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(54) **AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS**

(75) Inventors: **James E. Smith**, Berkey, OH (US); **Anthony B. McDonald**, Perrysburg, OH (US)

(73) Assignee: **Dana Corporation**, Toledo, OH (US)

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(51) **Int. Cl.**
B60Q 1/00 (2006.01)
B60R 22/00 (2006.01)

(52) **U.S. Cl.** **362/465**; 701/49

(58) **Field of Classification Search** 362/37, 362/465–466; 315/82; 701/49
See application file for complete search history.

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Primary Examiner—Ali Alavi
(74) *Attorney, Agent, or Firm*—MacMillan, Sobanski & Todd, LLC

(57) **ABSTRACT**

A structure and method for operating a directional control system for vehicle headlights that is capable of altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. One or more operating condition sensors may be provided that generate signals that are representative of a condition of the vehicle, such as road speed, steering angle, pitch, suspension height, rate of change of road speed, rate of change of steering angle, rate of change of pitch, and rate of change of suspension height of the vehicle. A controller is responsive to the sensor signal for generating an output signal. An actuator is adapted to be connected to the headlight to effect movement thereof in accordance with the output signal. The controller can include a table that relates values of sensed operating condition to values of the output signal. The controller is responsive to the sensor signal for looking up the output signal in the table.

5 Claims, 7 Drawing Sheets

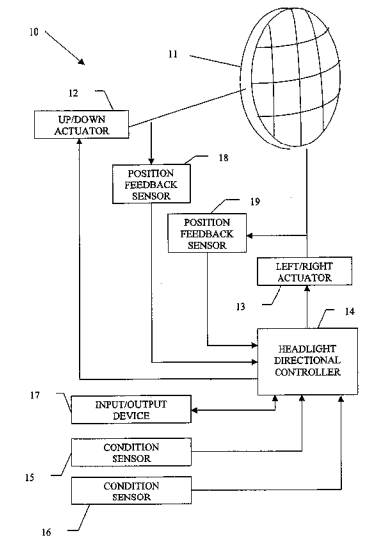

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EXHIBIT 1011

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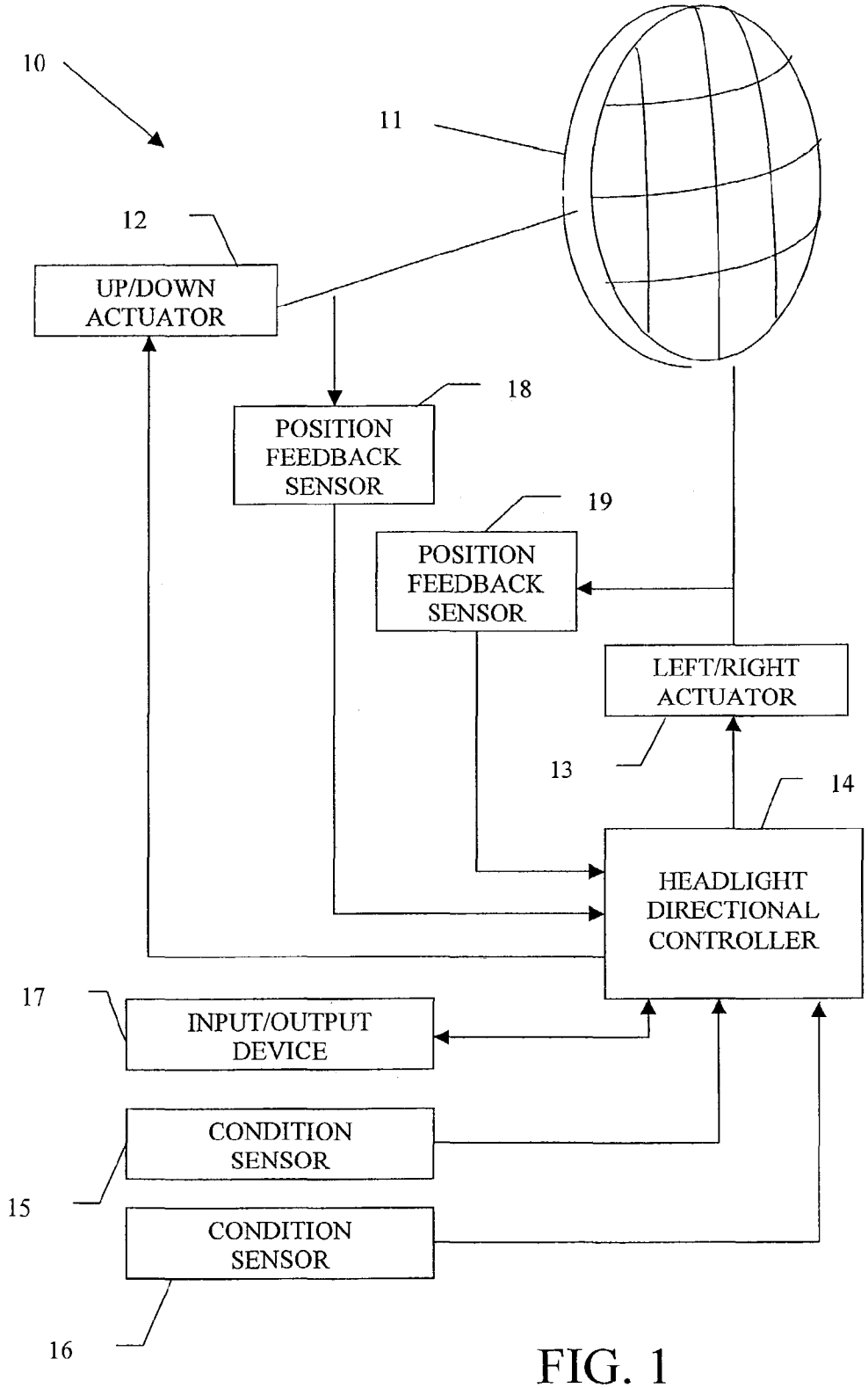

10
11
12
UP/DOWN ACTUATOR
18
POSITION FEEDBACK SENSOR
19
POSITION FEEDBACK SENSOR
LEFT/RIGHT ACTUATOR
13
14
HEADLIGHT DIRECTIONAL CONTROLLER
17
INPUT/OUTPUT DEVICE
CONDITION SENSOR
15
CONDITION SENSOR
16

FIG. 1

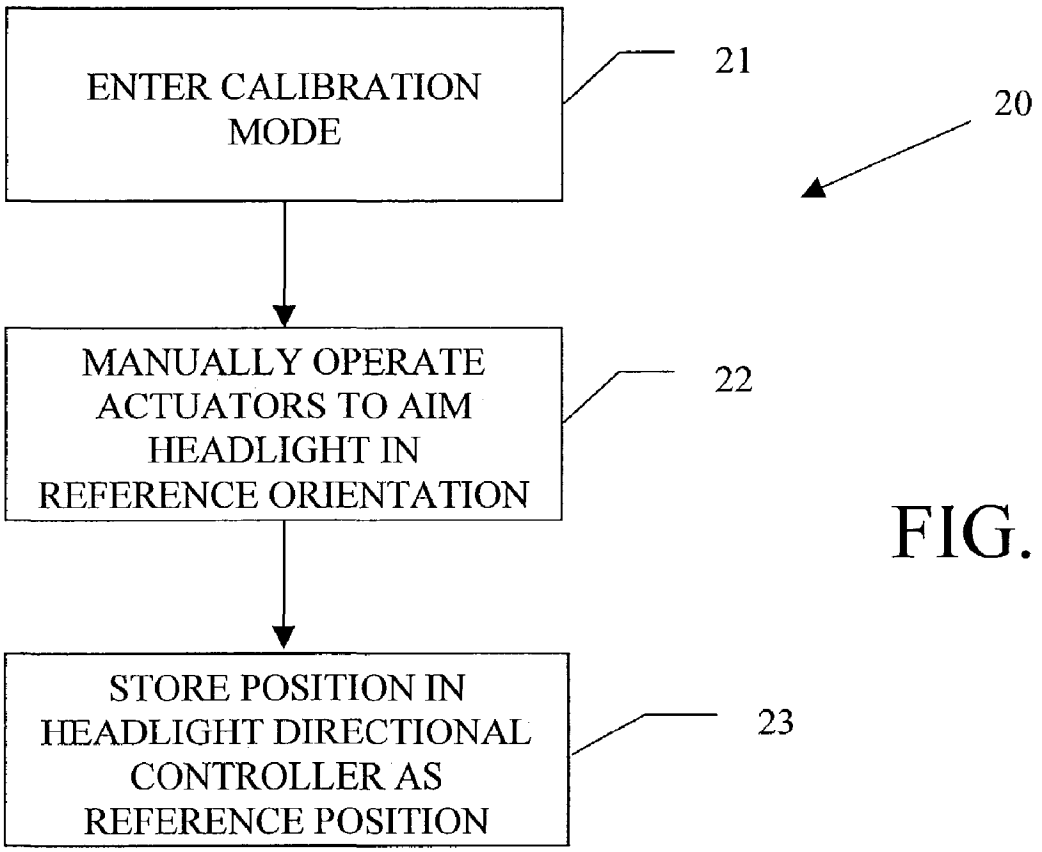

ENTER CALIBRATION MODE
21
20
MANUALLY OPERATE ACTUATORS TO AIM HEADLIGHT IN REFERENCE ORIENTATION
22
STORE POSITION IN HEADLIGHT DIRECTIONAL CONTROLLER AS REFERENCE POSITION
23

FIG. 2

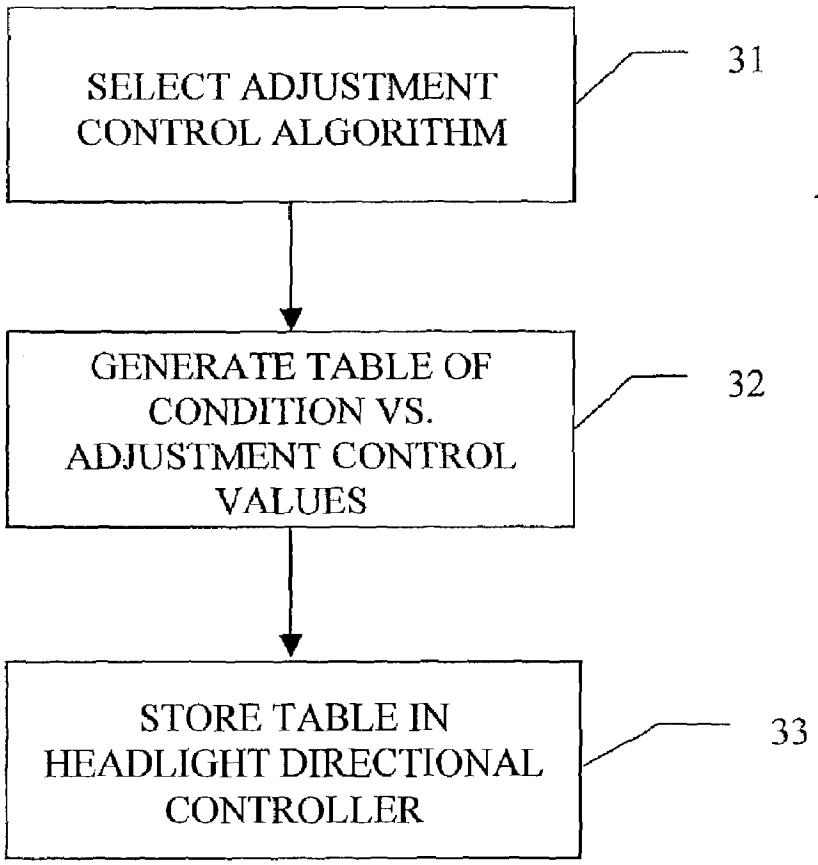
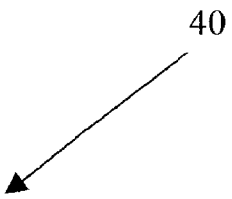

SELECT ADJUSTMENT CONTROL ALGORITHM
31
30
GENERATE TABLE OF CONDITION VS. ADJUSTMENT CONTROL VALUES
32
STORE TABLE IN HEADLIGHT DIRECTIONAL CONTROLLER
33

FIG. 3



SENSED CONDITION (STEERING ANGLE) VALUES	UP/DOWN ADJUSTMENT FACTORS	LEFT/RIGHT ADJUSTMENT FACTORS
+6°	-3.00°	+4.50°
+5°	-2.50°	+3.75°
+4°	-2.00°	+3.00°
+3°	-1.50°	+2.25°
+2°	-1.00°	+1.50°
+1°	-0.50°	+0.75°
0°	0.00°	0.00°
-1°	-0.50°	-0.75°
-2°	-1.00°	-1.50°
-3°	-1.50°	-2.25°
-4°	-2.00°	-3.00°
-5°	-2.50°	-3.75°
-6°	-3.00°	-4.50°

FIG. 4

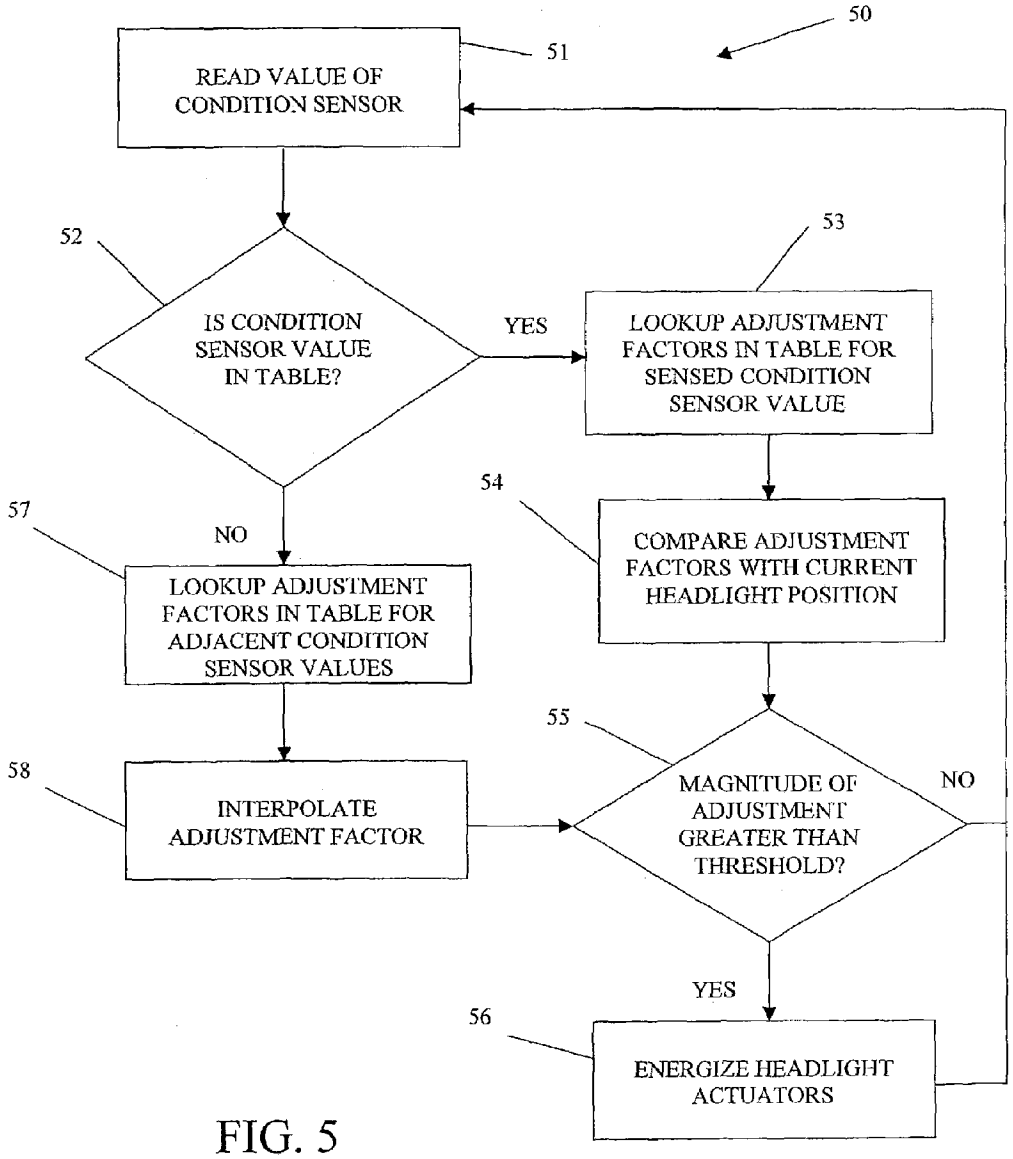

50
READ VALUE OF CONDITION SENSOR
51
IS CONDITION SENSOR VALUE IN TABLE?
52
YES
LOOKUP ADJUSTMENT FACTORS IN TABLE FOR SENSED CONDITION SENSOR VALUE
53
NO
LOOKUP ADJUSTMENT FACTORS IN TABLE FOR ADJACENT CONDITION SENSOR VALUES
57
COMPARE ADJUSTMENT FACTORS WITH CURRENT HEADLIGHT POSITION
54
INTERPOLATE ADJUSTMENT FACTOR
58
MAGNITUDE OF ADJUSTMENT GREATER THAN THRESHOLD?
55
NO
YES
ENERGIZE HEADLIGHT ACTUATORS
56

FIG. 5

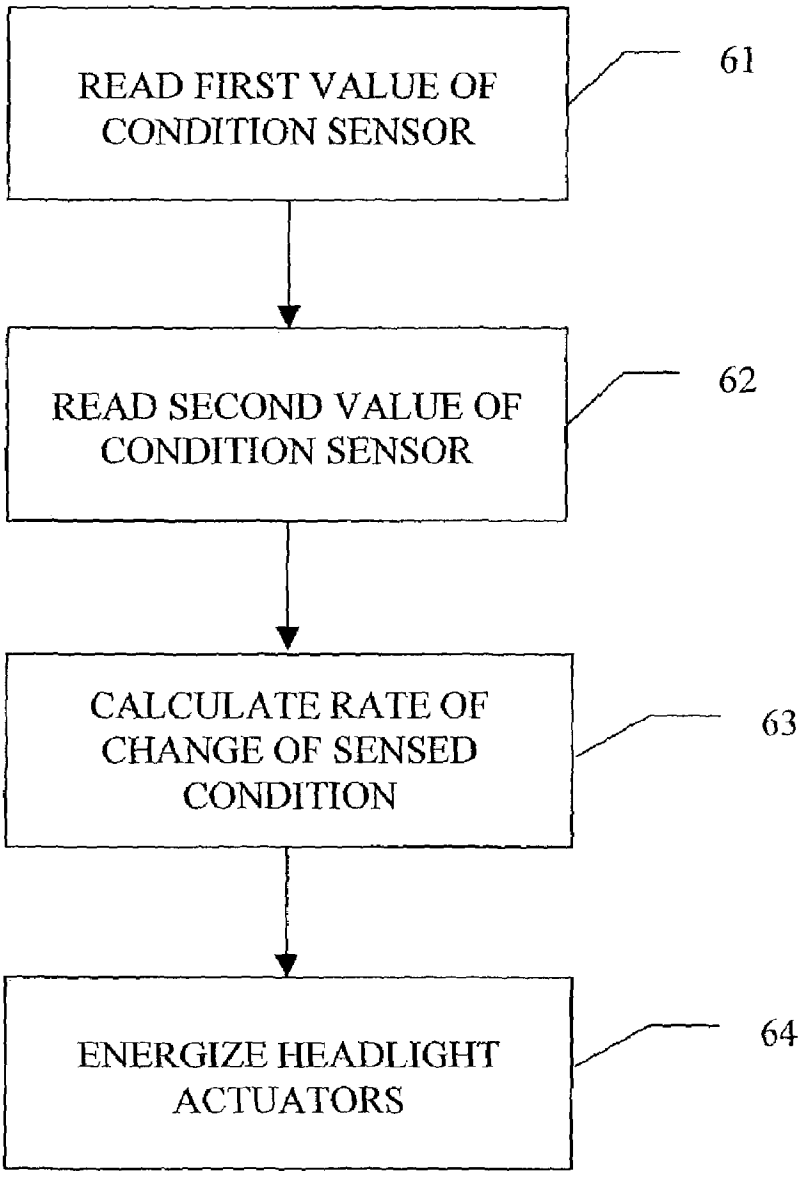

READ FIRST VALUE OF CONDITION SENSOR
61
60
READ SECOND VALUE OF CONDITION SENSOR
62
CALCULATE RATE OF CHANGE OF SENSED CONDITION
63
ENERGIZE HEADLIGHT ACTUATORS
64

FIG. 6

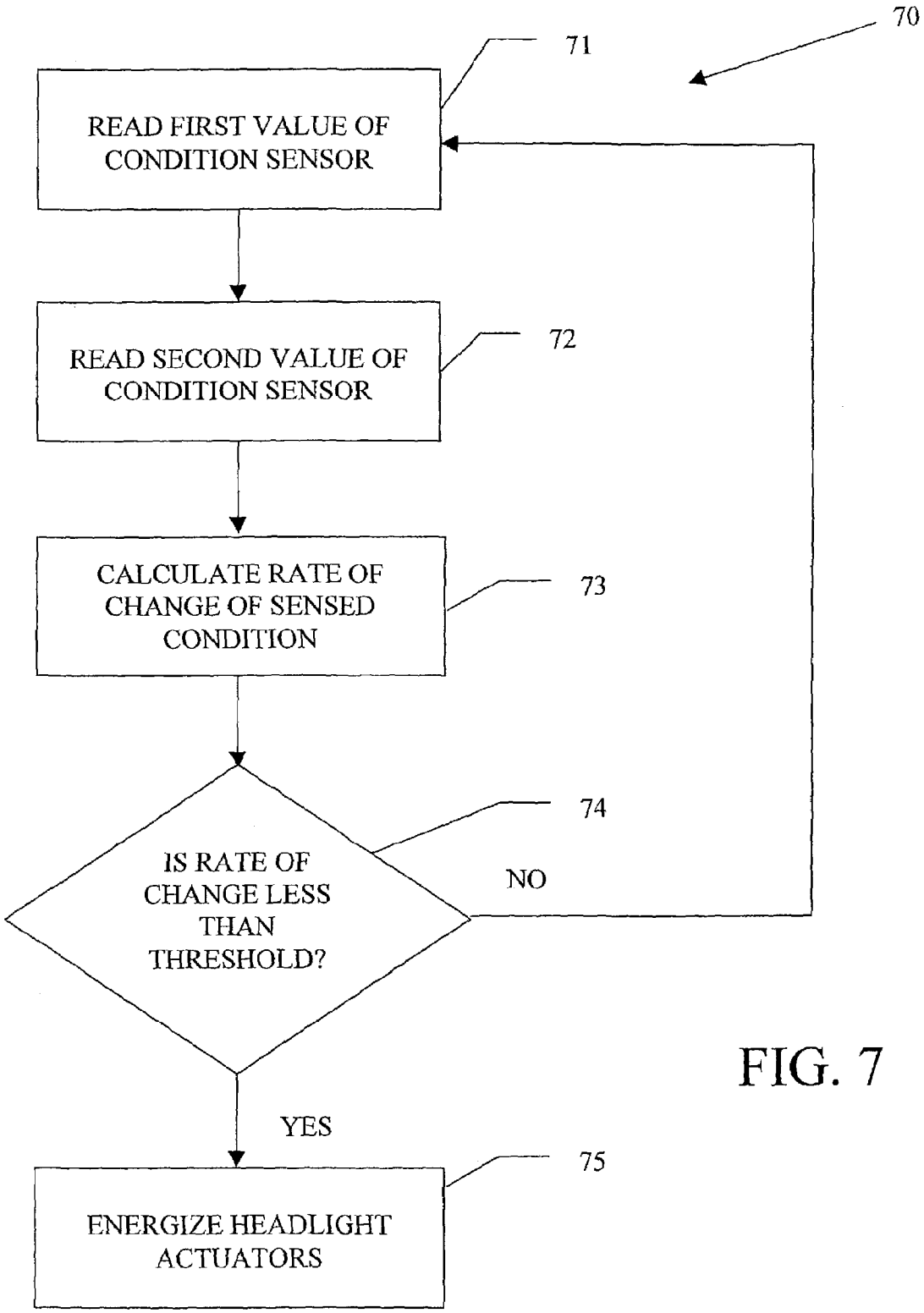

70
71
READ FIRST VALUE OF CONDITION SENSOR
72
READ SECOND VALUE OF CONDITION SENSOR
73
CALCULATE RATE OF CHANGE OF SENSED CONDITION
74
IS RATE OF CHANGE LESS THAN THRESHOLD?
NO
YES
75
ENERGIZE HEADLIGHT ACTUATORS

FIG. 7

AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application Nos. 60/335,409, filed Oct. 31, 2001; 60/356,703, filed Feb. 13, 2002; and 60/369,447, filed Apr. 2, 2002, the disclosures of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

This invention relates in general to headlights that are provided on vehicles for illuminating dark road surfaces or other areas in the path of movement. In particular, this invention relates to an automatic directional control system for such vehicle headlights.

Virtually all land vehicles, and many other types of vehicles (such as boats and airplanes, for example), are provided with one or more headlights that are adapted to illuminate a portion of a dark road surface or other area in the path of movement of the vehicle to facilitate safe travel thereon. Typically, each headlight is mounted on or near the front end of the vehicle and is oriented in such a manner that a beam of light is projected forwardly therefrom. The angle at which the beam of light projects from the headlight can, for example, be characterized in a variety of ways, including (1) up and down relative to a horizontal reference position or plane and (2) left and right relative to a vertical reference position or plane. Such directional aiming angles are usually set at the time of assembly of the headlight into the vehicle so as to illuminate a predetermined portion of the road surface or other area in the path of movement of the vehicle.

In the past, these headlights have been mounted on the vehicle in fixed positions relative thereto such that the beams of light are projected therefrom at predetermined directional aiming angles relative to the vehicle. Although such fixed aiming angle headlight systems have and continue to function adequately, they cannot alter the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. For example, if the speed of the vehicle is increased, it would be desirable to adjust the aiming angle of the headlights upwardly such that an area that is somewhat farther in front of the vehicle is more brightly illuminated. On the other hand, if the speed of the vehicle is decreased, it would be desirable to adjust the aiming angle of the headlights downwardly such that an area that is somewhat closer in front of the vehicle is more brightly illuminated. Similarly, if the vehicle turns a corner, it would be desirable to adjust the aiming angle of the headlights either toward the left or toward the right (depending on the direction of the turn) such that an area that is somewhat lateral to the front of the vehicle is more brightly illuminated.

To accomplish this, it is known to provide a directional control system for vehicle headlights that is capable of automatically altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. A variety of such automatic directional control systems for vehicle headlights are known in the art. However, such known automatic headlight directional control systems have been found to be deficient for various reasons. Thus, it would be desirable to provide an improved structure for an automatic headlight directional control system that addresses such deficiencies.

SUMMARY OF THE INVENTION

This invention relates to an improved structure and method for operating a directional control system for vehicle headlights that is capable of automatically altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. One or more operating condition sensors may be provided that generate signals that are representative of an operating condition of the vehicle, such as road speed, steering angle, pitch, suspension height, rate of change of road speed, rate of change of steering angle, rate of change of pitch, and rate of change of suspension height of the vehicle. A controller is responsive to the sensor signal for generating an output signal. An actuator is adapted to be connected to the headlight to effect movement thereof in accordance with the output signal. The controller can include a table that relates values of sensed operating condition to values of the output signal. The controller is responsive to the sensor signal for looking up the output signal in the table.

Various objects and advantages of this invention will become apparent to those skilled in the art from the following detailed description of the preferred embodiments, when read in light of the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of an automatic directional control system for a vehicle headlight in accordance with this invention.

FIG. **2** is a flow chart of an algorithm for calibrating the automatic directional control system illustrated in FIG. **1** so as to define an initial reference position for the headlight from which the headlight directional controller can implement directional angle adjustments.

FIG. **3** is a flow chart of an algorithm for generating a table that relates one or more sensed vehicle operating condition values to one or more headlight directional angle adjustment factors and for storing such table in the headlight directional controller illustrated in FIG. **1**.

FIG. **4** is an example of a table that can be generated and stored in the headlight directional controller in accordance with the table generating algorithm illustrated in FIG. **3**.

FIG. **5** is a flow chart of an algorithm for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with sensed condition values.

FIG. **6** is a flow chart of an algorithm for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with the rate of change of one or more of the sensed condition values.

FIG. **7** is a flow chart of an algorithm for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments, but only when the rate of change of one or more of the sensed condition values is less than (or greater than) a predetermined value.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, there is illustrated in FIG. **1** an automatic directional control system, indicated generally at **10**, for a vehicle headlight **11** in accordance with this invention. The illustrated headlight **11** is, of itself, conventional in the art and is intended to be representative of any

device that can be supported on any type of vehicle for the purpose of illuminating any area, such as an area in the path of movement of the vehicle. The headlight **11** is typically mounted on or near the front end of a vehicle (not shown) and is oriented in such a manner that a beam of light is projected therefrom. In a manner that is well known in the art, the headlight **11** is adapted to illuminate a portion of a dark road surface or other area in the path of movement of the vehicle to facilitate safe travel thereon.

The headlight **11** is adjustably mounted on the vehicle such that the directional orientation at which the beam of light projects therefrom can be adjusted relative to the vehicle. Any desired mounting structure can be provided to accomplish this. Typically, the headlight **11** is mounted on the vehicle such that the angle at which the beam of light projects therefrom can be adjusted both (1) up and down relative to a horizontal reference position or plane and (2) left and right relative to a vertical reference position or plane. Although this invention will be described and illustrated in the context of a headlight that is adjustable in both the up/down direction and the left/right direction, it will be appreciated that this invention may be practiced with any headlight **11** that is adjustable in any single direction or multiple directions of movement, whether up/down, left/right, or any other direction.

To effect movement of the illustrated headlight **11** relative to the vehicle, an up/down actuator **12** and a left/right actuator **13** are provided. The actuators **12** and **13** are conventional in the art and may, for example, be embodied as servo motors, step motors, or any other electronically controlled mechanical actuators. It has been found to be desirable to use microstepping motors for the actuators **12** and **13**. Such microstepping motors are known in the art and consist of conventional step motors that have appropriate hardware (i.e., driver integrated circuits) and software that allow the step motors to be operated in fractional step increments. The use of such microstepping motors has been found to be desirable because they can effect movements of the headlights in a somewhat faster, smoother, and quieter manner than conventional step motors, and further permit more precise positioning of the headlights **11**. In the illustrated embodiment, the up/down actuator **12** is mechanically connected to the headlight **11** such that the headlight **11** can be selectively adjusted up and down relative to a horizontal reference position or plane. Similarly, the illustrated left/right actuator **13** is mechanically connected to the headlight **11** such that the headlight **11** can be selectively adjusted left and right relative to a vertical reference position or plane.

A headlight directional controller **14** is provided for controlling the operations of the up/down actuator **12** and the left/right actuator **13** and, therefore, the angle at which the beam of light projects from the headlight **11** relative to the vehicle. The headlight directional controller **14** can be embodied as any control system, such as a microprocessor or programmable electronic controller, that is responsive to one or more sensed operating conditions of the vehicle for selectively operating the up/down actuator **12** and the left/right actuator **13**. To accomplish this, the automatic directional control system **10** can include, for example, a pair of condition sensors **15** and **16** that are connected to the headlight directional controller **14**. The condition sensors **15** and **16** are conventional in the art and are responsive to respective sensed operating conditions of the vehicle for generating electrical signals to the headlight directional controller **14**. However, if desired, only a single one of the condition sensors **15** and **16** need be provided. Alternatively, additional condition sensors (not shown) may be provided if desired to generate electrical signals that are representative of any other operating conditions of the vehicle. A conventional input/output device **17** is connected to (or can be connected to) the headlight directional controller **14** for facilitating communication therewith in the manner described below.

If desired, a first position feedback sensor **18** may be provided for the up/down actuator **12**, and a second position feedback sensor **19** may be provided for the left/right actuator **13**. The position feedback sensors **18** and **19** are conventional in the art and are adapted to generate respective electrical signals that are representative of the actual up/down and left/right positions of the headlight **11**. Thus, the first position feedback sensor **18** is responsive to the actual up/down position of the headlight **11** (as determined by a portion of the up/down actuator **12**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. Similarly, the second position feedback sensor **19** is responsive to the actual left/right position of the headlight **11** (as determined by a portion of the left/right actuator **13**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. The position feedback sensors **18** and **19** can be embodied as any conventional sensor structures, such as Hall effect sensors, that are responsive to movements of the headlight **11** (or to the movements of the respective actuators **12** and **13** that are connected to move the headlight **11**) for generating such signals.

Alternatively, the position feedback sensors **18** and **19** can be embodied as respective devices that generate electrical signals whenever the headlight **11** has achieved respective predetermined up/down or left/right positions. This can be accomplished, for example, using a conventional optical interrupter (not shown) for each of the actuators **12** and **13**. Each of the optical interrupters includes a flag or other component that is mounted on or connected to the headlight **11** for movement therewith. Each of the optical interrupters further includes an optical source and sensor assembly. As the headlight **11** is moved by the actuators **12** and **13**, the flag moves therewith relative to the optical source and sensor assembly between a first position, wherein the flag permits light emitted from the source from reaching the sensor, and a second position, wherein the flag prevents light emitted from the source from reaching the sensor. When the flag is in the first position relative to the optical source and sensor assembly, the sensor is permitted to receive light emitted from the source. As a result, a first signal is generated from the optical source and sensor assembly to the headlight directional controller **14**. Conversely, when the flag is in the second position relative to the optical source and sensor assembly, the sensor is not permitted to receive light emitted from the source. As a result, a second signal is generated from the optical source and sensor assembly to the headlight directional controller **14**. Thus, the edge of the flag defines a transition between the first and second positions of the flag relative to the optical source and sensor assembly and, therefore, defines a predetermined up/down or left/right position of the headlight **11**. The nature of the signal generated from the optical source and sensor assembly to the headlight directional controller **14** (i.e., the first signal or the second signal) can also be used to determine on which side of the predetermined position (the left side or the right side, for example) that the headlight **11** is positioned. The purpose for such position feedback sensors **18** and **19** will be discussed below.

FIG. **2** is a flow chart of an algorithm, indicated generally at **20**, for calibrating the automatic directional control system illustrated in FIG. **1** so as to define an initial reference position or positions for the headlight **11** from which the headlight directional controller **14** can implement directional angle adjustments. As mentioned above, the headlight **11** is mounted on the vehicle such that the angle at which the beam of light projects therefrom can be adjusted both up and down relative to a horizontal reference position or plane and left and right relative to a vertical reference position or plane. To insure accurate positioning of the headlight **11**, it is desirable that a reference position or positions be initially established by the headlight directional controller **14**. Subsequent directional angle adjustments can be made by the headlight directional controller **14** from the pre-established reference position or positions established by this calibration algorithm **20**.

To accomplish this, the calibration algorithm **20** has a first step **21** wherein the headlight directional controller **14** is caused to enter a calibration mode of operation. In the calibration mode of operation, the headlight directional controller **14** is responsive to input signals from the input/output device **17** (or from another source, if desired) for causing manual operation of the up/down actuator **12** and the left/right actuator **13**. Thus, while the headlight directional controller **14** is in the calibration mode of operation, an operator of the input/output device **17** can manually effect either up/down movement of the headlight **11**, left/right movement of the headlight **11**, or both, as desired.

In a second step **22** of the calibration algorithm **20**, the up/down actuator **12** and the left/right actuator **13** are manually operated to aim the headlight **11** in a predetermined reference orientation. This can be accomplished by use of the input/output device **17** that, as mentioned above, is connected to (or can be connected to) the headlight directional controller **14**. Traditionally, the aiming of a headlight **11** has been accomplished by parking the vehicle on a surface near a wall or other vertical structure, providing a reference target at a predetermined location on the wall or other structure, and mechanically adjusting the mounting structure of the headlight **11** such that the center of the beam therefrom is projected at the reference target. In this invention, the vehicle is parked on a surface near a wall or other vertical structure, and a reference target is provided at a predetermined location on the wall or other structure, as described above. Next, in accordance with the second step **22** of this calibration algorithm **20**, the input/output device **17** is operated to generate electrical signals to the headlight directional controller **14**. In response to such electrical signals, the headlight directional controller **14** operates the up/down actuator **12** and the left/right actuator **13** to move the headlight **11** such that center of the beam projecting therefrom is aimed at the reference target. When the beam from the headlight **11** is so aimed, then the headlight **11** is determined to be oriented in the initial reference position from which the headlight directional controller **14** can subsequently implement directional angle adjustments.

In a third step **23** of the calibration algorithm **20**, once this initial reference position for the headlight **11** has been achieved, such position is stored in the headlight directional controller **14** as the predetermined initial reference position. This can be accomplished by means of the position feedback sensors **18** and **19**. As discussed above, the position feedback sensors **18** and **19** are adapted to generate respective electrical signals that are representative of the actual up/down and left/right positions of the headlight **11** or of the predetermined positions for the headlight. Thus, the first position feedback sensor **18** is responsive to the actual up/down position of the headlight **11** (as determined by the up/down actuator **12**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. Similarly, the second position feedback sensor **19** is responsive to the actual left/right position of the headlight **11** (as determined by the left/right actuator **13**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. Accordingly, the third step **23** of the calibration algorithm **20** can be performed by causing the headlight directional controller **14** to read the signals from the position feedback sensors **18** and **19** and store the current up/down and left/right positions of the headlight **11** as the initial reference positions from which the headlight directional controller **14** can subsequently implement directional angle adjustments.

The current position of the headlight **11** is preferably stored in the non-volatile memory of the headlight directional controller **14** for reference during normal operation of the automatic directional control system **10** described below. Thus, when the automatic directional control system **10** is initially activated (such as when the electrical system of the vehicle is initially turned on), the headlight directional controller **14** can position the headlight **11** at or near the calibrated position utilizing the signals comparing the current position of the headlight **11** (as determined by the signals generated by the position feedback sensors **18** and **19**) with the predetermined reference position determined by the calibration algorithm **20**.

FIG. **3** is a flow chart of an algorithm, indicated generally at **30**, for generating a table that relates the sensed condition values from the condition sensors **15** and **16** to the headlight directional angle adjustment factors that will be implemented by the headlight directional controller **14**, and further for storing such table in the headlight directional controller **14** illustrated in FIG. **1**. As used herein, the term "table" is intended to be representative of any collection or association of data that relates one or more of the sensed condition values to one or more of the headlight directional angle adjustment factors. The table of data can be generated, stored, and expressed in any desired format. For example, this table of data can be generated, stored, and expressed in a conventional spreadsheet format, such as shown in FIG. **4**, which will be discussed in detail below.

In a first step **31** of the table generating algorithm **30**, an adjustment control algorithm is selected. The adjustment control algorithm can be, generally speaking, any desired relationship that relates one or more operating conditions of the vehicle to one or more angular orientations of the headlight **11**. A variety of such relationships are known in the art, and this invention is not intended to be limited to any particular relationship. Typically, such relationships will be expressed in terms of a mathematical equation or similar relationship that can be readily processed using a microprocessor or similar electronic computing apparatus, such as the above-described headlight directional controller **14**. The particular adjustment control algorithm that is selected may, if desired, vary from vehicle to vehicle in accordance with a variety of factors, including relative size and performance characteristics of the vehicle or any other desired condition.

As mentioned above, a plurality of operating conditions may be sensed by the condition sensors **15** and **16** and provided to the headlight directional controller **14** for use with the adjustment control mechanism. For example, the condition sensors **15** and **16** may generate electrical signals to the headlight directional controller **14** that are represen-

tative of the road speed, the steering angle, and the pitch of the vehicle (which can, for example, be determined by sensing the front and rear suspension heights of the vehicle or by a pitch or level sensor). Additionally, the time derivative of these operating conditions (i.e., the rate of change of the road speed, steering angle, and pitch of the vehicle) can be sensed or calculated. However, any other operating condition or conditions of the vehicle may be sensed and provided to the headlight directional controller **14**.

