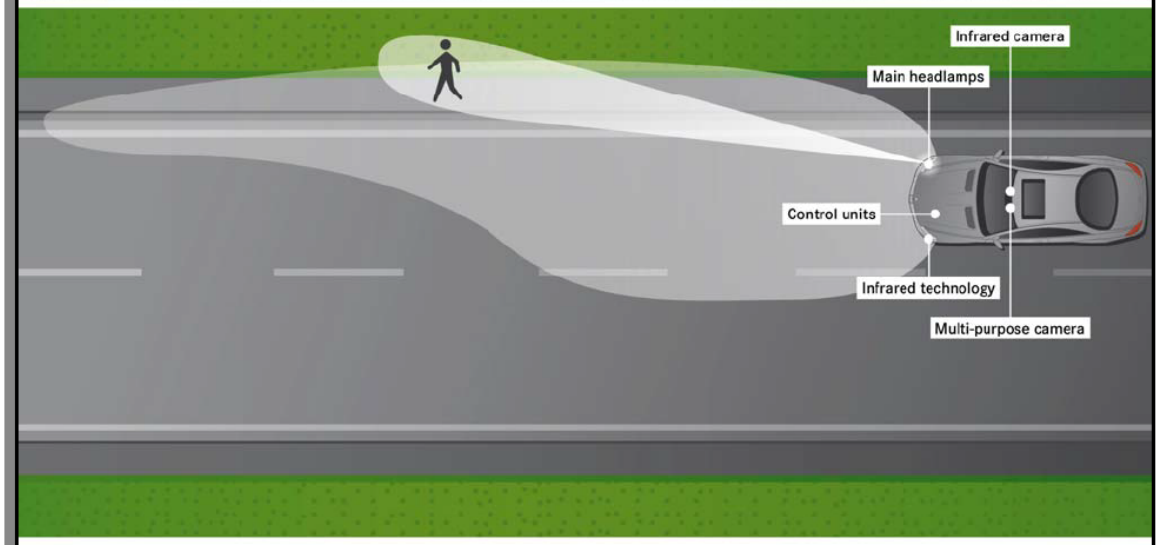
'000 Claim 10	Elements in Accused Instrumentality
	 http://media.daimler.com/dcmedia/0-921-1549267-1-1608583-1-0-1-1609495-0-1-12637-614216-0-3842-0-0-0-0-0.html?TS=1374407520153

'000 Claim 10	Elements in Accused Instrumentality
	The new E-Class will be the world's first car to feature headlamps that adapt automatically in line with the current driving situation. **Adaptive Highbeam Assist** detects oncoming vehicles or moving vehicles in front with their lights on and adjusts the headlamps continuously so as to always provide the best possible headlamp range – without dazzling other motorists. In this way, the low-beam range can be increased from its current level of 65 metres to up to 300 metres. http://www.emercedesbenz.com/Nov08/12_001503_Mercedes_Benz_TecDay_Special_Feature_Safety_Systems_In_The_New_E_Class_And_S_Class_From_Spring_2009.html **NIGHT VIEW ASSIST:** **significant step further: it highlights the possible source of danger in the driver's immediate field of vision by specifically directing light on people on the road. A positive side effect of this is that the pedestrian is also alerted to the presence of the approaching vehicle. The new spotlight function will be included as a standard feature of the Active Night View Assist Plus in a luxury class Mercedes model from the summer of 2011.** http://media.daimler.com/Projects/c2c/channel/documents/1958718_PI_Spotlight_e.pdf

'000 Claim 10	Elements in Accused Instrumentality
	The Night View Assist Plus with new spotlight function is a complex combination of a variety of technical functions. Infrared headlamps, night vision camera, multipurpose camera, spotlight headlamps, instrument cluster display and headlamp switch are all coordinated by several control units using complex software. http://media.daimler.com/Projects/c2c/channel/documents/1958718_PI_Spotlight_e.pdf The spotlight function uses **infrared technology** to detect pedestrians at a range of up to 80 metres: two separate light sources in the headlamps illuminate the road with invisible, non-dazzling infrared light. A **windscreen-mounted camera** http://media.daimler.com/Projects/c2c/channel/documents/1958718_PI_Spotlight_e.pdf "The range of the two infrared headlamps to the right and left of the radiator grille corresponds to that of standard bi-xenon light in high-beam mode – with the advantage that oncoming traffic is not dazzled because infrared is not visible to humans. The illuminated road scenario is filmed by an infrared camera located inside the vehicle at the top edge of the windscreen." http://techcenter.mercedes-benz.com/en/night_view/detail.html

'000 Claim 10	Elements in Accused Instrumentality
	Night View Assist Plus camera  **1** Night View Assist Plus camera **Night View Assist Plus** In addition to the illumination provided by the normal headlamps, Night View Assist Plus uses infrared light to illuminate the road. Night View Assist Plus camera **1** picks up the infrared light and displays a greyscale image in the COMAND display. This enables you to see the road's course and any obstacles in good time. If pedestrian recognition is activated, pedestrians recognised by the system are highlighted in the Night View Assist Plus display. http://www4.mercedes-benz.com/manual-cars/ba/cars/w166/en/overview/fahrsysteme4.html

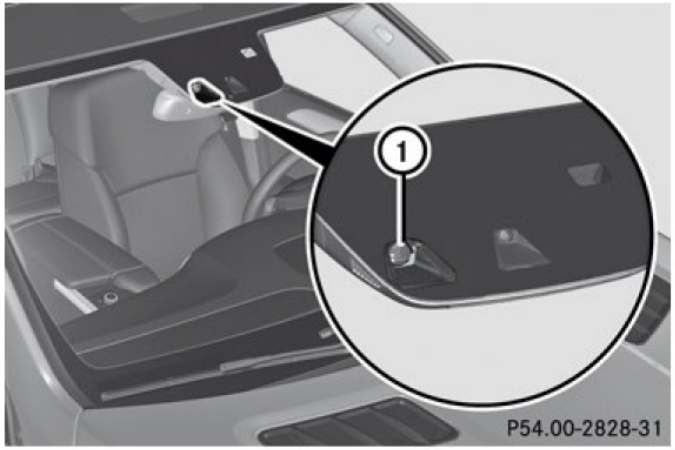
’000 Claim 10	Elements in Accused Instrumentality
	The infrared-sensitive camera behind the front windscreen films the traffic situation ahead and relays the corresponding images to the dashboard display. The scenario is illuminated by infrared light, which is invisible to the human eye. Two infrared headlamps to the right and left of the radiator grille serve as the light sources. The range of the two infrared headlamps is practically equivalent to that of standard bi-xenon light in high-beam mode – but with the advantage that oncoming traffic is not dazzled. http://www.daimler.com/dccom/0-5-1210218-1-1210320-1-0-0-1210228-0-1-8-7165-0-0-0-0-0-0-0.html

'000 Claim 10	Elements in Accused Instrumentality
	Spotlight function Warning in the driver's immediate line of vision  **Targetted spotlighting of pedestrians in the road.** With the new Spotlight function for Active Night View Assist PLUS, Mercedes-Benz is presenting an active lighting system as a world first that leads to a completely new level of safety at night. When the camera detects pedestrians in its field of vision, these can be briefly spotlighted to alert the driver to the potential danger. The pedestrians also receive a warning in this way. The new Spotlight function will enter series production as part of Active Night View Assist PLUS in a luxury-class Mercedes model in summer 2011. **Infrared headlamps** Two separate lamps in the headlamps illuminate the road surface with invisible infrared light. **Infrared camera** Monitors the road ahead of the car, evaluates the image and detects pedestrians within a range of up to 80 metres. The image is transferred to a display in the instrument cluster. **Multi-purpose camera** Recognises whether the car is travelling in town or in the country, and registers the position of an oncoming vehicle or one travelling ahead. **Control units** decide whether a detected pedestrian is to be spotlighted or not. **Main headlamp** flashes a targetted spotlight at the pedestrian if necessary.

'000 Claim 10	Elements in Accused Instrumentality
	http://media.daimler.com/dcmedia/0-921-658892-1-1354042-1-0-1-0-0-1-12639-1549054-0-3842-0-0-0-0-0.html?TS=1374407762338
[b] reception means for receiving reflected electromagnetic illumination from the at least one exterior object;	Based on present information and belief, AVS contends that the Accused Instrumentalities include a reception means for receiving reflected electromagnetic illumination from the at least one exterior object: **ADAPTIVE HIGHBEAM ASSIST:**

'000 Claim 10	Elements in Accused Instrumentality
	Permanent high beam with no dazzle: Adaptive Highbeam Assist Plus For the first time, Adaptive Highbeam Assist Plus allows the high-beam headlamps to be kept on permanently while driving by masking out any other road user detected in the beams' cone of light. If the camera-based system registers either oncoming traffic or vehicles ahead, it will adapt the light distribution according to the specific situation when the high beam is switched on. Consequently, the driver can simply leave the high-beam headlamps on at all times and use their full range without irritating or even endangering other road users. There is no need to switch them on and off manually, resulting in a significant increase in the overall driving time with high beam. Adaptive Highbeam Assist Plus likewise makes use of the new stereo camera also employed by other assistance systems. If its image recognition algorithm picks up a vehicle that is oncoming or driving ahead, it actuates a mechanism in the headlamp module. This then masks the portion of the LED headlamp's main-beam cone of light where there are other vehicles to prevent their drivers being dazzled. If road users are detected outside the area that can be masked – for instance when cornering with multiple vehicles in the headlamps' beams – the http://media.daimler.com/dcmedia/0-921-1549267-1-1608240-1-0-0-1609495-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374410323331

'000 Claim 10	Elements in Accused Instrumentality
	Every 40 milliseconds the headlamps receive new data for headlamp adjustment The brand new Mercedes technology is based on a camera positioned on the inside of the front windscreen, which monitors the traffic situation in front of the car. Thanks to an intelligent image processing algorithm, the camera can recognise other vehicles and determine their distance. The range of the bi-xenon headlamps can then be varied and continuously adapted to the distance of the car ahead or to oncoming vehicles. The system has lightning quick reaction times, transmitting new data to the headlamps every 40 milliseconds. http://www.emercedesbenz.com/Sep08/25_001417_Mercedes_Benz_Introduces_New_Adaptive_High_Beam_Assistant.html **NIGHT VIEW ASSIST:** Night View Assist Plus technology uses an infrared camera to receive electromagnetic illumination: http://techcenter.mercedes-benz.com/en/night_view_plus_with_spotlight/detail.html

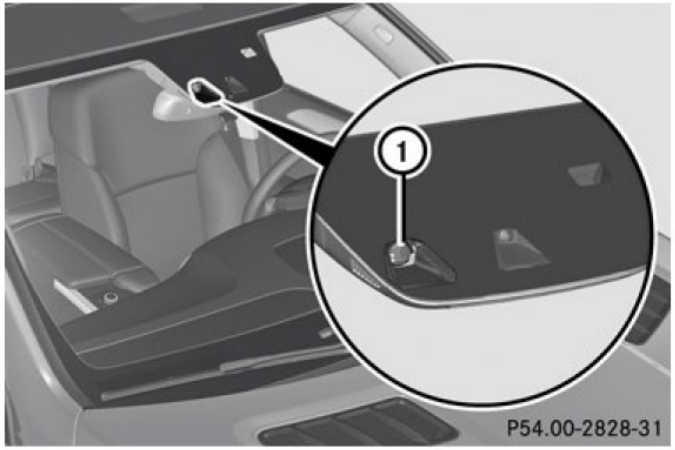
'000 Claim 10	Elements in Accused Instrumentality
	Night View Assist Plus camera  **1** Night View Assist Plus camera **Night View Assist Plus** In addition to the illumination provided by the normal headlamps, Night View Assist Plus uses infrared light to illuminate the road. Night View Assist Plus camera **1** picks up the infrared light and displays a greyscale image in the COMAND display. This enables you to see the road's course and any obstacles in good time. If pedestrian recognition is activated, pedestrians recognised by the system are highlighted in the Night View Assist Plus display. http://www4.mercedes-benz.com/manual-cars/ba/cars/w166/en/overview/fahrsysteme4.html