In a second step **32** of the table generating algorithm **30**, the table is generated using the adjustment control algorithm selected in the first step **31**. The table can be generated in any desired manner. For example, let it be assumed that the selected adjustment control algorithm relates a single sensed operating condition to each of the angular adjustment control values for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. The table can be generated by initially selecting a first discrete sensed operating condition value that might be encountered during operation of the vehicle. Then, the selected adjustment control algorithm is solved using such first discrete sensed operating condition value to obtain the corresponding adjustment control values for the up/down and left/right orientation of the headlight **11**. Then, the first discrete sensed operating condition value and the corresponding adjustment control values are stored in the table. This process can be repeated for any desired number of other discrete sensed operating condition values that might be encountered during operation of the vehicle.

As mentioned above, FIG. **4** is a representative example of a table, indicated generally at **40**, that can be generated in accordance with the second step **32** of the table generating algorithm **30** illustrated in FIG. **3**. As shown therein, a series of discrete sensed operating condition values (degrees of steering angles, for example) is related to the angular adjustment control values (degrees of movement from the associated up/down and left/right reference positions or planes, for example) for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. For the purposes of illustration only, let it be assumed that (1) a positive steering angle value represents steering toward left, while a negative steering angle value represents steering toward the right, (2) a positive up/down adjustment factor represents aiming the headlight **11** upwardly, while a negative up/down adjustment factor represents aiming the headlight **11** downwardly, and (3) a positive left/right adjustment factor represents aiming the headlight **11** toward the left, while a negative left/right adjustment factor represents aiming the headlight **11** toward the right.

Thus, in accordance with the selected adjustment control algorithm, a sensed steering angle of +6° results in an up/down adjustment factor of −3.00° and a left/right adjustment factor of +4.50°. Similarly, a sensed steering angle of +5° results in an up/down adjustment factor of −2.50° and a left/right adjustment factor of +3.75°, and so on as shown in the table **40**. The illustrated table **40** relates thirteen different sensed steering angle values to their corresponding adjustment control values for both the up/down and left/right orientation of the headlight **11**. However, the table **40** can include a greater or lesser number of such sensed operating condition values, together with their corresponding adjustment control values. Furthermore, although the illustrated table **40** relates only a single sensed operating condition value (steering angle) to the corresponding adjustment control values for both the up/down and left/right orientation of the headlight **11**, the selected adjustment control algorithm may, as mentioned above, be responsive to a plurality of sensed operating condition values for determining the corresponding adjustment control values. Alternatively, as will be discussed further below, a plurality of tables **40** can be generated, one for each of the plurality of sensed operating condition values. The size and extent of the table **40** or tables can be varied to accommodate any desired number of such sensed operating conditions.

Referring back to FIG. **3**, in a third step **33** of the table generating algorithm **30**, the table **40** generated in the second step **32** is stored in the memory of the headlight directional controller **14** illustrated in FIG. **1**. The contents of the table **40** can be communicated serially to the headlight directional controller **14** by means of the input/output device **17** illustrated in FIG. **1** or in any other desired manner. Regardless of how it is communicated, the table **40** is preferably stored in a non-volatile memory of the headlight directional controller **14** for subsequent use in the manner described further below when the vehicle is operated.

As mentioned above, it may be desirable to vary the algorithm that is selected for use in implementing the headlight directional angle adjustment factors. The generation of the table **40** and the storage of such table **40** in the memory of the headlight directional controller **14** allow a designer of the automatic directional control system **10** to quickly and easily alter the response characteristics of the system **10** as desired, without the need for direct access to the computer code or software that is used to operate the headlight directional controller **14**. Rather, to effect such alterations, a designer can simply change some or all of the data points that are contained within the table **40**. As will be described in detail below, the headlight directional controller **14** will use whatever data points that are contained within the table **40** in determining the need for adjustments in the angular orientation of the headlight **11**. This structure also reduces the amount of processing power that is necessary for the headlight directional controller **14** because it can operate on a relatively simple look-up basis using the table **40**, rather than having to calculate relatively high order equations that may be used to determine the data points contained within the table **40**.

FIG. **5** is a flow chart of an algorithm, indicated generally at **50**, for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with one or more of the sensed condition values from the condition sensors **15** and **16**. In a first step **51** of the operating algorithm **50**, the values of one or more of the condition sensors **15** and **16** are read by the headlight directional controller **14**. Then, the operating algorithm **50** enters a decision point **52**, wherein it is determined whether the value or values of the condition sensors **15** and **16** that have been read by the headlight directional controller **14** are specifically contained in the table **40**. For example, using the table **40** illustrated in FIG. **4**, if the headlight directional controller **14** has read a steering angle value of −2°, then it is determined that the value of the condition sensor **15** is specifically contained within the table **40**. In this instance, the operating algorithm **50** branches from the decision point **52** to an instruction **53**, wherein the adjustment factors contained in the table **40** that correspond to the sensed condition value are looked up and stored in the headlight directional controller **14**.

The operating algorithm **50** next enters an instruction **54** wherein the value of the magnitude of the adjustment factor (i.e., the desired position for the headlight **11**) is compared with the current position of the headlight **11**. This step **54** of the operating algorithm **50** is optional and can be performed if one or more of the position feedback sensors **18** and **19** are

provided in the automatic directional control system **10** to generate respective electrical signals that are representative of the actual up/down and left/right positions of the headlight **11**, as described above. This step **54** of the operating algorithm **50** can be performed to determine how much of an adjustment is necessary to move the headlight **11** from its current position, as determined by the position feedback sensors **18** and **19**, to the desired position, as defined by the adjustment factor obtained from the table **40**. To accomplish this, the value of the adjustment factor may, for example, be subtracted from the current position of the headlight **11** to determine the magnitude of the difference therebetween and, therefore, the magnitude of the adjustment that is necessary to move the headlight **11** from its current position to the desired position. However, this step **54** of the operating algorithm **50** can be accomplished in any other desired manner.

Next, the operating algorithm **50** enters a decision point **55**, wherein it is determined whether the magnitude of the adjustment that is necessary to move the headlight **11** from its current position to the desired position is greater than a predetermined minimum threshold. This step in the operating algorithm **50** is also optional, but may be desirable to prevent the actuators **12** and **13** from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition or conditions, such as relatively small bumps in the road. For example, if the current position of the headlight **11** is relatively close to the desired position, then it may be undesirable to effect any movement thereof. This step **55** will prevent the actuators **12** and **13** from being operated unless the current position of the headlight **11** is relatively far from the desired position. As another example, if the condition sensors **15** and **16** are respectively responsive to the front and rear suspension heights of the vehicle for the purpose of determining the pitch thereof, then the headlight directional controller **14** may be programmed to be responsive only to changes in the suspension heights that occur at frequencies that are lower than the suspension rebound frequency of the vehicle (thereby ignoring relatively high frequency changes in suspension height that are likely the result of bumps in the road). However, relatively high frequency changes in the suspension heights could also be monitored to assist in deciphering relatively rough suspension changes from other suspension changes.

In any event, the provision of the predetermined minimum threshold functions as a filter or dead band that minimizes or eliminates undesirable "hunting" of the actuators **12** and **13** for relatively small magnitudes of movement of the headlight **11**. If the magnitude of the adjustment factor is not greater than the predetermined minimum threshold, then the operation of the actuators **12** and **13** is considered to be undesirable. Thus, the operating algorithm **50** branches from the decision point **55** back to the instruction **51**, wherein the above-described steps of the operating algorithm **50** are repeated.

If, on the other hand, the magnitude of the adjustment factor is greater than the predetermined minimum threshold, then the operation of the actuators **12** and **13** is considered to be desirable. Thus, the operating algorithm **50** branches from the decision point **55** to an instruction **56**, wherein either or both of the actuators **12** and **13** are actuated to effect movement of the headlight **11**. For example, using the table **40** illustrated in FIG. **4**, if the headlight directional controller **14** has read a steering angle value of −2°, then the headlight directional controller **14** will look up an up/down adjustment factor of −1.00° and a left/right adjustment factor of −1.50° from the table **40**. The headlight directional controller **14** operates the actuators **12** and **13** to adjust the angular orientation of the headlight **11** to achieve the noted adjustment factors.

In some instances, the amounts of movement that are to be implemented by the two actuators **12** and **13** will be the same (i.e., the amount of up/down movement of the headlight **11** will be the same as the amount of left/right movement). More frequently, however, the amounts of movement that are to be implemented by the two actuators **12** and **13** will be different from one another. In the latter instances, it may be desirable to operate the two actuators **12** and **13** at two different speeds such that the overall movement of the headlight **11** is relatively uniform. For example, if the amount of movement that is to be implemented by the up/down actuator **12** is twice as large as the amount of movement that is to be implemented by the left/right actuator **13**, then it may be desirable to operate the up/down actuator **12** at one-half of the speed of the left/right actuator **13** so that the movements of both actuators **12** and **13** (and, therefore, the overall movement of the headlight **11**) will start and stop at approximately the same time. Similarly, if the vehicle is provided with two different headlights **11**, as is commonly found, then it may be desirable to control the respective movements of such different headlights **11** in such a manner that they both start and stop at approximately the same time. This can be accomplished, for example, by providing a single headlight directional controller **14** for not only controlling, but also coordinating the movements of both of the headlights **11** in response to the sensed operating conditions.

Such operations can be performed in an open loop manner if desired, wherein the actuators **12** and **13** are operated to achieve predetermined amounts of movement. For example, the actuators **12** and **13** can be embodied as step motors that are operated a predetermined number of steps to achieve predetermined amounts of movement. Alternatively, the actuators **12** and **13** can be operated for predetermined periods of time to achieve the predetermined amounts of movement. However, more desirably, the operations of the actuators **12** and **13** are performed in a closed loop manner. To accomplish this, the actuators **12** and **13** are operated until either or both of the position feedback sensors **18** and **19** generate signals indicate that the headlight **11** has actually achieved the predetermined amounts of movement or desired position. In either event, the operating algorithm **50** then branches back to the instruction **51**, wherein the above-described steps of the algorithm **50** are repeated.

Referring back to the decision point **52**, if the value or values of the condition sensors **15** and **16** that have been read by the headlight directional controller **14** are not specifically contained in the table **40**, then the operating algorithm **50** branches from the decision point **52** to an instruction **57**, wherein the adjustment factors that are specifically contained in the table **40** that correspond to the adjacent sensed condition values are looked up and stored in the headlight directional controller **14**. For example, using the table **40** illustrated in FIG. **4**, if the headlight directional controller **14** has read a steering angle value of −1.5°, then it is determined that the value of the condition sensor **15** is not specifically contained within the table **40**. Rather than simply default to the closest value that is contained within the table **40**, the two adjustment factors specifically contained in the table **40** that are adjacent to the sensed condition value (namely, the adjustment factors for the steering angle values of −1° and −2°) are looked up and stored in the headlight directional controller **14**.

The operating algorithm **50** next enters an instruction **58**, wherein the actual adjustment factors to be implemented by the headlight directional controller **14** are interpolated or otherwise calculated from the stored adjustment factors that are adjacent to the sensed condition value. For example, as mentioned above, if the actual sensed steering angle value is −1.5°, then the headlight directional controller **14** looks up the adjustment factors for the steering angle values of −1° and −2°. The up/down adjustment factor for a steering angle value of −1° is −0.50 while the up/down adjustment factor for a steering angle value of −2° is −1.00°. If the calculation that is performed by the headlight directional controller **14** is a simple arithmetic mean, then the interpolated up/down adjustment factor would be −0.75°. Similarly, the left/right adjustment factor for a steering angle value of −1° is −0.75°, while the left/right adjustment factor for a steering angle value of −2° is −1.50°. If the calculation that is performed by the headlight directional controller **14** is a simple arithmetic mean, then the interpolated left/right adjustment factor would be −1.13°. Thereafter, the operating algorithm **50** branches to the decision point **55**, and the remainder of the operating algorithm **50** is performed as described above.

The interpolation that is performed by the headlight directional controller **14** can be accomplished in any desired manner. The performance of the simple arithmetic mean described above is intended to be representative of any mathematical or other function that can be performed to calculate, derive, or otherwise obtain adjustment factors that are not present in the table **40**. Furthermore, although this interpolation has been described in the context of using only the two condition values that are directly adjacent to the actual sensed condition value, it will be appreciated that the adjustment values for any single condition value or combination of sensed condition values may be selected for the interpolation. For example, several of the condition values both above and below the sensed condition value can be read from the table **40** to derive a trend line or other good estimate of the adjustment factors that are not present in the table **40**. Performance of this interpolation does not require any significant increase in the amount of processing power that is necessary for the headlight directional controller **14**.

The above discussion has assumed the use of a single table **40** that provides adjustment values based upon a single sensed operating condition (steering angle of the vehicle, in the illustrated embodiment). However, as discussed above, this invention may be practiced by sensing a plurality of operating conditions of the vehicle. For example, let it be assumed that both steering angle and vehicle road speed are sensed by the condition sensors **15** and **16**. As previously discussed, the adjustment control algorithm that is selected in the first step **31** of the table generating algorithm **30** can be designed to accommodate multiple sensed conditions. Alternatively, however, a first table (such as the table **40** illustrated in FIG. **4**) may be generated that relates the steering angle of the vehicle to the angular adjustment control values for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. A second, similar table (not shown) may also be generated that relates the road speed of the vehicle to the angular adjustment control values for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. Thus, for a given steering angle and road speed of the vehicle, the first and second tables may provide differing angular adjustment control values. To address this, the interpolation step **57** of the operating algorithm **50** can be performed to interpolate a single composite adjustment value that is based upon the two different values provided in the first and second tables for the pair of sensed operating conditions. This interpolation can be performed in the same manner as described above for each of the actuators **12** and **13**.

A variety of control strategies can be implemented using the automatic directional control system **10** described above. For example, the pitch of the vehicle can change as a result of a variety of factors, including acceleration, deceleration, and weight distribution of the vehicle. These pitch variations can alter the angle at which the beam of light projects from the headlight **11** in the up and down direction relative to a horizontal reference position or plane. The automatic directional control system **10** can be responsive to such pitch variations for operating the up/down actuator **12** to maintain the angle at which the beam of light projects from the headlight **11** in the up and down direction relatively constant to the horizontal reference position or plane.

As discussed above, the angle at which the beam of light projects from the headlight **11** in the left and right direction relative to a vertical reference position or plane can be adjusted in accordance with the sensed steering angle. However, the angle at which the beam of light projects from the headlight **11** in the up and down direction relative to a horizontal reference position or plane can also be adjusted in accordance with the sensed steering angle. This can be done to lower the headlight beams as the vehicle is turning a corner. The advantages of this are not only to better illuminate the road surface in the path of movement of the vehicle, but also to reduce headlight glare to other vehicles as the turn is negotiated.

Lastly, many vehicles on the road today have halogen lamps or other lights that are aimed to illuminate the sides of the roads in front of the vehicle during the turn. These other lights are activated by the manual operation of the turn signals of the vehicle. The automatic directional control system **10** of this invention can be responsive to one or more operating conditions of the vehicle to automatically activate these other lights on the vehicle. For example, the automatic directional control system **10** of this invention can be responsive to a steering angle in excess of a predetermined magnitude for automatically activating these other lights on the vehicle. This can be effective to extend the angular range of illumination of the road surface.

FIG. **6** is a flow chart of an algorithm, indicated generally at **60**, for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with the rate of change of one or more of the sensed condition values. As mentioned above, the headlight directional controller **14** can be operated to automatically implement directional angle adjustments in accordance with one or more of the sensed condition values or in accordance with the rate of change of one or more of the sensed condition values.

To accomplish this, the algorithm **60** has a first step **61** wherein the values of one or more of the condition sensors **15** and **16** are initially read by the headlight directional controller **14**. Then, the algorithm **60** enters a second step **62** wherein the values of one or more of the condition sensors **15** and **16** are subsequently read a second time by the headlight directional controller **14**. The second reading of the condition sensors **15** and **16** occurs a predetermined amount of time after the first reading thereof. Next, the algorithm enters a third step **63** wherein a rate of change of the sensed condition or conditions is calculated. The rate of change of the sensed condition can be calculated as the difference between the first and second readings divided by the amount of time therebetween or by any other desired means. For example, if the sensed condition is vehicle speed, then the difference between the first sensed vehicle speed and the second sensed vehicle speed, divided by the amount of time therebetween, would yield a number that is repre-

sentative of the acceleration of the vehicle. In a final step **64** of the algorithm **60**, either or both of the actuators **12** and **13** are actuated to effect movement of the headlight **11** in accordance with the calculated rate of change of the sensed condition. Such movement of the headlight **11** can be effected in a manner that is similar to that described above.

FIG. **7** is a flow chart of an algorithm, indicated generally at **70**, for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments, but only when the rate of change of one or more of the sensed condition values is less than (or greater than) a predetermined value. As mentioned above, the headlight directional controller **14** can be operated to automatically implement directional angle adjustments in accordance with one or more of the sensed condition values. In this variation of the invention, the headlight directional controller **14** automatically implements directional angle adjustments in response to the sensed condition values (or in response to the rate of change of the sensed condition values), but only when the rate of change of one or more of the sensed condition values is less than (or greater than) a predetermined value.

To accomplish this, the algorithm **70** has a first step **71** wherein the values of one or more of the condition sensors **15** and **16** are initially read by the headlight directional controller **14**. Then, the algorithm **70** enters a second step **72** wherein the values of one or more of the condition sensors **15** and **16** are subsequently read a second time by the headlight directional controller **14**. The second reading of the condition sensors **15** and **16** occurs a predetermined amount of time after the first reading thereof. Next, the algorithm enters a third step **73** wherein a rate of change of the sensed condition or conditions is calculated. The rate of change of the sensed condition can be calculated as the difference between the first and second readings divided by the amount of time therebetween or by any other desired means. For example, if the sensed condition is suspension height, then the difference between the first sensed suspension height and the second sensed suspension height, divided by the amount of time therebetween, would yield a number that is representative of the rate of change of the suspension height of the vehicle.

In a fourth step **74** of the algorithm **70**, a determination is made as to whether the rate of change of the sensed condition value is less than a predetermined threshold value. If the rate of change of the sensed condition value is less than this predetermined threshold value, then the algorithm **70** branches from the decision point **74** to a final step **75** of the algorithm **70**, wherein either or both of the actuators **12** and **13** are actuated to effect movement of the headlight **11** in accordance with the calculated rate of change of the sensed condition. Such movement of the headlight **11** can be effected in a manner that is similar to that described above. If, however, the rate of change of the sensed condition value is not less than this predetermined threshold value, then the algorithm **70** branches from the decision point **74** back to the first step **71**, wherein the algorithm **70** is repeated. This threshold sensing algorithm **70** can function to prevent the headlight directional controller **14** from being operated to automatically implement directional angle adjustments when the rate of change of the suspension height of the vehicle changes more rapidly than the system can effect corrective changes. For example, if the vehicle is operated on a bumpy road, the algorithm **70** will prevent the headlight directional controller **14** from attempting to correct for every single bump that is encountered. However, for relatively low frequency or rates of change in the suspension height of the vehicle, such as can occur when accelerating, decelerating, and weight changes, the headlight directional controller **14** will be operated in the normal manner to effect corrective actions, as described above.

As mentioned above, the input/output device **17** is connected to (or can be connected to) the headlight directional controller **14** for facilitating communication therewith, and the input/output device **17** can be used for calibrating the automatic directional control system illustrated in FIG. **1** so as to define an initial reference position or positions for the headlight **11** from which the headlight directional controller **14** can implement directional angle adjustments. Additionally, however, the input/output device **17** can be employed as a diagnostic tool. To accomplish this, the input/output device **17** can be embodied as a conventional microprocessor or similar electronically programmable device that can be connected to the headlight directional controller **14** to read fault codes that may be generated during the operation thereof. The headlight directional controller **14** can be programmed to generate fault codes whenever a fault condition or other anomaly occurs or is detected. Such fault codes can be stored in the headlight directional controller **14** until the input/output device **17** is subsequently connected thereto. When so connected, the input/output device **17** can read such codes and display them for an operator. As a result, the operator can take whatever corrective actions are necessary to address the fault condition or anomaly. The input/output device **17** can also be programmed to clear the fault codes from the headlight directional controller **14** after they are read.

In accordance with the provisions of the patent statutes, the principle and mode of operation of this invention have been explained and illustrated in its preferred embodiments. However, it must be understood that this invention may be practiced otherwise than as specifically explained and illustrated without departing from its spirit or scope.

What is claimed is:

1. An automatic directional control system for a vehicle headlight comprising:

a sensor that is adapted to generate a signal that is representative of a condition of the vehicle, said sensed condition includes one or more of road speed, steering angle, pitch, and suspension height of the vehicle;

a controller that is responsive to said sensor signal for generating an output signal only when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition; and

an actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal.

2. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the road speed of the vehicle.

3. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the steering angle of the vehicle.

4. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the pitch of the vehicle.

5. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the suspension height of the vehicle.

* * * * *

Electronic Patent Application Fee Transmittal

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Filing Date:	
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	James E. Smith
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Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Request for ex parte reexamination	1812	1	2520	2520
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
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Miscellaneous:				
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Time Stamp:	16:49:08
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$2520
RAM confirmation Number	3107
Deposit Account	504964
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Receipt of Original Ex Parte Reexam Request	7241034_109_Re-Exam_25-May-2010.pdf	47718 b2cc4f0988c7660883336f4ebdcb2f54169d6fb3	no	3
Warnings:					
Information:					
2	Reexam Miscellaneous Incoming Letter	7241034_109_Re-Exam_Exhibit_A_25-May-2010.pdf	37189 1a518646f9510333682c056f3eb84cea8c496a51	no	3
Warnings:					
Information:					
3	Reexam Miscellaneous Incoming Letter	4733333_Shibata.pdf	435319 136b253d6a1fd782bd19cb1d31346fa9308e8212	no	24
Warnings:					
Information:					
4	Copy of patent for which reexamination is requested	7241034_Smith_filing.pdf	2428532 a140454c40f612a3362b93828621af5145c872bd	no	16
Warnings:					
Information:					
5	Fee Worksheet (PTO-875)	fee-info.pdf	29975 0aa5b819fcce8ea15db80204591310c02dded73b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2978733		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Requester's Name and Address: THE CALDWELL FIRM, LLC
P.O. BOX 59655
DEPT. SVIPGP
DALLAS, TX 75229

Patent Number: 7,241,034 Request Receipt Date: 05/25/10

Control Number:90/011,011
Date Mailed: 05/26/10

NOTICE OF FAILURE TO COMPLY WITH *EX PARTE* REEXAMINATION REQUEST FILING REQUIREMENTS (37 CFR 1.510(c))

The Central Reexamination Unit (CRU) in the United States Patent and Trademark Office (USPTO) has received a request for *ex parte* reexamination. The request cannot be processed, because the below-identified filing date requirements for an *ex parte* reexamination request have not been satisfied. If a fully compliant response is not received within 30 days of the mailing date of this notice, the request will be treated as a prior art citation under 37 CFR 1.501 or closed from public view, at the Office's option. A **filing date** will **NOT** be assigned to the request until the deficiencies noted below are corrected (37 CFR 1.510(d)):

The following items required by **37 CFR 1.510(a) and (b)** are missing:

☐ 1. The *ex parte s* reexamination filing fee under 37 CFR 1.20(c)(1) – see attached Form PTO-2057.

☐ 2. An identification of the patent by its patent number, and of every claim of the patent for which reexamination is requested.

☐ 3. A citation of the patents and printed publications that are presented to raise a substantial new question of patentability.

☒ 4. A statement pointing out each substantial new question of patentability based on the cited patents & printed publications, and a detailed explanation of the pertinency and manner of applying the patents & printed publications to every claim for which reexamination is requested.

☐ 5. A legible copy of every patent or printed publication (other than U.S. patents or U.S. patent publications) relied upon or referred to in (3) and (4) above, accompanied by an English language translation of all the necessary and pertinent parts of any non-English language document.

☐ 6. A legible copy of the entire patent including the front face, drawings, and specification/claims (in **double** column format) for which reexamination is requested, and a legible copy of any disclaimer, certificate of correction, or reexamination certificate issued in the patent. All copies must have each page plainly written on only one side of a sheet of paper.

☐ 7. A certification by the third party requester that a copy of the request has been served in its entirety on the patent owner at the address provided for in 37 CFR 1.33(c). The name and address of the party served must be indicated. If service was not possible, a duplicate copy of the request must be supplied to the Office.

☐ 8. Other:

☒ Explanation of above item(s): See Attachment.

Any written correspondence in response to this notice must include a submission pursuant to the attached instructions. **The instructions for a detailed explanation for an *ex parte* reexamination request differ from those for an *inter partes* reexamination request.** Any written correspondence in response to this notice should be mailed to the Central Reexamination Unit (CRU), ATTN: "Box *Ex Parte* Reexam" at the USPTO address indicated at the top of this notice. Any "replacement documents" may be facsimile transmitted to the CRU at the FAX number indicated below. A REPLACEMENT STATEMENT AND EXPLANATION UNDER 37 CFR 1.510(b)(1) and (2) MAY NOT BE FACSIMILE TRANSMITTED.

Patent Reexamination Specialist, Central Reexamination Unit
(571) 272- 7740 ; FAX No. (571) 273-9900

cc: Patent Owner's Name and Address:

ATTACHMENT TO PTOL-2077

Control Number: 90/011,011
Patent Number: 7,241,034
Request Receipt Date: May 25, 2010

Please read the instructions that accompany this Notice and Attachment.

The Request for *Ex Parte* Reexamination filed on May 25, 2010 does not comply with the filing requirement of an *ex parte* reexamination proceeding under 37 CFR 1.510(b)(1)(2).

Reexamination was requested for U.S. Patent No. 7,241,034 (in this instance Claims 1 and 3 are requested). The request does not provide a "statement pointing out ***each*** substantial new question of patentability based on the prior patents and printed publications" for each cited document, as is required by 37 CFR 1.510(b)(1). Nor does request provide a "detailed explanation of the pertinency and manner of applying the cited prior art to ***every claim for which reexamination is requested***," as is required by 37 CFR 1.510 (b)(2).

In this instance, the request does not provide an explanation of how the reference cited on the Information Disclosure Statement (IDS) may apply, in a proposed rejection under 35 USC §102 or §103 to each of claims. The request must clearly set forth in detail what Patent Owner considers the "substantial new question of patentability" to be in view of the prior patents and printed publications. Ideally, the required explanation can be provided using an appropriately detailed claim chart that compares, limitation by limitation, each claim for which reexamination is requested with the relevant teachings of each reference cited in the request. See the sample request for reexamination in MPEP § 2214.

The request has failed to provide the requisite identification and explanation in compliance with 37 CFR 1.510(b)(1), of what substantial new questions of patentability (SNQs) are being raised by the cited prior art documents under 37 CFR 1.510(b). The request fails to clearly explain how each asserted SNQ is substantially different from those raised in the previous examination of the patent before the Office. As pointed out in MPEP 2216:

> "It is not sufficient that a request for reexamination merely proposes one or more rejections of a patent claim or claims as a basis for reexamination. It must first be demonstrated that a patent or printed publication that is relied upon in a proposed rejection presents a new, non-cumulative technological teaching that was not previously considered and discussed on the record during the prosecution of the application that resulted in the patent for which reexamination is requested, and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested." [Emphasis added]

In implementing the statute, 37 CFR 1.510(b)(2) clearly requires that in addition to providing a statement pointing out each substantial new question of patentability, the reexamination requester must provide "a detailed explanation of the pertinency and manner of applying the cited prior art to every claim for which reexamination was requested.

It is to be understood that every limitation of each claim (covered by an identification of a substantial new question of patentability or proposed rejection) must be addressed by the request. In a patent owner requested reexamination, for each limitation of the claim, the request must:

(a) Apply at least one of the references to the limitation (i.e. point out how the reference meets/teaches the limitation);

(b) State that the limitation is not covered by the references; OR

(c) Say/admit that the limitation is known or old in the art, or similar language.

The patent owner must address all the claim limitations as using one of the avenues (a)-(c).

Since the request has not properly advanced (and explained) a substantial new question with respect to all of the '034 patent claims for which reexamination has been requested, the request fails to comply with the requirements for granting a filing date for a reexamination request.

Stated another way, the request does not provide a "detailed explanation of the pertinency and manner of applying the cited prior art" to every patent claim for which reexamination is requested, as is required by 37 CFR 1.510(b)(2).

For each identified substantial new question of patentability (SNQ), the request must explain how the cited documents identified for that SNQ are applied to meet/teach the patent claim limitations to thus establish the identified SNQ. *See* Clarification of Filing Date Requirements for *Ex Parte* and *Inter Partes* Reexamination Proceedings 71 *Fed. Reg.* 44219, (August 4, 2006)), at page 44221, second half of middle column.

If the requester were permitted to omit an explanation of how such documents cited in request are applied to the patent claims, an undue burden would be placed on the Office to address each document in the determination on the request, without an explanation of the relevance to the patent claims. Accordingly, such an omission is prohibited by law.

In accordance with 37 CFR 1.510(c), a filing date for the reexamination request will not be granted **at this time**.

Requester has the option to respond to this identification of defects in the request papers by applying the appropriate option(s) set forth below:

1) Providing an explanation of the manner and pertinence of applying each cited document to the patent claims for which reexamination is requested, as required by 37 CFR 1.510(b)(2). For each identification of a substantial new question of patentability, every limitation in each patent claim for which reexamination is requested must be addressed, using one of the above-discussed avenues (a)-(c) for the limitation.

2) Explicitly withdrawing the request to reexamine any patent claim for which an explanation as required by 1.510(b)(2) is not provided and replacing the presently-submitted listing of the claims for which reexamination is requested with a new listing of claims for which reexamination is requested, the new identification *being confined to those claims for which a discussion required by 37 CFR 1.510(b)(2) is provided.*

Failure to submit a proper response to this Notice may result in the termination of the request, with no filing date accorded.

All correspondence related to this ex parte reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at http://sportal.gov/authenticate/authenticateuserlocalepf.html.

By Mail to: Mail Stop Ex Parte Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By Hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

INSTRUCTIONS TO NOTICE OF FAILURE TO COMPLY WITH *EX PARTE* REEXAMINATION REQUEST FILING REQUIREMENTS (37 CFR 1.510(c))

HOW TO REPLY TO THIS NOTICE

Any written correspondence in response to this notice must include either a **replacement document**, or, **if item #4 is checked and/or it is otherwise specifically required by the Office, a paper containing a replacement statement and explanation under 37 CFR 1.510(b)(1) and (2)** that either replaces the originally-filed statement and explanation or provides a previously missing statement and explanation. A replacement document either replaces an originally-filed document, or provides a previously missing document, that contains part(s) of the request other than the statement and explanation as set forth in 37 CFR 1.510(b)(1) and (2). For example, a replacement to the originally-filed listing of cited patents and printed publications, PTO/SB/08 (formerly designated as PTO-1449) or its equivalent, is a replacement document.

If a paper containing a replacement statement and explanation, or a replacement document (other than a replacement certificate of service), is submitted by a third party requester, it must be **accompanied by a certification that a copy of the replacement statement and explanation under 37 CFR 1.510(b)(1) and (2), or that a copy of the replacement document, has been served** in its entirety on the patent owner at the address provided for in 37 CFR 1.33(c). The name and address of the party served must be indicated. If service was not possible, a duplicate copy of the replacement statement and explanation (or replacement document) must be supplied to the Office.

REPLACEMENT STATEMENT AND EXPLANATION UNDER 37 CFR 1.510(b)(1) and (2) (ITEM #4 IS CHECKED)

The **statement and explanation under 37 CFR 1.510(b)(1) and (2)** (see item #4) must discuss **EVERY patent or printed publication cited in the information disclosure statement** in at least one proposed rejection or statement identifying a substantial new question of patentability (SNQ), AND in a corresponding detailed explanation (see the below discussion). Furthermore, **EVERY claim for which reexamination is requested** must be discussed in at least one proposed rejection or statement identifying an SNQ and in the corresponding detailed explanation. If item #4 is missing or incomplete, a paper containing a **replacement statement and explanation under 37 CFR 1.510(b)(1) and (2) is required.**

A paper containing a replacement statement and explanation under 37 CFR 1.510(b)(1) and (2) may NOT be facsimile transmitted. It must be received by first class mail or by USPS Express Mail.

If an originally-filed information disclosure statement cites patents or printed publications that are NOT discussed in at least one proposed rejection or statement identifying an SNQ AND in the corresponding detailed explanation **in the originally-filed request**, the requester must file either (a) a **replacement document, i.e., a replacement PTO/SB/08 (former PTO-1449)** or its equivalent, listing **ONLY** those patents and printed publications that are so discussed, or (b) a paper containing a **replacement statement and explanation under 37 CFR 1.510(b)(1) and (2).** If the first option is chosen, the replacement PTO/SB/08 or its equivalent should include a cover letter expressly withdrawing from the request any previously cited references that are being omitted by the replacement PTO/SB/08 or its equivalent. The requester may, if desired, file both a replacement PTO/SB/08 or its equivalent and a paper containing a replacement statement and explanation, if the replacement statement and explanation discusses EVERY patent or printed publication, cited in the replacement PTO/SB/08 or its equivalent, in at least one proposed rejection or statement identifying an SNQ and in the corresponding detailed explanation.

Requester is NOT required to, and should not, additionally file a replacement copy of any exhibits, references, etc., or other replacement parts of the request (i.e., replacement documents) if a defect requiring a replacement document is not specifically identified by this notice.

Examples of When a Replacement Statement and Explanation under 37 CFR 1.510(b)(1) and (2) Is Required:

1. The originally-filed request fails to discuss **EVERY** patent or printed publication cited in the originally-filed information disclosure statement in at least one proposed rejection or statement identifying an SNQ and in the corresponding detailed explanation, and the requester does not wish to file a replacement PTO/SB/08 (formerly designated as PTO-1449) or its equivalent listing ONLY those patents and printed publications that are so discussed.

2. The originally-filed request discusses every patent or printed publication cited in the information disclosure statement in at least one proposed rejection or statement identifying an SNQ, but **fails to discuss EVERY patent or printed publication cited in the information disclosure statement in a detailed explanation that corresponds to the proposed rejection or statement identifying an SNQ.**

3. The originally-filed request fails to discuss **EVERY CLAIM** for which reexamination is requested in at least one proposed rejection or statement identifying an SNQ, and in the corresponding detailed explanation.

Examples of Proposed Rejections and Statements Identifying a Substantial New Question of Patentability (SNQ)

Proposed rejections

Claims 1-3 are obvious over reference A in view of reference B.
Claims 4-6 are obvious over reference A in view of references B and C.
Claims 7-10 are obvious over reference Q in view of reference R.

Statements identifying a substantial new question of patentability

A substantial new question of patentability as to claims 1-3 is raised by reference A in view of reference B.
A substantial new question of patentability as to claims 4-6 is raised by reference A in view of references B and C.
A substantial new question of patentability as to claims 7-10 is raised by reference Q in view of reference R.

A proposed rejection or statement identifying an SNQ must be repeated with any *replacement* detailed explanation that corresponds to the proposed rejection or statement identifying an SNQ, in any paper containing a replacement statement and explanation under 37 CFR 1.510(b)(1) and (2).

In addition, the requester should include an explanation of *how the SNQ is raised.*

1. Assume that claim 1 of the patent recites, as one of the limitations, widget W. Requester would state that the XYZ reference, cited in the information disclosure statement, contains a teaching of widget W as recited in claim 1, and that this teaching was not present during the prior examination of the patent under reexamination (i.e., the teaching is "new"). Requester would also state that he believes that a reasonable examiner would consider this teaching important in determining whether or not the claims are patentable. For this reason, requester would state that this teaching by the XYZ reference raises a substantial new question of patentability (SNQ) with respect to at least claim 1 of the patent. Similarly, if dependent claim 6 adds widget H, the requester would state that the ABC reference, cited in the information disclosure statement, contains a teaching of widget H as recited in claim 6, that this teaching was not present during the prior concluded examination of the patent, that a reasonable examiner would consider this teaching important in determining whether or not the claims are patentable, and that this teaching raises an SNQ with respect to dependent claim 6 of the patent.

2. Assume that claim 1 of the patent recites, as one of its limitations, limitation W. Assume either that reference XYZ was applied in a rejection during the prior examination of the patent, or that the teachings of reference XYZ are purely cumulative to a reference cited in a rejection during the prior examination of the patent. Assume further that reference ABC teaches that limitation W would have been either inherent given the teachings of reference XYZ, or would have been obvious in view of the combination of XYZ and ABC. Reference ABC was cited in an information disclosure statement but was never discussed or applied in a rejection ***in combination with the XYZ reference*** during the prior examination of the patent under reexamination. **Requester would state** that reference XYZ was present during the prior examination of the patent under reexamination because it was applied in a rejection during the prosecution of the patent, and that reference ABC was cited in an information disclosure statement but never applied in a rejection (or never discussed), **in combination with the XYZ reference** during the prior examination of the patent under reexamination Requester would then state (1) that the ***combination*** of the XYZ reference and the ABC reference, both of which are cited in the information disclosure statement, contains a teaching of limitation W as recited in claim 1, (2) that this teaching provided by the **combination** of the XYZ and ABC references was not present during the prior examination of the patent under reexamination, (3) that a reasonable examiner would consider this teaching important in determining whether or not the claims are patentable, and (4) that this teaching raises an SNQ with respect to claim 1 of the patent.

Example of a Detailed Explanation

Assume, for example, that a requester believes that the XYZ reference, alone, anticipates claims 1-5. The requester would expressly propose a rejection of claims 1-5 under 35 USC 102(b) as being anticipated by the XYZ reference. In a claim chart, the requester would then show how **each limitation** of claims 1-5 is anticipated by the XYZ reference. If the requester believes that the XYZ reference, in view of the ABC reference, renders obvious claims 6-10, the requester would expressly propose a rejection of claims 6-10 under 35 USC 103 as being obvious over the XYZ reference in view of the ABC reference. In a claim chart, the requester would then show which limitations of claims 6-10 are taught by the XYZ reference, and which limitations of claims 6-10 are taught by the ABC reference. The requester should quote each pertinent teaching in the prior art reference, referencing each quote by page, column and line number, and any relevant figure numbers.

A **patent owner**, when filing a request for reexamination in an *ex parte* reexamination proceeding, may satisfy the requirement under 37 CFR 1.510(b) for supplying a detailed explanation by comparing, limitation-by-limitation, the claim(s) under reexamination with the teachings of each reference cited in the information disclosure statement and in the statement pointing out an SNQ. Each limitation of the claim(s) must be separately discussed. For each claim limitation, the patent owner must do one of the following: (a) show how at least one reference teaches or suggests the limitation, (b) admit that the limitation is "old", or (c) state that the limitation is believed to be missing from the reference. In a claim chart, the patent owner should quote each pertinent teaching in the prior art reference,

referencing each quote by page, column and line number, and any relevant figure numbers. Proposed applications of the cited references and/or proposed combinations of the cited references should separately identified. The patent owner is not required to

expressly propose a rejection of the claim(s) or provide a statement of why the claim(s) under reexamination would have been obvious over a proposed reference combination.

REPLACEMENT DOCUMENTS

If the originally-filed PTO/SB/08 (former PTO-1449) or its equivalent lists patents or printed publications that are NOT discussed in at least one proposed rejection or statement identifying an SNQ AND in the corresponding detailed explanation **in the originally-filed request**, the requester may file a paper containing a **replacement PTO/SB/08 (former PTO-1449) or its equivalent** listing **ONLY** those patents and printed publications that are so discussed. The replacement PTO/SB/08 or its equivalent should include a cover letter expressly withdrawing from the request any formerly cited references that are now being omitted by the replacement PTO/SB/08 or its equivalent. Similarly, if **any patent or printed publication discussed** in at least one proposed rejection or statement identifying an SNQ AND in the corresponding detailed explanation **in the originally-filed request is not listed in the originally-filed PTO/SB/08 (former PTO-1449)** or its equivalent, the requester must file a **replacement PTO/SB/08 (former PTO-1449)** or its equivalent listing all of the patents and printed publications, including the previously omitted reference(s), and provide copies of the missing references if copies were not provided with the originally-filed request

If a copy of a patent, printed publication, or an English-language translation of a patent or printed publication, that is cited in the PTO/SB/08 (former PTO-1449) or its equivalent, is illegible, missing, or incomplete (i.e., it does not contain all of the pages indicated in the PTO/SB/08 (former PTO-1449) or its equivalent), a replacement copy of the patent or printed publication is required.

If a copy of any disclaimer, certificate of correction, or reexamination certificate issued in the patent, or a copy of the entire patent for which reexamination is requested as described in item #6, is missing, or if the copy that was received by the Office was illegible or incomplete, a replacement document (i.e., a replacement copy of the disclaimer, certificate of correction, reexamination certificate, or entire patent under reexamination as described in item #6) is required.

If the requester fails to correctly identify the patent number or the claims for which reexamination is requested on the transmittal form for the request (PTO/SB/57, or an equivalent) as described in item #2, and the patent number and the claims for which reexamination is requested are correctly identified in the originally-filed request, a **replacement transmittal form** is required.

If a certificate of service on the patent owner, as described in item #7, is missing, or if the certificate of service received by the Office is inaccurate or incomplete, a replacement certificate of service is required.

Replacement documents may be facsimile transmitted. A paper containing a replacement statement and explanation may NOT be facsimile transmitted.

Electronic Acknowledgement Receipt

EFS ID:	7856741
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	21-JUN-2010
Filing Date:	
Time Stamp:	15:49:45
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Receipt of Corrected Original Ex Parte Request	7241034_109_Re-Exam_21-Jun-2010.pdf	67563 11a37552e58888d2c873b7462dcdf8e0ede d8084	no	7

Warnings:	
Information:	

2	Reexam Miscellaneous Incoming Letter	7241034_109_Re-Exam_Exhibit_A_21-Jun-2010.pdf	64393 d843b1628a30dd4816708c1d8dccbcc16fe928e9	no	5

Warnings:	
Information:	
Total Files Size (in bytes):	131956

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Requester's Name and Address: THE CALDWELL FIRM, LLC
P.O. BOX 59655
DEPT. SVIPGP
DALLAS, TX 75229

Patent Number: 7,241,034 Request Receipt Date: 05/25/10

Control Number:90/011,011
Date Mailed: 06/23/10

NOTICE OF FAILURE TO COMPLY WITH *EX PARTE* REEXAMINATION REQUEST FILING REQUIREMENTS (37 CFR 1.510(c))

The Central Reexamination Unit (CRU) in the United States Patent and Trademark Office (USPTO) has received a request for *ex parte* reexamination. The request cannot be processed, because the below-identified filing date requirements for an *ex parte* reexamination request have not been satisfied. If a fully compliant response is not received within 30 days of the mailing date of this notice, the request will be treated as a prior art citation under 37 CFR 1.501 or closed from public view, at the Office's option. A **filing date** will **NOT** be assigned to the request until the deficiencies noted below are corrected (37 CFR 1.510(d)):

The following items required by **37 CFR 1.510(a) and (b)** are missing:

☐ 1. The *ex parte s* reexamination filing fee under 37 CFR 1.20(c)(1) – see attached Form PTO-2057.

☐ 2. An identification of the patent by its patent number, and of every claim of the patent for which reexamination is requested.

☐ 3. A citation of the patents and printed publications that are presented to raise a substantial new question of patentability.

☒ 4. A statement pointing out each substantial new question of patentability based on the cited patents & printed publications, and a detailed explanation of the pertinency and manner of applying the patents & printed publications to every claim for which reexamination is requested.

☐ 5. A legible copy of every patent or printed publication (other than U.S. patents or U.S. patent publications) relied upon or referred to in (3) and (4) above, accompanied by an English language translation of all the necessary and pertinent parts of any non-English language document.

☐ 6. A legible copy of the entire patent including the front face, drawings, and specification/claims (in **double** column format) for which reexamination is requested, and a legible copy of any disclaimer, certificate of correction, or reexamination certificate issued in the patent. All copies must have each page plainly written on only one side of a sheet of paper.

☐ 7. A certification by the third party requester that a copy of the request has been served in its entirety on the patent owner at the address provided for in 37 CFR 1.33(c). The name and address of the party served must be indicated. If service was not possible, a duplicate copy of the request must be supplied to the Office.

☐ 8. Other:

☒ Explanation of above item(s): See Attachment.

Any written correspondence in response to this notice must include a submission pursuant to the attached instructions. **The instructions for a detailed explanation for an *ex parte* reexamination request differ from those for an *inter partes* reexamination request.** Any written correspondence in response to this notice should be mailed to the Central Reexamination Unit (CRU), ATTN: "Box *Ex Parte* Reexam" at the USPTO address indicated at the top of this notice. Any "replacement documents" may be facsimile transmitted to the CRU at the FAX number indicated below. A REPLACEMENT STATEMENT AND EXPLANATION UNDER 37 CFR 1.510(b)(1) and (2) MAY NOT BE FACSIMILE TRANSMITTED.

Manuel Salazar

Patent Reexamination Specialist, Central Reexamination Unit
(571) 272- 7740 ; FAX No. (571) 273-9900

cc: Patent Owner's Name and Address:

ATTACHMENT TO PTOL-2077

Control Number: 90/011,011
Patent Number: 7,241,034
Request Receipt Date: May 25, 2010

Please read the instructions that accompany this Notice and Attachment.

The Request for *Ex Parte* Reexamination filed on May 25, 2010 does not comply with the filing requirement of an *ex parte* reexamination proceeding under 37 CFR 1.510(b)(1)(2).

The Replacement request dated June 21, 2010 corrected the errors pointed out in the Notice of Failure to Comply with Ex Parte Reexamination Request Filing Requirements dated May 26, 2010. There is one issue not address in the Notice dated May 26, 2010. On page 2 of the request for reexamination the following statement is unclear "Regarding at least Claims 1 and 3, Shibata was not of record in the Smith file." The phrase "at least" does not limit the number of claims for which the reexamination is being requested. The term "at least" urges the examiner to apply the cited art to the remainder of the claims that are requested, thus placing a burden of identifying the claims and applying the references to the remainder of the claims. See also pages (3 and 6). If a corrected request is filed, the requester must delete the phrase "at least" or otherwise, specifically set forth which claims reexamination is requested and provide the detailed explanation, as required by 37 CFR 1.510(b)(2), for every claim for which reexamination is requested. Since the request has not properly advanced (and explained) a substantial new question with respect to all of the '034 patent claims for which reexamination has been requested, the request fails to comply with the requirements for granting a filing date for a reexamination request.

Stated another way, the request does not provide a "detailed explanation of the pertinency and manner of applying the cited prior art" to every patent claim for which reexamination is requested, as is required by 37 CFR 1.510(b)(2).

For each identified substantial new question of patentability (SNQ), the request must explain how the cited documents identified for that SNQ are applied to meet/teach the patent claim limitations to thus establish the identified SNQ. *See* Clarification of Filing Date Requirements for *Ex Parte* and *Inter Partes* Reexamination Proceedings 71 *Fed. Reg.* 44219, (August 4, 2006)), at page 44221, second half of middle column.

If the requester were permitted to omit an explanation of how such documents cited in request are applied to the patent claims, an undue burden would be placed on the Office to address each document in the determination on the request, without an explanation of the relevance to the patent claims. Accordingly, such an omission is prohibited by law.

In accordance with 37 CFR 1.510(c), a filing date for the reexamination request will not be granted **at this time**.

Requester has the option to respond to this identification of defects in the request papers by applying the appropriate option(s) set forth below:

1) Providing an explanation of the manner and pertinence of applying each cited document to the patent claims for which reexamination is requested, as required by 37 CFR 1.510(b)(2). For each identification of a substantial new question of patentability, every limitation in each patent claim for which reexamination is requested must be addressed, using one of the above-discussed avenues (a)-(c) for the limitation.

2) Explicitly withdrawing the request to reexamine any patent claim for which an explanation as required by 1.510(b)(2) is not provided and replacing the presently-submitted listing of the claims for which reexamination is requested with a new listing of claims for which reexamination is requested, the new identification *being confined to those claims for which a discussion required by 37 CFR 1.510(b)(2) is provided.*

Failure to submit a proper response to this Notice may result in the termination of the request, with no filing date accorded.

All correspondence related to this ex parte reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at http://sportal.gov/authenticate/authenticateuserlocalepf.html.

By Mail to: Mail Stop Ex Parte Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By Hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

INSTRUCTIONS TO NOTICE OF FAILURE TO COMPLY WITH *EX PARTE* REEXAMINATION REQUEST FILING REQUIREMENTS (37 CFR 1.510(c))

HOW TO REPLY TO THIS NOTICE

Any written correspondence in response to this notice must include either a **replacement document**, or, **if item #4 is checked and/or it is otherwise specifically required by the Office, a paper containing a replacement statement and explanation under 37 CFR 1.510(b)(1) and (2)** that either replaces the originally-filed statement and explanation or provides a previously missing statement and explanation. A replacement document either replaces an originally-filed document, or provides a previously missing document, that contains part(s) of the request other than the statement and explanation as set forth in 37 CFR 1.510(b)(1) and (2). For example, a replacement to the originally-filed listing of cited patents and printed publications, PTO/SB/08 (formerly designated as PTO-1449) or its equivalent, is a replacement document.

If a paper containing a replacement statement and explanation, or a replacement document (other than a replacement certificate of service), is submitted by a third party requester, it must be **accompanied by a certification that a copy of the replacement statement and explanation under 37 CFR 1.510(b)(1) and (2), or that a copy of the replacement document, has been served** in its entirety on the patent owner at the address provided for in 37 CFR 1.33(c). The name and address of the party served must be indicated. If service was not possible, a duplicate copy of the replacement statement and explanation (or replacement document) must be supplied to the Office.

REPLACEMENT STATEMENT AND EXPLANATION UNDER 37 CFR 1.510(b)(1) and (2) (ITEM #4 IS CHECKED)

The **statement and explanation under 37 CFR 1.510(b)(1) and (2)** (see item #4) must discuss **EVERY patent or printed publication cited in the information disclosure statement** in at least one proposed rejection or statement identifying a substantial new question of patentability (SNQ), AND in a corresponding detailed explanation (see the below discussion). Furthermore, **EVERY claim for which reexamination is requested** must be discussed in at least one proposed rejection or statement identifying an SNQ and in the corresponding detailed explanation. If item #4 is missing or incomplete, a paper containing a **replacement statement and explanation under 37 CFR 1.510(b)(1) and (2) is required.**

A paper containing a replacement statement and explanation under 37 CFR 1.510(b)(1) and (2) may NOT be facsimile transmitted. It must be received by first class mail or by USPS Express Mail.

If an originally-filed information disclosure statement cites patents or printed publications that are NOT discussed in at least one proposed rejection or statement identifying an SNQ AND in the corresponding detailed explanation **in the originally-filed request**, the requester must file either (a) a **replacement document, i.e., a replacement PTO/SB/08 (former PTO-1449)** or its equivalent, listing **ONLY** those patents and printed publications that are so discussed, or (b) a paper containing a **replacement statement and explanation under 37 CFR 1.510(b)(1) and (2).** If the first option is chosen, the replacement PTO/SB/08 or its equivalent should include a cover letter expressly withdrawing from the request any previously cited references that are being omitted by the replacement PTO/SB/08 or its equivalent. The requester may, if desired, file both a replacement PTO/SB/08 or its equivalent and a paper containing a replacement statement and explanation, if the replacement statement and explanation discusses EVERY patent or printed publication, cited in the replacement PTO/SB/08 or its equivalent, in at least one proposed rejection or statement identifying an SNQ and in the corresponding detailed explanation.

Requester is NOT required to, and should not, additionally file a replacement copy of any exhibits, references, etc., or other replacement parts of the request (i.e., replacement documents) if a defect requiring a replacement document is not specifically identified by this notice.

Examples of When a Replacement Statement and Explanation under 37 CFR 1.510(b)(1) and (2) Is Required:

1. The originally-filed request fails to discuss **EVERY** patent or printed publication cited in the originally-filed information disclosure statement in at least one proposed rejection or statement identifying an SNQ and in the corresponding detailed explanation, and the requester does not wish to file a replacement PTO/SB/08 (formerly designated as PTO-1449) or its equivalent listing ONLY those patents and printed publications that are so discussed.

2. The originally-filed request discusses every patent or printed publication cited in the information disclosure statement in at least one proposed rejection or statement identifying an SNQ, but **fails to discuss EVERY patent or printed publication cited in the information disclosure statement in a detailed explanation that corresponds to the proposed rejection or statement identifying an SNQ.**

3. The originally-filed request fails to discuss **EVERY CLAIM** for which reexamination is requested in at least one proposed rejection or statement identifying an SNQ, and in the corresponding detailed explanation.

Examples of Proposed Rejections and Statements Identifying a Substantial New Question of Patentability (SNQ)

Proposed rejections

Claims 1-3 are obvious over reference A in view of reference B.
Claims 4-6 are obvious over reference A in view of references B and C.
Claims 7-10 are obvious over reference Q in view of reference R.

Statements identifying a substantial new question of patentability

A substantial new question of patentability as to claims 1-3 is raised by reference A in view of reference B.
A substantial new question of patentability as to claims 4-6 is raised by reference A in view of references B and C.
A substantial new question of patentability as to claims 7-10 is raised by reference Q in view of reference R.

A proposed rejection or statement identifying an SNQ must be repeated with any *replacement* detailed explanation that corresponds to the proposed rejection or statement identifying an SNQ, in any paper containing a replacement statement and explanation under 37 CFR 1.510(b)(1) and (2).

In addition, the requester should include an explanation of *how the SNQ is raised.*

1. Assume that claim 1 of the patent recites, as one of the limitations, widget W. Requester would state that the XYZ reference, cited in the information disclosure statement, contains a teaching of widget W as recited in claim 1, and that this teaching was not present during the prior examination of the patent under reexamination (i.e., the teaching is "new"). Requester would also state that he believes that a reasonable examiner would consider this teaching important in determining whether or not the claims are patentable. For this reason, requester would state that this teaching by the XYZ reference raises a substantial new question of patentability (SNQ) with respect to at least claim 1 of the patent. Similarly, if dependent claim 6 adds widget H, the requester would state that the ABC reference, cited in the information disclosure statement, contains a teaching of widget H as recited in claim 6, that this teaching was not present during the prior concluded examination of the patent, that a reasonable examiner would consider this teaching important in determining whether or not the claims are patentable, and that this teaching raises an SNQ with respect to dependent claim 6 of the patent.

2. Assume that claim 1 of the patent recites, as one of its limitations, limitation W. Assume either that reference XYZ was applied in a rejection during the prior examination of the patent, or that the teachings of reference XYZ are purely cumulative to a reference cited in a rejection during the prior examination of the patent. Assume further that reference ABC teaches that limitation W would have been either inherent given the teachings of reference XYZ, or would have been obvious in view of the combination of XYZ and ABC. Reference ABC was cited in an information disclosure statement but was never discussed or applied in a rejection ***in combination with the XYZ reference*** during the prior examination of the patent under reexamination. **Requester would state** that reference XYZ was present during the prior examination of the patent under reexamination because it was applied in a rejection during the prosecution of the patent, and that reference ABC was cited in an information disclosure statement but never applied in a rejection (or never discussed), **in combination with the XYZ reference** during the prior examination of the patent under reexamination Requester would then state (1) that the ***combination*** of the XYZ reference and the ABC reference, both of which are cited in the information disclosure statement, contains a teaching of limitation W as recited in claim 1, (2) that this teaching provided by the **combination** of the XYZ and ABC references was not present during the prior examination of the patent under reexamination, (3) that a reasonable examiner would consider this teaching important in determining whether or not the claims are patentable, and (4) that this teaching raises an SNQ with respect to claim 1 of the patent.

Example of a Detailed Explanation

Assume, for example, that a requester believes that the XYZ reference, alone, anticipates claims 1-5. The requester would expressly propose a rejection of claims 1-5 under 35 USC 102(b) as being anticipated by the XYZ reference. In a claim chart, the requester would then show how **each limitation** of claims 1-5 is anticipated by the XYZ reference. If the requester believes that the XYZ reference, in view of the ABC reference, renders obvious claims 6-10, the requester would expressly propose a rejection of claims 6-10 under 35 USC 103 as being obvious over the XYZ reference in view of the ABC reference. In a claim chart, the requester would then show which limitations of claims 6-10 are taught by the XYZ reference, and which limitations of claims 6-10 are taught by the ABC reference. The requester should quote each pertinent teaching in the prior art reference, referencing each quote by page, column and line number, and any relevant figure numbers.

A **patent owner**, when filing a request for reexamination in an *ex parte* reexamination proceeding, may satisfy the requirement under 37 CFR 1.510(b) for supplying a detailed explanation by comparing, limitation-by-limitation, the claim(s) under reexamination with the teachings of each reference cited in the information disclosure statement and in the statement pointing out an SNQ. Each limitation of the claim(s) must be separately discussed. For each claim limitation, the patent owner must do one of the following: (a) show how at least one reference teaches or suggests the limitation, (b) admit that the limitation is "old", or (c) state that the limitation is believed to be missing from the reference. In a claim chart, the patent owner should quote each pertinent teaching in the prior art reference,

referencing each quote by page, column and line number, and any relevant figure numbers. Proposed applications of the cited references and/or proposed combinations of the cited references should separately identified. The patent owner is not required to

expressly propose a rejection of the claim(s) or provide a statement of why the claim(s) under reexamination would have been obvious over a proposed reference combination.

REPLACEMENT DOCUMENTS

If the originally-filed PTO/SB/08 (former PTO-1449) or its equivalent lists patents or printed publications that are NOT discussed in at least one proposed rejection or statement identifying an SNQ AND in the corresponding detailed explanation **in the originally-filed request**, the requester may file a paper containing a **replacement PTO/SB/08 (former PTO-1449) or its equivalent** listing **ONLY** those patents and printed publications that are so discussed. The replacement PTO/SB/08 or its equivalent should include a cover letter expressly withdrawing from the request any formerly cited references that are now being omitted by the replacement PTO/SB/08 or its equivalent. Similarly, if **any patent or printed publication discussed** in at least one proposed rejection or statement identifying an SNQ AND in the corresponding detailed explanation **in the originally-filed request is not listed in the originally-filed PTO/SB/08 (former PTO-1449)** or its equivalent, the requester must file a **replacement PTO/SB/08 (former PTO-1449)** or its equivalent listing all of the patents and printed publications, including the previously omitted reference(s), and provide copies of the missing references if copies were not provided with the originally-filed request

If a copy of a patent, printed publication, or an English-language translation of a patent or printed publication, that is cited in the PTO/SB/08 (former PTO-1449) or its equivalent, is illegible, missing, or incomplete (i.e., it does not contain all of the pages indicated in the PTO/SB/08 (former PTO-1449) or its equivalent), a replacement copy of the patent or printed publication is required.

If a copy of any disclaimer, certificate of correction, or reexamination certificate issued in the patent, or a copy of the entire patent for which reexamination is requested as described in item #6, is missing, or if the copy that was received by the Office was illegible or incomplete, a replacement document (i.e., a replacement copy of the disclaimer, certificate of correction, reexamination certificate, or entire patent under reexamination as described in item #6) is required.

If the requester fails to correctly identify the patent number or the claims for which reexamination is requested on the transmittal form for the request (PTO/SB/57, or an equivalent) as described in item #2, and the patent number and the claims for which reexamination is requested are correctly identified in the originally-filed request, a **replacement transmittal form** is required.

If a certificate of service on the patent owner, as described in item #7, is missing, or if the certificate of service received by the Office is inaccurate or incomplete, a replacement certificate of service is required.

Replacement documents may be facsimile transmitted. A paper containing a replacement statement and explanation may NOT be facsimile transmitted.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Smith et al.	)
	)
Patent No. 7,241,034	) Atty. Docket No.: SVIPGP109RE
	)
ISSUE DATE: 07/10/2007	)
	)
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 07/09/2010
	)

SUBSTITUTE REQUEST FOR *EX PARTE*
REEXAMINATION OF U.S. PATENT NO. 7,241,034

Mail Stop *Ex Parte* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir or Madam:

This substitute request is in response to the Notice of Failure to Comply with *Ex Parte* Reexamination Request Filing Requirements, mailed on 06/23/10. *Ex Parte* reexamination under 35 U.S.C. §§301 - 303 and 37 C.F.R. 1.510 is requested of United States Patent No. 7,241,034, which issued on 07/10/2007 to James E. Smith ("Smith"), from an application filed on 10/31/2002.

(1) Statement pointing out substantial new question of patentability based on prior patents and printed publications.

A substantial new question of patentability is presented by the following printed publication, U.S. Patent No. 4,733,333 by Shibata, filed 09-29-1986, titled "Cornering Lamp System for Vehicle" ("Shibata"). Regarding Claims 1 and 3, Shibata was not of record in the Smith file.

Shibata teaches a "cornering lamp system for a vehicle which changes direction of the headlamps." Shibata, Abstract (emphasis added). Shibata further teaches that the directional control is automatic. *See*, *e.g.*, Shibata, Col. 11, lines 35-52.

In addition, Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal." Shibata, Col. 11, lines 35-40 (emphasis added). Additionally, Shibata teaches "decoders/drivers 84 and 85 which input a count value output from the UP/DOWN counter 83, thus allowing only the level of an output terminal at a position corresponding to the count value to be set to '0'" and that "when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals from which a signal of '0' is output to output the signal from the output terminals 84i and 85i." Shibata, Col. 11, lines 35-52 (emphasis added). Thus, Shibata's decoder/driver (controller) is responsive to the steering angle sensor, and further outputs a signal only when said sensor signal changes by more than a predetermined minimum threshold amount, by forcing the counter to be a certain value before providing an output.

In addition, Shibata teaches "there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp." Shibata, Col. 15, lines 57-65 (emphasis added). By using the threshold (*i.e.*, the counter value), Shibata ensures that there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp. This prevents the Shibata actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition.

Shibata also teaches "[t]he headlamps are moved in discrete steps by use of a stepper motor." Shibata, Abstract (emphasis added). As shown in the figures from Shibata, the stepper motor is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal. *See* Shibata, Figs. 1A, 1B, and 3. Additionally, Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal." Shibata, Col. 11, lines 35-40 (emphasis added).

Because this disclosure of Shibata provides subject matter of the pending claims that was not disclosed in any of the prior art cited during the prosecution of the Smith patent, and a reasonable Examiner would consider this subject matter important in determining whether the claims are patentable, this technological disclosure of Shibata raises a substantial new question of patentability.

(2) Claims for which reexamination is requested, and Detailed Explanation of pertinency and manner of applying prior art to each claim.

The following is a detailed explanation of the pertinency and manner of applying the cited prior art to every claim for which reexamination is requested. The following discussion is believed to be adequate because no *prima facie* case of unpatentability need be found in order to grant an order for rexexamination, only a substantial new question of patentability. *See* M.P.E.P. §2240.

Requestor hereby requests reexamination of Claims 1 and 3 of U.S. Patent No. 7,241,034 (Smith) in view of the attached prior art document, Shibata and in view of the attached Claim Analysis Chart (Exhibit A). Shibata was not of record in Smith. Moreover, as described above, Shibata is not duplicative of the prior art applied during the prosecution of Smith. In addition, Shibata is closer to the technological subject matter of Smith than any prior art that was cited or applied during the prosecution of Smith. Requestor asserts that Shibata raises a substantial new question of patentability under 35 U.S.C. §102(b), not previously presented in the prosecution of the issued patent, because Shibata teaches all of the limitations of Claim 1 and Claim 3. Requestor has attached a Claim Analysis Chart as Exhibit A. Exhibit A shows specifically where each limitation of each of Claims 1 and 3 is found in Shibata, along with an explanation of

how the prior art meets all the recited limitations. In addition to Exhibit A, Requestor presents the following discussion of certain highly pertinent applications of Shibata to the Smith claims.

Claim 1

With respect to Claim 1, and as shown in Exhibit A, Shibata teaches a "cornering lamp system for a vehicle which changes direction of the headlamps." Shibata, Abstract (emphasis added). This teaching meets Smith's claimed "automatic directional control system for a vehicle headlight." Smith, Claim 1, (emphasis added). Shibata further teaches that the directional control is automatic. *See*, *e.g.*, Shibata, Col. 11, lines 35-52.

In addition, Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal." Shibata, Col. 11, lines 35-40 (emphasis added). This teaching meets Smith's claimed "sensor that is adapted to generate a signal that is representative of a condition of the vehicle, said sensed condition includes one or more of road speed, steering angle, pitch, and suspension height of the vehicle." Smith, Claim 1, (emphasis added). Because Smith claims "one or more of," the Shibata reference meets the aforementioned claim limitation by teaching that the sensed condition includes a steering angle.

Additionally, Shibata teaches 'decoders/drivers 84 and 85 which input a count value output from the UP/DOWN counter 83, thus allowing only the level of an output terminal at a position corresponding to the count value to be set to "0"' and that "when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals from which a signal of "0" is output to output the signal from the output terminals 84i and 85i." Shibata, Col. 11, line 35-52 (emphasis added). This teaching meets Smith's claimed "controller that is responsive to said sensor signal for generating an output signal only when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition." Smith, Claim 1, (emphasis added).

Shibata's decoder/driver (controller) is responsive to the steering angle sensor, and further outputs a signal only when said sensor signal changes by more than a predetermined minimum threshold amount, by forcing the counter to be a certain value before providing an output. In addition, Shibata teaches "there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp." Shibata, Col. 15, lines 57-65 (emphasis added). This teaching meets Smith's claimed "prevent[ing] said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition." Smith, Claim 1, (emphasis added). By using the threshold (*i.e.*, the counter value), Shibata ensures that there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp. This prevents the actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition.

Shibata teaches "[t]he headlamps are moved in discrete steps by use of a stepper motor." Shibata, Abstract (emphasis added). This teaching meets Smith's claimed "actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal." Smith, Claim 1, (emphasis added). As shown in the figures from Shibata, the stepper motor is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal. See Shibata, Figs. 1A, 1B, and 3.

Accordingly, Shibata teaches all of the limitations of Claim 1.

Claim 3

As shown in Exhibit A, Shibata teaches all of the limitations of Claim 1 of Smith and all of the limitations of Claim 3 of Smith. Specifically, Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal." Shibata, Col. 11, lines 35-40 (emphasis added). This teaching meets Smith's claimed "automatic directional control system defined in claim 1 wherein said sensor generates a signal that is representative of the steering angle of the vehicle." Smith, Claim 3, (emphasis added).

Accordingly, Shibata teaches all of the limitations of Claim 1 and Claim 3. Thus, Requestor asserts that Claims 1 and 3 are considered to be anticipated by Shibata under 35 U.S.C. §102(b).

(3) Copy of patents and printed publications relied upon.

A copy of every patent relied upon or referred to in sections (1) through (2) of this request is attached. In this case, there is but one patent, Shibata.

(4) Copy of the entire patent for which reexamination is requested.

A copy of Smith is attached.

(5) Certificate of service.

A certificate of service is not required.

CONCLUSION

Based on the above discussion and attached exhibits, Requestor respectfully asserts that all elements of Claims 1 and 3 are anticipated under 35 U.S.C. §102(b) in view of the prior art as set forth herein. Accordingly, and in view of the substantial new question of patentability set forth herein, Requestor respectfully requests that the United States Patent and Trademark Office enter an order granting *ex parte* reexamination of U.S. Patent No. 7,241,034.

Respectfully submitted,

Dated: 9 Jul 2010
The Caldwell Firm, LLC
PO Box 59655

Patrick E. Caldwell, Esq.
Reg. No. 44,580

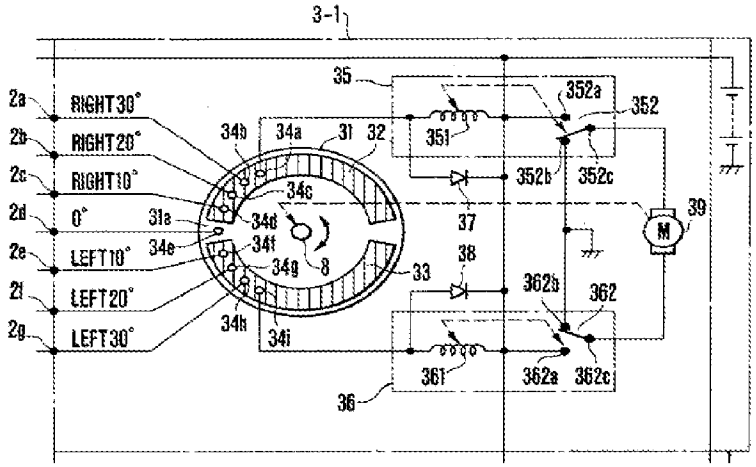
Dallas, Texas 75229-0655
Telephone: (972) 243-4523
pcaldwell@thecaldwellfirm.com

Exhibit A – 4,733,333 (Shibata)

U.S. Patent No. 7,241,034	**4,733,333 (Shibata)**
1. An automatic directional control system for a vehicle headlight comprising:	"A cornering lamp system for a vehicle which changes direction of the headlamps in conjunction with the operation of the vehicle's steering mechanism" (Abstract – emphasis added). Shibata teaches a "cornering lamp system for a vehicle which changes direction of the headlamps," which meets applicant's claimed "automatic directional control system for a vehicle headlight." Summary [cornering lamp system for a vehicle which changes direction of the headlamps (Shibata) = automatic directional control system for a vehicle (Smith)]
a sensor that is adapted to generate a signal that is representative of a condition of the vehicle, said sensed condition includes one or more of road speed, steering angle, pitch, and suspension height of the vehicle;	"The cornering lamp system in this embodiment includes a steering wheel rotation angle sensor 81 which output an electric signal comprising a pulse train having "1" and "0" pulses by turns in cooperation with the steering operation of the steering wheel" (Col. 11, lines 35-40 – emphasis added). Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal," which meets applicant's claimed "sensor that is adapted to generate a signal that is representative of a condition of the vehicle, said sensed condition includes one or more of road speed, steering angle, pitch, and suspension height of the vehicle" (emphasis added). Summary [steering wheel rotation angle sensor 81 which output an electric signal (Shibata) = sensor that is adapted to generate a signal (Smith)] [steering wheel rotation angle sensor 81 which output an electric signal (Shibata) = sensed condition includes one or more of … steering angle (Smith)]
a controller that is responsive to said sensor signal for generating an	"The cornering lamp system in this embodiment includes a steering wheel rotation angle sensor 81 which output an electric signal comprising a pulse

output signal only when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition;	train having "1" and "0" pulses by turns in cooperation with the steering operation of the steering wheel, an UP/DOWN switching circuit 82 which inputs the pulse like electric signal output from the steering wheel rotation angle sensor 81 to output an up signal and a down signal proportional to the angular displacement of the steering wheel from output terminals 82a and 82b, an UP/DOWN counter 83 which inputs the up and down signal output from the UP/DOWN [switching] circuit 82 to count up or down by the number of the up signal or the down signal thus input, and decoders/drivers 84 and 85 which input a count value output from the UP/DOWN counter 83, thus allowing only the level of an output terminal at a position corresponding to the count value to be set to "0". " (Col. 11, line 35-52 - emphasis added). "Now, when the steering wheel is rotated clockwise from such a condition, thus to initiate the right steering operation, the steering wheel rotation angle sensor 81 begins outputting a pulse like electric signal. As a result, an up signal corresponding to the steering amount of the steering wheel is input to the UP/DOWN counter 83 through the UP/DOWN switching circuit 82. Thus, the UP/DOWN counter 83 begins counting up from zero one by one. Then, when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals from which a signal of "0" is output to output the signal from the output terminals 84i and 85i." (Col. 13, line 35-48 - emphasis added) "The steering wheel has a play there may often happen the phenomena that such count down and up operations occur by. This is known in the art as the so called chattering phenomenon. However, according to the cornering lamp system in the present embodiment, even if such a chattering phenomenon would occur, there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp." (Col. 15, lines 57-65 - emphasis added) Shibata teaches 'decoders/drivers 84 and 85 which input a count

	value output from the UP/DOWN counter 83, thus allowing only the level of an output terminal at a position corresponding to the count value to be set to "0"' and that "when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals from which a signal of "0" is output to output the signal from the output terminals 84i and 85i," which meets applicant's claimed "controller that is responsive to said sensor signal for generating an output signal only when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition" (emphasis added). In addition, Shibata teaches "there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp" which meets applicant's claimed "prevent[ing] said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition" (emphasis added). [decoders/drivers 84 and 85 (Shibata) = controller (Smith)] [when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals (Shibata) = controller that is responsive to said sensor signal for generating an output signal only when said sensor signal changes by more than a predetermined minimum threshold amount (Smith)]
and an actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal.	"The headlamps are moved in discrete steps by use of a stepper motor." (Abstract - emphasis added)

	See item 39 of Fig. 6C  Shibata teaches "[t]he headlamps are moved in discrete steps by use of a stepper motor," which meets applicant's claimed "actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal" (emphasis added). Figure 6C from Shibata shows motor 39 connect to the headlight. Smith teaches that "[t]he actuators 12 and 13 are conventional in the art and may, for example, be embodied as servo motors, step motors, or any other electronically controlled mechanical actuators" (Col. 3, lines 28-31 – emphasis added). Accordingly, Shibata teaches applicant's claimed "actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal" (emphasis added).

3. The automatic directional control system defined in claim 1	See Claim 1 chart above.
wherein said sensor generates a signal that is representative of the steering angle of the vehicle.	"The cornering lamp system in this embodiment includes a steering wheel rotation angle sensor 81 which output an electric signal comprising a pulse train having "1" and "0" pulses by turns in cooperation with the steering operation of the steering wheel" (Col. 11, lines 35-40 – emphasis added). Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal," which meets applicant's claimed "said sensor generates a signal that is representative of the

	steering angle of the vehicle" (emphasis added). [steering wheel rotation angle sensor 81 which output an electric signal (Shibata) = sensor generates a signal that is representative of the steering angle of the vehicle (Smith)]

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(12) **United States Patent**
Smith et al.

(10) **Patent No.: US 7,241,034 B2**
(45) **Date of Patent: Jul. 10, 2007**

(54) **AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS**

(75) Inventors: **James E. Smith**, Berkey, OH (US); **Anthony B. McDonald**, Perrysburg, OH (US)

(73) Assignee: **Dana Corporation**, Toledo, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/285,312**

(22) Filed: **Oct. 31, 2002**

(65) **Prior Publication Data**

US 2003/0107898 A1 Jun. 12, 2003

Related U.S. Application Data

(60) Provisional application No. 60/369,447, filed on Apr. 2, 2002, provisional application No. 60/356,703, filed on Feb. 13, 2002, provisional application No. 60/335,409, filed on Oct. 31, 2001.

(51) **Int. Cl.**
B60Q 1/00 (2006.01)
B60R 22/00 (2006.01)

(52) **U.S. Cl.** **362/465**; 701/49

(58) **Field of Classification Search** 362/37, 362/465–466; 315/82; 701/49
See application file for complete search history.

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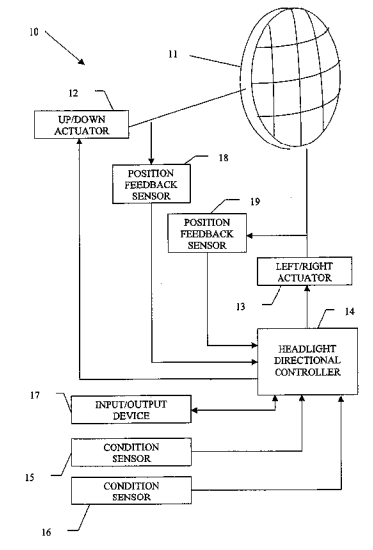
Primary Examiner—Ali Alavi
(74) *Attorney, Agent, or Firm*—MacMillan, Sobanski & Todd, LLC

(57) **ABSTRACT**

A structure and method for operating a directional control system for vehicle headlights that is capable of altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. One or more operating condition sensors may be provided that generate signals that are representative of a condition of the vehicle, such as road speed, steering angle, pitch, suspension height, rate of change of road speed, rate of change of steering angle, rate of change of pitch, and rate of change of suspension height of the vehicle. A controller is responsive to the sensor signal for generating an output signal. An actuator is adapted to be connected to the headlight to effect movement thereof in accordance with the output signal. The controller can include a table that relates values of sensed operating condition to values of the output signal. The controller is responsive to the sensor signal for looking up the output signal in the table.