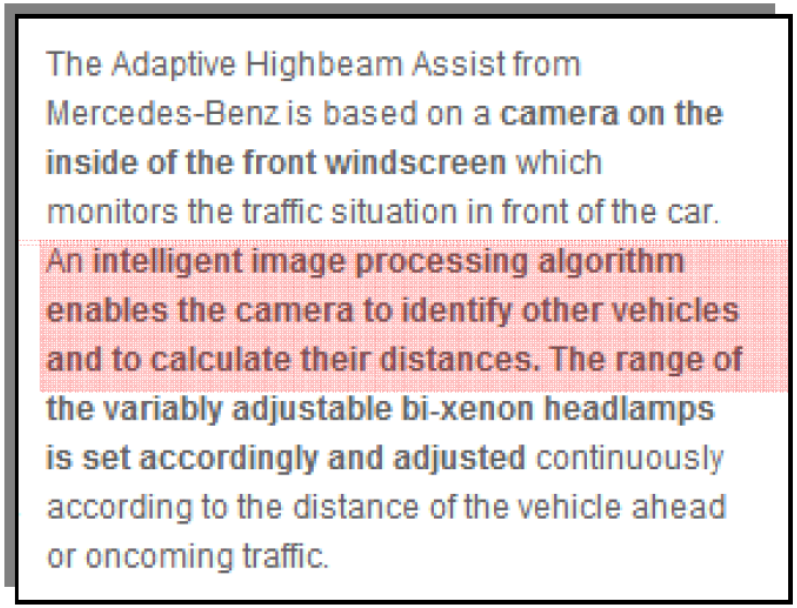
'000 Claim 10	Elements in Accused Instrumentality
	Targetted spotlighting of pedestrians in the road. With the new Spotlight function for Active Night View Assist PLUS, Mercedes-Benz is presenting an active lighting system as a world first that leads to a completely new level of safety at night. When the camera detects pedestrians in its field of vision, these can be briefly spotlighted to alert the driver to the potential danger. The pedestrians also receive a warning in this way. The new Spotlight function will enter series production as part of Active Night View Assist PLUS in a luxury-class Mercedes model in summer 2011. ◢ **Infrared headlamps** Two separate lamps in the headlamps illuminate the road surface with invisible infrared light. ◢ **Infrared camera** Monitors the road ahead of the car, evaluates the image and detects pedestrians within a range of up to 80 metres. The image is transferred to a display in the instrument cluster. ◢ **Multi-purpose camera** Recognises whether the car is travelling in town or in the country, and registers the position of an oncoming vehicle or one travelling ahead. ◢ **Control units** decide whether a detected pedestrian is to be spotlighted or not. ◢ **Main headlamp** flashes a targetted spotlight at the pedestrian if necessary. http://media.daimler.com/dcmedia/0-921-658892-1-1354042-1-0-1-0-0-1-12639-1549054-0-3842-0-0-0-0-0.html?TS=1374407762338
[c] processor means coupled to said reception means for processing said received illumination and creating an electronic signal characteristic of said exterior object based thereon;	Based on present information and belief, AVS contends that the Accused Instrumentalities include a processor means coupled to said reception means for processing said received illumination and creating an electronic signal characteristic of said exterior object based thereon: **ADAPTIVE HIGHBEAM ASSIST:**

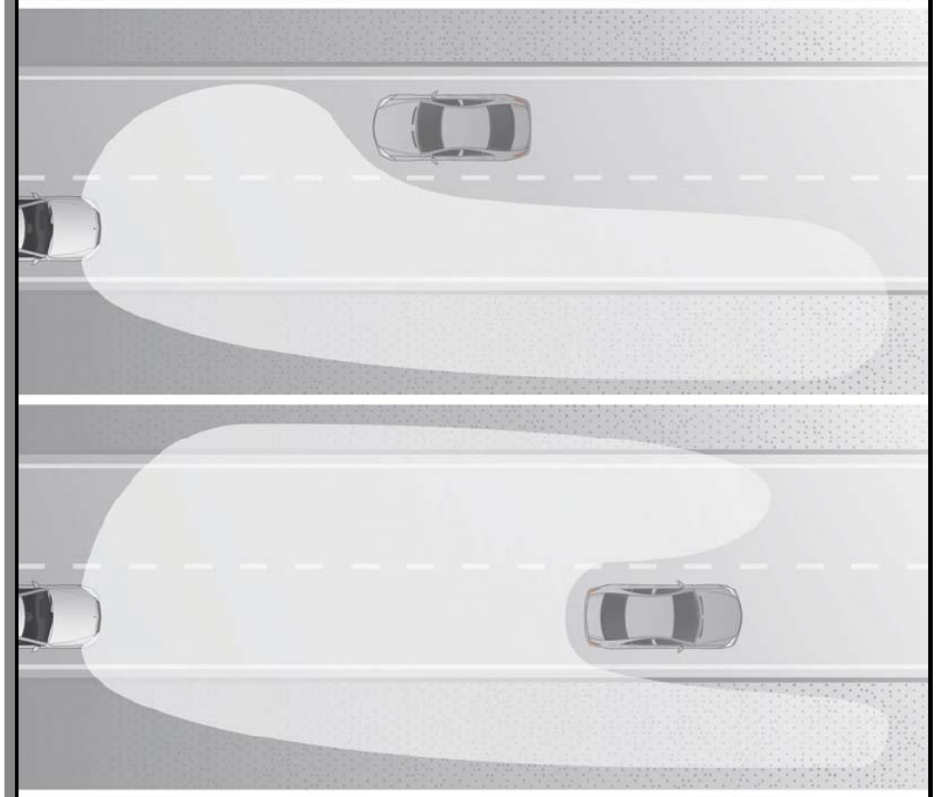
’000 Claim 10	Elements in Accused Instrumentality
	Every 40 milliseconds the headlamps receive new data for headlamp adjustment The brand new Mercedes technology is based on a camera positioned on the inside of the front windscreen, which monitors the traffic situation in front of the car. Thanks to an intelligent image processing algorithm, the camera can recognise other vehicles and determine their distance. The range of the bi-xenon headlamps can then be varied and continuously adapted to the distance of the car ahead or to oncoming vehicles. The system has lightning quick reaction times, transmitting new data to the headlamps every 40 milliseconds. http://www.emercedesbenz.com/Sep08/25_001417_Mercedes_Benz_Introduces_New_Adaptive_High_Beam_Assistant.html

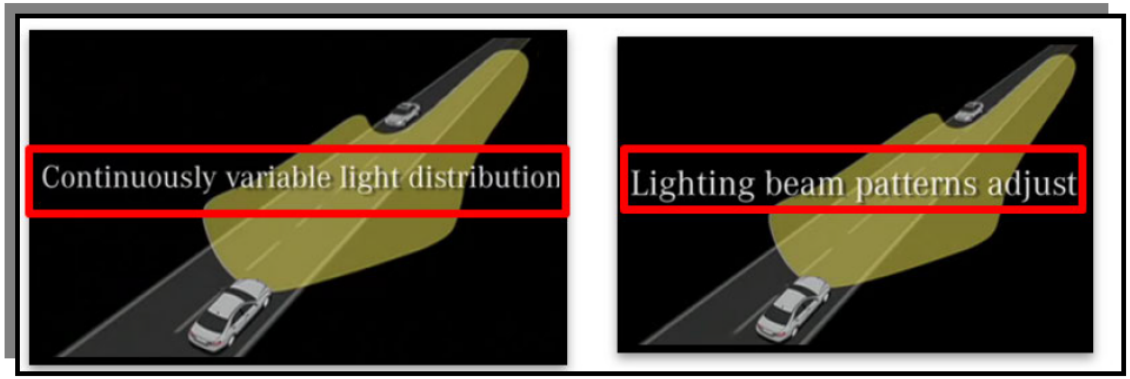
'000 Claim 10	Elements in Accused Instrumentality
	The Adaptive Highbeam Assist from Mercedes-Benz is based on a **camera on the inside of the front windscreen** which monitors the traffic situation in front of the car. An **intelligent image processing algorithm enables the camera to identify other vehicles and to calculate their distances. The range of the variably adjustable bi-xenon headlamps is set accordingly and adjusted** continuously according to the distance of the vehicle ahead or oncoming traffic. http://www.daimler.com/dccom/0-5-1210218-1-1210317-1-0-0-1210228-0-1-8-7165-0-0-0-0-0-0-0.html **NIGHT VIEW ASSIST:** An electronic **control unit** processes the image from the infrared camera and transfers it to the **display** in the instrument cluster as a clear greyscale image. http://media.daimler.com/dcmedia/0-921-614289-1-817565-1-0-0-817632-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374448615437