5 Claims, 7 Drawing Sheets



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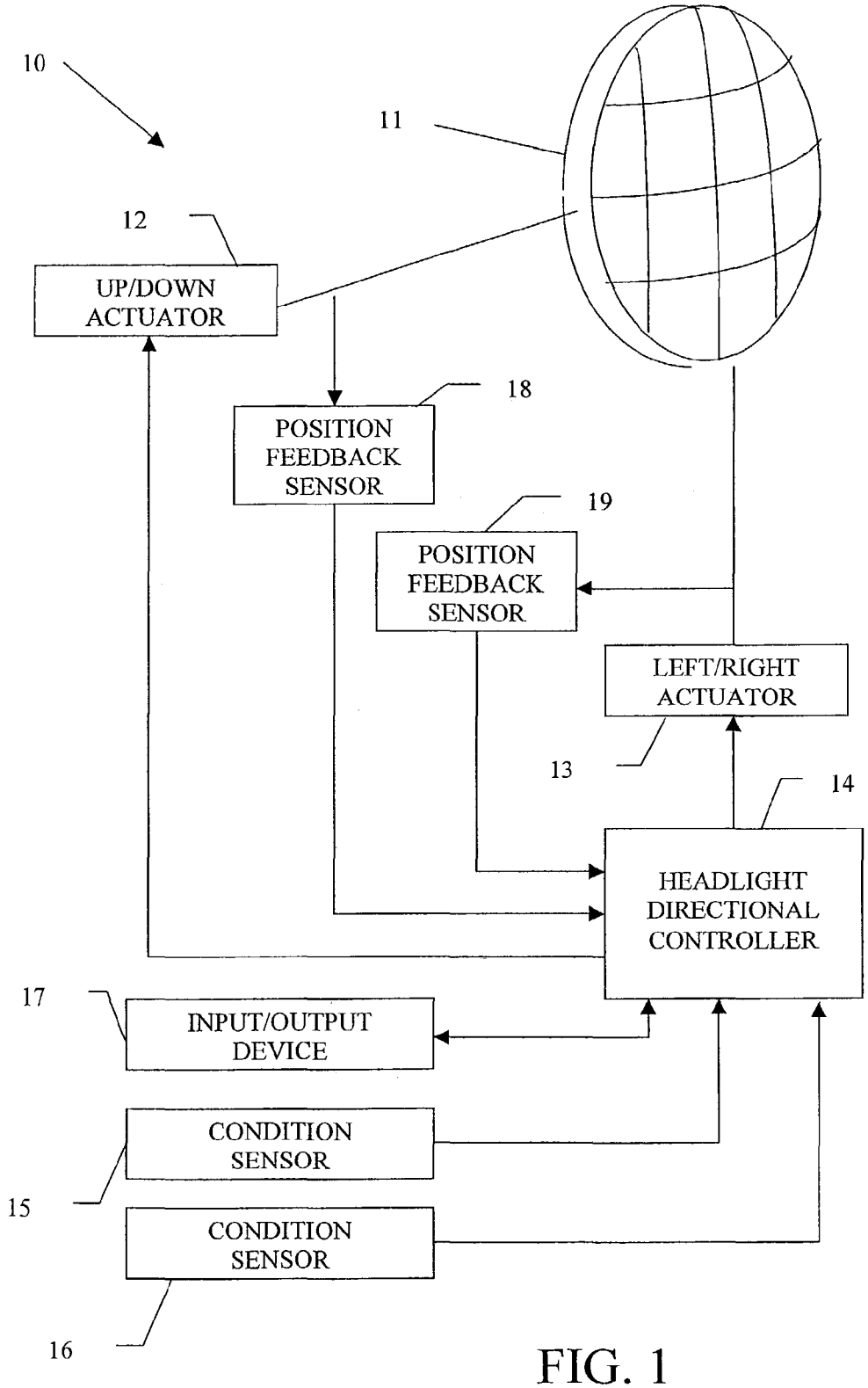

10
11
12
UP/DOWN ACTUATOR
18
POSITION FEEDBACK SENSOR
19
POSITION FEEDBACK SENSOR
LEFT/RIGHT ACTUATOR
13
14
HEADLIGHT DIRECTIONAL CONTROLLER
17
INPUT/OUTPUT DEVICE
CONDITION SENSOR
15
CONDITION SENSOR
16

FIG. 1

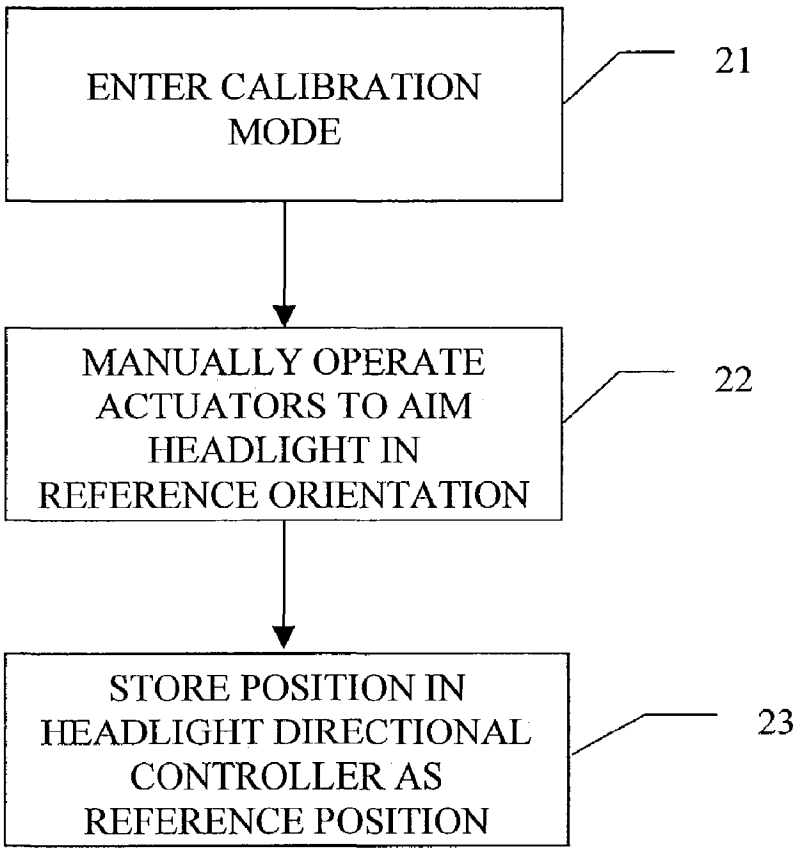

ENTER CALIBRATION MODE
21
20
MANUALLY OPERATE ACTUATORS TO AIM HEADLIGHT IN REFERENCE ORIENTATION
22
STORE POSITION IN HEADLIGHT DIRECTIONAL CONTROLLER AS REFERENCE POSITION
23

FIG. 2

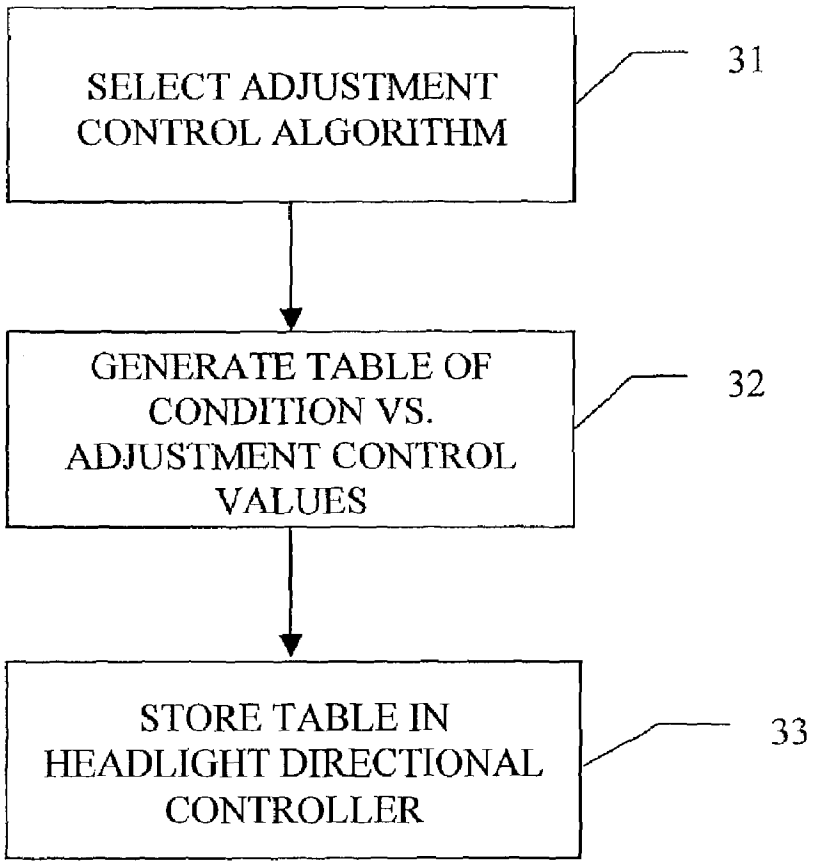
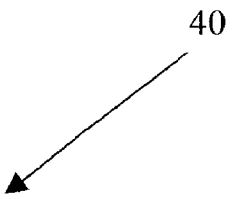

SELECT ADJUSTMENT CONTROL ALGORITHM
31
30
GENERATE TABLE OF CONDITION VS. ADJUSTMENT CONTROL VALUES
32
STORE TABLE IN HEADLIGHT DIRECTIONAL CONTROLLER
33

FIG. 3



SENSED CONDITION (STEERING ANGLE) VALUES	UP/DOWN ADJUSTMENT FACTORS	LEFT/RIGHT ADJUSTMENT FACTORS
+6°	-3.00°	+4.50°
+5°	-2.50°	+3.75°
+4°	-2.00°	+3.00°
+3°	-1.50°	+2.25°
+2°	-1.00°	+1.50°
+1°	-0.50°	+0.75°
0°	0.00°	0.00°
-1°	-0.50°	-0.75°
-2°	-1.00°	-1.50°
-3°	-1.50°	-2.25°
-4°	-2.00°	-3.00°
-5°	-2.50°	-3.75°
-6°	-3.00°	-4.50°

FIG. 4

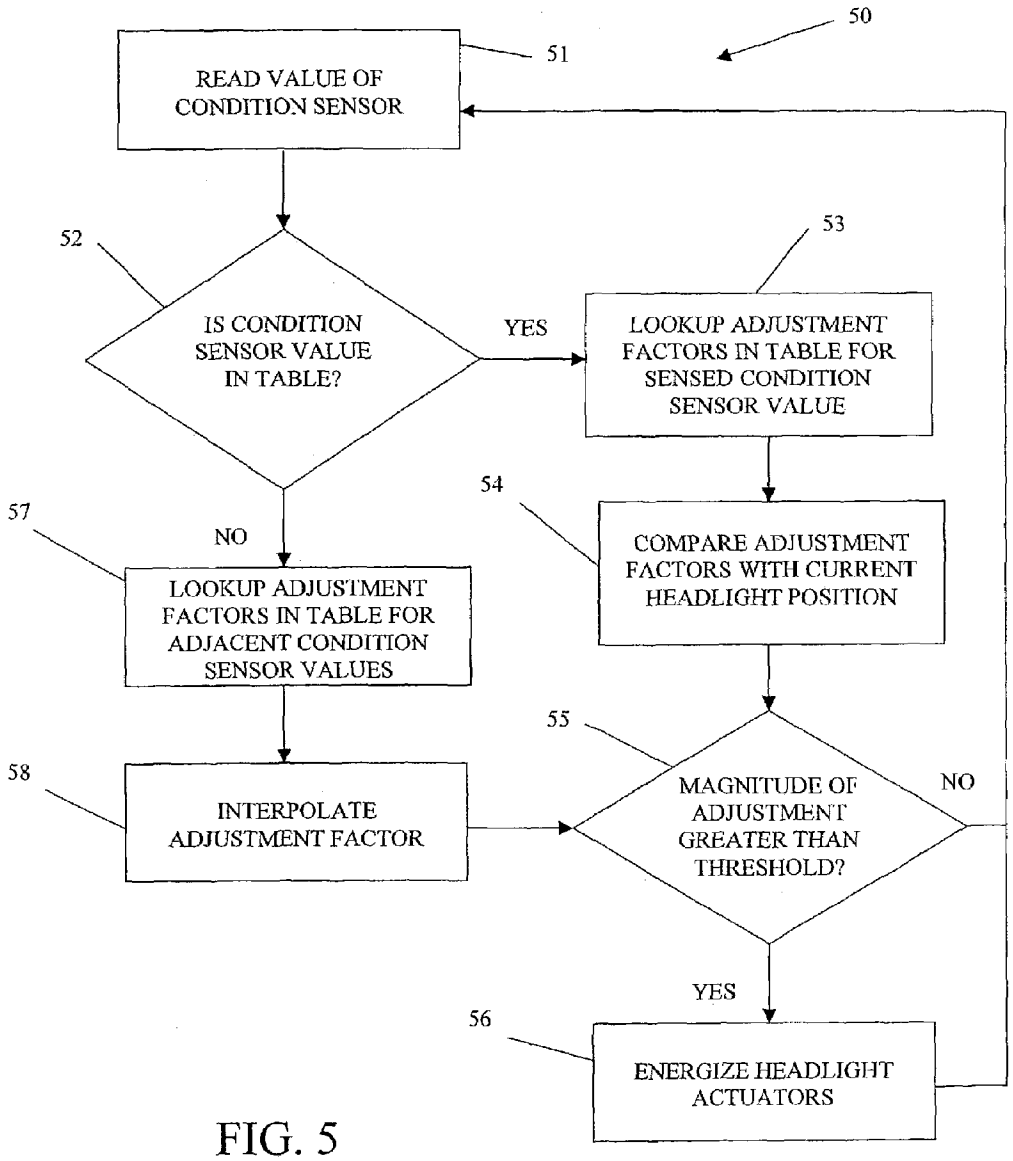

50
READ VALUE OF CONDITION SENSOR
51
IS CONDITION SENSOR VALUE IN TABLE?
52
YES
LOOKUP ADJUSTMENT FACTORS IN TABLE FOR SENSED CONDITION SENSOR VALUE
53
NO
LOOKUP ADJUSTMENT FACTORS IN TABLE FOR ADJACENT CONDITION SENSOR VALUES
57
COMPARE ADJUSTMENT FACTORS WITH CURRENT HEADLIGHT POSITION
54
INTERPOLATE ADJUSTMENT FACTOR
58
MAGNITUDE OF ADJUSTMENT GREATER THAN THRESHOLD?
55
NO
YES
ENERGIZE HEADLIGHT ACTUATORS
56

FIG. 5

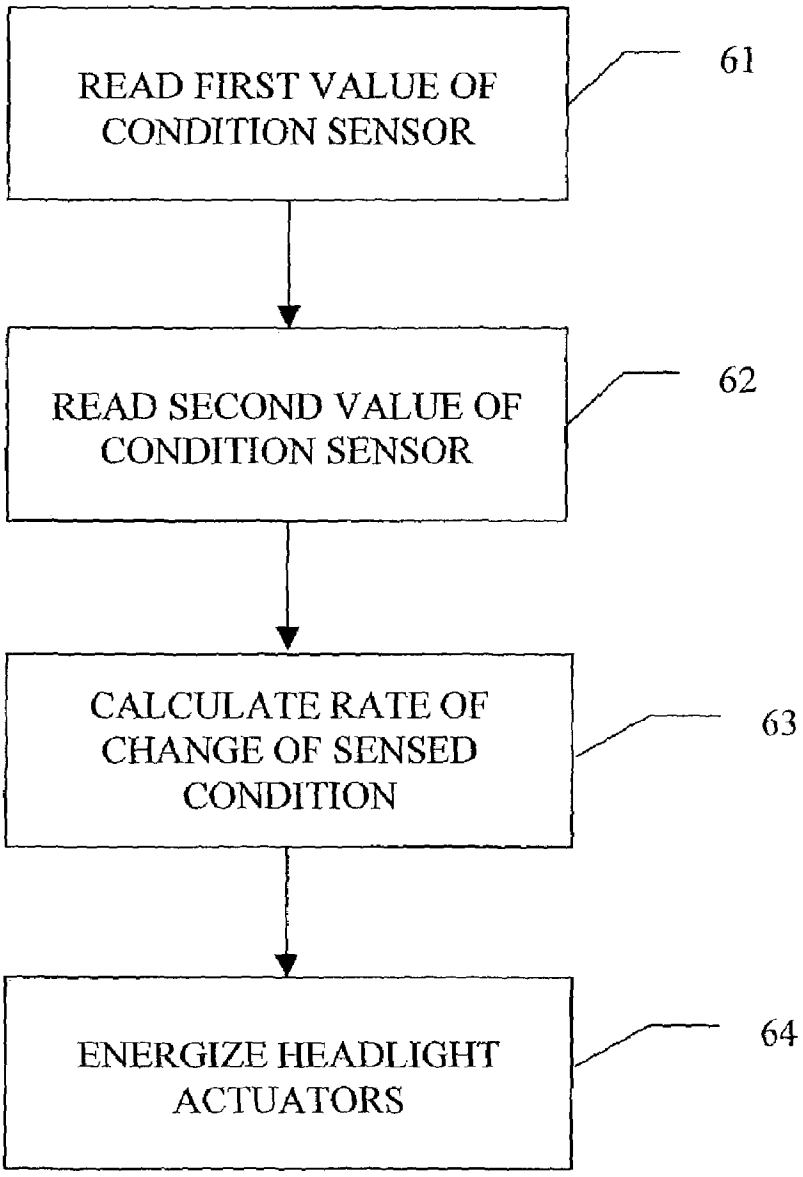

READ FIRST VALUE OF CONDITION SENSOR
61
60
READ SECOND VALUE OF CONDITION SENSOR
62
CALCULATE RATE OF CHANGE OF SENSED CONDITION
63
ENERGIZE HEADLIGHT ACTUATORS
64

FIG. 6

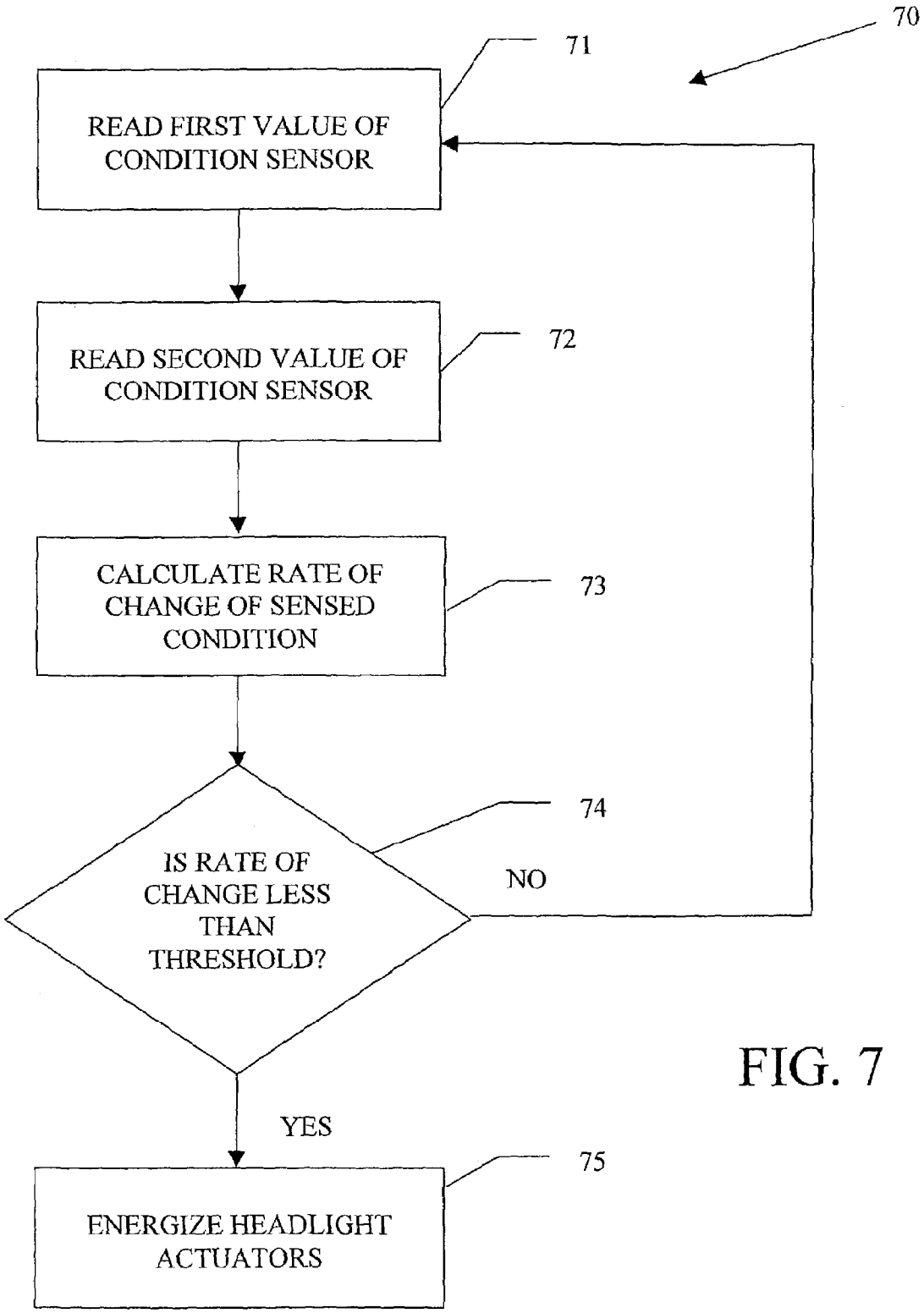

70
71
READ FIRST VALUE OF CONDITION SENSOR
72
READ SECOND VALUE OF CONDITION SENSOR
73
CALCULATE RATE OF CHANGE OF SENSED CONDITION
74
IS RATE OF CHANGE LESS THAN THRESHOLD?
NO
YES
75
ENERGIZE HEADLIGHT ACTUATORS

FIG. 7

AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application Nos. 60/335,409, filed Oct. 31, 2001; 60/356,703, filed Feb. 13, 2002; and 60/369,447, filed Apr. 2, 2002, the disclosures of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

This invention relates in general to headlights that are provided on vehicles for illuminating dark road surfaces or other areas in the path of movement. In particular, this invention relates to an automatic directional control system for such vehicle headlights.

Virtually all land vehicles, and many other types of vehicles (such as boats and airplanes, for example), are provided with one or more headlights that are adapted to illuminate a portion of a dark road surface or other area in the path of movement of the vehicle to facilitate safe travel thereon. Typically, each headlight is mounted on or near the front end of the vehicle and is oriented in such a manner that a beam of light is projected forwardly therefrom. The angle at which the beam of light projects from the headlight can, for example, be characterized in a variety of ways, including (1) up and down relative to a horizontal reference position or plane and (2) left and right relative to a vertical reference position or plane. Such directional aiming angles are usually set at the time of assembly of the headlight into the vehicle so as to illuminate a predetermined portion of the road surface or other area in the path of movement of the vehicle.

In the past, these headlights have been mounted on the vehicle in fixed positions relative thereto such that the beams of light are projected therefrom at predetermined directional aiming angles relative to the vehicle. Although such fixed aiming angle headlight systems have and continue to function adequately, they cannot alter the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. For example, if the speed of the vehicle is increased, it would be desirable to adjust the aiming angle of the headlights upwardly such that an area that is somewhat farther in front of the vehicle is more brightly illuminated. On the other hand, if the speed of the vehicle is decreased, it would be desirable to adjust the aiming angle of the headlights downwardly such that an area that is somewhat closer in front of the vehicle is more brightly illuminated. Similarly, if the vehicle turns a corner, it would be desirable to adjust the aiming angle of the headlights either toward the left or toward the right (depending on the direction of the turn) such that an area that is somewhat lateral to the front of the vehicle is more brightly illuminated.

To accomplish this, it is known to provide a directional control system for vehicle headlights that is capable of automatically altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. A variety of such automatic directional control systems for vehicle headlights are known in the art. However, such known automatic headlight directional control systems have been found to be deficient for various reasons. Thus, it would be desirable to provide an improved structure for an automatic headlight directional control system that addresses such deficiencies.

SUMMARY OF THE INVENTION

This invention relates to an improved structure and method for operating a directional control system for vehicle headlights that is capable of automatically altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. One or more operating condition sensors may be provided that generate signals that are representative of an operating condition of the vehicle, such as road speed, steering angle, pitch, suspension height, rate of change of road speed, rate of change of steering angle, rate of change of pitch, and rate of change of suspension height of the vehicle. A controller is responsive to the sensor signal for generating an output signal. An actuator is adapted to be connected to the headlight to effect movement thereof in accordance with the output signal. The controller can include a table that relates values of sensed operating condition to values of the output signal. The controller is responsive to the sensor signal for looking up the output signal in the table.

Various objects and advantages of this invention will become apparent to those skilled in the art from the following detailed description of the preferred embodiments, when read in light of the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of an automatic directional control system for a vehicle headlight in accordance with this invention.

FIG. **2** is a flow chart of an algorithm for calibrating the automatic directional control system illustrated in FIG. **1** so as to define an initial reference position for the headlight from which the headlight directional controller can implement directional angle adjustments.

FIG. **3** is a flow chart of an algorithm for generating a table that relates one or more sensed vehicle operating condition values to one or more headlight directional angle adjustment factors and for storing such table in the headlight directional controller illustrated in FIG. **1**.

FIG. **4** is an example of a table that can be generated and stored in the headlight directional controller in accordance with the table generating algorithm illustrated in FIG. **3**.

FIG. **5** is a flow chart of an algorithm for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with sensed condition values.

FIG. **6** is a flow chart of an algorithm for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with the rate of change of one or more of the sensed condition values.

FIG. **7** is a flow chart of an algorithm for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments, but only when the rate of change of one or more of the sensed condition values is less than (or greater than) a predetermined value.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, there is illustrated in FIG. **1** an automatic directional control system, indicated generally at **10**, for a vehicle headlight **11** in accordance with this invention. The illustrated headlight **11** is, of itself, conventional in the art and is intended to be representative of any

device that can be supported on any type of vehicle for the purpose of illuminating any area, such as an area in the path of movement of the vehicle. The headlight **11** is typically mounted on or near the front end of a vehicle (not shown) and is oriented in such a manner that a beam of light is projected therefrom. In a manner that is well known in the art, the headlight **11** is adapted to illuminate a portion of a dark road surface or other area in the path of movement of the vehicle to facilitate safe travel thereon.

The headlight **11** is adjustably mounted on the vehicle such that the directional orientation at which the beam of light projects therefrom can be adjusted relative to the vehicle. Any desired mounting structure can be provided to accomplish this. Typically, the headlight **11** is mounted on the vehicle such that the angle at which the beam of light projects therefrom can be adjusted both (1) up and down relative to a horizontal reference position or plane and (2) left and right relative to a vertical reference position or plane. Although this invention will be described and illustrated in the context of a headlight that is adjustable in both the up/down direction and the left/right direction, it will be appreciated that this invention may be practiced with any headlight **11** that is adjustable in any single direction or multiple directions of movement, whether up/down, left/right, or any other direction.

To effect movement of the illustrated headlight **11** relative to the vehicle, an up/down actuator **12** and a left/right actuator **13** are provided. The actuators **12** and **13** are conventional in the art and may, for example, be embodied as servo motors, step motors, or any other electronically controlled mechanical actuators. It has been found to be desirable to use microstepping motors for the actuators **12** and **13**. Such microstepping motors are known in the art and consist of conventional step motors that have appropriate hardware (i.e., driver integrated circuits) and software that allow the step motors to be operated in fractional step increments. The use of such microstepping motors has been found to be desirable because they can effect movements of the headlights in a somewhat faster, smoother, and quieter manner than conventional step motors, and further permit more precise positioning of the headlights **11**. In the illustrated embodiment, the up/down actuator **12** is mechanically connected to the headlight **11** such that the headlight **11** can be selectively adjusted up and down relative to a horizontal reference position or plane. Similarly, the illustrated left/right actuator **13** is mechanically connected to the headlight **11** such that the headlight **11** can be selectively adjusted left and right relative to a vertical reference position or plane.

A headlight directional controller **14** is provided for controlling the operations of the up/down actuator **12** and the left/right actuator **13** and, therefore, the angle at which the beam of light projects from the headlight **11** relative to the vehicle. The headlight directional controller **14** can be embodied as any control system, such as a microprocessor or programmable electronic controller, that is responsive to one or more sensed operating conditions of the vehicle for selectively operating the up/down actuator **12** and the left/right actuator **13**. To accomplish this, the automatic directional control system **10** can include, for example, a pair of condition sensors **15** and **16** that are connected to the headlight directional controller **14**. The condition sensors **15** and **16** are conventional in the art and are responsive to respective sensed operating conditions of the vehicle for generating electrical signals to the headlight directional controller **14**. However, if desired, only a single one of the condition sensors **15** and **16** need be provided. Alternatively, additional condition sensors (not shown) may be provided if desired to generate electrical signals that are representative of any other operating conditions of the vehicle. A conventional input/output device **17** is connected to (or can be connected to) the headlight directional controller **14** for facilitating communication therewith in the manner described below.

If desired, a first position feedback sensor **18** may be provided for the up/down actuator **12**, and a second position feedback sensor **19** may be provided for the left/right actuator **13**. The position feedback sensors **18** and **19** are conventional in the art and are adapted to generate respective electrical signals that are representative of the actual up/down and left/right positions of the headlight **11**. Thus, the first position feedback sensor **18** is responsive to the actual up/down position of the headlight **11** (as determined by a portion of the up/down actuator **12**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. Similarly, the second position feedback sensor **19** is responsive to the actual left/right position of the headlight **11** (as determined by a portion of the left/right actuator **13**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. The position feedback sensors **18** and **19** can be embodied as any conventional sensor structures, such as Hall effect sensors, that are responsive to movements of the headlight **11** (or to the movements of the respective actuators **12** and **13** that are connected to move the headlight **11**) for generating such signals.

Alternatively, the position feedback sensors **18** and **19** can be embodied as respective devices that generate electrical signals whenever the headlight **11** has achieved respective predetermined up/down or left/right positions. This can be accomplished, for example, using a conventional optical interrupter (not shown) for each of the actuators **12** and **13**. Each of the optical interrupters includes a flag or other component that is mounted on or connected to the headlight **11** for movement therewith. Each of the optical interrupters further includes an optical source and sensor assembly. As the headlight **11** is moved by the actuators **12** and **13**, the flag moves therewith relative to the optical source and sensor assembly between a first position, wherein the flag permits light emitted from the source from reaching the sensor, and a second position, wherein the flag prevents light emitted from the source from reaching the sensor. When the flag is in the first position relative to the optical source and sensor assembly, the sensor is permitted to receive light emitted from the source. As a result, a first signal is generated from the optical source and sensor assembly to the headlight directional controller **14**. Conversely, when the flag is in the second position relative to the optical source and sensor assembly, the sensor is not permitted to receive light emitted from the source. As a result, a second signal is generated from the optical source and sensor assembly to the headlight directional controller **14**. Thus, the edge of the flag defines a transition between the first and second positions of the flag relative to the optical source and sensor assembly and, therefore, defines a predetermined up/down or left/right position of the headlight **11**. The nature of the signal generated from the optical source and sensor assembly to the headlight directional controller **14** (i.e., the first signal or the second signal) can also be used to determine on which side of the predetermined position (the left side or the right side, for example) that the headlight **11** is positioned. The purpose for such position feedback sensors **18** and **19** will be discussed below.

FIG. **2** is a flow chart of an algorithm, indicated generally at **20**, for calibrating the automatic directional control system illustrated in FIG. **1** so as to define an initial reference position or positions for the headlight **11** from which the headlight directional controller **14** can implement directional angle adjustments. As mentioned above, the headlight **11** is mounted on the vehicle such that the angle at which the beam of light projects therefrom can be adjusted both up and down relative to a horizontal reference position or plane and left and right relative to a vertical reference position or plane. To insure accurate positioning of the headlight **11**, it is desirable that a reference position or positions be initially established by the headlight directional controller **14**. Subsequent directional angle adjustments can be made by the headlight directional controller **14** from the pre-established reference position or positions established by this calibration algorithm **20**.

To accomplish this, the calibration algorithm **20** has a first step **21** wherein the headlight directional controller **14** is caused to enter a calibration mode of operation. In the calibration mode of operation, the headlight directional controller **14** is responsive to input signals from the input/output device **17** (or from another source, if desired) for causing manual operation of the up/down actuator **12** and the left/right actuator **13**. Thus, while the headlight directional controller **14** is in the calibration mode of operation, an operator of the input/output device **17** can manually effect either up/down movement of the headlight **11**, left/right movement of the headlight **11**, or both, as desired.

In a second step **22** of the calibration algorithm **20**, the up/down actuator **12** and the left/right actuator **13** are manually operated to aim the headlight **11** in a predetermined reference orientation. This can be accomplished by use of the input/output device **17** that, as mentioned above, is connected to (or can be connected to) the headlight directional controller **14**. Traditionally, the aiming of a headlight **11** has been accomplished by parking the vehicle on a surface near a wall or other vertical structure, providing a reference target at a predetermined location on the wall or other structure, and mechanically adjusting the mounting structure of the headlight **11** such that the center of the beam therefrom is projected at the reference target. In this invention, the vehicle is parked on a surface near a wall or other vertical structure, and a reference target is provided at a predetermined location on the wall or other structure, as described above. Next, in accordance with the second step **22** of this calibration algorithm **20**, the input/output device **17** is operated to generate electrical signals to the headlight directional controller **14**. In response to such electrical signals, the headlight directional controller **14** operates the up/down actuator **12** and the left/right actuator **13** to move the headlight **11** such that center of the beam projecting therefrom is aimed at the reference target. When the beam from the headlight **11** is so aimed, then the headlight **11** is determined to be oriented in the initial reference position from which the headlight directional controller **14** can subsequently implement directional angle adjustments.

In a third step **23** of the calibration algorithm **20**, once this initial reference position for the headlight **11** has been achieved, such position is stored in the headlight directional controller **14** as the predetermined initial reference position. This can be accomplished by means of the position feedback sensors **18** and **19**. As discussed above, the position feedback sensors **18** and **19** are adapted to generate respective electrical signals that are representative of the actual up/down and left/right positions of the headlight **11** or of the predetermined positions for the headlight. Thus, the first position feedback sensor **18** is responsive to the actual up/down position of the headlight **11** (as determined by the up/down actuator **12**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. Similarly, the second position feedback sensor **19** is responsive to the actual left/right position of the headlight **11** (as determined by the left/right actuator **13**, for example) for generating an electrical signal to the headlight directional controller **14** that is representative thereof. Accordingly, the third step **23** of the calibration algorithm **20** can be performed by causing the headlight directional controller **14** to read the signals from the position feedback sensors **18** and **19** and store the current up/down and left/right positions of the headlight **11** as the initial reference positions from which the headlight directional controller **14** can subsequently implement directional angle adjustments.

The current position of the headlight **11** is preferably stored in the non-volatile memory of the headlight directional controller **14** for reference during normal operation of the automatic directional control system **10** described below. Thus, when the automatic directional control system **10** is initially activated (such as when the electrical system of the vehicle is initially turned on), the headlight directional controller **14** can position the headlight **11** at or near the calibrated position utilizing the signals comparing the current position of the headlight **11** (as determined by the signals generated by the position feedback sensors **18** and **19**) with the predetermined reference position determined by the calibration algorithm **20**.

FIG. **3** is a flow chart of an algorithm, indicated generally at **30**, for generating a table that relates the sensed condition values from the condition sensors **15** and **16** to the headlight directional angle adjustment factors that will be implemented by the headlight directional controller **14**, and further for storing such table in the headlight directional controller **14** illustrated in FIG. **1**. As used herein, the term "table" is intended to be representative of any collection or association of data that relates one or more of the sensed condition values to one or more of the headlight directional angle adjustment factors. The table of data can be generated, stored, and expressed in any desired format. For example, this table of data can be generated, stored, and expressed in a conventional spreadsheet format, such as shown in FIG. **4**, which will be discussed in detail below.

In a first step **31** of the table generating algorithm **30**, an adjustment control algorithm is selected. The adjustment control algorithm can be, generally speaking, any desired relationship that relates one or more operating conditions of the vehicle to one or more angular orientations of the headlight **11**. A variety of such relationships are known in the art, and this invention is not intended to be limited to any particular relationship. Typically, such relationships will be expressed in terms of a mathematical equation or similar relationship that can be readily processed using a microprocessor or similar electronic computing apparatus, such as the above-described headlight directional controller **14**. The particular adjustment control algorithm that is selected may, if desired, vary from vehicle to vehicle in accordance with a variety of factors, including relative size and performance characteristics of the vehicle or any other desired condition.

As mentioned above, a plurality of operating conditions may be sensed by the condition sensors **15** and **16** and provided to the headlight directional controller **14** for use with the adjustment control mechanism. For example, the condition sensors **15** and **16** may generate electrical signals to the headlight directional controller **14** that are represen-

tative of the road speed, the steering angle, and the pitch of the vehicle (which can, for example, be determined by sensing the front and rear suspension heights of the vehicle or by a pitch or level sensor). Additionally, the time derivative of these operating conditions (i.e., the rate of change of the road speed, steering angle, and pitch of the vehicle) can be sensed or calculated. However, any other operating condition or conditions of the vehicle may be sensed and provided to the headlight directional controller **14**.

In a second step **32** of the table generating algorithm **30**, the table is generated using the adjustment control algorithm selected in the first step **31**. The table can be generated in any desired manner. For example, let it be assumed that the selected adjustment control algorithm relates a single sensed operating condition to each of the angular adjustment control values for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. The table can be generated by initially selecting a first discrete sensed operating condition value that might be encountered during operation of the vehicle. Then, the selected adjustment control algorithm is solved using such first discrete sensed operating condition value to obtain the corresponding adjustment control values for the up/down and left/right orientation of the headlight **11**. Then, the first discrete sensed operating condition value and the corresponding adjustment control values are stored in the table. This process can be repeated for any desired number of other discrete sensed operating condition values that might be encountered during operation of the vehicle.

As mentioned above, FIG. **4** is a representative example of a table, indicated generally at **40**, that can be generated in accordance with the second step **32** of the table generating algorithm **30** illustrated in FIG. **3**. As shown therein, a series of discrete sensed operating condition values (degrees of steering angles, for example) is related to the angular adjustment control values (degrees of movement from the associated up/down and left/right reference positions or planes, for example) for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. For the purposes of illustration only, let it be assumed that (1) a positive steering angle value represents steering toward left, while a negative steering angle value represents steering toward the right, (2) a positive up/down adjustment factor represents aiming the headlight **11** upwardly, while a negative up/down adjustment factor represents aiming the headlight **11** downwardly, and (3) a positive left/right adjustment factor represents aiming the headlight **11** toward the left, while a negative left/right adjustment factor represents aiming the headlight **11** toward the right.

Thus, in accordance with the selected adjustment control algorithm, a sensed steering angle of +6° results in an up/down adjustment factor of −3.00° and a left/right adjustment factor of +4.50°. Similarly, a sensed steering angle of +5° results in an up/down adjustment factor of −2.50° and a left/right adjustment factor of +3.75°, and so on as shown in the table **40**. The illustrated table **40** relates thirteen different sensed steering angle values to their corresponding adjustment control values for both the up/down and left/right orientation of the headlight **11**. However, the table **40** can include a greater or lesser number of such sensed operating condition values, together with their corresponding adjustment control values. Furthermore, although the illustrated table **40** relates only a single sensed operating condition value (steering angle) to the corresponding adjustment control values for both the up/down and left/right orientation of the headlight **11**, the selected adjustment control algorithm may, as mentioned above, be responsive to a plurality of sensed operating condition values for determining the corresponding adjustment control values. Alternatively, as will be discussed further below, a plurality of tables **40** can be generated, one for each of the plurality of sensed operating condition values. The size and extent of the table **40** or tables can be varied to accommodate any desired number of such sensed operating conditions.

Referring back to FIG. **3**, in a third step **33** of the table generating algorithm **30**, the table **40** generated in the second step **32** is stored in the memory of the headlight directional controller **14** illustrated in FIG. **1**. The contents of the table **40** can be communicated serially to the headlight directional controller **14** by means of the input/output device **17** illustrated in FIG. **1** or in any other desired manner. Regardless of how it is communicated, the table **40** is preferably stored in a non-volatile memory of the headlight directional controller **14** for subsequent use in the manner described further below when the vehicle is operated.

As mentioned above, it may be desirable to vary the algorithm that is selected for use in implementing the headlight directional angle adjustment factors. The generation of the table **40** and the storage of such table **40** in the memory of the headlight directional controller **14** allow a designer of the automatic directional control system **10** to quickly and easily alter the response characteristics of the system **10** as desired, without the need for direct access to the computer code or software that is used to operate the headlight directional controller **14**. Rather, to effect such alterations, a designer can simply change some or all of the data points that are contained within the table **40**. As will be described in detail below, the headlight directional controller **14** will use whatever data points that are contained within the table **40** in determining the need for adjustments in the angular orientation of the headlight **11**. This structure also reduces the amount of processing power that is necessary for the headlight directional controller **14** because it can operate on a relatively simple look-up basis using the table **40**, rather than having to calculate relatively high order equations that may be used to determine the data points contained within the table **40**.

FIG. **5** is a flow chart of an algorithm, indicated generally at **50**, for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with one or more of the sensed condition values from the condition sensors **15** and **16**. In a first step **51** of the operating algorithm **50**, the values of one or more of the condition sensors **15** and **16** are read by the headlight directional controller **14**. Then, the operating algorithm **50** enters a decision point **52**, wherein it is determined whether the value or values of the condition sensors **15** and **16** that have been read by the headlight directional controller **14** are specifically contained in the table **40**. For example, using the table **40** illustrated in FIG. **4**, if the headlight directional controller **14** has read a steering angle value of −2°, then it is determined that the value of the condition sensor **15** is specifically contained within the table **40**. In this instance, the operating algorithm **50** branches from the decision point **52** to an instruction **53**, wherein the adjustment factors contained in the table **40** that correspond to the sensed condition value are looked up and stored in the headlight directional controller **14**.

The operating algorithm **50** next enters an instruction **54** wherein the value of the magnitude of the adjustment factor (i.e., the desired position for the headlight **11**) is compared with the current position of the headlight **11**. This step **54** of the operating algorithm **50** is optional and can be performed if one or more of the position feedback sensors **18** and **19** are

provided in the automatic directional control system **10** to generate respective electrical signals that are representative of the actual up/down and left/right positions of the headlight **11**, as described above. This step **54** of the operating algorithm **50** can be performed to determine how much of an adjustment is necessary to move the headlight **11** from its current position, as determined by the position feedback sensors **18** and **19**, to the desired position, as defined by the adjustment factor obtained from the table **40**. To accomplish this, the value of the adjustment factor may, for example, be subtracted from the current position of the headlight **11** to determine the magnitude of the difference therebetween and, therefore, the magnitude of the adjustment that is necessary to move the headlight **11** from its current position to the desired position. However, this step **54** of the operating algorithm **50** can be accomplished in any other desired manner.

Next, the operating algorithm **50** enters a decision point **55**, wherein it is determined whether the magnitude of the adjustment that is necessary to move the headlight **11** from its current position to the desired position is greater than a predetermined minimum threshold. This step in the operating algorithm **50** is also optional, but may be desirable to prevent the actuators **12** and **13** from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition or conditions, such as relatively small bumps in the road. For example, if the current position of the headlight **11** is relatively close to the desired position, then it may be undesirable to effect any movement thereof. This step **55** will prevent the actuators **12** and **13** from being operated unless the current position of the headlight **11** is relatively far from the desired position. As another example, if the condition sensors **15** and **16** are respectively responsive to the front and rear suspension heights of the vehicle for the purpose of determining the pitch thereof, then the headlight directional controller **14** may be programmed to be responsive only to changes in the suspension heights that occur at frequencies that are lower than the suspension rebound frequency of the vehicle (thereby ignoring relatively high frequency changes in suspension height that are likely the result of bumps in the road). However, relatively high frequency changes in the suspension heights could also be monitored to assist in deciphering relatively rough suspension changes from other suspension changes.

In any event, the provision of the predetermined minimum threshold functions as a filter or dead band that minimizes or eliminates undesirable "hunting" of the actuators **12** and **13** for relatively small magnitudes of movement of the headlight **11**. If the magnitude of the adjustment factor is not greater than the predetermined minimum threshold, then the operation of the actuators **12** and **13** is considered to be undesirable. Thus, the operating algorithm **50** branches from the decision point **55** back to the instruction **51**, wherein the above-described steps of the operating algorithm **50** are repeated.

If, on the other hand, the magnitude of the adjustment factor is greater than the predetermined minimum threshold, then the operation of the actuators **12** and **13** is considered to be desirable. Thus, the operating algorithm **50** branches from the decision point **55** to an instruction **56**, wherein either or both of the actuators **12** and **13** are actuated to effect movement of the headlight **11**. For example, using the table **40** illustrated in FIG. **4**, if the headlight directional controller **14** has read a steering angle value of −2°, then the headlight directional controller **14** will look up an up/down adjustment factor of −1.00° and a left/right adjustment factor of −1.50° from the table **40**. The headlight directional controller **14** operates the actuators **12** and **13** to adjust the angular orientation of the headlight **11** to achieve the noted adjustment factors.

In some instances, the amounts of movement that are to be implemented by the two actuators **12** and **13** will be the same (i.e., the amount of up/down movement of the headlight **11** will be the same as the amount of left/right movement). More frequently, however, the amounts of movement that are to be implemented by the two actuators **12** and **13** will be different from one another. In the latter instances, it may be desirable to operate the two actuators **12** and **13** at two different speeds such that the overall movement of the headlight **11** is relatively uniform. For example, if the amount of movement that is to be implemented by the up/down actuator **12** is twice as large as the amount of movement that is to be implemented by the left/right actuator **13**, then it may be desirable to operate the up/down actuator **12** at one-half of the speed of the left/right actuator **13** so that the movements of both actuators **12** and **13** (and, therefore, the overall movement of the headlight **11**) will start and stop at approximately the same time. Similarly, if the vehicle is provided with two different headlights **11**, as is commonly found, then it may be desirable to control the respective movements of such different headlights **11** in such a manner that they both start and stop at approximately the same time. This can be accomplished, for example, by providing a single headlight directional controller **14** for not only controlling, but also coordinating the movements of both of the headlights **11** in response to the sensed operating conditions.

Such operations can be performed in an open loop manner if desired, wherein the actuators **12** and **13** are operated to achieve predetermined amounts of movement. For example, the actuators **12** and **13** can be embodied as step motors that are operated a predetermined number of steps to achieve predetermined amounts of movement. Alternatively, the actuators **12** and **13** can be operated for predetermined periods of time to achieve the predetermined amounts of movement. However, more desirably, the operations of the actuators **12** and **13** are performed in a closed loop manner. To accomplish this, the actuators **12** and **13** are operated until either or both of the position feedback sensors **18** and **19** generate signals indicate that the headlight **11** has actually achieved the predetermined amounts of movement or desired position. In either event, the operating algorithm **50** then branches back to the instruction **51**, wherein the above-described steps of the algorithm **50** are repeated.

Referring back to the decision point **52**, if the value or values of the condition sensors **15** and **16** that have been read by the headlight directional controller **14** are not specifically contained in the table **40**, then the operating algorithm **50** branches from the decision point **52** to an instruction **57**, wherein the adjustment factors that are specifically contained in the table **40** that correspond to the adjacent sensed condition values are looked up and stored in the headlight directional controller **14**. For example, using the table **40** illustrated in FIG. **4**, if the headlight directional controller **14** has read a steering angle value of −1.5°, then it is determined that the value of the condition sensor **15** is not specifically contained within the table **40**. Rather than simply default to the closest value that is contained within the table **40**, the two adjustment factors specifically contained in the table **40** that are adjacent to the sensed condition value (namely, the adjustment factors for the steering angle values of −1° and −2°) are looked up and stored in the headlight directional controller **14**.

The operating algorithm **50** next enters an instruction **58**, wherein the actual adjustment factors to be implemented by the headlight directional controller **14** are interpolated or otherwise calculated from the stored adjustment factors that are adjacent to the sensed condition value. For example, as mentioned above, if the actual sensed steering angle value is −1.5°, then the headlight directional controller **14** looks up the adjustment factors for the steering angle values of −1° and −2°. The up/down adjustment factor for a steering angle value of −1° is −0.50 while the up/down adjustment factor for a steering angle value of −2° is −1.00°. If the calculation that is performed by the headlight directional controller **14** is a simple arithmetic mean, then the interpolated up/down adjustment factor would be −0.75°. Similarly, the left/right adjustment factor for a steering angle value of −1° is −0.75°, while the left/right adjustment factor for a steering angle value of −2° is −1.50°. If the calculation that is performed by the headlight directional controller **14** is a simple arithmetic mean, then the interpolated left/right adjustment factor would be −1.13°. Thereafter, the operating algorithm **50** branches to the decision point **55**, and the remainder of the operating algorithm **50** is performed as described above.

The interpolation that is performed by the headlight directional controller **14** can be accomplished in any desired manner. The performance of the simple arithmetic mean described above is intended to be representative of any mathematical or other function that can be performed to calculate, derive, or otherwise obtain adjustment factors that are not present in the table **40**. Furthermore, although this interpolation has been described in the context of using only the two condition values that are directly adjacent to the actual sensed condition value, it will be appreciated that the adjustment values for any single condition value or combination of sensed condition values may be selected for the interpolation. For example, several of the condition values both above and below the sensed condition value can be read from the table **40** to derive a trend line or other good estimate of the adjustment factors that are not present in the table **40**. Performance of this interpolation does not require any significant increase in the amount of processing power that is necessary for the headlight directional controller **14**.

The above discussion has assumed the use of a single table **40** that provides adjustment values based upon a single sensed operating condition (steering angle of the vehicle, in the illustrated embodiment). However, as discussed above, this invention may be practiced by sensing a plurality of operating conditions of the vehicle. For example, let it be assumed that both steering angle and vehicle road speed are sensed by the condition sensors **15** and **16**. As previously discussed, the adjustment control algorithm that is selected in the first step **31** of the table generating algorithm **30** can be designed to accommodate multiple sensed conditions. Alternatively, however, a first table (such as the table **40** illustrated in FIG. **4**) may be generated that relates the steering angle of the vehicle to the angular adjustment control values for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. A second, similar table (not shown) may also be generated that relates the road speed of the vehicle to the angular adjustment control values for adjusting both the up/down orientation and the left/right orientation of the headlight **11**. Thus, for a given steering angle and road speed of the vehicle, the first and second tables may provide differing angular adjustment control values. To address this, the interpolation step **57** of the operating algorithm **50** can be performed to interpolate a single composite adjustment value that is based upon the two different values provided in the first and second tables for the pair of sensed operating conditions. This interpolation can be performed in the same manner as described above for each of the actuators **12** and **13**.

A variety of control strategies can be implemented using the automatic directional control system **10** described above. For example, the pitch of the vehicle can change as a result of a variety of factors, including acceleration, deceleration, and weight distribution of the vehicle. These pitch variations can alter the angle at which the beam of light projects from the headlight **11** in the up and down direction relative to a horizontal reference position or plane. The automatic directional control system **10** can be responsive to such pitch variations for operating the up/down actuator **12** to maintain the angle at which the beam of light projects from the headlight **11** in the up and down direction relatively constant to the horizontal reference position or plane.

As discussed above, the angle at which the beam of light projects from the headlight **11** in the left and right direction relative to a vertical reference position or plane can be adjusted in accordance with the sensed steering angle. However, the angle at which the beam of light projects from the headlight **11** in the up and down direction relative to a horizontal reference position or plane can also be adjusted in accordance with the sensed steering angle. This can be done to lower the headlight beams as the vehicle is turning a corner. The advantages of this are not only to better illuminate the road surface in the path of movement of the vehicle, but also to reduce headlight glare to other vehicles as the turn is negotiated.

Lastly, many vehicles on the road today have halogen lamps or other lights that are aimed to illuminate the sides of the roads in front of the vehicle during the turn. These other lights are activated by the manual operation of the turn signals of the vehicle. The automatic directional control system **10** of this invention can be responsive to one or more operating conditions of the vehicle to automatically activate these other lights on the vehicle. For example, the automatic directional control system **10** of this invention can be responsive to a steering angle in excess of a predetermined magnitude for automatically activating these other lights on the vehicle. This can be effective to extend the angular range of illumination of the road surface.

FIG. **6** is a flow chart of an algorithm, indicated generally at **60**, for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments in accordance with the rate of change of one or more of the sensed condition values. As mentioned above, the headlight directional controller **14** can be operated to automatically implement directional angle adjustments in accordance with one or more of the sensed condition values or in accordance with the rate of change of one or more of the sensed condition values.

To accomplish this, the algorithm **60** has a first step **61** wherein the values of one or more of the condition sensors **15** and **16** are initially read by the headlight directional controller **14**. Then, the algorithm **60** enters a second step **62** wherein the values of one or more of the condition sensors **15** and **16** are subsequently read a second time by the headlight directional controller **14**. The second reading of the condition sensors **15** and **16** occurs a predetermined amount of time after the first reading thereof. Next, the algorithm enters a third step **63** wherein a rate of change of the sensed condition or conditions is calculated. The rate of change of the sensed condition can be calculated as the difference between the first and second readings divided by the amount of time therebetween or by any other desired means. For example, if the sensed condition is vehicle speed, then the difference between the first sensed vehicle speed and the second sensed vehicle speed, divided by the amount of time therebetween, would yield a number that is repre-

sentative of the acceleration of the vehicle. In a final step **64** of the algorithm **60**, either or both of the actuators **12** and **13** are actuated to effect movement of the headlight **11** in accordance with the calculated rate of change of the sensed condition. Such movement of the headlight **11** can be effected in a manner that is similar to that described above.

FIG. **7** is a flow chart of an algorithm, indicated generally at **70**, for operating the headlight directional controller illustrated in FIG. **1** to automatically implement directional angle adjustments, but only when the rate of change of one or more of the sensed condition values is less than (or greater than) a predetermined value. As mentioned above, the headlight directional controller **14** can be operated to automatically implement directional angle adjustments in accordance with one or more of the sensed condition values. In this variation of the invention, the headlight directional controller **14** automatically implements directional angle adjustments in response to the sensed condition values (or in response to the rate of change of the sensed condition values), but only when the rate of change of one or more of the sensed condition values is less than (or greater than) a predetermined value.

To accomplish this, the algorithm **70** has a first step **71** wherein the values of one or more of the condition sensors **15** and **16** are initially read by the headlight directional controller **14**. Then, the algorithm **70** enters a second step **72** wherein the values of one or more of the condition sensors **15** and **16** are subsequently read a second time by the headlight directional controller **14**. The second reading of the condition sensors **15** and **16** occurs a predetermined amount of time after the first reading thereof. Next, the algorithm enters a third step **73** wherein a rate of change of the sensed condition or conditions is calculated. The rate of change of the sensed condition can be calculated as the difference between the first and second readings divided by the amount of time therebetween or by any other desired means. For example, if the sensed condition is suspension height, then the difference between the first sensed suspension height and the second sensed suspension height, divided by the amount of time therebetween, would yield a number that is representative of the rate of change of the suspension height of the vehicle.

In a fourth step **74** of the algorithm **70**, a determination is made as to whether the rate of change of the sensed condition value is less than a predetermined threshold value. If the rate of change of the sensed condition value is less than this predetermined threshold value, then the algorithm **70** branches from the decision point **74** to a final step **75** of the algorithm **70**, wherein either or both of the actuators **12** and **13** are actuated to effect movement of the headlight **11** in accordance with the calculated rate of change of the sensed condition. Such movement of the headlight **11** can be effected in a manner that is similar to that described above. If, however, the rate of change of the sensed condition value is not less than this predetermined threshold value, then the algorithm **70** branches from the decision point **74** back to the first step **71**, wherein the algorithm **70** is repeated. This threshold sensing algorithm **70** can function to prevent the headlight directional controller **14** from being operated to automatically implement directional angle adjustments when the rate of change of the suspension height of the vehicle changes more rapidly than the system can effect corrective changes. For example, if the vehicle is operated on a bumpy road, the algorithm **70** will prevent the headlight directional controller **14** from attempting to correct for every single bump that is encountered. However, for relatively low frequency or rates of change in the suspension height of the vehicle, such as can occur when accelerating, decelerating, and weight changes, the headlight directional controller **14** will be operated in the normal manner to effect corrective actions, as described above.

As mentioned above, the input/output device **17** is connected to (or can be connected to) the headlight directional controller **14** for facilitating communication therewith, and the input/output device **17** can be used for calibrating the automatic directional control system illustrated in FIG. **1** so as to define an initial reference position or positions for the headlight **11** from which the headlight directional controller **14** can implement directional angle adjustments. Additionally, however, the input/output device **17** can be employed as a diagnostic tool. To accomplish this, the input/output device **17** can be embodied as a conventional microprocessor or similar electronically programmable device that can be connected to the headlight directional controller **14** to read fault codes that may be generated during the operation thereof. The headlight directional controller **14** can be programmed to generate fault codes whenever a fault condition or other anomaly occurs or is detected. Such fault codes can be stored in the headlight directional controller **14** until the input/output device **17** is subsequently connected thereto. When so connected, the input/output device **17** can read such codes and display them for an operator. As a result, the operator can take whatever corrective actions are necessary to address the fault condition or anomaly. The input/output device **17** can also be programmed to clear the fault codes from the headlight directional controller **14** after they are read.

In accordance with the provisions of the patent statutes, the principle and mode of operation of this invention have been explained and illustrated in its preferred embodiments. However, it must be understood that this invention may be practiced otherwise than as specifically explained and illustrated without departing from its spirit or scope.

What is claimed is:

1. An automatic directional control system for a vehicle headlight comprising:

a sensor that is adapted to generate a signal that is representative of a condition of the vehicle, said sensed condition includes one or more of road speed, steering angle, pitch, and suspension height of the vehicle;

a controller that is responsive to said sensor signal for generating an output signal only when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition; and

an actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal.

2. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the road speed of the vehicle.

3. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the steering angle of the vehicle.

4. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the pitch of the vehicle.

5. The automatic directional control system defined in claim **1** wherein said sensor generates a signal that is representative of the suspension height of the vehicle.

* * * * *

Electronic Acknowledgement Receipt

EFS ID:	7983702
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell/Lindsey Caldwell
Filer Authorized By:	Patrick Edgar Caldwell
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	09-JUL-2010
Filing Date:	
Time Stamp:	13:08:04
Application Type:	Reexam (Patent Owner)

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Receipt of Corrected Original Ex Parte Request	7241034__109__Re-Exam_v3_09-Jul-2010.pdf	67448 85cd5ef899bd892525705144a69e7e089469d0ef	no	7

Warnings:	
Information:	

2	Reexam Miscellaneous Incoming Letter	7241034__109__Re-Exam_Exhibit_A_v3_09-Jul-2010.pdf	64407 bd0d5a9d3303a9fd8b1ddacbf8b2b6b5e6ae6ab7	no	5
Warnings:					
Information:					
3	Copy of patent for which reexamination is requested	7241034_Smith_filing.pdf	2428532 a140454c40f612a3362b93828621af5145c872bd	no	16
Warnings:					
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			Total Files Size (in bytes):	2560387	

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Application Number	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/011,011	7,241,034
	Examiner	Art Unit
	***	3992

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90011011	7,241,034
	Examiner	Art Unit
	***	3992

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original									
	1									
	2									
	3									
	4									
	5									

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90011011	7,241,034
	Examiner	Art Unit
	***	3992

ORIGINAL		INTERNATIONAL CLASSIFICATION	
CLASS	SUBCLASS	CLAIMED	NON-CLAIMED
362	465.000		

CROSS REFERENCE(S)	
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

(Assistant Examiner) (Date)	Total Claims Allowed:	
(Primary Examiner) (Date)	O.G. Print Claim(s)	O.G. Print Figure

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90011011	7,241,034
	Certificate Date	Certificate Number

Requester Correspondence Address: ☒ Patent Owner ☐ Third Party
THE CALDWELL FIRM, LLC P.O. BOX 59655 DEPT. SVIPGP DALLAS, TX 95229

LITIGATION REVIEW ☐	(examiner initials)	(date)
Case Name		Director Initials

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90011011	7,241,034
	Examiner	Art Unit
	***	3992

SEARCHED			
Class	Subclass	Date	Examiner
362	465.000		

SEARCH NOTES		
Search Notes	Date	Examiner

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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90/011,011	07/10/2010 RULE	362	3992	SVIPGP109RE

APPLICANTS

7,241,034, Residence Not Provided;
BALTHER TECHNOLOGIES, LLC (OWNER), LONGVIEW, TX;
PATENT OWNER, Residence Not Provided;

**** CONTINUING DATA ***************************

This application is a REX of 10/285,312 10/31/2002 PAT 7,241,034
which claims benefit of 60/335,409 10/31/2001
and claims benefit of 60/356,703 02/13/2002
and claims benefit of 60/369,447 04/02/2002

**** FOREIGN APPLICATIONS *********************

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no			5	1
35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance				
Verified and Acknowledged Examiner's Signature Initials				

ADDRESS
92045

TITLE

AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS

FILING FEE RECEIVED		
2520	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Litigation Search Report CRU 3999

Reexam Control No. 90/011,011

TO: MARK REINHART	From: MANUEL SALDANA
Location: CRU	Location: CRU 3999
Art Unit: 3992	MDW 7C55
Date: 07/10/10	Phone: (571) 272-7740
	MANUEL.SALDANA@uspto.gov

Search Notes

Litigation was found for US Patent Number: **7,241,034.**
DOCKET 6:10CV78 (CLOSED 05/18/10).

1) I performed a KeyCite Search in Westlaw, which retrieves all history on the patent including any litigation.

2) I performed a search on the patent in Lexis CourtLink for any open dockets or closed cases.

3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.

4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.

5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

Date of Printing: Jul 10, 2010

KEYCITE

C US PAT 7241034 AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS, Assignee: Dana Corporation (Jul 10, 2007)

History

Direct History

=> 1 **AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS,** US PAT 7241034, 2007 WL 1978614 (U.S. PTO Utility Jul 10, 2007) (NO. 10/285312)

Patent Family

2 AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR A VEHICLE HEADLIGHT USES SENSOR TO GENERATE SIGNAL REPRESENTATIVE OF CONDITION OF VEHICLE, CONTROLLER RESPONSIVE TO SENSOR SIGNAL TO GENERATE OUTPUT SIGNAL AND ACTUATOR TO EFFECT, Derwent World Patents Legal 2003-543647

Assignments

3 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 002, (DATE RECORDED: Mar 08, 2010)

4 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 002, (DATE RECORDED: Jun 12, 2009)

5 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 030, (DATE RECORDED: Feb 22, 2008)

6 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 003, (DATE RECORDED: Feb 06, 2003)

Patent Status Files

.. Patent Suit(See LitAlert Entries),

Docket Summaries

8 BALTHER TECHNOLOGIES, LLC v. AMERICAN HONDA MOTOR CO. INC. ET AL, (E.D.TEX. Mar 08, 2010) (NO. 6:10CV00078), (35 USC 271 PATENT INFRINGEMENT)

Litigation Alert

9 Derwent LitAlert P2010-11-45 (Mar 08, 2010) Action Taken: complaint

Prior Art (Coverage Begins 1976)

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Patent Search Results

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Items 1 to 1 of 1

	Patent	Class	Subclass	Description	Court (All)	Docket Number	Filed	Date Retrieved
☐	7,241,034	362	465	Balther Technologies, LLC v. American Honda Motor Co Inc Et A	US-DIS-TXED	6:10cv78	3/8/2010	7/8/2010

Items 1 to 1 of 1

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US District Court Civil Docket

U.S. District - Texas Eastern
(Tyler)

6:10cv78

Balther Technologies, Llc v. American Honda Motor Co Inc et A

This case was retrieved from the court on Thursday, July 08, 2010

Date Filed:	**03/08/2010**	**Class Code:**	**CLOSED**
Assigned To:	**Judge Leonard Davis**	**Closed:**	**Yes**
Referred To:		**Statute:**	**35:271**
Nature of suit:	**Patent (830)**	**Jury Demand:**	**Plaintiff**
Cause:	**Patent Infringement**	**Demand Amount:**	**$0**
Lead Docket:	**None**	**NOS Description:**	**Patent**
Other Docket:	**None**		
Jurisdiction:	**Federal Question**		

Litigants

Balther Technologies, Llc
Plaintiff

Attorneys

Eric M Albritton
[COR LD NTC]
Albritton Law Firm
PO Box 2649
Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email: EMA@EMAFIRM.COM

Adam A Biggs
[COR LD NTC]
Albritton Law Firm
P O Box 2649
Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email: AAB@EMAFIRM.COM

Christopher Needham Cravey
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-7000
Fax: 7139347011
Email: Ccravey@wmalaw.com

Danny Lloyd Williams
[COR LD NTC]
Williams Morgan & Amerson
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4060
Fax: 17139347011
Email: Dwilliams@wmalaw.com

David Wynne Morehan
[COR LD NTC]

Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713-934-7000
Fax: 713-934-7011
Email: DMOREHAN@WMALAW.COM

Debra Rochelle Coleman
[COR LD NTC]
Albritton Law Firm
P O Box 2649
Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email: DRC@EMAFIRM.COM

J Mike Amerson
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4055
Fax: 17139347011
Email: Mike@wmalaw.com

Jack Wesley Hill
[COR LD NTC]
Ward & Smith Law Firm
111 W Tyler Street
Longview , TX 75601
USA
903-757-6400
Fax: 903-757-2323
Email: WH@JWFIRM.COM

Jaison Chorikavumkal John
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4060
Fax: 17139347011
Email: Jjohn@wmalaw.com

Matthew Clay Harris
[COR LD NTC]
Albritton Law Firm
P O Box 2649
Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email: MCH@EMAFIRM.COM

Matthew Richard Rodgers
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4061
Email: Mrodgers@wmalaw.com

Michael Aaron Benefield
[COR LD NTC]
Williams Morgan & Amerson PC

10333 Richmond
Suite 1100
Houston , TX 77042
USA
713-934-4091
Fax: 7139347011
Email: MBENEFIELD@WMALAW.COM

Thomas John Ward , Jr
[COR LD NTC]
Ward & Smith Law Firm
P O Box 1231
Longview , TX 75606-1231
USA
903/ 757-6400
Fax: 903/ 757-2323
Email: JW@JWFIRM.COM

American Honda Motor Co Inc
Defendant

Honda Motor Company, Ltd
Defendant

Bmw of North America, Llc
Defendant

Bmw AG
Defendant

Chrysler Group Llc
Defendant

Ferrari North America, Inc
Defendant

Ferrari Spa
Defendant

General Motors, Llc
Defendant

Hyundai Motor America
Defendant

Hyundai Motor Company
Defendant

Jaguar Land Rover North America, Llc
Defendant

Jaguar Cars Limited
Defendant

Maserati North America Inc
Defendant

Maserati Spa
Defendant

Mercedes-Benz USA, Llc
Defendant

Daimler North America Corporation
Defendant

Daimler AG
Defendant

Mazda Motor of North America, Inc
Defendant

Mazda Motor Corp
Defendant

Mitsubishi Motors North America, Inc
Defendant

Michael Charles Smith
[COR LD NTC]
Siebman Reynolds Burg Phillips & Smith, LLP-Marshall
713 South Washington
Marshall , TX 75670
USA
903-938-8900
Fax: 19727674620
Email: MICHAELSMITH@SIEBMAN.COM

Mitsubishi Motors Corp
Defendant

Michael Charles Smith
[COR LD NTC]
Siebman Reynolds Burg Phillips & Smith, LLP-Marshall
713 South Washington
Marshall , TX 75670
USA
903-938-8900
Fax: 19727674620
Email: MICHAELSMITH@SIEBMAN.COM

Nissan North America, Inc
Defendant

Nissan Motor Co, Ltd
Defendant

Porsche Cars North America, Inc
Defendant

Dr Ing Hc.F Porsche AG
Defendant

Saab Cars North America, Inc
Defendant

Toyota Motor North America, Inc
Defendant

Toyota Motor Sales, USA, Inc
Defendant

Toyota Motor Corp
Defendant

Volkswagen Group of America, Inc
Defendant

Automobili Lamborghini Spa
Defendant

Audi AG
Defendant

Volkswagen AG
Defendant

Ford Motor Company
Defendant

Volvo Cars of North America, Llc
Defendant

Volvo Car Corp
Defendant

Date	#	Proceeding Text
03/08/2010	1	COMPLAINT for Patent Infringement against all defendants (Filing fee $ 350 receipt number 0540000000002387982.), filed by Balther Technologies, LLC. (Attachments: # 1 Exhibit A, # 2 Civil Cover Sheet)(Albritton, Eric) (Entered: 03/08/2010)
03/08/2010	--	Judge Leonard Davis added. (mll,) (Entered: 03/08/2010)
03/08/2010	2	Notice of Filing of Patent/Trademark Form (AO 120). AO 120 mailed to the Director of the U.S. Patent and Trademark Office. (Albritton, Eric) (Entered: 03/08/2010)

03/09/2010	3	NOTICE of Attorney Appearance by Thomas John Ward, Jr on behalf of Balther Technologies, LLC (Ward, Thomas) (Entered: 03/09/2010)
03/09/2010	4	NOTICE of Attorney Appearance by Jack Wesley Hill on behalf of Balther Technologies, LLC (Hill, Jack) (Entered: 03/09/2010)
03/09/2010	5	NOTICE of Attorney Appearance by Adam A Biggs on behalf of Balther Technologies, LLC (Biggs, Adam) (Entered: 03/09/2010)
03/09/2010	6	NOTICE of Attorney Appearance by Debra Rochelle Coleman on behalf of Balther Technologies, LLC (Coleman, Debra) (Entered: 03/09/2010)
03/09/2010	7	NOTICE of Attorney Appearance by Matthew Clay Harris on behalf of Balther Technologies, LLC (Harris, Matthew) (Entered: 03/09/2010)
03/10/2010	8	NOTICE of Attorney Appearance by J Mike Amerson on behalf of Balther Technologies, LLC (Amerson, J) (Entered: 03/10/2010)
03/10/2010	9	NOTICE of Attorney Appearance by Matthew Richard Rodgers on behalf of Balther Technologies, LLC (Rodgers, Matthew) (Entered: 03/10/2010)
03/10/2010	10	NOTICE of Attorney Appearance by Michael Aaron Benefield on behalf of Balther Technologies, LLC (Benefield, Michael) (Entered: 03/10/2010)
03/10/2010	11	NOTICE of Attorney Appearance by David Wynne Morehan on behalf of Balther Technologies, LLC (Morehan, David) (Entered: 03/10/2010)
03/10/2010	12	NOTICE of Attorney Appearance by Danny Lloyd Williams on behalf of Balther Technologies, LLC (Williams, Danny) (Entered: 03/10/2010)
03/10/2010	13	NOTICE of Attorney Appearance by Jaison Chorikavumkal John on behalf of Balther Technologies, LLC (John, Jaison) (Entered: 03/10/2010)
03/10/2010	14	NOTICE of Attorney Appearance by Christopher Needham Cravey on behalf of Balther Technologies, LLC (Cravey, Christopher) (Entered: 03/10/2010)
04/26/2010	15	ORDER that plaintiff file a notice that the case is ready for scheduling conference when all of the defendants have either answered or filed a motion to transfer or dismiss. The notice shall be filed within five days of the last remaining defendant's answer or motion. Signed by Judge Leonard Davis on 04/26/10. cc:attys 4-27-10 (mll,) (Entered: 04/27/2010)
04/28/2010	16	E-GOV SEALED SUMMONS Issued as to American Honda Motor Co. Inc., BMW of North America, LLC, Chrysler Group LLC, Daimler North America Corporation, Ferrari North America, Inc., Ford Motor Company, General Motors, LLC, Hyundai Motor America, Jaguar Land Rover North America, LLC, Maserati North America Inc, Mazda Motor of North America, Inc., Mercedes-Benz USA, LLC, Mitsubishi Motors North America, Inc., Nissan North America, Inc., Porsche Cars North America, Inc., SAAB Cars North America, Inc., Toyota Motor North America, Inc., Toyota Motor Sales, U.S.A., Inc., Volkswagen Group of America, Inc., Volvo Cars of North America, LLC., and emailed to pltf for service. (mll,) (Entered: 04/28/2010)
05/17/2010	17	NOTICE of Voluntary Dismissal by Balther Technologies, LLC (Attachments: # 1 Text of Proposed Order) (Albritton, Eric) (Entered: 05/17/2010)
05/18/2010	18	ORDER DISMISSING CASE. This civil action is dismissed without prejudice. Pltf and defts shall bear their own costs, expenses and legal fees. Signed by Judge Leonard Davis on 05/18/10. cc:attys 5-18-10(mll,) (Entered: 05/18/2010)
05/18/2010	19	Agreed MOTION for Extension of Time to File Answer re 1 Complaint by Mitsubishi Motors Corp., Mitsubishi Motors North America, Inc.. (Attachments: # 1 Text of Proposed Order)(Smith, Michael) (Entered: 05/18/2010)
05/19/2010	20	NOTICE by Mitsubishi Motors Corp., Mitsubishi Motors North America, Inc. re 19 Agreed MOTION for Extension of Time to File Answer re 1 Complaint (Notice of Withdrawal of Agreed MOTION for Extension of Time to File Answer) (Smith, Michael) (Entered: 05/19/2010)

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patno= 7241034

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285312 (10) 7241034 July 10, 2007

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

7241034

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Link to Claims Section

June 12, 2003

Automatic directional control system for vehicle headlights

INVENTOR: Smith, James E. - Berkey, OHIO, United States of America (US), United States of America (US) ; McDonald, Anthony B. - Perrysburg, OHIO, United States of America (US), United States of America (US)

APPL-NO: 285312 (10)

FILED-DATE: October 31, 2002

GRANTED-DATE: July 10, 2007

CORE TERMS: headlight, directional, controller, adjustment, sensed, algorithm, sensor, actuator, steering, control system, road, suspension, responsive, automatic, feedback, orientation, beam, aiming, height, generating, electrical, input output device, plane, stored, automatically, optical, pitch, calibration, accomplish, angular

ENGLISH-ABST:

A structure and method for operating a directional control system for vehicle headlights that is capable of altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. One or more operating condition sensors may be provided that generate signals that are representative of a condition of the vehicle, such as road speed, steering angle, pitch, suspension height, rate of change of road speed, rate of change of steering angle, rate of change of pitch, and rate of change of suspension height of the vehicle. A controller is responsive to the sensor signal for generating an output signal. An actuator is adapted to be connected to the headlight to effect movement thereof in accordance with the output signal. The controller can include a table that relates values of sensed operating condition to values of the output signal. The controller is responsive to the sensor signal for looking up the output signal in the table.

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- Check for spelling errors .
- Remove some search terms.
- Use more common search terms, such as those listed in "Suggested Words and Concepts"
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Search

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Search

Select Search Type and Enter Search Terms

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Patent Assignment Abstract of Title

Total Assignments: 4

Application #: 10285312 **Filing Dt:** 10/31/2002 **Patent #:** 7241034 **Issue Dt:** 07/10/2007
PCT #: NONE **Publication #:** US20030107898 **Pub Dt:** 06/12/2003
Inventors: James E. Smith, Anthony B. McDonald
Title: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS

Assignment: 1

Reel/Frame: 013729 / 0559 **Received:** 02/10/2003 **Recorded:** 02/06/2003 **Mailed:** 06/13/2003 **Pages:** 3
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignors: SMITH, JAMES E. **Exec Dt:** 01/31/2003
MCDONALD, ANTHONY B. **Exec Dt:** 01/31/2003
Assignee: DANA CORPORATION
4500 DORR STREET
TOLEDO, OHIO 43615
Correspondent: MACMILLAN, SOBANSKI & TODD, LLC
RICHARD S. MACMILLAN
720 WATER STREET
ONE MARITIME PLAZA, FOURTH FLOOR
TOLEDO, OH 43604-1853

Assignment: 2

Reel/Frame: 020540 / 0476 **Received:** 02/22/2008 **Recorded:** 02/22/2008 **Mailed:** 02/22/2008 **Pages:** 30
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: DANA CORPORATION **Exec Dt:** 01/31/2008
Assignee: DANA AUTOMOTIVE SYSTEMS GROUP, LLC
4500 DORR STREET
TOLEDO, OHIO 43615
Correspondent: DANA HOLDING CORPORATION
4500 DORR STREET
KRISTENE M RAGAN
TOLEDO, OH 43615

Assignment: 3

Reel/Frame: 022813 / 0432 **Received:** 06/12/2009 **Recorded:** 06/12/2009 **Mailed:** 06/12/2009 **Pages:** 2
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: DANA AUTOMOTIVE SYSTEMS GROUP, LLC **Exec Dt:** 05/26/2009
Assignee: STRAGENT, LLC
211 W. TYLER, SUITE C
LONGVIEW, TEXAS 75601
Correspondent: ASSIGNMENT RECORDATION
211 W. TYLER ST., SUITE C
LONGVIEW, TX 75601

Assignment: 4

Reel/Frame: 024045 / 0235 **Received:** 03/08/2010 **Recorded:** 03/08/2010 **Mailed:** 03/09/2010 **Pages:** 2
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: STRAGENT, LLC **Exec Dt:** 12/16/2009
Assignee: BALTHER TECHNOLOGIES, LLC
211 W. TYLER
SUITE C-4
LONGVIEW, TEXAS 75601
Correspondent: THE CALDWELL FIRM, LLC
PO BOX 59655
DEPT. SVIPGP
DALLAS, TX 75229

Search Results as of: 07/28/2010 01:33 PM

If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/011,011	07/10/2010	7241034

CONFIRMATION NO. 3919

REEXAM ASSIGNMENT NOTICE

92045
The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

OC000000042606636

Date Mailed: 07/16/2010

NOTICE OF ASSIGNMENT OF REEXAMINATION REQUEST

The above-identified request for reexamination has been assigned to Art Unit 3992. All future correspondence to the proceeding should be identified by the control number listed above and directed to the assigned Art Unit.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or to all owners of record. (See 37 CFR 1.33(c)). If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned within the request to withdraw pursuant to Section 1.36.

/jawhitfield/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/011,011	07/10/2010	7241034

CONFIRMATION NO. 3919

92045
The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

REEXAMINATION REQUEST NOTICE

OC000000042606635

Date Mailed: 07/16/2010

NOTICE OF REEXAMINATION REQUEST FILING DATE

(Patent Owner Requester)

Requester is hereby notified that the filing date of the request for reexamination is 07/10/2010, the date the required fee of $2,520 was received. (See CFR 1.510(d)).

A decision on the request for reexamination will be mailed within three months from the filing date of the request for reexamination. (See 37 CFR 1.515(a)).

Pursuant to 37 CFR 1.33(c), future correspondence in this reexamination proceeding will be with the latest attorney or agent of the record in the patent file.

The paragraphs checked below are part of this communication:

___ 1. The party receiving the courtesy copy is the latest attorney or agent of record in the patent file.

___ 2. The person named to receive the correspondence in this proceeding has not been made the latest attorney or agent of record in the patent file because:

___ A. Requester's claim of ownership of the patent is not verified by the record.

___ B. The request papers are not signed with a real or apparent binding signature.

___ C. The mere naming of a correspondence addressee does not result in that person being appointed as the latest attorney or agent of record in the patent file.

___ 3. Addressee is the latest attorney or agent of record in the patent file.

___ 4. Other _____

/jawhitfield/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 08/12/2010

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 08/12/2010

Please find below and/or attached an Office communication concerning this application or proceeding.

Order Granting / Denying Request For Ex Parte Reexamination	Control No.	Patent Under Reexamination	
	90/011,011	7,241,034	
	Examiner	Art Unit	
	MY-TRANG N. TON	3992	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

The request for *ex parte* reexamination filed *10 July 2010* has been considered and a determination has been made. An identification of the claims, the references relied upon, and the rationale supporting the determination are attached.

Attachments: a)☒ PTO-892, b)☐ PTO/SB/08, c)☐ Other: _____

1. ☒ The request for *ex parte* reexamination is GRANTED.

RESPONSE TIMES ARE SET AS FOLLOWS:

For Patent Owner's Statement (Optional): TWO MONTHS from the mailing date of this communication (37 CFR 1.530 (b)). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**

For Requester's Reply (optional): TWO MONTHS from the **date of service** of any timely filed Patent Owner's Statement (37 CFR 1.535). **NO EXTENSION OF THIS TIME PERIOD IS PERMITTED.** If Patent Owner does not file a timely statement under 37 CFR 1.530(b), then no reply by requester is permitted.

2. ☐ The request for *ex parte* reexamination is DENIED.

This decision is not appealable (35 U.S.C. 303(c)). Requester may seek review by petition to the Commissioner under 37 CFR 1.181 within ONE MONTH from the mailing date of this communication (37 CFR 1.515(c)). **EXTENSION OF TIME TO FILE SUCH A PETITION UNDER 37 CFR 1.181 ARE AVAILABLE ONLY BY PETITION TO SUSPEND OR WAIVE THE REGULATIONS UNDER 37 CFR 1.183.**

In due course, a refund under 37 CFR 1.26 (c) will be made to requester:

a) ☐ by Treasury check or,

b) ☐ by credit to Deposit Account No. _____, or

c) ☐ by credit to a credit card account, unless otherwise notified (35 U.S.C. 303(c)).

cc:Requester (if third party requester)

DECISION GRANTING EX PARTE REEXAMINATION

A substantial new question of patentability (SNQ) affecting claims 1 and 3 of United States Patent Number 7,241,034 (the '034 patent) to Smith et al, entitled "AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS" is raised by the present request for ex *parte* reexamination (hereinafter "the Request").

The '034 patent issued on July 10, 2007, based on US Patent Application No. 10/285,312 (the base application) filed on October 31, 2002. The '034 patent is currently assigned to Dana Corporation.

Scope of Reexamination

Since requester did not request reexamination of claims 2, 4 and 5, and did not assert the existence of a substantial new question of patentability (SNQP) for such claims (see 35 U.S.C. § 311(b)(2); see also 37 CFR 1.915b and 1.923), such claims will not be reexamined. This matter was squarely addressed in *Sony Computer Entertainment America Inc., et al. v. Jon W. Dudas*, Civil Action No. 1:05CV1447 (E.D.Va. May 22, 2006), Slip Copy, 2006 WL 1472462. (Not Reported in F.Supp.2d.) The District Court upheld the Office's discretion to not reexamine claims in an *inter partes* reexamination proceeding other than those claims for which reexamination had specifically been requested. The Court stated:

> To be sure, a party may seek, and the PTO may grant, *inter partes* review of each and every claim of a patent. Moreover, while the PTO in its discretion may review claims for which *inter partes* review was not requested, nothing in the statute compels it to do so. To ensure that the PTO considers a claim for *inter partes* review, § 311(b)(2) requires that the party seeking reexamination demonstrate why the PTO should reexamine each and every claim for which it seeks review. Here, it is undisputed that Sony did not seek review of every claim under the '213 and '333 patents. Accordingly, Sony cannot now claim that the PTO wrongly failed to reexamine claims for which Sony never requested review, and its argument that AIPA compels a contrary result is unpersuasive.

The *Sony* decision's reasoning and statutory interpretation apply analogously to *ex parte* reexamination, as the same relevant statutory language applies to both *inter partes* and *ex parte* reexamination. 35 U.S.C. § 302 provides that the *ex parte* reexamination "request must set forth the pertinency

and manner of applying cited prior art to every claim for which reexamination is requested" (emphasis added), and 35 U.S.C. § 303 provides that "the Director will determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request..." (Emphasis added). These provisions are analogous to the language of 35 U.S.C. § 311(b)(2) and 35 U.S.C. § 312 applied and construed in *Sony*, and would be construed in the same manner. As the Director can decline to reexamine non-requested claims in an *inter partes* reexamination proceeding, the Director can likewise do so in *ex parte* reexamination proceeding. See *Notice of Clarification of Office Policy To Exercise Discretion in Reexamining Fewer Than All the Patent Claims* (signed Oct. 5, 2006) 1311 OG 197 (Oct. 31, 2006). See also MPEP § 2240, Rev. 5, Aug. 2006.

Therefore, **claims 2, 4 and 5 will not be reexamined** in this *ex parte* reexamination proceeding.