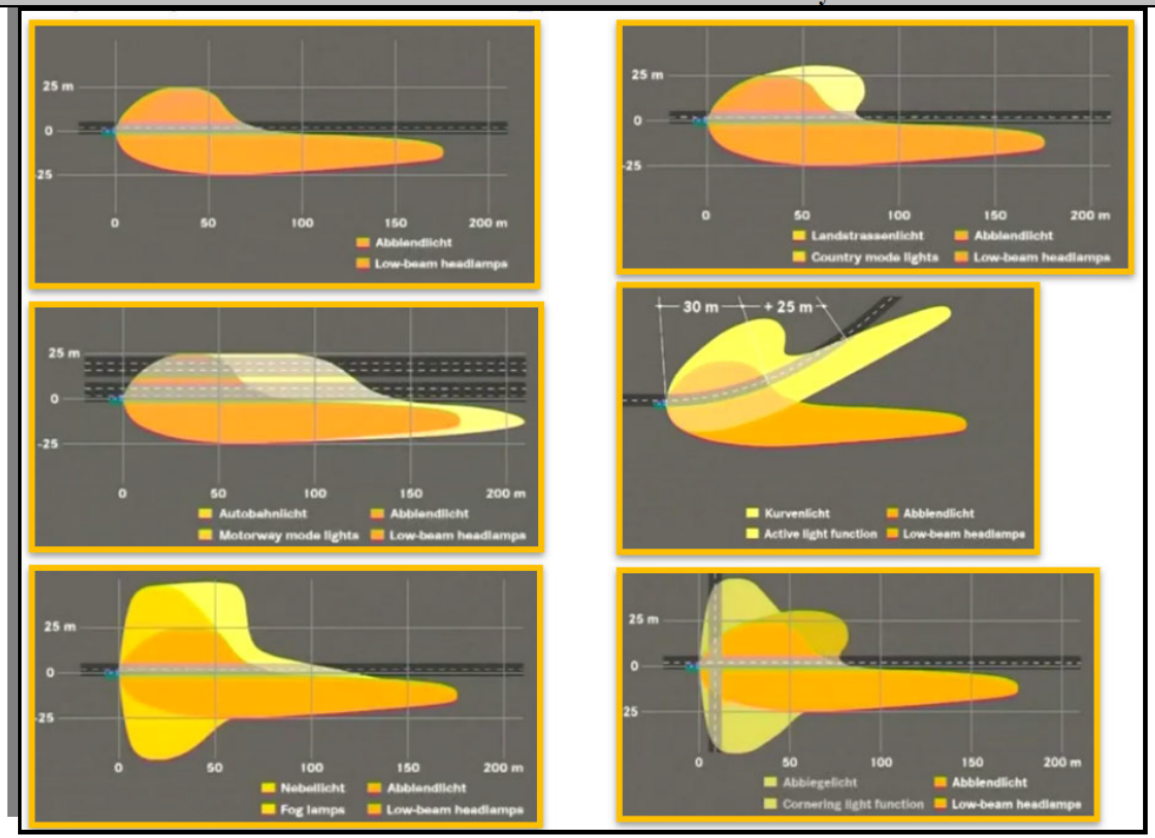
'000 Claim 10	Elements in Accused Instrumentality
	Night View Plus can "present the night-time road scene on the display, indicating identified persons; optionally, a spotlight can flash up pedestrians at the side of the road. . . . The spotlight function is activated at a speed of 45 km/h when the automatic light functions and NIGHT VIEW ASSIST PLUS are on. An additional aperture in the projection module of one headlamp enables selective light distribution for the spotlight function" http://techcenter.mercedes-benz.com/en/night_view_plus_with_spotlight/detail.html **Targetted spotlighting of pedestrians in the road.** With the new Spotlight function for Active Night View Assist PLUS, Mercedes-Benz is presenting an active lighting system as a world first that leads to a completely new level of safety at night. When the camera detects pedestrians in its field of vision, these can be briefly spotlighted to alert the driver to the potential danger. The pedestrians also receive a warning in this way. The new Spotlight function will enter series production as part of Active Night View Assist PLUS in a luxury-class Mercedes model in summer 2011. ◢ **Infrared headlamps** Two separate lamps in the headlamps illuminate the road surface with invisible infrared light. ◢ **Infrared camera** Monitors the road ahead of the car, evaluates the image and detects pedestrians within a range of up to 80 metres. The image is transferred to a display in the instrument cluster. ◢ **Multi-purpose camera** Recognises whether the car is travelling in town or in the country, and registers the position of an oncoming vehicle or one travelling ahead. ◢ **Control units** decide whether a detected pedestrian is to be spotlighted or not. ◢ **Main headlamp** flashes a targetted spotlight at the pedestrian if necessary. http://media.daimler.com/dcmedia/0-921-658892-1-1354042-1-0-1-0-0-1-12639-1549054-0-3842-0-0-0-0-0.html?TS=1374407762338

'000 Claim 10	Elements in Accused Instrumentality
	Night View Assist Plus camera  **1** Night View Assist Plus camera **Night View Assist Plus** In addition to the illumination provided by the normal headlamps, Night View Assist Plus uses infrared light to illuminate the road. Night View Assist Plus camera **1** picks up the infrared light and displays a greyscale image in the COMAND display. This enables you to see the road's course and any obstacles in good time. If pedestrian recognition is activated, pedestrians recognised by the system are highlighted in the Night View Assist Plus display. http://www4.mercedes-benz.com/manual-cars/ba/cars/w166/en/overview/fahrsysteme4.html
[d] categorization means coupled to said processor means for categorizing said electronic signal to identify said exterior object, said categorization means	Based on present information and belief, AVS contends that the Accused Instrumentalities include a categorization means coupled to said processor means for categorizing said electronic signal to identify said exterior object, said categorization means comprising trained pattern recognition means for processing said electronic signal based on said received illumination from said exterior object to provide an identification of said exterior object based thereon, said pattern recognition means being structured and arranged to apply a pattern recognition algorithm generated from data of possible exterior objects and patterns of received electromagnetic illumination from the possible exterior objects: **ADAPTIVE HIGHBEAM ASSIST:**