Substantial New Question of Patentability

In the request for reexamination, the requestor alleges that the '034 patent claims 1 and 3 are unpatentable in light of the following prior art reference:

U.S. Patent 4,733,333 issued to Shibata (hereinafter "Shibata")

This reference was not of record in the prosecution history of the '034 patent and is not cumulative to the art of record in the original file.

Form 1449 is not readily available to the Examiner. Thus, this reference is cited in PTOL 892.

Prosecution History

The following is a summary of the most relevant portions regarding the prosecution history of the base application that ultimately issued as the '034 patent.

Review of the prosecution history of the base application reveals that the Examiner of record issued non-final Office action on 12/23/2003 including: rejected claims 1-2, 4-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Toda et al (U.S. Pat. No 6,305,823); rejected claims 1-2, 4-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Okuchi et al (U.S. Pat. No 6,193,398); and rejected claims 1-3 and 9 under 35 U.S.C. 102(b) as being anticipated by Gotoh (US Pat. No 5,909,949).

The Patent Owner complied with such requirements by submitting an amendment on 3/25/2004 which amendment to claims 1 and 7 and canceled claim 6. Thus, in this amendment claims 1-5 and 7-13 were pending. Of these, claims 1 and 7 were independent claims.

In response to the amendment, the Examiner of record issued a final Office action on 6/15/2004 including rejected claims 1-2, 4-5, 7-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Toda et al (U.S. Pat. No 6,305,823); rejected claims 1-2, 4-5, 7-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Okuchi et al (U.S. Pat. No 6,193,398) and rejected claims

1-3 and 9 under 35 U.S.C. 102(b) as being anticipated by Gotoh (US Pat. No 5,909,949).

The Patent Owner submitted Notice of Appeal on 9/17/2004 and a request for reconsideration on 12/28/2004. The Patent Owner noted in the remark that for claim 1: "*None of the art of record is believed to show or suggest a controller that is responsive to the sensor signal for generating an output signal only when the sensor signal changes by more than a predetermined amount*" and claim 7: "*None of the art of record is believed to show or suggest a controller that is responsive to a rate of change of the sensor signal for generating the output signal*".

In response, the Examiner of record issued an Advisor Action on 12/28/2004 indicated that "*The prior art of record including Toda et al in particular reads on independent claims 1 and 7. Regarding claims 1 and 7, Toda discloses an automatic leveling device for vehicle headlamps including a sensor (speed sensor12 and height sensor 14 fig. 1), a controller (CPU 16), an actuator (motor driver 18, and 20). Therefore, Toda meets the limitation of claims 1 and 7 and thus rejection of claims 1-5, and 7-13 are maintained*".

Notice of Abandonment mailed out 2/22/2005.

RCE was filed on 2/28/2005 after personal interview held on 2/26/2005 (noted in preliminary remark 02/28/2005).

In response to the RCE, the Examiner of record issued a non-final Office action including rejected claims 1-2, 4-5, 7-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Toda et al (U.S. Pat. No 6,305,823); rejected claims 1-2, 4-5, 7-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Okuchi et al (U.S. Pat. No 6,193,398); and rejected claims 1-3 and 9 under 35 U.S.C. 102(b) as being anticipated by Gotoh (US Pat. No 5,909,949).

The Patent Owner complied with such requirements by submitting remarks on 7/18/2005 with argument stating that *"In independent Claim 1, the claimed controller is responsive to a sensor signal for generating an output signal when the sensor signal changes by more than a predetermined amount"* and *"In independent Claim 7, the claimed controller is responsive to a rate of change of the sensor signal for generating the output signal"*

In response to the remarks, the Examiner of record issued a final Office action on 10/5/2005 including rejected claims 1-2, 4-5, 7-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Toda et al (U.S. Pat. No 6,305,823); rejected claims 1-2, 4-5, 7-8, 10-13 under 35 U.S.C. 102(e) as being anticipated by Okuchi et al (U.S. Pat. No 6,193,398) and rejected claims 1-3 and 9 under 35 U.S.C. 102(b) as being anticipated by Gotoh (US Pat. No 5,909,949).

The Patent Owner complied with such requirement by submitting a notice of Appeal filed 1/9/2006.

In response, a pre-Appeal brief conference has been held on 2/3/2006 and a panel from the pre-appeal conference has determined that forwarded rejected claims 1-13 to Board of Patent Appeals and Interferences.

The examiner of record issued notice of abandonment mailed out 4/6/2006.

In response to the notice of abandonment, Patent Owner filed request for withdrawal of holding of abandonment filed on 7/11/2006.

RCE was filed on 8/9/2006 including previously presented claims 1-5, 7-13 and added claim 14. Thus, in the RCE claims 1-5 and 7-14 were pending. Of these, claims 1, 7 and 14 were independent claims.

The decision for withdrawal of holding of abandonment was granted and the Notice of Abandonment was vacated on 9/29/2006.

In response to the RCE, the Examiner of record issued a non final Office action on 10/6/2006 including rejected claims 1-2, 4-5, 7-8, 10-14 under 35 U.S.C. 102(e) as being anticipated by Toda et al (U.S. Pat. No 6,305,823); rejected claims 1-2, 4-5, 7-8, 10-14 under 35 U.S.C. 102(e) as being anticipated by Okuchi et al (U.S. Pat. No 6,193,398) and rejected claims 1-3 and 9 under 35 U.S.C. 102(b) as being anticipated by Gotoh (US Pat. No 5,909,949).

The Patent Owner complied with such requirement by submitting remarks on 1/10/2007 and argued that "*Independent Claim 1 recites that the controller is responsive to the sensor signal for generating an output signal only when the sensor signal changes by more than a predetermined amount. Independent Claim 14 recites that the controller is responsive to the sensor signal for generating an output signal only when the sensor signal changes by more than a predetermined minimum threshold amount to prevent the actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition. The cited references fail to disclose either of these features*" and "*claim 7 recites that the controller is responsive to a rate of change of the sensor signal for generating the output signal. The Toda et al. and the Okuchi et al. references fail to disclose this feature*".

A personal interview held on 1/31/2007. The Examiner of record noted in the interview summary stating "*We discussed independent claims 1, 7, and 14. We agreed that claim 14 is allowable over the prior art of record because of the specific limitation of "a predetermined minimum threshold amount to prevent the actuator from being operated continuously or duly in response to relatively small variations in the sensed operating speed".*

On the same day, the Patent Owner submitted an amendment including canceled claims 1, 7-13 and amended claims 2-5 to depend from claim 14.

Thus, in this amendment claims 2-5 and 14 were pending. Of these, claim 14 was independent claim.

Notice of allowance was mailed on4/19/2007 with a statement of reasons for allowance: "*applicant's amendment and accompanying remarks has persuaded the examiner to place this application in condition for allowance.*"

Claims 2-5 and 14 were renumbered, the same numbering that appears in the base patent.

Thus, it appears from the Examiner's Statement of Reasons for allowance included in the base patent prosecution history that at the time of allowance, claims 2-5 and 14 were perceived as including at least the limitation "*a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition*" (the remark 1/10/2007) and the base patent issued for that reason.

Therefore, any reference or combination of references that includes a teaching recited in a base patent claims raise a substantial new question of patentability where such teaching is not seen to be cumulative of the teaching of the prior arts of record.

Substantial New Question of Patentability

The requestor alleges that a substantial new question of patentability is raised because claims 1 and 3 of the '034 patent are unpatentable as follow:

Claims 1 and 3 are unpatentable by Shibata.

Detailed Explanation

The request indicates that the Requestor considers that claims 1 and 3 are unpatentable by Shibata.

It is agreed that the consideration of Shibata raises a substantial new question of patentability to claims 1 and 3 of the '034 patent.

As presented in pages 2-5 of the request offered by the Requestor, a reasonable Examiner would consider Shibata important in making a decision as to the patentability of the claims 1 and 3 of the '034 patent. More particularly, the item-matching for claims 1 and 3 on Exhibit A of the request plausibly suggest that Shibata appears to teach: a sensor (81) which output an electric signal, a controller (84 and 85) that is responsive to the sensor signal for generating an output signal only **when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously** (the controller (84 and 85) is

responsive to the sensor signal (the output signal from 81, 82, 83), and outputs a signal only when the sensor signal changes by more than a predetermined minimum threshold amount, by forcing the counter 83 to be a certain value before providing an output, col. 11, lines 35-52) and an actuator (motor 39 connect to the headlight) as called for in claim 1.

Sine this teaching is directly related to subject matter considered as the basis for allowability of the patent claim, there is a substantial likehood that a reasonable examiner would consider these teachings important in deciding whether or not claim 1 is patentable. The prosecution history of the base application does not indicate that Shibata was included for consideration by the Examiner in charge of the base application. Accordingly, such teaching is not cumulative to any written discussion on the record of the teachings of the prior art, was not previously considered nor addressed during a prior examination and the same question of patentability were not the subject of a final holding of invalidity by Federal Courts.

Insofar as dependent claim 3 is within the chain of dependency stemming from independent claim 1; and thus inherently possesses all of the limitations of the independent claim 1, the same substantial new question of patentability raised for claim 1 is also raises for dependent claim 3.

Therefore, Shibata raises a substantial new question regarding claims 1 and 3 of the '034 patent.

Accordingly, the request for reexamination is GRANTED. Claims 1 and 3 will be reexamined.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that *ex parte* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in *ex parte* reexamination proceedings are provided for in 37 CFR 1.550(c).

Amendment in Reexamination Proceedings

Patent owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally presented pursuant to 37 CFR 1.52(a) and (b), and must contain any fees required by 37 CFR 1.20(c).

Submissions

In order to insure full consideration of any amendments, affidavits or declarations or other documents as evidence of patentability, such documents must be submitted in response to the first Office action on the merits (which does not result in a close of prosecution). Submissions after the second Office action on the merits, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, after final rejection and by 37 CFR 41.33 after appeal, which will be strictly enforced.

Notification of Concurrent Proceedings

The patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 7,241,034 throughout the course of his reexamination proceeding. Likewise, if present, the third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286.

Conclusion

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By Mail to: Mail Stop *Ex Parte* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete.

Any inquiry concerning this communication should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/My-Trang N. Ton/
Primary Examiner
Central Reexamination Unit 3992

Conferees:

/Margaret Rubin/

MARK J. REINHART
SPE ~~SPRE~~-AU 3992
CENTRAL REEXAMINATION UNIT

Primary Examiner, CRU 3992

Notice of References Cited	Application/Control No. 90/011,011	Applicant(s)/Patent Under Reexamination 7,241,034	
	Examiner MY-TRANG N. TON	Art Unit 3992	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,733,333	03-1988	Shibata et al.	362/40
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination	
	90/011,011	7,241,034	
	Examiner	Art Unit	
	MY-TRANG N. TON	3992	

SEARCHED			
Class	Subclass	Date	Examiner
n/a	-	8/10/2010	MT

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
n/a	-	8/10/2010	MT

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
n/a	8/10/2010	MT

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/011,011	7,241,034
	Certificate Date	Certificate Number

Requester Correspondence Address: ☒ **Patent Owner** ☐ **Third Party**

THE CALDWELL FIRM, LLC
P.O. BOX 59655
DEPT. SVIPGP
DALLAS, TX 95229

LITIGATION REVIEW ☒	**mt** (examiner initials)	**8/10/2010** (date)
Case Name		Director Initials
U.S. District - Texas Eastern (Tyler) 6:10cv78 Balther Technologies, Llc v. American Honda Motor Co Inc et A		MR for GM

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	**NUMBER**
1. n/a	
2.	
3.	
4.	

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 01/12/2011

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 01/12/2011

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action in Ex Parte Reexamination	Control No. 90/011,011	Patent Under Reexamination 7,241,034	
	Examiner MY-TRANG N. TON	Art Unit 3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

a☐ Responsive to the communication(s) filed on _____. b☐ This action is made FINAL.
c☐ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).** If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Information Disclosure Statement, PTO/SB/08.
3. ☐ Interview Summary, PTO-474.
4. ☐ _____.

Part II SUMMARY OF ACTION

1a. ☒ Claims *1 and 3* are subject to reexamination.
1b. ☒ Claims *2,4 and 5* are not subject to reexamination.
2. ☐ Claims _____ have been canceled in the present reexamination proceeding.
3. ☐ Claims _____ are patentable and/or confirmed.
4. ☒ Claims *1, 3* are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ The drawings, filed on _____ are acceptable.
7. ☐ The proposed drawing correction, filed on _____ has been (7a)☐ approved (7b)☐ disapproved.
8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some* c)☐ None of the certified copies have
   1☐ been received.
   2☐ not been received.
   3☐ been filed in Application No. _____.
   4☐ been filed in reexamination Control No. _____.
   5☐ been received by the International Bureau in PCT application No. _____.
   * See the attached detailed Office action for a list of the certified copies not received.
9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10. ☐ Other: _____

cc: Requester (if third party requester)

EX PARTE REEXAMINATION FIRST OFFICE ACTION

Background

This Office action is a first Office action on the merits for the reexamination proceeding control number 90/011,011.

This is a reexamination of U.S Patent No. 7,241,034 (hereinafter "the '034 patent").

The '034 patent is currently assigned to "Dana Corporation".

The '034 patent issued on July 10, 2007 based on US Patent Application No. 10/285,312 (the base application) filed on October 31, 2002.

Summary of Proceedings

A Request pursuant to 37 CFR 1.510 for ex parte reexamination of the '034 patent was filed 7/9/2010 by the Patent Owner. An Order granting ex parte reexamination of the base patent was mailed 8/12/2010. The order stated that there was a substantial new question of patentability affecting claims 1 and 3 of the '034 patent. Of these, claim 1 is independent claim.

Scope of Reexamination

Since requester did not request reexamination of claims 2, 4-5, and did not assert the existence of a substantial new question of patentability (SNQP) for such claims (see 35 U.S.C. § 311(b) (2); see also 37 CFR 1.915b and 1.923), such claims will not be reexamined. This matter was squarely addressed in *Sony Computer Entertainment America Inc., et al. v. Jon W. Dudas*, Civil Action No. 1:05CV1447 (E.D.Va. May 22, 2006), Slip Copy, 2006 WL 1472462. (Not Reported in F.Supp.2d.) The District Court upheld the Office's discretion to not reexamine claims in an *inter partes* reexamination proceeding other than those claims for which reexamination had specifically been requested. The Court stated:

> To be sure, a party may seek, and the PTO may grant, *inter partes* review of each and every claim of a patent. Moreover, while the PTO in its discretion may review claims for which *inter partes* review was not requested, nothing in the statute compels it to do so. To ensure that the PTO considers a claim for *inter partes* review, § 311(b)(2) requires that the party seeking reexamination demonstrate why the PTO should reexamine each and every claim for which it seeks review. Here, it is undisputed that Sony did not seek review of every claim under the '213 and '333 patents. Accordingly, Sony cannot now claim that the PTO wrongly failed to reexamine claims for which Sony never requested review, and its argument that AIPA compels a contrary result is unpersuasive.

The *Sony* decision's reasoning and statutory interpretation apply analogously to *ex parte* reexamination, as the same relevant statutory language

applies to both *inter partes* and *ex parte* reexamination. 35 U.S.C. § 302 provides that the *ex parte* reexamination "request must set forth the pertinency and manner of applying cited prior art to every claim for which reexamination is requested" (emphasis added), and 35 U.S.C. § 303 provides that "the Director will determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request..." (Emphasis added). These provisions are analogous to the language of 35 U.S.C. § 311(b)(2) and 35 U.S.C. § 312 applied and construed in *Sony*, and would be construed in the same manner. As the Director can decline to reexamine non-requested claims in an *inter partes* reexamination proceeding, the Director can likewise do so in *ex parte* reexamination proceeding. See *Notice of Clarification of Office Policy To Exercise Discretion in Reexamining Fewer Than All the Patent Claims* (signed Oct. 5, 2006) 1311 OG 197 (Oct. 31, 2006). See also MPEP § 2240, Rev. 5, Aug. 2006.

Therefore, **claims 2 and 4-5 will not be reexamined** in this ex *parte* reexamination proceeding.

References Relied Upon in the Request

Substantial new question of patentability affecting claims 1 and 3 of the '034 patent are raised by the request for ex parte reexamination based on the following prior art reference:

U.S. Patent 4,733,333 issued to Shibata (hereinafter "Shibata")

This reference was not of record in the prosecution history of the '034 patent and is not cumulative to the art of record in the original file.

Listing of Rejections Proposed in the Requests

The Patent Owner alleges that a substantial new question of patentability is raised because claims 1 and 3 of the '034 patent are unpatentable as follows:

The request indicates that Patent Owner considers that claims 1 and 3 are anticipated by Shibata.

Status of Claims

The status of the claims in this proceeding is as follows:

Claims 1 and 3 are as original in the '034 patent.

It is agreed this issue raises SNQ as to claims 1 and 3 of the '034 patent.

Relevant Statute

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Detail rejections

The request indicates that Patent Owner considers claims 1 and 3 are anticipated by Shibata.

The rejection of claims 1 and 3 were proposed by Patent Owner in the request for reexamination, pages 2-5, is **ACCEPTED.**

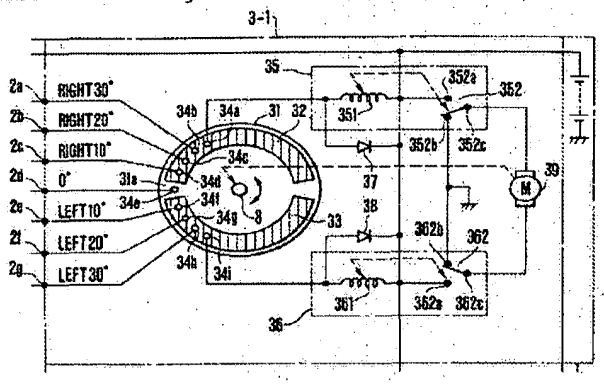
Claims 1 and 3 are rejected under 35 U.S.C 102(b) as being anticipated by Shibata.

Claims chart, Exhibit A, pages 1-5 of the request for reexamination is hereby incorporated by reference for the Patent Owner's explanation of the proposed rejection.

U.S. Patent No. 7,241,034	4,733,333 (Shibata)
1. An automatic directional control system for a vehicle headlight comprising:	"A cornering lamp system for a vehicle which changes direction of the headlamps in conjunction with the operation of the vehicle's steering mechanism" (Abstract - emphasis added). Shibata teaches a "cornering lamp system for a vehicle which changes direction of the headlamps," which meets applicant's claimed "automatic directional control system for a vehicle headlight." Summary [cornering lamp system for a vehicle which changes direction of the headlamps (Shibata) = automatic directional control system for a vehicle (Smith)]
a sensor that is adapted to generate a signal that is representative of a condition of the vehicle, said sensed condition includes one or more of road speed, steering angle, pitch, and suspension height of the vehicle;	"The cornering lamp system in this embodiment includes a steering wheel rotation angle sensor 81 which output an electric signal comprising a pulse train having "1" and "0" pulses by turns in cooperation with the steering operation of the steering wheel" (Col. 11, lines 35-40 - emphasis added). Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal," which meets applicant's claimed "sensor that is adapted to generate a signal that is representative of a condition of the vehicle, said sensed condition includes one or more of road speed, steering angle, pitch, and suspension height of the vehicle" (emphasis added). Summary [steering wheel rotation angle sensor 81 which output an electric signal (Shibata) = sensor that is adapted to generate a signal (Smith)] [steering wheel rotation angle sensor 81 which output an electric signal (Shibata) = sensed condition includes one or more of ... steering angle (Smith)]
a controller that is responsive to said sensor signal for generating an	"The cornering lamp system in this embodiment includes a steering wheel rotation angle sensor 81 which output an electric signal comprising a pulse

output signal only when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition;	train having "1" and "0" pulses by turns in cooperation with the steering operation of the steering wheel, an UP/DOWN switching circuit 82 which inputs the pulse like electric signal output from the steering wheel rotation angle sensor 81 to output an up signal and a down signal proportional to the angular displacement of the steering wheel from output terminals 82a and 82b, an UP/DOWN counter 83 which inputs the up and down signal output from the UP/DOWN [switching] circuit 82 to count up or down by the number of the up signal or the down signal thus input, and decoders/drivers 84 and 85 which input a count value output from the UP/DOWN counter 83, thus allowing only the level of an output terminal at a position corresponding to the count value to be set to "0". " (Col. 11, line 35-52 - emphasis added). "Now, when the steering wheel is rotated clockwise from such a condition, thus to initiate the right steering operation, the steering wheel rotation angle sensor 81 begins outputting a pulse like electric signal. As a result, an up signal corresponding to the steering amount of the steering wheel is input to the UP/DOWN counter 83 through the UP/DOWN switching circuit 82. Thus, the UP/DOWN counter 83 begins counting up from zero one by one. Then, when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals from which a signal of "0" is output to output the signal from the output terminals 84i and 85i." (Col. 13, line 35-48 - emphasis added) "The steering wheel has a play there may often happen the phenomena that such count down and up operations occur by. This is known in the art as the so called chattering phenomenon. However, according to the cornering lamp system in the present embodiment, even if such a chattering phenomenon would occur, there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp." (Col. 15, lines 57-65 - emphasis added) Shibata teaches "decoders/drivers 84 and 85 which input a count

	value output from the UP/DOWN counter 83, thus allowing only the level of an output terminal at a position corresponding to the count value to be set to "0"" and that "when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals from which a signal of "0" is output to output the signal from the output terminals 84i and 85i," which meets applicant's claimed "controller that is responsive to said sensor signal for generating an output signal only when said sensor signal changes by more than a predetermined minimum threshold amount to prevent said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition" (emphasis added). In addition, Shibata teaches "there is no possibility that the chattering phenomenon occurs during the change of the irradiation direction of the front lamp" which meets applicant's claimed "prevent[ing] said actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating condition" (emphasis added). [decoders/drivers 84 and 85 (Shibata) = controller (Smith)] [when the count value of the UP/DOWN counter 83 becomes equal to a value corresponding to a steering angle of 5.degree., the decoders/drivers 84 and 85 shift ahead each position of the output terminals (Shibata) = controller that is responsive to said sensor signal for generating an output signal only when said sensor signal changes by more than a predetermined minimum threshold amount (Smith)]
and an actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal.	"The headlamps are moved in discrete steps by use of a stepper motor." (Abstract - emphasis added)

	See item 39 of Fig. 6C  Shibata teaches "[t]he headlamps are moved in discrete steps by use of a stepper motor," which meets applicant's claimed "actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal" (emphasis added). Figure 6C from Shibata shows motor 39 connect to the headlight. Smith teaches that "[t]he actuators 12 and 13 are conventional in the art and may, for example, be embodied as servo motors, step motors, or any other electronically controlled mechanical actuators" (Col. 3, lines 28-31 – emphasis added). Accordingly, Shibata teaches applicant's claimed "actuator that is adapted to be connected to the headlight to effect movement thereof in accordance with said output signal" (emphasis added).

3. The automatic directional control system defined in claim 1	See Claim 1 chart above.
wherein said sensor generates a signal that is representative of the steering angle of the vehicle.	"The cornering lamp system in this embodiment includes a steering wheel rotation angle sensor 81 which output an electric signal comprising a pulse train having "1" and "0" pulses by turns in cooperation with the steering operation of the steering wheel" (Col. 11, lines 35-40 - emphasis added). Shibata teaches "a steering wheel rotation angle sensor 81 which output[s] an electric signal," which meets applicant's claimed "said sensor generates a signal that is representative of the

	steering angle of the vehicle" (emphasis added). [steering wheel rotation angle sensor 81 which output an electric signal (Shibata) = sensor generates a signal that is representative of the steering angle of the vehicle (Smith)]

Extensions of time

Extensions of time under 37 C.F.R. 1.136(a) will not be permitted in ex parte reexamination *proceedings* because the provisions of 37 C.F.R. 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. § 305 requires that reexamination proceedings "will be conducted with special dispatch" (37 C.F.R. 1.550(a)). Extension of time in ex *parte* reexamination proceedings are provided for in 37 C.F.R. 1.550(c).

Notification of Concurrent Proceedings

The patent owner is reminded of the continuing responsibility under 37 C.F.R. 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the patent throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability of similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286.

Amendment in Reexamination Proceedings

Patent owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 C.F.R. 1.530(d)-(j), must be formally presented pursuant to 37 C.F.R.

1.52(a) and (b), and must contain any fees required by 37 C.F.R. 1.20(c). See MPEP § 2250(IV) for examples to assist in the preparation of proper proposed amendments in reexamination proceedings.

After the filing of a request for reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on the other party (or parties where two or more third party requested proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248. See 37 CFR 1.550(f).

Submissions

In order to insure full consideration of any amendments, affidavits or declarations or other documents as evidence of patentability, such documents must be submitted in response to the first Office action on the merits (which does not result in a close of prosecution). Submissions after the second Office action on the merits, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, after final rejection and by 37 CFR 41.33 after appeal, which will be strictly enforced.

** It is noted that since form PTOL 1449 is not readily available to the Examiner, reference Shibata is now cited in PTOL 892.

Conclusion

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By Mail to: Mail Stop *Ex Parte* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete.

Any inquiry concerning this communication should be directed to Central Reexamination Unit at telephone number (571) 272-7705.

/My-Trang N. Ton/

My-Trang Nu Ton
Primary Examiner
Central Reexamination, Art Unit 3992

MARK J. REINHART
CRU SPE-AU 3992

Conferees:

/Margaret Rubin/

Primary Examiner, CRU 3992

Notice of References Cited	Application/Control No. 90/011,011	Applicant(s)/Patent Under Reexamination 7,241,034	
	Examiner MY-TRANG N. TON	Art Unit 3992	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,733,333	03-1988	Shibata et al.	362/40
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/011,011	7,241,034
	Certificate Date	Certificate Number

Requester Correspondence Address: ☒ Patent Owner ☐ Third Party
THE CALDWELL FIRM, LLC P.O. BOX 59655 DEPT. SVIPGP DALLAS, TX 95229

LITIGATION REVIEW ☒	mt (examiner initials)	1/5/2011 (date)
Case Name		Director Initials
U.S. District - Texas Eastern (Tyler) 6:10cv78 Balther Technologies, Llc v. American Honda Motor Co Inc et A		MM for IY

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
1. n/a	
2.	
3.	
4.	

Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination	
	90/011,011	7,241,034	
	Examiner	Art Unit	
	MY-TRANG N. TON	3992	

SEARCHED			
Class	Subclass	Date	Examiner
n/a	-	1/5/2011	MT

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
n/a	-	1/5/2011	**MT**

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
n/a	1/5/2011	MT

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
90/011,011	7,241,034
Examiner	**Art Unit**
MY-TRANG N. TON	3992

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
	)
7,241,034	) Art Unit: 3992
	)
Application No. 90/011,011	) Examiner: MY-TRANG N. TON
	)
Filed: 07/10/2010	) Atty. Docket No.:
	) SVIPGP109RE
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 1/18/2011

AMENDMENT A

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

In response to the Office Action mailed 1/12/2011 ("Office Action"), please enter the following amendments believed to place the claims in condition for allowance.

AMENDMENTS TO THE CLAIMS

Amended claims follow:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of a condition of [[the]]a vehicle, said sensed conditions including[[es]] [[one]]two or more of road speed, steering angle, pitch, and suspension height of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating conditions; and

[[an]]said at least one actuator [[that is]]being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

2. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the road speed of the vehicle.

3. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the steering angle of the vehicle.

4. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the pitch of the vehicle.

5. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the suspension height of the vehicle.

6. (New) The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor and a second sensor.

7. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the road speed of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle.

8. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

9. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the suspension height of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

10. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the road speed of the vehicle.

11. (New) The automatic directional control system defined in claim 6, wherein said first sensor is physically separate from said second sensor.

12. (New) The automatic directional control system defined in claim 1, wherein said sensed conditions further include one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, or a rate of change of suspension height of the vehicle.

13. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generate a signal that is representative of the rate of change of road speed of the vehicle.

14. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generates a signal that is representative of the rate of change of steering angle of the vehicle.

15. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generates a signal that is representative of the rate of change of pitch of the vehicle.

16. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generates a signal that is representative of the rate of change of suspension height of the vehicle.

17. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include at least two actuators.

18. (New) The automatic directional control system defined in claim 17, wherein the at least two actuators include a first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

19. (New) The automatic directional control system defined in claim 18, wherein the at least two actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

20. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes an electronically controlled mechanical actuator.

21. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes a step motor.

22. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes a servo motor.

23. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes a microstepping motor capable of being operated in fractional step increments.

24. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted relative to the vehicle.

25. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted up and down relative to a horizontal reference position.

26. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light

projects therefrom is capable of being adjusted left and right relative to a vertical reference position.

27. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects therefrom is capable of being adjusted relative to the vehicle by manual operation of the at least one actuator.

28. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

29. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

30. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with the at least one actuator.

31. (New) The automatic directional control system defined in claim 30, wherein the at least one position feedback sensor includes a Hall Effect sensor.

32. (New) The automatic directional control system defined in claim 30, wherein the at least one position feedback sensor includes an optical interrupter.

33. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes memory.

34. (New) The automatic directional control system defined in claim 33, wherein the memory includes non-volatile memory.

35. (New) The automatic directional control system defined in claim 33, wherein the memory is configured to store a predetermined reference position associated with the headlight.

36. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to position the headlight at or near a calibration position when an electrical system of the vehicle is turned on.

37. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

38. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch level sensor.

39. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

40. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

41. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of the at least one actuator.

42. (New) The automatic directional control system defined in claim 1, wherein said sensed conditions include three or more of road speed, steering angle, pitch, and suspension height of the vehicle.

43. (New) The automatic directional control system defined in claim 1, wherein said sensed conditions include all four of road speed, steering angle, pitch, and suspension height of the vehicle.

44. (New) The automatic directional control system defined in claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one actuator from being operated continuously in response to relatively small variations in the sensed operating conditions.

45. (New) The automatic directional control system defined in claim 1,wherein controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one actuator from being operated unduly frequently in response to relatively small variations in the sensed operating conditions.

REMARKS

Claims 1 and 3 stand rejected under 35 U.S.C. §102(b) ("Section 102") as allegedly anticipated by Shibata (U.S. Patent No. 4,733,333)("Shibata"). Applicant respectfully traverses these rejections. Nevertheless, Applicant has amended Claim 1 to overcome such rejection, as follows:

> 1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:
> [[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of a condition of [[the]]a vehicle, said sensed conditions including[[es]] [[one]]two or more of road speed, steering angle, pitch, and suspension height of the vehicle;
> a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating conditions; and
> [[an]]said at least one actuator [[that is]]being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

Applicant respectfully asserts that Shibata fails to teach "**two or more sensors** that are each adapted to generate a signal that is representative of a condition of the vehicle, said sensed conditions including **two or more** of road speed, steering angle, pitch, and suspension height of the vehicle" (emphasis added), as claimed by Applicant.

Applicant respectfully notes that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the identical invention must be shown in as complete detail as contained in the claim. *Richardson v. Suzuki Motor*

*Co.*868 F.2d 1226, 1236, 9USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, the elements must be arranged as required by the claim.

This criterion has simply not been met by the above reference, as noted above. As such, Applicant respectfully asserts that Shibata cannot support a proper rejection under Section 102 of Claims 1 and 3. Accordingly, Applicant respectfully requests the Examiner withdraw the Section 102 rejections of Claims 1 and 3. As Applicant has addressed all of the rejections in the Office Action, Applicant respectfully requests full allowance of Claims 1-5, as amended.

Finally, Applicant brings to the Examiner's attention the subject matter of new Claims 6-45, which Applicant adds for full consideration. Claims 6-45 depend from and further limit Claim 1. Accordingly, Applicant respectfully submits that new Claims 6-45 are allowable for at least the same reasons that Claim 1 is in condition for allowance, as described above.

Thus, all of the independent claims are deemed allowable. Moreover, the remaining dependent claims are further deemed allowable, in view of their dependence on such independent claims.

Therefore, for all of the above reasons, Applicant respectfully requests a Notice of Allowance of Claims 1-45, or a proper prior art showing of <u>all</u> of Applicant's claim limitations, in combination with the remaining claim elements.

Applicant encloses the appropriate fee for the new Claims. Applicant believes no other fees are due. In the event any other fees are due, the Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-4964 (Order No. SVIPGP109RE).

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, Applicant invites the Examiner to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

Dated: 18 Jan 2011

The Caldwell Firm, LLC
PO Box 59655
Dallas, Texas 75229-0655
Telephone: (972) 243-4523
pcaldwell@thecaldwellfirm.com

Patrick E. Caldwell, Esq.
Reg. No. 44,580

Electronic Patent Application Fee Transmittal

Application Number:	90011011
Filing Date:	10-Jul-2010
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Filer:	Patrick Edgar Caldwell
Attorney Docket Number:	SVIPGP109RE

Filed as Large Entity

ex parte reexam Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Reexamination claims in excess of 20	1822	25	52	1300
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**1300**

Electronic Acknowledgement Receipt

EFS ID:	9256364
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	18-JAN-2011
Filing Date:	10-JUL-2010
Time Stamp:	20:33:10
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1300
RAM confirmation Number	7187
Deposit Account	504964
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Amendment/Req. Reconsideration-After Non-Final Reject	SVIPGP109RE_Amndt_A_vF_18-Jan-2011.pdf	59673 17a11ea125a383206b10af9c297bef25c988c3c6	no	11
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	30142 d08a4ddc3906d7cb68af03ae002f8dd892c327e5	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	89815	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
	)
Smith, et al.	) Art Unit: 3992
	)
Application No. 90/011,011	) Examiner: MY-TRANG N. TON
	)
Filed: 07/10/2010	) Atty. Docket No.:
	) SVIPGP109RE
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 02/16/2011

SUBSTITUTE AMENDMENT A

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

In response to the Office Action mailed 1/12/2011 ("Office Action"), and as a substitute for the Response filed 1/18/2011, please enter the following amendments believed to place the Claims in condition for allowance.

AMENDMENTS TO THE CLAIMS

Amended claims follow:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of a condition of [[the]]a vehicle, said sensed conditions including[[es]] [[one]]two or more of road speed, steering angle, pitch, and suspension height of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating conditions; and

[[an]]said at least one actuator [[that is]]being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

2. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the road speed of the vehicle.

3. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the steering angle of the vehicle.

4. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the pitch of the vehicle.

5. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors generates a signal that is representative of the suspension height of the vehicle.

6. (New) The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor and a second sensor.

7. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the road speed of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle.

8. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

9. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the suspension height of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

10. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the road speed of the vehicle.

11. (New) The automatic directional control system defined in claim 6, wherein said first sensor is physically separate from said second sensor.

12. (New) The automatic directional control system defined in claim 1, wherein said sensed conditions further include one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, or a rate of change of suspension height of the vehicle.

13. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generate a signal that is representative of the rate of change of road speed of the vehicle.

14. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generates a signal that is representative of the rate of change of steering angle of the vehicle.

15. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generates a signal that is representative of the rate of change of pitch of the vehicle.

16. (New) The automatic directional control system defined in claim 12, wherein at least one of said two or more sensors generates a signal that is representative of the rate of change of suspension height of the vehicle.

17. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include at least two actuators.

18. (New) The automatic directional control system defined in claim 17, wherein the at least two actuators include a first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

19. (New) The automatic directional control system defined in claim 18, wherein the at least two actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

20. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes an electronically controlled mechanical actuator.

21. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes a step motor.

22. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes a servo motor.

23. (New) The automatic directional control system defined in claim 1, wherein the at least one actuator includes a microstepping motor capable of being operated in fractional step increments.

24. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted relative to the vehicle.

25. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted up and down relative to a horizontal reference position.

26. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light

projects therefrom is capable of being adjusted left and right relative to a vertical reference position.

27. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects therefrom is capable of being adjusted relative to the vehicle by manual operation of the at least one actuator.

28. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

29. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

30. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with the at least one actuator.

31. (New) The automatic directional control system defined in claim 30, wherein the at least one position feedback sensor includes a Hall Effect sensor.

32. (New) The automatic directional control system defined in claim 30, wherein the at least one position feedback sensor includes an optical interrupter.

33. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes memory.

34. (New) The automatic directional control system defined in claim 33, wherein the memory includes non-volatile memory.

35. (New) The automatic directional control system defined in claim 33, wherein the memory is configured to store a predetermined reference position associated with the headlight.

36. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to position the headlight at or near a calibration position when an electrical system of the vehicle is turned on.

37. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

38. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch level sensor.

39. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

40. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

41. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of the at least one actuator.

42. (New) The automatic directional control system defined in claim 1, wherein said sensed conditions include three or more of road speed, steering angle, pitch, and suspension height of the vehicle.

43. (New) The automatic directional control system defined in claim 1, wherein said sensed conditions include all four of road speed, steering angle, pitch, and suspension height of the vehicle.

44. (New) The automatic directional control system defined in claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one actuator from being operated continuously in response to relatively small variations in the sensed operating conditions.

45. (New) The automatic directional control system defined in claim 1,wherein controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one actuator from being operated unduly frequently in response to relatively small variations in the sensed operating conditions.

REMARKS

Claims 1 and 3 stand rejected under 35 U.S.C. §102(b) ("Section 102") as allegedly anticipated by Shibata (U.S. Patent No. 4,733,333)("Shibata"). Applicant respectfully traverses these rejections. Nevertheless, Applicant has amended Claim 1 to overcome such rejection, as follows:

> 1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:
> [[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of a condition of [[the]]a vehicle, said sensed conditions including[[es]] [[one]]two or more of road speed, steering angle, pitch, and suspension height of the vehicle;
> a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one actuator from being operated continuously or unduly frequently in response to relatively small variations in the sensed operating conditions; and
> [[an]]said at least one actuator [[that is]]being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

Applicant respectfully asserts that Shibata fails to teach "**two or more sensors** that are each adapted to generate a signal that is representative of a condition of the vehicle, said sensed conditions including **two or more** of road speed, steering angle, pitch, and suspension height of the vehicle" (emphasis added), as claimed by Applicant.

Applicant respectfully notes that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the identical invention must be shown in as complete detail as contained in the claim. *Richardson v. Suzuki Motor*

*Co.*868 F.2d 1226, 1236, 9USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, the elements must be arranged as required by the claim.

This criterion has simply not been met by the above reference, as noted above. As such, Applicant respectfully asserts that Shibata cannot support a proper rejection under Section 102 of Claims 1 and 3. Accordingly, Applicant respectfully requests the Examiner withdraw the Section 102 rejections of Claims 1 and 3. As Applicant has addressed all of the rejections in the Office Action, Applicant respectfully requests full allowance of Claims 1-5, as amended.

Finally, Applicant brings to the Examiner's attention the subject matter of new Claims 6-45, which Applicant adds for full consideration. Claims 6-45 depend from and further limit Claim 1. Accordingly, Applicant respectfully submits that new Claims 6-45 are allowable for at least the same reasons that Claim 1 is in condition for allowance, as described above.

Thus, all of the independent claims are deemed allowable. Moreover, the remaining dependent claims are further deemed allowable, in view of their dependence on such independent claims.

Therefore, for all of the above reasons, Applicant respectfully requests a Notice of Allowance of Claims 1-45, or a proper prior art showing of <u>all</u> of Applicant's claim limitations, in combination with the remaining claim elements.

Applicant encloses the appropriate fee for the new Claims. Applicant believes no other fees are due. In the event any other fees are due, the Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-4964 (Order No. SVIPGP109RE).

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, Applicant invites the Examiner to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

Dated: 16 Feb 2011

The Caldwell Firm, LLC
PO Box 59655
Dallas, Texas 75229-0655
Telephone: (972) 243-4523
pcaldwell@thecaldwellfirm.com

Patrick E. Caldwell, Esq.
Reg. No. 44,580

Electronic Acknowledgement Receipt

EFS ID:	9463539
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	16-FEB-2011
Filing Date:	10-JUL-2010
Time Stamp:	23:39:49
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	SVIPGP109RE_Amndt_A1_vF_16-Feb-2011.pdf	61811 cb8a86f3ce0c7c5a7dc631cd99d322d8eb6f031c	no	11

Warnings:	
Information:	

Total Files Size (in bytes):	61811

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: WFEE
Document Description: Fee Worksheet (PTO-875)

PTO/SB/06 (10-07)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 90/011,011

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X =		OR	X =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X =			X =	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $260 ($130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			N/A			N/A	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 45	Minus	** 20	= 25	X 52 =	1300	OR	X =	
Independent (37 CFR 1.16(h))	*	Minus	***	= 0	X =		OR	X =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR	N/A	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X =		OR	X =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X =		OR	X =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR	N/A	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/07 (07-07)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

Substitute for Form PTO-1360
(For use with Form PTO/SB/06)

Application Number: 90/011,011
Filing Date:
Applicant(s):

* May be used for additional claims or amendments

CLAIMS	AS FILED		AFTER FIRST AMENDMENT		AFTER SECOND AMENDMENT		*			*		*	
	Indep	Depend	Indep	Depend	Indep	Depend		Indep	Depend	Indep	Depend	Indep	Depend
1		1					51						
2	1						52						
3	1						53						
4	1						54						
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47							97						
48							98						
49							99						
50							100						
Total Indep	44						Total Indep						
Total Depend	1						Total Depend						
Total Claims	45						Total Claims						

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	90011011
Filing Date:	10-Jul-2010
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Filer:	Patrick Edgar Caldwell
Attorney Docket Number:	SVIPGP109RE

Filed as Large Entity

ex parte reexam Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Reexamination claims in excess of 20	1822	25	52	1300
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**1300**

Electronic Acknowledgement Receipt

EFS ID:	9493384
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	22-FEB-2011
Filing Date:	10-JUL-2010
Time Stamp:	15:40:54
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1300
RAM confirmation Number	2265
Deposit Account	504964
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Fee Worksheet (PTO-875)	fee-info.pdf	30143 10bdb83a36a84bafccbfaa8d3de40e1c4ff18f27	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	30143

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent of	:	James E. SMITH et al.
Patent No.	:	7,241,034
Issued	:	July 10, 2007
Reexamination Control No.	:	90/011,011
Title	:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
Examiner	:	My Trang TON
Art Unit	:	3992
Confirmation	:	3919

CERTIFICATE OF SERVICE

I hereby certify that a copy of the attached "**NOTICE OF CONCURRENT PROCEEDING UNDER 37 C.F.R. § 1.565**" is being served in its entirety by first class mail on the patent owner at the address listed below in the manner provided in 37 C.F.R. § 1.248:

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

on this 16th day of May 2011.

/Clifford A. Ulrich/
Clifford A. Ulrich
Reg. No. 42,194

KENYON & KENYON LLP
One Broadway
New York, N.Y. 10004
(212) 425-7200 (telephone)
(212) 425-5288 (facsimile)

Attorney for Volkswagen Group of America, Inc.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent of	:	James E. SMITH et al.
Reexamination Control No.	:	90/011,011
Patent No.	:	7,241,034
Issued	:	July 10, 2007
Title	:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
Examiner	:	My Trang TON
Group Art Unit	:	3992
Confirmation No.	:	3919

VIA EFS-WEB
Mail Stop *Ex Parte* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office via the Office electronic filing system on **May 16, 2011**.
Signature: /Helen Tam/
Helen Tam

NOTICE OF CONCURRENT PROCEEDING UNDER 37 C.F.R. § 1.565

Sir:

Pursuant to the provisions of M.P.E.P. § 2282, which provides that "in order to ensure a complete file, with updated status information regarding prior or concurrent proceedings regarding the patent under reexamination, the Office will, at any time, accept from any parties, for entry into the reexamination file, copies of notices of suits and other proceedings involving the patent and copies of decisions or papers filed in the court from litigations or other proceedings involving the patent," Volkswagen Group of America, Inc. ("VWGoA") hereby informs the Office that it has requested *inter partes* reexamination of U.S. Patent No. 7,241,034, the patent under reexamination in the above-captioned proceeding. VWGoA filed its Request on May 16, 2011, which has been assigned Control No. 95/001,621.

As set forth in the Certificate of Service attached hereto, a copy of this Notice is being served on the patent owner in accordance with 37 C.F.R. § 1.248.

Respectfully submitted,

Date: May 16, 2011

By: /Clifford A. Ulrich/
Clifford A. Ulrich
Reg. No. 42,194

KENYON & KENYON LLP
One Broadway
New York, N.Y. 10004
(212) 425-7200 (telephone)
(212) 425-5288 (facsimile)
CUSTOMER NO. 26646

Electronic Acknowledgement Receipt

EFS ID:	10102221
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Clifford A. Ulrich/Helen Tam
Filer Authorized By:	Clifford A. Ulrich
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	16-MAY-2011
Filing Date:	10-JUL-2010
Time Stamp:	19:14:37
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reexam Certificate of Service	Certificate-of-Service.pdf	61302 f7517c2ff25468cc7c6d256cc84886c5562ea163	no	1

Warnings:	
Information:	

2	Notice of concurrent proceeding(s)	Notice-Concurrent-Proceeding.pdf	81015 33059498f55247743 3f6265ab9bb16f97dec31ab	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	142317

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Patent Assignment Abstract of Title

Total Assignments: 4

Application #: 10285312 **Filing Dt:** 10/31/2002 **Patent #:** 7241034 **Issue Dt:** 07/10/2007
PCT #: NONE **Publication #:** US20030107898 **Pub Dt:** 06/12/2003
Inventors: James E. Smith, Anthony B. McDonald
Title: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS

Assignment: 1

Reel/Frame: 013729 / 0559 **Received:** 02/10/2003 **Recorded:** 02/06/2003 **Mailed:** 06/13/2003 **Pages:** 3
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignors: SMITH, JAMES E. **Exec Dt:** 01/31/2003
MCDONALD, ANTHONY B. **Exec Dt:** 01/31/2003
Assignee: DANA CORPORATION
4500 DORR STREET
TOLEDO, OHIO 43615
Correspondent: MACMILLAN, SOBANSKI & TODD, LLC
RICHARD S. MACMILLAN
720 WATER STREET
ONE MARITIME PLAZA, FOURTH FLOOR
TOLEDO, OH 43604-1853

Assignment: 2

Reel/Frame: 020540 / 0476 **Received:** 02/22/2008 **Recorded:** 02/22/2008 **Mailed:** 02/22/2008 **Pages:** 30
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: DANA CORPORATION **Exec Dt:** 01/31/2008
Assignee: DANA AUTOMOTIVE SYSTEMS GROUP, LLC
4500 DORR STREET
TOLEDO, OHIO 43615
Correspondent: DANA HOLDING CORPORATION
4500 DORR STREET
KRISTENE M RAGAN
TOLEDO, OH 43615

Assignment: 3

Reel/Frame: 022813 / 0432 **Received:** 06/12/2009 **Recorded:** 06/12/2009 **Mailed:** 06/12/2009 **Pages:** 2
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: DANA AUTOMOTIVE SYSTEMS GROUP, LLC **Exec Dt:** 05/26/2009
Assignee: STRAGENT, LLC
211 W. TYLER, SUITE C
LONGVIEW, TEXAS 75601
Correspondent: ASSIGNMENT RECORDATION
211 W. TYLER ST., SUITE C
LONGVIEW, TX 75601

Assignment: 4

Reel/Frame: 024045 / 0235 **Received:** 03/08/2010 **Recorded:** 03/08/2010 **Mailed:** 03/09/2010 **Pages:** 2
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: STRAGENT, LLC **Exec Dt:** 12/16/2009
Assignee: BALTHER TECHNOLOGIES, LLC
211 W. TYLER
SUITE C-4
LONGVIEW, TEXAS 75601
Correspondent: THE CALDWELL FIRM, LLC
PO BOX 59655
DEPT. SVIPGP
DALLAS, TX 75229

Search Results as of: 05/20/2011 11:36 AM

LIST OF DOCUMENTS CITED BY THIRD PARTY REQUESTER IN *INTER PARTES* REEXAMINATION	PATENT NO. 7,241,034	PATENTEE James E. SMITH et al.
	PATENT DATE July 10, 2007	

U. S. PATENT DOCUMENTS

EXAM. INITIAL	PATENT/ PUBLICATION NUMBER	NAME	PATENT/ PUBLICATION DATE	CLASS	SUBCLASS	FILING DATE
/M.T./	4,954,933	Wassen et al.	September 4, 1990			
/M.T./	5,182,460	Hussman	January 26, 1993			
/M.T./	5,909,949	Gotoh	June 8, 1999			
/M.T./	6,193,398	Okuchi et al.	February 27, 2001			
/M.T./	6,305,823	Toda et al.	October 23, 2001			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	COUNTRY	DATE	NAME	SUBCLASS	TRANSLATION	
						YES	NO
/M.T./	31 29 891	DE	June 9, 1982			X	
/M.T./	31 10 094	DE	September 30, 1982			X	
/M.T./	2 309 773	GB	August 6, 1997				X
/M.T./	2 309 774	GB	August 6, 1997				X

OTHER DOCUMENTS

EXAMINER INITIAL	Name
	"Original Complaint for Patent Infringement," filed on March 8, 2010, *BALTHER TECHNOLOGIES, LLC. v. AM. HONDA MOTOR CO. INC., et al.*, Case No. 6:10-CR-78-LED (E.D. Tex.).
	"Plaintiff's Notice of Voluntary Dismissal," filed on May 17, 2010, *BALTHER TECHNOLOGIES, LLC. v. AM. HONDA MOTOR CO. INC., et al.*, Case No. 6:10-CR-78-LED (E.D. Tex.).
	"Order," dated May 18, 2010, *BALTHER TECHNOLOGIES, LLC. v. AM. HONDA MOTOR CO. INC., et al.*, Case No. 6:10-CR-78-LED (E.D. Tex.).
/M.T./	Certified English-language translation of German Patent Application Publication No. 31 10 094 to Miskin et al.
/M.T./	Certified English-language translation of German Patent Application Publication No. 31 29 891 to Leleve.

EXAMINER	/My Trang Ton/ (06/15/2011)	DATE CONSIDERED	(06/15/2011)

EXAMINER: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 01/18/2012

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 01/18/2012

Please find below and/or attached an Office communication concerning this application or proceeding.

Notice Of Defective Paper In Ex Parte Reexamination	Control Number	Patent Under Reexamination
	90/011,011	7,241,034
	Examiner	Art Unit
	MY-TRANG TON	3992

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

1. ☐ Since no proof of service was included with the paper filed on _____ , it fails to comply with 37 CFR 1.248 and 1.540. Proof of service is required within ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this letter, whichever is longer. Failure to provide proof of service may result in a refusal to consider the paper. If the failure to comply with this requirement results in a patent owner failure to file a timely and appropriate response to any Office action or any written statement of an interview required under 37 CFR 1.560(b), the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.550(d).

2. ☐ The paper filed on _____ is unsigned. A duplicate paper or ratification, properly signed, is required within ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this letter, whichever is longer. Failure to comply with this requirement will result in the paper not being considered. If the failure to comply results in a patent owner failure to file a timely and appropriate response to any Office action or any written statement of an interview required under 37 CFR 1.560(b), the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.550(d).

3. ☐ The paper filed on _____ is signed by _____ , who is not of record. A duplicate paper or ratification signed by a person of record, a person made of record by way of a new power of attorney, is required within ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this letter, whichever is longer. Failure to comply with this requirement will result in the paper not being considered. If the failure to comply results in a patent owner failure to file a timely and appropriate response to any Office action or any written statement of an interview required under § 1.560(b), the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.550(d).

4. ☒ The Amendment filed on *2/16/11* does not comply with 37 CFR 1.530(d)-(j). Patent owner is given ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this letter, whichever is longer to correct this informality; otherwise, the prosecution of the the reexamination proceeding will be terminated under (37 CFR 1.550(d)).

5. ☐ The amendment filed by patent owner on _____, does not comply with 37 CFR ☐1.20(c)(3) and/or ☐1.20(c)(4), as to excess claim fees. Patent owner is given a time period of ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this letter, whichever is longer, to correct this fee deficiency, or the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.550(d), to effect the "abandonment" set forth in 37 CFR 1.20(c)(5).

6. ☐ Other :

NOTE: EXTENSION OF TIME ARE GOVERNED BY 37 CFR 1.550(c). If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

cc: Requester (if third party requester)

Defective Amendment

This proceeding is a merger of 90/011,011 and 95/001,621.

The Amendment filed 10/11/2007 is not fully compliant with 37 CFR 1.530 and will not be entered. A supplemental paper correctly proposing amendments in the present reexamination proceeding is required.

According to rule 37 CFR 1.530 (e), it requires that whenever there is an amendment of the claims, **there must supplied an explanation of the support in the disclosure of the patent for the changes of all patent claims and of all added claims made by the amendment paper**. The amendment has to specify which original claim it means, match it up with the claim amendment and make it intended meaning clear.

Patent Owner did not comply with this requirement for claims 1-5 and newly added claims 6-45. There is no explanation of the support in the disclosure of the patent for the changes made by the amendment paper.

Patent owner is given ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this latter, whichever is longer to correct this matter, otherwise, the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.550(d).

37 CFR 1.530. Statement by patent owner in ex parte reexamination; amendment by patent owner in ex parte or inter partes reexamination; inventorship change in ex parte or inter partes reexamination.

(e) *Status of claims and support for claim changes.* Whenever there is an amendment to the claims pursuant to paragraph (d) of this section, there must also be supplied, on pages separate from the pages containing the changes, the status (*i.e.*, pending or canceled), as of the date of the amendment, of all patent claims and of all added claims, and an explanation of the support in the disclosure of the patent for the changes to the claims made by the amendment paper.

(f) *Changes shown by markings* . Any changes relative to the patent being reexamined which are made to the specification, including the claims, must include the following markings:

(1) The matter to be omitted by the reexamination proceeding must be enclosed in brackets; and

(2) The matter to be added by the reexamination proceeding must be underlined.

(g) *Numbering of patent claims preserved* . Patent claims may not be renumbered. The numbering of any claims added in the reexamination proceeding must follow the number of the highest numbered patent claim.

(h) *Amendment of disclosure may be required* . The disclosure must be amended, when required by the Office, to correct inaccuracies of description and definition, and to secure substantial correspondence between the claims, the remainder of the specification, and the drawings.

(i) *Amendments made relative to patent.* All amendments must be made relative to the patent specification, including the claims, and drawings, which are in effect as of the date of filing the request for reexamination.

(j) *No enlargement of claim scope* . No amendment may enlarge the scope of the claims of the patent or introduce new matter. No amendment may be proposed for entry in an expired patent. Moreover, no amendment, other than the cancellation of claims, will be incorporated into the patent by a certificate issued after the expiration of the patent.

(e) *Status of claims and support for claim changes.* Whenever there is an amendment to the claims pursuant to paragraph (d) of this section, there must also be supplied, on pages separate from

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By Mail to: Mail Stop *Ex Parte* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
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Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete.

Any inquiry concerning this communication should be directed to Central Reexamination Unit at telephone number (571) 272-7705.

/My-Trang Nu Ton/

Primary Examiner
Central Reexamination, Art Unit 3992

Conferees: /Margaret Rubin/

Primary Examiner

MARK J. REINHART
CRU SPE-AU 3992

Central Reexamination, Art Unit 3992

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent No:	)
	)
7,241,034	) Art Unit: 3992
	)
Application No. 90/011,011	) Examiner: MY-TRANG N. TON
	)
Filed: 07/10/2010	) Atty. Docket No.:
	) SVIPGP109RE
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 02/02/2012

AMENDMENT C

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

In response to the Office Action mailed 1/12/2011 ("Office Action"), the Notice mailed 1/18/2012, and as a substitute for the Response filed 1/18/2011 and the Response filed 2/16/2011, please enter the following amendments believed to place the Claims in condition for allowance.

AMENDMENTS TO THE CLAIMS

Amended claims follow:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of [[the]]a vehicle, said sensed conditions including at least[[es]] ~~one or more of road speed,~~ steering angle[[,]] and pitch~~, and suspension height~~ of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed ~~operating~~ conditions; and

[[an]]said two or more actuators ~~that is~~each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

2. (Currently Amended) The automatic directional control system defined in Claim[[claim]] 1, wherein at least one of said two or more sensors further generate[[s]] a signal that is representative of the road speed of the vehicle.

3. (Currently Amended) The automatic directional control system defined in Claim[[claim]] 1, wherein at least one of said two or more sensors further generates a signal that is representative of [[the]]a rate of change of steering angle of the vehicle.

4. (Currently Amended) The automatic directional control system defined in Claim[[claim]] 1, wherein at least one of said two or more sensors further generates a signal that is representative of [[the]]a rate of change of pitch of the vehicle.

5. (Currently Amended) The automatic directional control system defined in Claim[[claim]] 1, wherein at least one of said two or more sensors further generates a signal that is representative of the suspension height of the vehicle.

6. (New) The automatic directional control system defined in Claim 1, wherein said two or more sensors include a first sensor and a second sensor.

7. (New) The automatic directional control system defined in Claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

8. (New) The automatic directional control system defined in Claim 6, wherein said first sensor is physically separate from said second sensor.

9. (New) The automatic directional control system defined in Claim 1, further comprising one or more additional sensors for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, a suspension height, or a rate of change of suspension height of the vehicle.

10. (New) The automatic directional control system defined in Claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of road speed of the vehicle.

11. (New) The automatic directional control system defined in Claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of steering angle of the vehicle.

12. (New) The automatic directional control system defined in Claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of pitch of the vehicle.

13. (New) The automatic directional control system defined in Claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of a suspension height of the vehicle.

14. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured to include the first actuator connected to the headlight to effect movement thereof in a first direction and a second actuator connected to the headlight to effect movement thereof in a second direction different form the first direction.

15. (New) The automatic directional control system defined in Claim 1, wherein the two or more actuators include the first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

16. (New) The automatic directional control system defined in Claim 15, wherein the two or more actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

17. (New) The automatic directional control system defined in Claim 1, wherein the two or more actuators include an electronically controlled mechanical actuator.

18. (New) The automatic directional control system defined in Claim 1, wherein the two or more actuators include a step motor.

19. (New) The automatic directional control system defined in Claim 1, wherein the two or more actuators include a servo motor.

20. (New) The automatic directional control system defined in Claim 1, wherein the two or more actuators include a microstepping motor capable of being operated in fractional step increments.

21. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted both up and down relative to a horizontal reference position and left and right relative to a vertical reference position.

22. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects therefrom is capable of being adjusted relative to the vehicle by manual operation of the two or more actuators.

23. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

24. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

25. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with at least one of the two or more actuators.

26. (New) The automatic directional control system defined in Claim 25, wherein the at least one position feedback sensor includes a Hall Effect sensor.

27. (New) The automatic directional control system defined in Claim 25, wherein the at least one position feedback sensor includes an optical interrupter.

28. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system further includes memory.

29. (New) The automatic directional control system defined in Claim 28, wherein the memory includes non-volatile memory.

30. (New) The automatic directional control system defined in Claim 28, wherein the memory is configured to store a predetermined reference position associated with the headlight.

31. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

32. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

33. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

34. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

35. (New) The automatic directional control system defined in Claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

36. (New) The automatic directional control system defined in Claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated continuously in response to relatively small variations in the sensed conditions.

37. (New) The automatic directional control system defined in Claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions.

38. (New) The automatic directional control system defined in Claim 1, wherein said controller is further responsive to said two or more sensor signals to automatically activate one or more vehicle lights that are different than the headlight.

39. (New) The automatic directional control system defined in Claim 38, wherein said one or more vehicle lights that are different than the headlight include one or more lights for illuminating a road in front of the vehicle during a turn.

40. (New) The automatic directional control system defined in Claim 1, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight.

41. (New) The automatic directional control system defined in Claim 1, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight to extend an angular range of a road surface.

REMARKS

Claims 1 and 3 of U.S. Patent No. 7,241,034 ("the '034 patent") stand rejected under 35 U.S.C. §102(b) ("Section 102b") as being anticipated by Shibata (U.S. Patent No. 4,733,333)("Shibata"). Furthermore, as noted in the 6/23/2011 Office Communication for the Inter Partes Reexamination Proceeding number 95/001,621, which has now been merged with the present matter, the Examiner has agreed with the Requestor that Requestor's issues 1-2, 4-7, 9-12, 14-17, and 19-20 raise substantial new questions of patentability as to claims 1-5 of the '034 patent.

Specifically, the Examiner agrees that:

Claims 1, 2, 4, and 5 are anticipated by Uchida (United Kingdom Patent Application Publication No. 2309773) ("Uchida") under Section 102b;

Claims 1, 2, 4, and 5 are anticipated by Takahashi (United Kingdom Patent Application Publication No. 2309774)("Takahashi") under Section 102b;

Claims 1 and 5 are anticipated by Miskin et al. (German Patent Application Publication No. 3110094)("Miskin") under Section 102b;

Claims 1 and 5 are anticipated by Leleve (German Patent Application Publication No. 3129891)("Leleve") under Section 102b;

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. (U.S. Patent No. 6,305,823)("Toda") and Uchida under 35 U.S.C. § 103(a) ("Section 103a");

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda and Takahashi under Section 103a;

Claims 1, 2, 4, and 5 are unpatentable over the combination of and Miskin under Section 103a;

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda and Leleve under Section 103a;

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. (U.S. Patent No.6,193,398)("Okuchi") and Uchida under Section 103a;

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi and Takahashi under Section 103a;

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi and Miskin under Section 103a;

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi and Leleve under Section 103a;

Claims 1-5 are unpatentable over the combination of Gotoh (U.S. Patent No. 5,909,949)("Gotoh") and Uchida under Section 103a;

Claims 1-5 are unpatentable over the combination of Gotoh and Takahashi under Section 103a;

Claims 1, 2, 3, and 5 are unpatentable over the combination of Gotoh and Miskin under Section 103a; and

Claims 1-5 are unpatentable over the combination of Gotoh and Leleve under Section 103a.

Applicant has amended Claim 1 to overcome these rejections, as follows:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of [[the]]a vehicle, said sensed conditions including at least[[es]] ~~one or more of road speed,~~ steering angle[[,]] and pitch~~, and suspension height~~ of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed ~~operating~~ conditions; and

[[an]]said two or more actuators ~~that is~~each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

Applicant respectfully asserts that the references as relied on by the Examiner fail to teach "**two or more sensors** that are each adapted to generate a signal that is

representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least **steering angle and pitch of the vehicle**" (emphasis added), as claimed by Applicant. Further, Applicant respectfully asserts that the references as relied on by the Examiner fail to teach "**two or more actuators** each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal" (emphasis added), as claimed by Applicant.

Applicant respectfully notes that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *See Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the identical invention must be shown in as complete detail as contained in the claim. *See Richardson v. Suzuki Motor Co.*868 F.2d 1226, 1236, 9USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, the elements must be arranged as required by the claim.

This criterion has simply not been met by the above references, as noted above.

Further, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicant's disclosure. *See In re Vaeck,*947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991).

Applicant respectfully asserts that at least the first and third elements of the *prima facie* case of obviousness have not been met, because it would be *unobvious* to combine the prior art references, and because the prior art references, as relied upon by the Examiner, fail to teach or suggest all of the claim limitations.

Finally, Applicant brings to the Examiner's attention the subject matter of new Claims 6-41, which Applicant adds for full consideration. Claims 6-41 depend from and further limit Claim 1. Accordingly, Applicant respectfully submits that new Claims 6-41 are allowable for at least the same reasons that Claim 1 is in condition for allowance, as described above. Support for the amendments to Claim 1, as well as for the newly added dependent claims may be found (by way of example), in Table 1.

Table 1

Claim 1 – *see, e.g.,* Abstract; Col. 2, lines 7-17; and Figure 1.
Claim 2 – *see, e.g.,* Col. 2, line 10.
Claim 3 – *see, e.g.,* Col. 2, lines 11-12.
Claim 4 – *see, e.g.,* Col. 2, line 12.
Claim 5 – *see, e.g.,* Col. 2, line 11.
Claim 6 – *see, e.g.,* items 15 and 16 of Figure 1.
Claim 7 - *see, e.g.,* Abstract; Col. 2, lines 7-17; Col. 3, line 58 - Col. 4, line 2; and Figure 1.
Claim 8 – *see, e.g.,* items 15 and 16 of Figure 1.
Claim 9 - *see, e.g.,* Col. 3, line 58 - Col. 4, line 2.
Claim 10 - *see, e.g.,* Col. 3, line 58 - Col. 4, line 2.
Claim 11 - *see, e.g.,* Col. 3, line 58 - Col. 4, line 2.
Claim 12 - *see, e.g.,* Col. 3, line 58 - Col. 4, line 2.
Claim 13 - *see, e.g.,* Col. 3, line 58 - Col. 4, line 2.
Claim 14 - *see, e.g.,* Figure 1 and Col. 3, lines 26-29.
Claim 15 - *see, e.g.,* Figure 1 and Col. 3, lines 26-29.
Claim 16 - *see, e.g.,* Figure 1 and Col. 3, lines 26-29.
Claim 17 - *see, e.g.,* Col. 3, lines 28-31.
Claim 18 - *see, e.g.,* Col. 3, lines 28-31.
Claim 19 - *see, e.g.,* Col. 3, lines 28-31.
Claim 20 - *see, e.g.,* Col. 3, lines 31-37.
Claim 21 - *see, e.g.,* Col. 3, lines 28-31.

Claim 22 – *see, e.g.,* Figure 2, Col. 5, lines 25-29.

Claim 23 – *see, e.g.,* Col. 3, lines 53-58.

Claim 24 – *see, e.g.,* Col. 3, lines 53-58.

Claim 25 – *see, e.g.,* Col. 4, lines 7-30.

Claim 26 - *see, e.g.,* Col. 4, line 26.

Claim 27 – *see, e.g.,* Col. 4, lines 35-36.

Claim 28 – *see, e.g.,* Col. 8, lines 8-11.

Claim 29 – *see, e.g.,* Col. 8, line 16.

Claim 30 – *see, e.g.,* Col. 6, lines 18-21.

Claim 31 – *see, e.g.,* Col. 7, lines 1-4.

Claim 32 – *see, e.g.,* Col. 7, lines 1-4.

Claim 33 – *see, e.g.,* Col. 9, lines 33-42.

Claim 34 – *see, e.g.,* Col. 9, lines 33-42.

Claim 35 – *see, e.g.,* Col 9, lines 46-56.

Claim 36 – *see, e.g.,* Col 9, lines 22-27.

Claim 37 – *see, e.g.,* Col 9, lines 22-27.

Claim 38 – *see, e.g.,* Col 12, lines 27-39.

Claim 39 – *see, e.g.,* Col 12, lines 27-39.

Claim 40 – *see, e.g.,* Col 12, lines 27-39.

Claim 41 – *see, e.g.,* Col 12, lines 27-39.

Of course, the above citations are merely examples of the above claim language and should not be construed as limiting in any manner.

For all of the forgoing reasons, Applicant respectfully requests a Notice of Allowance of Claims 1-41, or a proper prior art showing of all of Applicant's claim limitations, in combination with the remaining claim elements.

Applicant includes the appropriate fee for the new Claims. Applicant believes no other fees are due. In the event any other fees are due, the Commissioner is authorized to

charge any additional fees or credit any overpayment to Deposit Account No. 50-4964 (Order No. SVIPGP109RE).

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, Applicant invites the Examiner to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

Dated: 02 Feb 2012

The Caldwell Firm, LLC
PO Box 59655
Dallas, Texas 75229-0655
Telephone: (972) 243-4523
pcaldwell@thecaldwellfirm.com

Patrick E. Caldwell, Esq.
Reg. No. 44,580

Electronic Patent Application Fee Transmittal

Application Number:	90011011
Filing Date:	10-Jul-2010
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Filer:	Patrick Edgar Caldwell
Attorney Docket Number:	SVIPGP109RE

Filed as Large Entity

ex parte reexam Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Reexamination claims in excess of 20	1822	21	60	1260
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**1260**

Electronic Acknowledgement Receipt

EFS ID:	11990616
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	02-FEB-2012
Filing Date:	10-JUL-2010
Time Stamp:	23:27:52
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1260
RAM confirmation Number	7107
Deposit Account	504964
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Amendment/Req. Reconsideration-After Non-Final Reject	SVIPGP109RE_Amndt_C_vF_02-Feb-2012.pdf	74004 6a35709c67f7a710d3410a0f6581e9b4cda2ce7a	no	14
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30243 fdb782610fa32a4082da10df2c887af8b2dfe4cf	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	104247	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/001,621 ~ 90/011011	05/16/2011	7,241,034		1240

92045 7590 02/23/2012

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 02/23/2012

Please find below and/or attached an Office communication concerning this application or proceeding.

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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

Date: 2-23-12

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NO. : 95001621 + 90/011011
PATENT NO. : 7241034
TECHNOLOGY CENTER : 3999
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified Reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the inter partes reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an ex parte reexamination has been merged with the inter partes reexamination, no responsive submission by any ex parte third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

PTOL-2070(Rev.07-04)

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The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas TX 75229

(For Patent Owner)

Kenyon & Kenyon LLP
One Broadway
New York, NY 10004

(For the '1621 Requester)

In re Smith *et al.*
Ex Parte Reexamination Proceeding
Control No.: 90/011,011
Filed: July 10, 2010
For: U.S. Patent No. 7,241,034

In re Smith *et al.*
Inter Partes Reexamination Proceeding
Control No.: 95/001,621
Filed: May 16, 2011
For: U.S. Patent No.: 7,241,034

DECISION
SUA SPONTE
TO MERGE
REEXAMINATION
PROCEEDINGS

The above-captioned reexamination proceedings are before the Office of Patent Legal Administration for *sua sponte* consideration on merging the above proceedings.

Ex parte reexamination proceeding No. 90/011,011 and *inter partes* reexamination proceeding No. 95/001,621 **are merged** into a single proceeding.

BACKGROUND

1. On July 10, 2007, United States Patent Number 7,241,034 ("the '034 patent") issued to Smith *et al.* with 5 claims.

2. On July 10, 2010, patent owner filed a request for *ex parte* reexamination of claims 1 and 3 of the '034 patent, which was assigned control number 90/011,011 ("the '11011 proceeding").[1]

3. On August 12, 2010, *ex parte* reexamination of claims 1 and 3 of the '034 patent was granted in the '11011 reexamination proceeding.

4. On October 12, 2010, the time period for submission of a patent owner's statement under 37 CFR 1.530(b) expired.

[1] Patent owner originally deposited a request on May 25, 2010 that was found incomplete by the Office and was subsequently supplemented until found sufficient to grant a filing date of July 10, 2010.

5. On January 12, 2011, the Office issued a non-final rejection in the '11011 proceeding.

6. On January 18, 2011, patent owner timely filed an informal/non-responsive amendment after an Office action.

7. On February 16, 2011, patent owner timely filed a substitute amendment, which amended claims 1-5 and added new claims 6-45.

8. On May 16, 2011, a request for *inter partes* reexamination of claims 1-5 of the '034 patent was filed by a third party requester, which was assigned Reexamination Control No. 95/001,621 ("the '1621 proceeding"). The request identified Volkswagen Group of America, Inc. ("the 1621 requester") as the real party in interest.

9. On June 23, 2011, *inter partes* reexamination of claims 1-5 of the '034 patent was granted in the '1621 proceeding.

10. On January 18, 2012, the Office issued a Notice of Defective Paper in the '11011 proceeding requesting correction of the February 16, 2011 substitute amendment.

11. On February 2, 2012, patent owner timely filed a second substitute amendment, which amended claims 1-5 and added new claims 6-41.

12. To date, no Office action has issued in the '1621 proceeding.

DECISION

I. MERGER OF PROCEEDINGS

Reexamination has been ordered in the above-captioned two proceedings for overlapping claims of the same patent. One of the proceedings (the '11011 proceeding) is an *ex parte* proceeding. The other proceeding (the '1621 proceeding) is an *inter partes* proceeding. Both proceedings are still pending, and have not been terminated. The time period for filing a patent owner statement under 37 CFR 1.530 in the *ex parte* proceeding has expired. Therefore, consideration of merger is ripe at this point in time.

MPEP 2686.01 points out:

> Where a second request for reexamination is filed and reexamination is ordered, and a first reexamination proceeding is pending, the proceedings will be merged where the Office (in its discretion) deems it appropriate to do so, to facilitate the orderly handling of the proceedings. However, a decision not to merge is within the sole discretion of the Office to facilitate/carry out the statutory mandate of 35 U.S.C. 314(c) to conduct reexamination proceedings with "special dispatch."

In this instance, based upon the record as a whole, it is found, based on the facts as they exist at present, that merger of the proceedings should facilitate the orderly handling of the proceedings with special dispatch. Accordingly, the 90/011,011 and 95/001,621 proceedings **are hereby merged**. The merged proceeding will be conducted in accordance with the guidelines and requirements that follow.

II. THE SAME CLAIMS MUST BE MAINTAINED IN BOTH PROCEEDINGS

Patent owner is required to maintain the same claims (and specification) in both files throughout the merged proceeding. An amendment accompanied the patent owner's statement in the '11011 *ex parte* reexamination proceeding. Originally issued claims 1-5 have all been amended and new claims 6-41 have been added in the '11011 *ex parte* proceeding, while the claims in the '1621 *inter partes* proceeding have not been so amended. Thus, the claims are not currently the same in both proceeding files. An Office action requiring an amendment placing the claims of both proceedings in identical form is being issued concurrently with this decision. Patent owner must respond to the Office action in accordance with the procedure provided in 37 CFR 1.111. The *inter partes* third party requester will then have an opportunity to comment on patent owner's response in accordance with the procedures in 37 CFR 1.947.

The patent owner is required to maintain the same claims (and specification) in both files *throughout the merged proceeding.*

III. CONDUCT OF MERGED PROCEEDING

A. Governing regulations for the merged proceeding:

The present decision merges an *ex parte* reexamination proceeding with an *inter partes* reexamination proceeding. Pursuant to 37 CFR 1.989(b), the merged proceeding is governed by 37 CFR 1.902 through 1.997.

B. *Inter partes* Third Party Requester Participation:

1. Comment rights:

The *inter partes* requester can comment pursuant to 35 U.S.C. 314(b)(2).[2] First, an *inter partes* requester's right to comment is contingent upon the patent owner responding to, or commenting on, an Office action. Second, the *inter partes* requester's right to comment is limited to issues raised in either the Office action or the patent owner's response to the action. Finally, the *inter partes* requester's comments must be submitted within 30 days from the date of service of the patent owner's response. An *inter partes* requester does not have a right to comment on any issue raised outside the confines of the statute, e.g. issues raised in a previous Office action (but

[2] Each time that the patent owner files a response to an action on the merits from the Patent and Trademark Office, the *inter partes* third-party requester shall have one opportunity to file written comments addressing issues raised by the action of the Office or the patent owner's response thereto, if those written comments are received by the Office within 30 days after the date of service of the patent owner's response.

not raised in the most recent Office action or response) or the request and comments from the *ex parte* requester. The *inter partes* requester's comments must be submitted within the statutory time period of 30 days from date of service of the patent owner's response.

2. Appeal Rights:

A discussion of third party requester's appeal rights can be found in section G below.

C. Papers mailed/filed:

All papers mailed by the Office throughout the merged proceeding will take the form of a single action which applies to both proceedings. All papers issued by the Office, or filed by the patent owner and the third party requester, will contain the identifying data for both files and will be physically entered in each reexamination file. All papers filed by the patent owner and the third party requester must consist of a single paper, **filed in duplicate**, each bearing a signature and identifying data for both files, for entry into each file.

All papers filed by the patent owner and the third party requesters should be directed:

by Mail to:	Attn: Mail Stop "*Inter Partes* Reexam" Central Reexamination Unit Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450
by FAX to:	(571) 273-9900 Central Reexamination Unit
by Hand to:	Customer Service Window Attn: Central Reexamination Unit Randolph Building, Lobby Level 401 Dulany Street Alexandria, VA 22314
by EFS:	Registered users may submit papers via the electronic filing system EFS-Web, at: https:// efs.uspto.gov/efile/myportal/efs-registered.

The patent owner and the *inter partes* requester are reminded that every paper filed (including papers filed *via* facsimile transmission) in the merged proceeding subsequent to this decision must be served on the other party, and every paper filed must reflect that such paper was served on the other party in the merged proceeding, pursuant to 37 CFR 1.903. All papers are to be addressed to the Central Reexamination Unit as provided above.

D. Amendments:

The filing of any amendments to the drawings, specification or claims must comply with 37 CFR 1.943, which incorporates the provisions of 37 CFR 1.530, and the guidelines of MPEP § 2666.01, which in turn references the guidelines of MPEP § 2250.

37 CFR 1.121 does not apply to amendments in reexamination. Accordingly, clean copies of the amended claims are not required and are not to be submitted; rather amendments are to be presented via markings pursuant to paragraph 37 CFR 1.530(f), except that a claim should be canceled by a statement canceling the claim, without presentation of the text of the claim.

Pursuant to 37 CFR 1.530(i), all amendments must be made relative to the patent specification, including the claims, and drawings, which are in effect as of the date of filing the request for reexamination. *Amendments are not to be made relative to previous amendments.* Thus, for all amendments, all words not appearing in the patent are always underlined, and only words being deleted from the patent appear in brackets.

E. Fees:

Where a paper is filed that requires payment of a fee (*e.g.*, petition fee, excess claims fee, extension of time fee, appeal fee, brief fee, oral hearing fee), only a single fee need be paid. For example, only one fee need be paid for any patent owner's appellant brief (or that of the *inter partes* reexamination requester) which may be filed, even though the brief relates to merged multiple proceedings, and copies must be filed (as pointed out above) for each file in the merged proceeding.

F. Citation of Patents and Printed Publications:

Upon return of the present merged proceeding to the examiner, the examiner will review the files to ensure that each file contains identical citations of prior patents and printed publications, and will cite such documents as are necessary as part of the next action in order to place the files in that condition.

G. Appeal Procedure Reminders for *Inter Partes* Reexamination

The *inter partes* reexamination procedures for taking appeal, and for participating in the patent owner's appeal, are explained in MPEP §§ 2674 through 2675 and 2678 through 2683.

With respect to a patent owner's notice of appeal, the appeal must only be taken from the rejection(s) of the claims in the Right of Appeal Notice (RAN) that the *patent owner* proposes to contest, and must identify each claim rejected by examiner that the patent owner intends to contest.

With respect to a third party requester's notice of appeal, the appeal must only be taken from the finding(s) of patentability of claims in the RAN that the *third party requester* proposes to

contest. As set forth in MPEP § 2674, the third party requester must identify in the notice of appeal each rejection *that was previously proposed by third party requester* that the third party requester intends to contest and each rejection made and later withdrawn by the examiner that the third party requester intends to contest. It is not sufficient to merely appeal from the allowance of a claim (i.e., the examiner's finding of a claim patentable); the third party requester must identify each previously proposed rejection to be contested.

No new ground of rejection can be proposed by a third party requester appellant, unless such ground was withdrawn by the examiner during the prosecution of the proceeding, and the third party requester has not yet had an opportunity to propose it as a third party requester proposed ground of rejection. See 37 CFR 41.67(c)(1)(vi) as to the proposed rejections that a requester can challenge in the appellant brief.

CONCLUSION

1. *Ex parte* Reexamination Control No. 90/011,011 and *inter partes* Reexamination Control No. 95/001,621 are **merged into a single proceeding**, to be conducted in accordance with the procedure set forth above in Part III of this decision.

2. The examiner should not issue any further Office action for the present merged proceeding until after the earlier of: (a) the submission of the required response to the concurrently mailed Office action (see II above) to place the same amendment in all proceedings and requesters' comments on that response, or (b) the expiration of the time for filing the required response and any comments requesters elect to file.

3. Any questions concerning this communication should be directed to Joseph F. Weiss, Jr., Legal Advisor, at 571-272-7759.

Pinchus M. Laufer
Senior Legal Advisor
Office of Patent Legal Administration

February 17, 2012

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/001,621 ← 90011011	05/16/2011	7,241,034		1240

92045 7590 02/23/2012

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
TON, MY TRANG	
ART UNIT	**PAPER NUMBER**
3992	
MAIL DATE	**DELIVERY MODE**
02/23/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Commissioner for Patents
United States Patent and Trademark Office
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Alexandria, VA 22313-1450
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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

KENYON & KENYON LLP

One Broadway

New York, N.Y. 10004

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NUMBER *95/001,621*. → 90/011,011

PATENT NUMBER *7,241,034*.