'000 Claim 10	Elements in Accused Instrumentality
comprising trained pattern recognition means for processing said electronic signal based on said received illumination from said exterior object to provide an identification of said exterior object based thereon, said pattern recognition means being structured and arranged to apply a pattern recognition algorithm generated from data of possible exterior objects and patterns of received electromagnetic illumination from the possible exterior objects; and	 http://www.daimler.com/dccom/0-5-1210218-1-1210317-1-0-0-1210228-0-1-8-7165-0-0-0-0-0-0-0.html

'000 Claim 10	Elements in Accused Instrumentality
	◢ **Adaptive Highbeam Assist Plus** Dazzle-free permanent high beam  ◢ When the camera-based Adaptive Highbeam Assist Plus system detects oncoming traffic or vehicles ahead, it adapts the high-beam light distribution according to the prevailing traffic situation. A mechanism in the headlamp module masks out the area in the light cone of the LED headlamps in which other vehicles are located, so as to avoid dazzling the drivers of these vehicles. This means that the driver can leave high beam on permanently and use its range without irritating or endangering other road users in the process. Potential dazzling of the driver himself due to increased use of high beam and highly reflective signs at the edge of the road is detected by the system and duly prevented by specifically dimming the headlamps. The system is active at speeds of 30 km/h and over in the dark on roads without lighting.

'000 Claim 10	Elements in Accused Instrumentality
	http://media.daimler.com/dcmedia/0-921-1549267-1-1608583-1-0-1-1609495-0-1-12637-614216-0-3842-0-0-0-0-0.html?TS=1374407520153  http://www.youtube.com/watch?v=XXRiPmh_tpQ

’000 Claim 10	Elements in Accused Instrumentality
	 http://www.youtube.com/watch?v=861qN1Q-dBs&feature=related **NIGHT VIEW ASSIST:**

'000 Claim 10	Elements in Accused Instrumentality

Targetted spotlighting of pedestrians in the road.
With the new Spotlight function for Active Night View Assist PLUS, Mercedes-Benz is presenting an active lighting system as a world first that leads to a completely new level of safety at night.

When the camera detects pedestrians in its field of vision, these can be briefly spotlighted to alert the driver to the potential danger. The pedestrians also receive a warning in this way. The new Spotlight function will enter series production as part of Active Night View Assist PLUS in a luxury-class Mercedes model in summer 2011.

- **Infrared headlamps** Two separate lamps in the headlamps illuminate the road surface with invisible infrared light.
- **Infrared camera** Monitors the road ahead of the car, evaluates the image and detects pedestrians within a range of up to 80 metres. The image is transferred to a display in the instrument cluster.
- **Multi-purpose camera** Recognises whether the car is travelling in town or in the country, and registers the position of an oncoming vehicle or one travelling ahead.
- **Control units** decide whether a detected pedestrian is to be spotlighted or not.
- **Main headlamp** flashes a targetted spotlight at the pedestrian if necessary.

http://media.daimler.com/dcmedia/0-921-658892-1-1354042-1-0-1-0-0-1-12639-1549054-0-3842-0-0-0-0-0.html?TS=1374407762338

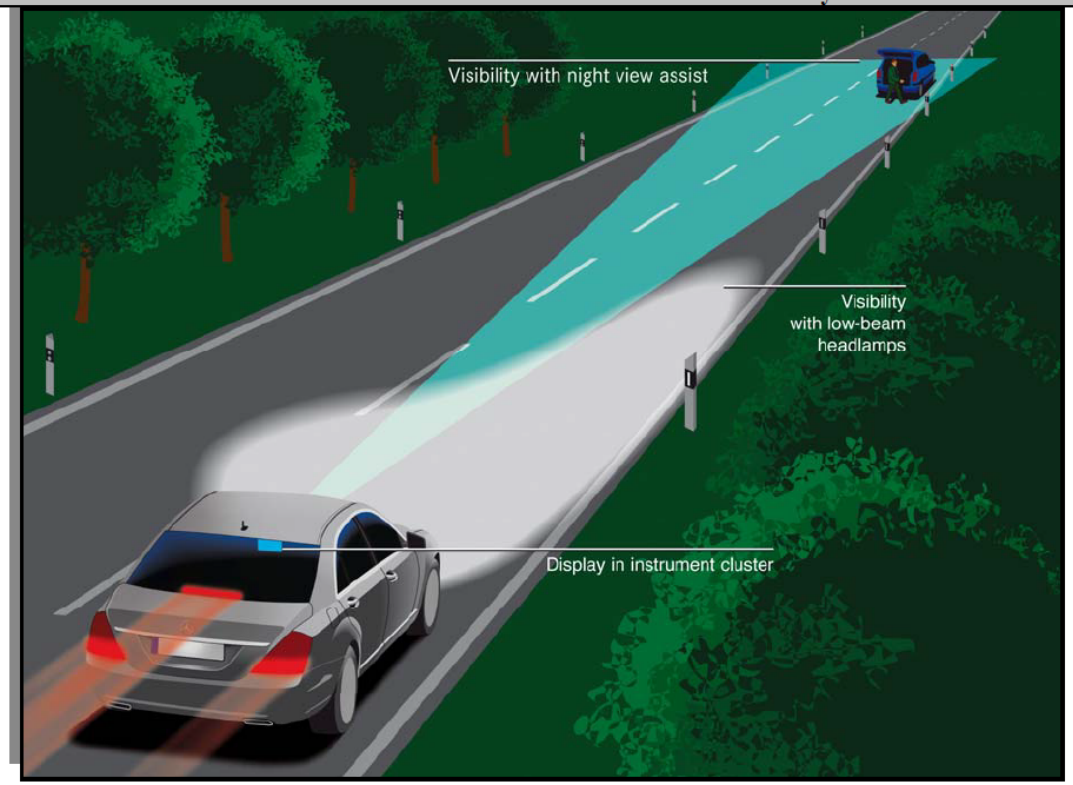
NIGHT VIEW ASSIST:

http://techcenter.mercedes-benz.com/en/night_view/detail.html

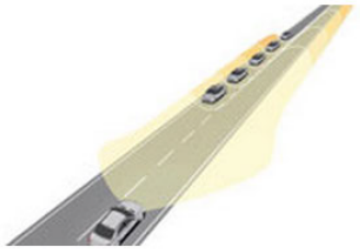
'000 Claim 10	Elements in Accused Instrumentality
	The Night View Assist Plus system is capable of detecting pedestrians and animals in potentially hazardous positions in front of the vehicle. Any pedestrians or animals detected ahead are clearly highlighted in colour in the crystal-sharp night view image. The spotlight function is additionally used to repeatedly flash pedestrians in the warning zone in these situations by means of a special module in the front headlamps. http://www.daimler.com/dccom/0-5-1210218-1-1210320-1-0-0-1210228-0-1-8-7165-0-0-0-0-0-0-0.html
[e] output means coupled to said categorization means for affecting another system in the vehicle in response to the identification of said exterior object.	Based on present information and belief, AVS contends that the Accused Instrumentalities include an output means coupled to said categorization means for affecting another system in the vehicle in response to the identification of said exterior object: **ADAPTIVE HIGHBEAM ASSIST:** **Adaptive Highbeam Assist:** This system detects oncoming vehicles or moving vehicles in front with their lights on and then adjusts the headlamps so that the beam of light ends before these other vehicles. High beam, with a range of up to 300 meters, is activated and deactivated automatically. http://www.daimler.com/dccom/0-5-1210218-1-1461738-1-0-0-1210228-0-1-8-7165-0-0-0-0-0-0-0.html

'000 Claim 10	Elements in Accused Instrumentality
	Every 40 milliseconds the headlamps receive new data for headlamp adjustment The brand new Mercedes technology is based on a camera positioned on the inside of the front windscreen, which monitors the traffic situation in front of the car. Thanks to an intelligent image processing algorithm, the camera can recognise other vehicles and determine their distance. The range of the bi-xenon headlamps can then be varied and continuously adapted to the distance of the car ahead or to oncoming vehicles. The system has lightning quick reaction times, transmitting new data to the headlamps every 40 milliseconds. http://www.emercedesbenz.com/Sep08/25_001417_Mercedes_Benz_Introduces_New_Adaptive_High_Beam_Assistant.html **NIGHT VIEW ASSIST:** *The Night View Assist Plus system is capable of detecting pedestrians and animals in potentially hazardous positions in front of the vehicle. Any pedestrians or animals detected ahead are clearly highlighted in colour in the crystal-sharp night view image. The spotlight function is additionally used to repeatedly flash pedestrians in the warning zone in these situations by means of a special module in the front headlamps.* http://www.daimler.com/dccom/0-5-1210218-1-1210320-1-0-0-1210228-0-1-8-7165-0-0-0-0-0-0-0.html

'000 Claim 10	Elements in Accused Instrumentality
	 http://techcenter.mercedes-benz.com/en/night_view/detail.html

'000 Claim 10	Elements in Accused Instrumentality
	 http://media.daimler.com/dcmedia/0-921-658892-1-1354042-1-0-1-0-0-1-12639-1549054-0-3842-0-0-0-0-0.html?TS=1374407762338

'000 Claim 11	Elements in Accused Instrumentality
11. The system in accordance with claim	Based on present information and belief, AVS contends that the Accused Instrumentalities include a measurement means for measuring the distance from the at least one exterior object to said vehicle, said measurement means comprising radar:

'000 Claim 11	Elements in Accused Instrumentality
10, further comprising measurement means for measuring the distance from the at least one exterior object to said vehicle, said measurement means comprising radar.	**Mercedes-Benz calls this "Intelligent Drive". The new functions all rely on the same sensor system, comprising a new stereo camera together with multi-stage radar sensors.** http://media.daimler.com/dcmedia/0-921-1549267-1-1608583-1-0-0-1609495-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374445032898 (including Adaptive Highbeam Assist Plus and Night View Assist Plus). **Adaptive Highbeam Assist** Engineered to provide the maximum possible road illumination without creating glare for other drivers, this innovative feature uses continuous input from a camera to automatically vary the range of your high beams, based on the distance both to oncoming vehicles and to those ahead of you. Enhancing your ability to identify changes in the road's path and the presence of pedestrians and hazards earlier, Adaptive Highbeam Assist can help you drive more safely and confidently in the dark.  http://www.mbusa.com/mercedes/legacy/vehicles/model?class=S&model=S600V#design

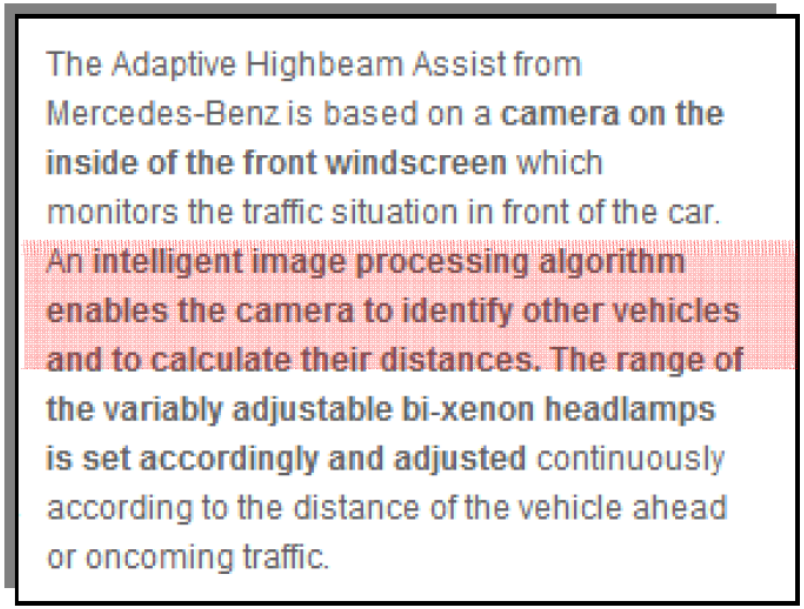
'000 Claim 11	Elements in Accused Instrumentality
	To this end, Mercedes-Benz is for the first time using **cameras** alongside **radar sensors.** These long-range cameras monitor the area around the car and are able to interpret critical situations. By way of example, new camera-based assistance systems help the driver by keeping the car safely on track, detecting speed-limit signs, controlling the headlamps in line with the current driving situation and enhancing visibility in the dark. The new E-Class will be the world's first car to feature headlamps that adapt automatically in line with the current driving situation. **Adaptive Highbeam Assist** detects oncoming vehicles or moving vehicles in front with their lights on and adjusts the headlamps continuously so as to always provide the best possible headlamp range – without dazzling other motorists. In this way, the low-beam range can be increased from its current level of 65 metres to up to 300 metres. If the road ahead is clear, the system switches to high beam with a minimum of fuss. This Mercedes development is therefore fundamentally different to conventional systems of this type, since the latter merely switch between low beam and high beam. http://www.emercedesbenz.com/Nov08/12_001503_Mercedes_Benz_TecDay_Special_Feature_Safety_Systems_In_The_New_E_Class_And_S_Class_From_Spring_2009.html

'000 Claim 11	Elements in Accused Instrumentality
	Whereas the stereo camera's lenses act as the car's eyes, the radar sensors are its ears, so to speak, and provide additional data about the distance from objects. The system of radar sensors comprises two short-range radar sensors in the front bumper and in the side of the rear bumper with a range of 30 m and a beam angle of 80°, which are complemented by a long-range radar http://media.daimler.com/dcmedia/0-921-1549267-1-1608240-1-0-0-1609495-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374410323331 Once the system registers oncoming vehicles or vehicles ahead with their lights on, it continuously adjusts the beam range to the distance so that the cone of light ends before it meets these vehicles. Adaptive Highbeam Assist also takes the steering angle into account, dipping the headlamps on tight bends. On clear stretches of road the system smoothly switches over to http://media.daimler.com/dcmedia/0-921-657969-1-1325380-1-0-0-1325599-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374442531513 *See also* claim 10 (above).

'000 Claim 15	Elements in Accused Instrumentality
15. The system in accordance with claim	Based on present information and belief, AVS contends that for the Accused Instrumentalities the processor means may comprise a neural network algorithm.

'000 Claim 15	Elements in Accused Instrumentality
10 wherein said processor means comprises a neural network algorithm.	**Data fusion:** amalgamation for reliable operation. Highly sophisticated sensors and the necessary networked algorithms provide the foundation for innovative new functions. Data fusion enables the algorithms for the varying systems to amalgamate the visual information from the →stereo camera with the readings from the →radar sensors. Many of the assistance systems from Mercedes-Benz work in this way, fusing multiple or complementary data sources to ensure reliable operation. http://media.daimler.com/dcmedia/0-921-1549267-1-1549422-1-0-0-1549717-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374448903640 http://media.daimler.com/dcmedia/0-921-1549267-1-1549536-1-0-0-1549717-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374449213069

'000 Claim 15	Elements in Accused Instrumentality
	Highly sophisticated sensors and the necessary networked algorithms provide the foundation for innovative new functions. DISTRONIC PLUS with Steering Assist, BAS PLUS and PRE-SAFE® Brake all employ sensor fusion using the same stereo camera and multistage radar sensors. Mercedes-Benz is making a major leap forward with the introduction of the Stereo Multi-Purpose Camera (SMPC), or stereo camera for short. Just like the Multi-Purpose Camera (MPC) fitted previously, it is positioned behind the windscreen in the vicinity of the rear-view mirror. It has an opening angle of 45° and is capable of three dimensional detection of crossing objects and pedestrians, and calculating their path. The camera's two "eyes" provide it with a three-dimensional view of the area up to around 50 metres in front of the vehicle, and it is able to monitor the overall situation ahead for a range of up to 500 metres. In this way, the new camera is able to provide data for processing by various systems. Intelligent algorithms evaluate this information in order to detect and carry out spatial classification of both vehicles that are driving ahead, oncoming or crossing, as well as pedestrians and a variety of traffic signs within a large field of vision. http://media.daimler.com/dcmedia/0-921-1549267-1-1549422-1-0-0-1549717-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374448903640 (Mercedes Benz "Intelligent Drive" TecDay Download – full document)

'000 Claim 15	Elements in Accused Instrumentality
	 http://www.daimler.com/dccom/0-5-1210218-1-1210317-1-0-0-1210228-0-1-8-7165-0-0-0-0-0-0-0.html *See also* claim **10** (above).

'000 Claim 16	Elements in Accused Instrumentality
16. [pre] In a motor vehicle having an interior and an exterior, an automatic headlight dimming system	Based on present information and belief, AVS contends that the Accused Instrumentalities include a motor vehicle having an interior and an exterior, an automatic headlight dimming system. *See* evidence for claim **10[pre]** (above).

'000 Claim 16	Elements in Accused Instrumentality
comprising:	
[a] reception means for receiving electromagnetic radiation from the exterior of the vehicle;	Based on present information and belief, AVS contends that the Accused Instrumentalities include reception means for receiving electromagnetic radiation from the exterior of the vehicle. *See* evidence for **10[b]** (above).
[b] processor means coupled to said reception means for processing the received radiation and creating an electronic signal characteristic of the received radiation;	Based on present information and belief, AVS contends that the Accused Instrumentalities include a processor means coupled to said reception means for processing the received radiation and creating an electronic signal characteristic of the received radiation,. *See* evidence for **10[c]** (above).
[c] categorization means coupled to said processor means for categorizing said electronic signal to identify a source of the radiation, said categorization means comprising trained pattern recognition means for processing said electronic signal based on said received radiation to provide an identification of the source of the radiation based thereon, said pattern recognition means being structured	Based on present information and belief, AVS contends that the Accused Instrumentalities include a categorization means coupled to said processor means for categorizing said electronic signal to identify a source of the radiation, said categorization means comprising trained pattern recognition means for processing said electronic signal based on said received radiation to provide an identification of the source of the radiation based thereon, said pattern recognition means being structured and arranged to apply a pattern recognition algorithm generated from data of possible sources of radiation including lights of vehicles and patterns of received radiation from the possible sources.

'000 Claim 16	Elements in Accused Instrumentality
and arranged to apply a pattern recognition algorithm generated from data of possible sources of radiation including lights of vehicles and patterns of received radiation from the possible sources; and	The new E-Class will be the world's first car to feature headlamps that adapt automatically in line with the current driving situation. **Adaptive Highbeam Assist** detects oncoming vehicles or moving vehicles in front with their lights on and adjusts the headlamps continuously so as to always provide the best possible headlamp range – without dazzling other motorists. In this way, the low-beam range can be increased from its current level of 65 metres to up to 300 metres. If the road ahead is clear, the system switches to high beam with a minimum of fuss. This Mercedes development is therefore fundamentally different to conventional systems of this type, since the latter merely switch between low beam and high beam. http://www.emercedesbenz.com/Nov08/12_001503_Mercedes_Benz_TecDay_Special_Feature_Safety_Systems_In_The_New_E_Class_And_S_Class_From_Spring_2009.html *See* evidence for **10[d]** (above).
[d] output means coupled to said categorization means for dimming the headlights in said vehicle in response to the identification of the source of the radiation.	Based on present information and belief, AVS contends that the Accused Instrumentalities include an output means coupled to said categorization means for dimming the headlights in said vehicle in response to the identification of the source of the radiation. *See* evidence for **10[e]** (above).

'000 Claim 17	Elements in Accused Instrumentality
17. The invention in accordance with claim 16 wherein said categories further comprise radiation from taillights of a vehicle-in-front.	Based on present information and belief, AVS contends that for the Accused Instrumentalities the categories include radiation from taillights of a vehicle-in-front. The new E-Class will be the world's first car to feature headlamps that adapt automatically in line with the current driving situation. **Adaptive Highbeam Assist** detects oncoming vehicles or moving vehicles in front with their lights on and adjusts the headlamps continuously so as to always provide the best possible headlamp range – without dazzling other motorists. In this way, the low-beam range can be increased from its current level of 65 metres to up to 300 metres. If the road ahead is clear, the system switches to high beam with a minimum of fuss. This Mercedes development is therefore fundamentally different to conventional systems of this type, since the latter merely switch between low beam and high beam. http://www.emercedesbenz.com/Nov08/12_001503_Mercedes_Benz_TecDay_Special_Feature_Safety_Systems_In_The_New_E_Class_And_S_Class_From_Spring_2009.html Intelligent algorithms evaluate this information in order to detect and carry out spatial classification of both vehicles that are driving ahead, oncoming or crossing, as well as pedestrians and a variety of traffic signs within a large field of vision. http://media.daimler.com/dcmedia/0-921-1549267-1-1549422-1-0-0-1549717-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374448903640 (Mercedes Benz "Intelligent Drive" TecDay Download – full document)

'000 Claim 17	Elements in Accused Instrumentality
	See evidence for **10[d]** (above).

'000 Claim 19	Elements in Accused Instrumentality
19. The system of claim 10, wherein said reception means comprise a CCD array.	Based on present information and belief, AVS contends that for the Accused Instrumentalities the reception means may comprise CCD array. **ADAPTIVE HIGHBEAM ASSIST:**

'000 Claim 19	Elements in Accused Instrumentality
	Permanent high beam with no dazzle: Adaptive Highbeam Assist Plus For the first time, Adaptive Highbeam Assist Plus allows the high-beam headlamps to be kept on permanently while driving by masking out any other road user detected in the beams' cone of light. If the camera-based system registers either oncoming traffic or vehicles ahead, it will adapt the light distribution according to the specific situation when the high beam is switched on. Consequently, the driver can simply leave the high-beam headlamps on at all times and use their full range without irritating or even endangering other road users. There is no need to switch them on and off manually, resulting in a significant increase in the overall driving time with high beam. Adaptive Highbeam Assist Plus likewise makes use of the new stereo camera also employed by other assistance systems. If its image recognition algorithm picks up a vehicle that is oncoming or driving ahead, it actuates a mechanism in the headlamp module. This then masks the portion of the LED headlamp's main-beam cone of light where there are other vehicles to prevent their drivers being dazzled. If road users are detected outside the area that can be masked – for instance when cornering with multiple vehicles in the headlamps' beams – the http://media.daimler.com/dcmedia/0-921-1549267-1-1608240-1-0-0-1609495-0-1-12759-614216-0-0-0-0-0-0-0.html?TS=1374410323331 **NIGHT VIEW ASSIST:**

'000 Claim 19	Elements in Accused Instrumentality
	Targetted spotlighting of pedestrians in the road. With the new Spotlight function for Active Night View Assist PLUS, Mercedes-Benz is presenting an active lighting system as a world first that leads to a completely new level of safety at night. When the camera detects pedestrians in its field of vision, these can be briefly spotlighted to alert the driver to the potential danger. The pedestrians also receive a warning in this way. The new Spotlight function will enter series production as part of Active Night View Assist PLUS in a luxury-class Mercedes model in summer 2011. ◢ **Infrared headlamps** Two separate lamps in the headlamps illuminate the road surface with invisible infrared light. ◢ **Infrared camera** Monitors the road ahead of the car, evaluates the image and detects pedestrians within a range of up to 80 metres. The image is transferred to a display in the instrument cluster. ◢ **Multi-purpose camera** Recognises whether the car is travelling in town or in the country, and registers the position of an oncoming vehicle or one travelling ahead. ◢ **Control units** decide whether a detected pedestrian is to be spotlighted or not. ◢ **Main headlamp** flashes a targetted spotlight at the pedestrian if necessary. http://media.daimler.com/dcmedia/0-921-658892-1-1354042-1-0-1-0-0-1-12639-1549054-0-3842-0-0-0-0-0.html?TS=1374407762338

'000 Claim 20	Elements in Accused Instrumentality
20. The invention in accordance with claim 16, wherein said reception means comprise a CCD array.	Based on present information and belief, AVS contends that for the Accused Instrumentalities the reception means may comprise CCD array. *See* evidence for claim **19** (above).

'000 Claim 23	Elements in Accused Instrumentality
23. [pre] A method for affecting a system in a vehicle based on an object exterior of the vehicle, comprising the	Based on present information and belief, AVS contends that the Accused Instrumentalities comprise a method for affecting a system in a vehicle based on an object exterior of the vehicle. *See* evidence for claim **10[pre]** (above).

'000 Claim 23	Elements in Accused Instrumentality
steps of:	
[a] transmitting electromagnetic waves to illuminate the exterior object;	Based on present information and belief, AVS contends that the Accused Instrumentalities comprise transmitting electromagnetic waves to illuminate the exterior object. *See* evidence for claim **10[a]** (above).
[b] receiving reflected electromagnetic illumination from the object on an array;	Based on present information and belief, AVS contends that the Accused Instrumentalities comprise receiving reflected electromagnetic illumination from the object on an array. *See* evidence for claim **10[b]** (above).
[c] processing the received illumination and creating an electronic signal characteristic of the exterior object based thereon;	Based on present information and belief, AVS contends that the Accused Instrumentalities comprise processing the received illumination and creating an electronic signal characteristic of the exterior object based thereon. *See* evidence for claim **10[c]** (above).
[d] processing the electronic signal based on the received illumination from the exterior object to identify the exterior object, said processing step comprising the steps of generating a pattern recognition algorithm from data of possible exterior objects and patterns of received electromagnetic illumination from the possible exterior	Based on present information and belief, AVS contends that the Accused Instrumentalities comprise processing the electronic signal based on the received illumination from the exterior object to identify the exterior object, said processing step comprising the steps of generating a pattern recognition algorithm from data of possible exterior objects and patterns of received electromagnetic illumination from the possible exterior objects, storing the algorithm within a pattern recognition system and applying the pattern recognition algorithm using the electronic signal as input to obtain the identification of the exterior object. *See* evidence for claim **10[d]** (above).

'000 Claim 23	Elements in Accused Instrumentality
objects, storing the algorithm within a pattern recognition system and applying the pattern recognition algorithm using the electronic signal as input to obtain the identification of the exterior object; and	
[e] affecting the system in the vehicle in response to the identification of the exterior object.	Based on present information and belief, AVS contends that the Accused Instrumentalities comprise affecting the system in the vehicle in response to the identification of the exterior object. *See* evidence for claim **10[e]** (above).