TECHNOLOGY CENTER *3900*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

OFFICE ACTION IN INTER PARTES REEXAMINATION	Control No.	Patent Under Reexamination
	95/001,621	7,241,034
	Examiner	Art Unit
	MY-TRANG TON	3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:
Patent Owner on 02 February, 2012
Third Party(ies) on 16 May, 2011

RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:

For Patent Owner's Response:
1 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.
For Third Party Requester's Comments on the Patent Owner Response:
30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

PART II. SUMMARY OF ACTION:

1a. ☒ Claims 1-41 are subject to reexamination.
1b. ☐ Claims _____ are not subject to reexamination.
2. ☐ Claims _____ have been canceled.
3. ☐ Claims _____ are confirmed. [Unamended patent claims]
4. ☐ Claims _____ are patentable. [Amended or new claims]
5. ☒ Claims 1-41 are rejected.
6. ☐ Claims _____ are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on _____ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has: ☐ been received. ☐ not been received. ☐ been filed in Application/Control No 95001621.
10. ☐ Other _____

DETAILED OFFICE ACTION

This proceeding is a merger of 90/011,011 and 95/001,621.

I. MERGED REEXAMINATION PROCEEDINGS

Per the accompanying Decision *Sua Sponte* to Merge Reexamination Proceedings, Patent Owner is required to maintain the same claims (and specification) in both ***ex parte*** reexamination proceeding **90/011,011** ("the '11,011 proceeding") and ***inter partes*** reexamination proceeding **95/001,621** ("the '1621 proceeding").

II. STATUS OF CLAIMS

1. The '11,011 proceeding:

The status of the claims with respect to the '11,011 proceeding is as follows: The amendment filed 2/2/2012 has been entered. Claims 1-41 were maintained; claim 1-5 were amended; and claims 6-41 were newly added. Claims 1-41 are therefore pending.

2. The '1621 proceeding:

The status of the claims with respect to the '1621 proceeding is as follows: Per the Order Granting Request, mailed on 6/23/2011, claims 1-5 will be reexamined. Claims 1-5 are therefore pending.

3. The Merged Reexamination Proceedings:

As set forth above, **Patent Owner is required to maintain identical amendments in the merged reexamination files for a Merged Reexamination Proceeding**. This requirement has not been satisfied.

III. RELEVANT STATUTES - CLAIM REJECTIONS

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite because it is unclear which version of these claims is pending in the merged proceeding.

The version of claims in the '11,011 proceeding contains an amendment of claims 1-5 and the addition of claims 6-41, whereas the version of claims in the '1621 proceeding contains only the original claims 1-5. Patent Owner is required to maintain identical amendments in the merged reexamination files for purposes of the merged proceeding. Thus, the status of claims with respect to the Merged Reexamination Proceedings is unclear.

Patent owner is required to file an amendment putting the same claims in both proceedings to overcome the rejection discussed above. Patent owner is given **one month** to provide the required amendment in accordance with the procedures in MPEP 2250. Within **30 days** from the date of service of the patent owner's response, the '1,621 inter partes requester may once file written comments in accordance with 37 CFR 1.947. The '1621 requester's comments may include proposed rejections for any claims amended with respect to the claims currently of record in the '1621 proceeding. Once the parties have filed responses or the time period for filing such responses has expired, the examiner will issue an Office action on the merits.

IV. EXTENSIONS OF TIME

Extensions of time under 37 CFR 1.136(a) will **not** be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 314(c) requires that *inter partes* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.937). Patent owner extensions of time in *inter partes* reexamination proceedings are provided for in 37 CFR 1.956. Extensions of time are not available for third party requester comments, because a comment period of 30 days from service of patent owner's response is set by statute. 35 USC 314(b)(3).

V. SERVICE OF PAPERS

Any paper filed by either the patent owner or the third party requester must be served on the other party in the reexamination proceeding in the manner provided by 37 CFR 1.248. See 37 CFR 1.903 and MPEP 2666.06.

VI. CORRESPONDENCE AND INQUIRY AS TO OFFICE ACTIONS

All correspondence related to this inter partes reexamination proceeding should be directed as follows:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/myportal/efs-registered

By Mail to: Mail Stop *Inter Partes* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/My-Trang Nu Ton/
Primary Examiner
CRU - Art Unit 3992

Conferees:
/Margaret Rubin/
Primary Examiner CRU 3992

MARK J. REINHART
CRU SPE-AU 3992

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
	)
7,241,034	) Art Unit: 3992
	)
Applications No. 95/001,621 & 90/011,011	) Examiner: MY-TRANG N. TON
	)
Filed: 05/16/2011	) Atty. Docket No.:
	) SVIPGP109RE
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 03/23/2012

AMENDMENT D

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

In response to the Office Action mailed 2/23/2012, the notice of Merger of Proceedings mailed 2/23/2012, the Office Action mailed 1/12/2011 ("Office Action"), and as a substitute for the Responses filed 1/18/2011, 2/16/2011, and 02/02/2012 in the 90/011,011 proceeding, please enter the following amendments believed to place the Claims in condition for allowance.

AMENDMENTS TO THE CLAIMS

Amended claims follow:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of [[the]]a vehicle, said sensed conditions including at least[[es]] ~~one or more of road speed,~~ steering angle[[,]] and pitch~~, and suspension height~~ of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed ~~operating~~ conditions; and

[[an]]said two or more actuators [[that is]]each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

2. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generate[[s]] a signal that is representative of the road speed of the vehicle.

3. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generates a signal that is representative of [[the]]a rate of change of steering angle of the vehicle.

4. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generates a signal that is representative of [[the]]a rate of change of pitch of the vehicle.

5. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generates a signal that is representative of the suspension height of the vehicle.

6. (New) The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor and a second sensor.

7. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

8. (New) The automatic directional control system defined in claim 6, wherein said first sensor is physically separate from said second sensor.

9. (New) The automatic directional control system defined in claim 1, further comprising one or more additional sensors for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, a suspension height, or a rate of change of suspension height of the vehicle.

10. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of road speed of the vehicle.

11. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of steering angle of the vehicle.

12. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of pitch of the vehicle.

13. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of a suspension height of the vehicle.

14. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include the first actuator connected to the headlight to effect movement thereof in a first direction and a second actuator connected to the headlight to effect movement thereof in a second direction different form the first direction.

15. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include the first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

16. (New) The automatic directional control system defined in claim 15, wherein the two or more actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

17. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include an electronically controlled mechanical actuator.

18. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include a step motor.

19. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include a servo motor.

20. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include a microstepping motor capable of being operated in fractional step increments.

21. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted both up and down relative to a horizontal reference position and left and right relative to a vertical reference position.

22. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects therefrom is capable of being adjusted relative to the vehicle by manual operation of the two or more actuators.

23. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

24. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

25. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with at least one of the two or more actuators.

26. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes a Hall Effect sensor.

27. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes an optical interrupter.

28. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes memory.

29. (New) The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory.

30. (New) The automatic directional control system defined in claim 28, wherein the memory is configured to store a predetermined reference position associated with the headlight.

31. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

32. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

33. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

34. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

35. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

36. (New) The automatic directional control system defined in claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated continuously in response to relatively small variations in the sensed conditions.

37. (New) The automatic directional control system defined in claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions.

38. (New) The automatic directional control system defined in claim 1, wherein said controller is further responsive to said two or more sensor signals to automatically activate one or more vehicle lights that are different than the headlight.

39. (New) The automatic directional control system defined in claim 38, wherein said one or more vehicle lights that are different than the headlight include one or more lights for illuminating a road in front of the vehicle during a turn.

40. (New) The automatic directional control system defined in claim 1, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight.

41. (New) The automatic directional control system defined in claim 1, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight to extend an angular range of a road surface.

REMARKS

As noted in the 6/23/2011 Office Communication for the Inter Partes Reexamination Proceeding number 95/001,621, which has now been merged with the current matter, Examiner has agreed with the Requestor that Requestor's issues 1-2, 4-7, 9-12, 14-17 and 19-20 raise substantial new questions of patentability as to claims 1-5 of the '034 patent.

Specifically, the Examiner agrees that:

Claims 1, 2, 4, and 5 are anticipated by Uchida (United Kingdom Patent Application Publication No. 2309773) under 35 U.S.C. §102(b);

Claims 1, 2, 4, and 5 are anticipated by Takahashi (United Kingdom Patent Application Publication No. 2309774) under 35 U.S.C. §102(b);

Claims 1 and 5 are anticipated by Miskin et al. (German Patent Application Publication No. 3110094) under 35 U.S.C. §102(b);

Claims 1 and 5 are anticipated by Leleve (German Patent Application Publication No. 3129891) under 35 U.S.C. §102(b);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. (U.S. Patent No. 6,305,823) and Uchida under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Takahashi under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Miskin et al. under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Leleve under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. (U.S. Patent No.6,193,398) and Uchida under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Takahashi under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Miskin et al. under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Leleve under 35 U.S.C. § 103(a);

Claims 1 to 5 are unpatentable over the combination of Gotoh (U.S. Patent No. 5,909,949) and Uchida under 35 U.S.C. § 103(a);

Claims 1 to 5 are unpatentable over the combination of Gotoh and Takahashi under 35 U.S.C. § 103(a);

Claims 1, 2, 3, and 5 are unpatentable over the combination of Gotoh and Miskin et al. under 35 U.S.C. § 103(a); and

Claims 1 to 5 are unpatentable over the combination of Gotoh and Leleve under 35 U.S.C. § 103(a).

Applicant has amended Claim 1 to overcome such rejections, as follows:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[[a]]two or more sensors that [[is]]are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of [[the]]a vehicle, said sensed conditions including at least[[es]] ~~one or more of road speed,~~ steering angle[[,]] and pitch~~, and suspension height~~ of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [[an]]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [[said]]at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed ~~operating~~ conditions; and

[[an]]said two or more actuators [[that is]]each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

Applicant respectfully asserts that the references as relied on by the Examiner fail to teach "**two or more sensors** that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed

conditions including at least **steering angle and pitch of the vehicle**" (emphasis added), as claimed by Applicant. Further, applicant respectfully asserts that the references as relied on by the Examiner fail to teach "**two or more actuators** each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal" (emphasis added), as claimed by Applicant.

Applicant respectfully notes that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the identical invention must be shown in as complete detail as contained in the claim. *Richardson v. Suzuki Motor Co.*868 F.2d 1226, 1236, 9USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, the elements must be arranged as required by the claim.

This criterion has simply not been met by the above reference, as noted above.

Further, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,*947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991).

Applicant respectfully asserts that at least the first and third elements of the *prima facie* case of obviousness have not been met, since it would be *unobvious* to combine the references, and the prior art references, as relied upon by the Examiner, fail to teach or suggest all of the claim limitations.

Finally, Applicant brings to the Examiner's attention the subject matter of new Claims 6-41, which Applicant adds for full consideration. Claims 6-41 depend from and further limit Claim 1. Accordingly, Applicant respectfully submits that new Claims 6-41 are allowable for at least the same reasons that Claim 1 is in condition for allowance, as described above. Support for the amendments to Claim 1, as well as for the newly added dependent claims may be found (by way of example), in Table 1.

Table 1

Claim 1 – e.g., see Abstract; Col. 2, lines 7-17; and Figure 1.
Claim 2 – e.g., see Col. 2, line 10.
Claim 3 – e.g., see Col. 2, lines 11-12.
Claim 4 – e.g., see Col. 2, line 12.
Claim 5 – e.g., see Col. 2, line 11.
Claim 6 – e.g., see items 15 and 16 of Figure 1.
Claim 7 - e.g., see Abstract; Col. 2, lines 7-17; Col. 3, line 58 - Col. 4, line 2; and Figure 1.
Claim 8 – e.g., see items 15 and 16 of Figure 1.
Claim 9 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 10 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 11 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 12 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 13 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 14 - e.g., see Figure 1 and Col. 3, lines 26-29.
Claim 15 - e.g., see Figure 1 and Col. 3, lines 26-29.
Claim 16 - e.g., see Figure 1 and Col. 3, lines 26-29.
Claim 17 - e.g., see Col. 3, lines 28-31.
Claim 18 - e.g., see Col. 3, lines 28-31.
Claim 19 - e.g., see Col. 3, lines 28-31.
Claim 20 - e.g., see Col. 3, lines 31-37.
Claim 21 - e.g., see Col. 3, lines 28-31.
Claim 22 – e.g., see Figure 2, Col. 5, lines 25-29.

Claim 23 – e.g., see Col. 3, lines 53-58.

Claim 24 – e.g., see Col. 3, lines 53-58.

Claim 25 – e.g., see Col. 4, lines 7-30.

Claim 26 - e.g., see Col. 4, line 26.

Claim 27 – e.g., see Col. 4, lines 35-36.

Claim 28 – e.g., see Col. 8, lines 8-11.

Claim 29 – e.g., see Col. 8, line 16.

Claim 30 – e.g., see Col. 6, lines 18-21.

Claim 31 – e.g., see Col. 7, lines 1-4.

Claim 32 – e.g., see Col. 7, lines 1-4.

Claim 33 – e.g., see Col. 9, lines 33-42.

Claim 34 – e.g., see Col. 9, lines 33-42.

Claim 35 – e.g., see Col 9, lines 46-56.

Claim 36 – e.g., see Col 9, lines 22-27.

Claim 37 – e.g., see Col 9, lines 22-27.

Claim 38 – e.g., see Col 12, lines 27-39.

Claim 39 – e.g., see Col 12, lines 27-39.

Claim 40 – e.g., see Col 12, lines 27-39.

Claim 41 – e.g., see Col 12, lines 27-39.

Of course, the above citations are merely examples of the above claim language and should not be construed as limiting in any manner.

Applicant respectfully requests a Notice of Allowance of Claims 1-41, or a proper prior art showing of all of Applicant's claim limitations, in combination with the remaining claim elements.

Applicant believes no fees are due. In the event any other fees are due, the Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-4964 (Order No. SVIPGP109RE).

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, Applicant invites the Examiner to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

Dated: 23 March 2012

The Caldwell Firm, LLC
PO Box 59655
Dallas, Texas 75229-0655
Telephone: (972) 243-4523
pcaldwell@thecaldwellfirm.com

Patrick E. Caldwell, Esq.
Reg. No. 44,580

I hereby certify that a true and complete copy of the forgoing Amendment D has been served on Third Party Requestor by mailing said copy on 23 Mar 2012, via First Class Mail, postage prepaid to:

Kenyon & Kenyon, LLP
One Broadway
New York, NY 10004

Electronic Acknowledgement Receipt

EFS ID:	12385802
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	23-MAR-2012
Filing Date:	10-JUL-2010
Time Stamp:	20:14:40
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	SVIPGP109RE_Amndt_D_vF_23-Mar-2012.pdf	73813 590de5886a892744a0d31ddf727ab5b829249d6d	no	14

Warnings:	
Information:	

Total Files Size (in bytes):	73813

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011 +95/001621	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 03/29/2012

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 03/29/2012

Please find below and/or attached an Office communication concerning this application or proceeding.

NOTICE RE DEFECTIVE PAPER IN INTER PARTES REEXAMINATION	Control No. 95/001,621; 90/011,011	Patent Under Reexamination 7,241,034
	Examiner MY-TRANG TON	Art Unit 3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

1. ☒ No proof of service is included with the paper filed by ☒ patent owner ☐ requester on 23 March, 2012. 37 CFR 1.248 and 1.903. Proof of service is required within a time period of 30-days or one month from the date of this letter, whichever is longer. Failure to serve the paper may result in the paper being refused consideration. If the failure to comply with this requirement results in a patent owner failure to file a timely and appropriate response to any Office action, the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case).

2. ☐ The paper filed on _____ by the ☐ patent owner ☐ requester is unsigned. A duplicate paper or ratification, properly signed, is required within a time period of 30-days or one month from the date of this letter, whichever is longer. Failure to comply with this requirement will result in the paper not being considered. If the failure to comply results in a patent owner failure to file a timely and appropriate response to any Office action, the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case).

3. ☐ The paper filed on _____ by the ☐ patent owner ☐ requester is signed by _____ who is not of record. A ratification or a new power of attorney with a ratification, or a duplicate paper signed by a person of record, is required within a time period of 30-days or one month from the date of this letter, whichever is longer. Failure to comply with this requirement will result in the paper not being considered. If the failure to comply results in a patent owner failure to file a timely and appropriate response to any Office action, the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case).

4. ☒ The amendment filed by patent owner on 23 March, 2012, does not comply with 37 CFR 1.530. Patent owner is given a time period of 30-days or one month from the date of this letter, whichever is longer, to correct this informality, or the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case). The amendment will not be entered, although the argument the rein will be considered as it applies to the proceeding without the amendment should the prosecution be limited under 37 CFR 1.957(c).

5. ☐ The amendment filed by patent owner on _____, does not comply with 37 CFR ☐1.20(c)(3) and/or ☐1.20(c)(4), as to excess claim fees. Patent owner is given a time period of 30-days or one month from the date of this letter, whichever is longer, to correct this fee deficiency, or the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case), to effect the "abandonment" set forth in 37 CFR 1.20(c)(5).

6. ☐ Other: _____

NOTE: PATENT OWNER EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956. NO EXTENSION OF TIME IS PERMITTED FOR THIRD PARTY REQUESTER. 35 U.S.C. § 314(b)(2).

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

Defective Amendments

This proceeding is a merger of 90/011,011 and 95/001,621.

The amendment filed 3/23/2012 proposes amendments to the last Office action mailed out 2/23/2012 that do not comply with 37 CFR 1.530(d)-(j), which sets forth the manner of making amendments in reexamination proceedings. A supplemental paper correctly proposing amendments in the present reexamination proceeding is required.

1/ The amendment filed 3/23/2012 is improper because strikeout and double brackets used for deleted text. Each patent claim proposed to be changed and each proposed added claim must include markings pursuant to paragraph (f) as indicated below.

37 CFR 1.530: Statement by patent owner in ex parte reexamination; amendment by patent owner in ex parte or inter partes reexamination; inventorship change in ex parte or inter partes reexamination.

(f) Changes shown by markings. Any changes relative to the patent being reexamined which are made to the specification, including the claims, must include the following markings:

(1) The matter to be omitted by the reexamination proceeding must be enclosed in brackets;

and

(2) The matter to be added by the reexamination proceeding must be underlined.

(E)Canceled claim(s) or paragraph(s) which are part of the patent are surrounded by brackets (i.e., a bracket placed at the beginning and end of each canceled claim or paragraph of the patent). They are not lined through;

2/ The indication for the certificate of service at the end of the remarks (page 14) filed on 3/23/2012 is not adequate. 37 CFR 1.248. Rule 1.248 part (b) requires that a statement signed by the agent or attorney including the date and manner of service. The Patent Owner provides the date and manner of service but it isn't signed. The signature provided above is for the remarks rather than below the indication for the certificate of service. After the filing of a request for reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on the other party (or parties where two or more third party requester proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248.

37 CFR 1.903. Service of papers on parties in inter partes reexamination.
The patent owner and the third party requester will be sent copies of Office actions issued during the inter partes reexamination proceeding. After filing of a request for inter partes reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on every other party in the reexamination proceeding in the manner provided in § 1.248. Any document must reflect service or the document may be refused consideration by the Office. The failure

of the patent owner or the third party requester to serve documents may result in their being refused consideration.

(b) Papers filed in the Patent and Trademark Office which are required to be served shall contain proof of service. Proof of service may appear on or be affixed to papers filed. Proof of service shall include the date and manner of service. In the case of personal service, proof of service shall also include the name of any person served, certified by the person who made service. Proof of service may be made by:

(1) An acknowledgement of service by or on behalf of the person served or

(2) A statement signed by the attorney or agent containing the information required by this section.

A shortened statutory period for response to this letter is set to expire ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this letter. If patent owner fails to timely correct this informality, the amendment will be held not to be an appropriate response, prosecution of the present reexamination proceeding will be terminated, and a reexamination certificate will issue. 37 CFR 1.550(d).

Therefore, the amendment filed 3/23/2012 will not be entered.

All correspondence relating to this inter partes reexamination proceeding should be directed:

By Mail to:
Mail Stop lnterPartes Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to:
(571) 273-9900
Central Reexamination Unit

By hand:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS- Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning." processing complete.

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272- 7705.

/My-Trang N. Ton/
Primary Examiner, CRU 3992

Conferees:
/Margaret Rubin/
Primary Examiner CRU 3992

ANDREW J. FISCHER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER ~~3600~~ 3900

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
	)
7,241,034	) Art Unit: 3992
	)
Applications No. 95/001,621 & 90/011,011	) Examiner: MY-TRANG N. TON
	)
Filed: 05/16/2011	) Atty. Docket No.:
	) SVIPGP109RE
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 04/27/2012

AMENDMENT D2

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

In response to the Office Action mailed 2/23/2012, the notice of Merger of Proceedings mailed 2/23/2012, the Office Action mailed 1/12/2011 ("Office Action"), and as a substitute for the Responses filed 1/18/2011, 2/16/2011, and 02/02/2012 in the 90/011,011 proceeding, and further in response to the Notice of Defective Paper mailed 03/29/2012, please enter the following amendments believed to place the Claims in condition for allowance.

AMENDMENTS TO THE CLAIMS

Amended claims follow:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[a]two or more sensors that [is]are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of [the]a vehicle, said sensed conditions including at least[es one or more of road speed,]steering angle[,] and pitch[, and suspension height]of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [an]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [said]at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed [operating]conditions; and

[an]said two or more actuators [that is]each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

2. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generate[s] a signal that is representative of the road speed of the vehicle.

3. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generates a signal that is representative of [the]a rate of change of steering angle of the vehicle.

4. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generates a signal that is representative of [the]a rate of change of pitch of the vehicle.

5. (Currently Amended) The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors further generates a signal that is representative of the suspension height of the vehicle.

6. (New) The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor and a second sensor.

7. (New) The automatic directional control system defined in claim 6, wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

8. (New) The automatic directional control system defined in claim 6, wherein said first sensor is physically separate from said second sensor.

9. (New) The automatic directional control system defined in claim 1, further comprising one or more additional sensors for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, a suspension height, or a rate of change of suspension height of the vehicle.

10. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of road speed of the vehicle.

11. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of steering angle of the vehicle.

12. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of pitch of the vehicle.

13. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of a suspension height of the vehicle.

14. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include the first actuator connected to the headlight to effect movement thereof in a first direction and a second actuator connected to the headlight to effect movement thereof in a second direction different form the first direction.

15. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include the first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

16. (New) The automatic directional control system defined in claim 15, wherein the two or more actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

17. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include an electronically controlled mechanical actuator.

18. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include a step motor.

19. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include a servo motor.

20. (New) The automatic directional control system defined in claim 1, wherein the two or more actuators include a microstepping motor capable of being operated in fractional step increments.

21. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted both up and down relative to a horizontal reference position and left and right relative to a vertical reference position.

22. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects therefrom is capable of being adjusted relative to the vehicle by manual operation of the two or more actuators.

23. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

24. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

25. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with at least one of the two or more actuators.

26. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes a Hall Effect sensor.

27. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes an optical interrupter.

28. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes memory.

29. (New) The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory.

30. (New) The automatic directional control system defined in claim 28, wherein the memory is configured to store a predetermined reference position associated with the headlight.

31. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

32. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

33. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

34. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

35. (New) The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

36. (New) The automatic directional control system defined in claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated continuously in response to relatively small variations in the sensed conditions.

37. (New) The automatic directional control system defined in claim 1, wherein said controller is configured to be responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions.

38. (New) The automatic directional control system defined in claim 1, wherein said controller is further responsive to said two or more sensor signals to automatically activate one or more vehicle lights that are different than the headlight.

39. (New) The automatic directional control system defined in claim 38, wherein said one or more vehicle lights that are different than the headlight include one or more lights for illuminating a road in front of the vehicle during a turn.

40. (New) The automatic directional control system defined in claim 1, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight.

41. (New) The automatic directional control system defined in claim 1, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight to extend an angular range of a road surface.

REMARKS

As noted in the 6/23/2011 Office Communication for the Inter Partes Reexamination Proceeding number 95/001,621, which has now been merged with the current matter, Examiner has agreed with the Requestor that Requestor's issues 1-2, 4-7, 9-12, 14-17 and 19-20 raise substantial new questions of patentability as to claims 1-5 of the '034 patent.

Specifically, the Examiner agrees that:

Claims 1, 2, 4, and 5 are anticipated by Uchida (United Kingdom Patent Application Publication No. 2309773) under 35 U.S.C. §102(b);

Claims 1, 2, 4, and 5 are anticipated by Takahashi (United Kingdom Patent Application Publication No. 2309774) under 35 U.S.C. §102(b);

Claims 1 and 5 are anticipated by Miskin et al. (German Patent Application Publication No. 3110094) under 35 U.S.C. §102(b);

Claims 1 and 5 are anticipated by Leleve (German Patent Application Publication No. 3129891) under 35 U.S.C. §102(b);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. (U.S. Patent No. 6,305,823) and Uchida under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Takahashi under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Miskin et al. under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Leleve under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. (U.S. Patent No.6,193,398) and Uchida under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Takahashi under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Miskin et al. under 35 U.S.C. § 103(a);

Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Leleve under 35 U.S.C. § 103(a);

Claims 1 to 5 are unpatentable over the combination of Gotoh (U.S. Patent No. 5,909,949) and Uchida under 35 U.S.C. § 103(a);

Claims 1 to 5 are unpatentable over the combination of Gotoh and Takahashi under 35 U.S.C. § 103(a);

Claims 1, 2, 3, and 5 are unpatentable over the combination of Gotoh and Miskin et al. under 35 U.S.C. § 103(a); and

Claims 1 to 5 are unpatentable over the combination of Gotoh and Leleve under 35 U.S.C. § 103(a).

Applicant has amended Claim 1 to overcome such rejections, as follows:

1. (Currently Amended) An automatic directional control system for a vehicle headlight, comprising:

[a]two or more sensors that [is]are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of [the]a vehicle, said sensed conditions including at least[es one or more of road speed,]steering angle[,] and pitch[, and suspension height]of the vehicle;

a controller that is responsive to said two or more sensor signals for generating [an]at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent [said]at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed [operating]conditions; and

[an]said two or more actuators [that is]each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal.

Applicant respectfully asserts that the references as relied on by the Examiner fail to teach "**two or more sensors** that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least **steering angle and pitch of the vehicle**" (emphasis added),

as claimed by Applicant. Further, applicant respectfully asserts that the references as relied on by the Examiner fail to teach "**two or more actuators** each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal" (emphasis added), as claimed by Applicant.

Applicant respectfully notes that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the identical invention must be shown in as complete detail as contained in the claim. *Richardson v. Suzuki Motor Co.*868 F.2d 1226, 1236, 9USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, the elements must be arranged as required by the claim.

This criterion has simply not been met by the above reference, as noted above.

Further, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,*947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991).

Applicant respectfully asserts that at least the first and third elements of the *prima facie* case of obviousness have not been met, since it would be *unobvious* to combine the references, and the prior art references, as relied upon by the Examiner, fail to teach or suggest all of the claim limitations.

Finally, Applicant brings to the Examiner's attention the subject matter of new Claims 6-41, which Applicant adds for full consideration. Claims 6-41 depend from and further limit Claim 1. Accordingly, Applicant respectfully submits that new Claims 6-41 are allowable for at least the same reasons that Claim 1 is in condition for allowance, as described above. Support for the amendments to Claim 1, as well as for the newly added dependent claims may be found (by way of example), in Table 1.

Table 1

Claim 1 – e.g., see Abstract; Col. 2, lines 7-17; and Figure 1.
Claim 2 – e.g., see Col. 2, line 10.
Claim 3 – e.g., see Col. 2, lines 11-12.
Claim 4 – e.g., see Col. 2, line 12.
Claim 5 – e.g., see Col. 2, line 11.
Claim 6 – e.g., see items 15 and 16 of Figure 1.
Claim 7 - e.g., see Abstract; Col. 2, lines 7-17; Col. 3, line 58 - Col. 4, line 2; and Figure 1.
Claim 8 – e.g., see items 15 and 16 of Figure 1.
Claim 9 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 10 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 11 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 12 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 13 - e.g., see Col. 3, line 58 - Col. 4, line 2.
Claim 14 - e.g., see Figure 1 and Col. 3, lines 26-29.
Claim 15 - e.g., see Figure 1 and Col. 3, lines 26-29.
Claim 16 - e.g., see Figure 1 and Col. 3, lines 26-29.
Claim 17 - e.g., see Col. 3, lines 28-31.
Claim 18 - e.g., see Col. 3, lines 28-31.
Claim 19 - e.g., see Col. 3, lines 28-31.
Claim 20 - e.g., see Col. 3, lines 31-37.
Claim 21 - e.g., see Col. 3, lines 28-31.
Claim 22 – e.g., see Figure 2, Col. 5, lines 25-29.

Claim 23 – e.g., see Col. 3, lines 53-58.

Claim 24 – e.g., see Col. 3, lines 53-58.

Claim 25 – e.g., see Col. 4, lines 7-30.

Claim 26 - e.g., see Col. 4, line 26.

Claim 27 – e.g., see Col. 4, lines 35-36.

Claim 28 – e.g., see Col. 8, lines 8-11.

Claim 29 – e.g., see Col. 8, line 16.

Claim 30 – e.g., see Col. 6, lines 18-21.

Claim 31 – e.g., see Col. 7, lines 1-4.

Claim 32 – e.g., see Col. 7, lines 1-4.

Claim 33 – e.g., see Col. 9, lines 33-42.

Claim 34 – e.g., see Col. 9, lines 33-42.

Claim 35 – e.g., see Col 9, lines 46-56.

Claim 36 – e.g., see Col 9, lines 22-27.

Claim 37 – e.g., see Col 9, lines 22-27.

Claim 38 – e.g., see Col 12, lines 27-39.

Claim 39 – e.g., see Col 12, lines 27-39.

Claim 40 – e.g., see Col 12, lines 27-39.

Claim 41 – e.g., see Col 12, lines 27-39.

Of course, the above citations are merely examples of the above claim language and should not be construed as limiting in any manner.

Applicant respectfully requests a Notice of Allowance of Claims 1-41, or a proper prior art showing of all of Applicant's claim limitations, in combination with the remaining claim elements.

Applicant believes no fees are due. In the event any other fees are due, the Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-4964 (Order No. SVIPGP109RE).

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, Applicant invites the Examiner to telephone the undersigned attorney at the number listed below.

Additionally, the undersigned hereby certifies that a true and complete copy of the forgoing Amendment D2 has been served on Third Party Requestor by mailing said copy on 27 Apr 2012 (and Amendment D, mailed 23 Mar 2012), via First Class Mail, postage prepaid to:

Kenyon & Kenyon, LLP
One Broadway
New York, NY 10004

Respectfully submitted,

Dated: 27 April 2012

The Caldwell Firm, LLC
PO Box 59655
Dallas, Texas 75229-0655
Telephone: (972) 243-4523
pcaldwell@thecaldwellfirm.com

Patrick E. Caldwell, Esq.
Reg. No. 44,580

Electronic Acknowledgement Receipt

EFS ID:	12654604
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	27-APR-2012
Filing Date:	10-JUL-2010
Time Stamp:	19:19:51
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	SVIPGP109RE_Amndt_D2_vF_04-27-2012.pdf	73821 1dc6cb784822fca0d5dfa9e88bbd5178dd513561	no	14

Warnings:	
Information:	

Total Files Size (in bytes):	73821

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Litigation Search Report CRU 3999

Reexam Control No. 90/011,011

TO: My Trang Ton **Location: CRU** **Art Unit: 3992** **Date: 5/21/2012** **Merged: 95/001,621**	**From: Patricia Volpe** **Location: CRU 3999** **MDE 5D30** **Phone: (571) 272-6825** **Patricia.volpe@uspto.gov**

Search Notes

Litigation search for U.S. Patent Number: **7,241,034**

Status (**CLOSED**) 6:10cv78 Balther *Technologies, Llc v. American Honda Motor Co Inc et A*

1) I performed a KeyCit Search in Westlaw, which retrieves all history on the patent including any litigation.

2) I performed a search on the patent in Lexis CourtLink for any open dockets or closed cases.

3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.

4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.

5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

Date of Printing: May 21, 2012

KEYCITE

C US PAT 7241034 AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS, Assignee: Dana Corporation (Jul 10, 2007)

History

Direct History

=> 1 **AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS,** US PAT 7241034, 2007 WL 1978614 (U.S. PTO Utility Jul 10, 2007)

Patent Family

2 AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR A VEHICLE HEADLIGHT USES SENSOR TO GENERATE SIGNAL REPRESENTATIVE OF CONDITION OF VEHICLE, CONTROLLER RESPONSIVE TO SENSOR SIGNAL TO GENERATE OUTPUT SIGNAL AND ACTUATOR TO EFFECT HEADLIGHT MOVEMENT, Derwent World Patents Legal 2003-543647

Assignments

3 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 002, (DATE RECORDED: Mar 08, 2010)

4 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 002, (DATE RECORDED: Jun 12, 2009)

5 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 030, (DATE RECORDED: Feb 22, 2008)

6 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 003, (DATE RECORDED: Feb 06, 2003)

Patent Status Files

.. Request for Re-Examination, (OG DATE: Jun 29, 2011)

.. Request for Re-Examination, (OG DATE: Sep 07, 2010)

.. Patent Suit(See LitAlert Entries),

Docket Summaries

10 BALTHER TECHNOLOGIES, LLC v. AMERICAN HONDA MOTOR CO. INC. ET AL, (E.D.TEX. Mar 08, 2010) (NO. 6:10CV00078), (35 USC 271 PATENT INFRINGEMENT)

Litigation Alert

11 Derwent LitAlert P2010-11-45 (Mar 08, 2010) Action Taken: complaint

Prior Art (Coverage Begins 1976)

C 12 ADJUSTABLE HEADLIGHTS, HEADLIGHT ADJUSTING AND DIRECTION SENSING CONTROL SYSTEM AND METHOD OF ADJUSTING HEADLIGHTS, US PAT 5868488 (U.S. PTO Utility 1999)

C 13 APPARATUS AND METHOD FOR CONTROLLING LIGHT DISTRIBUTION OF HEADLAMP, US PAT 5660454Assignee: Toyota Jidosha Kabushiki Kaisha, (U.S. PTO Utility 1997)

C 14 APPARATUS AND METHOD FOR CONTROLLING THE LIGHT-RANGE OF MOTOR VEHICLE HEADLIGHTS, US PAT 5193894Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1993)

C 15 APPARATUS FOR AUTOMATICALLY ADJUSTING AIMING OF HEADLIGHTS OF AN AUTOMOTIVE VEHICLE, US PAT 5877680Assignee: Denso Corporation; Toyota Jidosha Kabushiki Kaisha, (U.S. PTO Utility 1999)

C 16 APPARATUS FOR CONTROLLING A HEADLIGHT OF A VEHICLE, US PAT 4891559Assignee: Nippondenso Soken, Inc.; Nippondenso Co., Ltd., (U.S. PTO Utility 1990)

C 17 APPARATUS FOR REGULATING THE ILLUMINATION FIELD OF A VEHICLE HEADLIGHT, US PAT 6144159Assignee: Robert Bosch GmbH, (U.S. PTO Utility 2000)

C 18 ARRANGEMENT FOR AUTOMATIC HEADLIGHT ADJUSTMENT, US PAT 6231216Assignee: Dr. Ing. h.c.F. Porsche AG, (U.S. PTO Utility 2001)

C 19 AUTOMATIC LEVELING APPARATUS FOR USE WITH AUTOMOBILE HEADLAMPS, US PAT 6183118Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2001)

C 20 AUTOMATIC LEVELING DEVICE FOR AUTOMOTIVE VEHICLE HEADLAMPS, US PAT 6305823Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2001)

C 21 AUTOMOTIVE ILLUMINATION SYSTEM, US PAT 4943893Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1990)

C 22 CONTINUOUSLY VARIABLE HEADLAMP CONTROL, US PAT 6281632Assignee: Gentex Corporation, (U.S. PTO Utility 2001)

C 23 CORNERING LIGHT SYSTEM FOR TWO-WHEELED VEHICLES, US PAT 4024388Assignee: Marvin H. Kleinberg, Inc.; Richard Morganstern Inc.; Scholnick, Seymour A., (U.S. PTO Utility 1977)

C 24 DEVICE FOR ADJUSTING THE INCLINATION OF AUTOMOBILE HEADLIGHTS, US PAT 4186428Assignee: Cibie Projecteurs, (U.S. PTO Utility 1980)

C 25 DEVICE FOR ADJUSTING THE LEVEL OF A VEHICLE HEADLIGHT, US PAT 5779342Assignee: Bayerische Motoren Werke Aktiengellschaft, (U.S. PTO Utility 1998)

C 26 DEVICE FOR ADJUSTING AN OBJECT TO ASSUME A PREDETERMINED ANGLE TO A CERTAIN PLANE, US PAT 4217631 (U.S. PTO Utility 1980)

C 27 DEVICE FOR ADJUSTING A PRESETTABLE LIGHTING LEVEL OF A HEADLIGHT IN MOTOR VEHICLES, US PAT 5785405Assignee: Bayerische Motoren Werke, (U.S. PTO Utility 1998)

C 28 DEVICE FOR CONTROLLING THE LIGHT WIDTH OF HEADLIGHTS FOR VEHICLES, US

PAT 5896011Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1999)

C 29 DEVICE FOR REGULATING LIGHT WIDTH OF HEADLIGHTS FOR VEHICLES, AND VEHICLE PROVIDED THEREWITH, US PAT 6142655Assignee: Robert Bosch GmbH, (U.S. PTO Utility 2000)

C 30 DIRECTION TURNING DEVICE FOR A HEADLIGHT OF AN AUTOMOBILE, US PAT 5550717 (U.S. PTO Utility 1996)

C 31 FOCUSING MIRROR CONTROL SYSTEM AND METHOD FOR ADJUSTING SAME, US PAT 6118113 (U.S. PTO Utility 2000)

C 32 HEAD LAMP DEVICE FOR VEHICLE, US PAT 6010237Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 2000)

C 33 HEAD LAMP DEVICE FOR VEHICLE, US PAT 5909949Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1999)

C 34 HEADLAMP, US PAT 5158352Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1992)

C 35 HEADLAMP DRIVE AND CONTROL APPARATUS, US PAT 4583152Assignee: Aisin Seiki Kabushiki Kaisha, (U.S. PTO Utility 1986)

C 36 HEADLAMP FOR MOTOR VEHICLES WITH PROGRAMMABLE LIGHT DISTRIBUTION, US PAT 4868721 (U.S. PTO Utility 1989)

C 37 HEADLAMP POSITIONING DEVICE, US PAT 5181429Assignee: Saia AG, (U.S. PTO Utility 1993)

C 38 HEADLIGHT AIMING AND LIGHT PATTERN TESTING APPARATUS AND METHOD, US PAT 4948249Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1990)

C 39 HEADLIGHT AIMING APPARATUS, US PAT 5751832Assignee: Progressive Tool & Industries Co.; Panter Master Controls, Inc., (U.S. PTO Utility 1998)

C 40 HEADLIGHT AIMING APPARATUS AND DISPLAY, US PAT 5164785Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1992)

C 41 HEADLIGHT AIMING METHOD USING PATTERN FRAMING, US PAT 5373357Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1994)

C 42 HEADLIGHT ARRANGEMENT FOR MOTOR VEHICLE, US PAT 6227691Assignee: Robert Bosch GmbH, (U.S. PTO Utility 2001)

C 43 HEADLIGHT ARRANGEMENT FOR VEHICLES, US PAT 4768135Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1988)

C 44 HEADLIGHT BEAM CONTROL SYSTEM FOR MOTOR VEHICLES, US PAT 4225902 (U.S. PTO Utility 1980)

C 45 HEADLIGHT CONTROL APPARATUS FOR MOTORCYCLES, US PAT 4870545Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1989)

C 46 HEADLIGHT FOR VEHICLE, US PAT 4833573Assignee: Koito Seisakusho Co., Ltd., (U.S. PTO Utility 1989)

C 47 HEADLIGHT MOVING APPARATUS FOR A MOTOR VEHICLE, US PAT 5099400 (U.S. PTO Utility 1992)

C 48 HEIGHT SENSOR AND VEHICULAR HEADLIGHT BEAM AXIS LEVELING APPARATUS,

US PAT 6234654Assignee: Denso Corporation, (U.S. PTO Utility 2001)

C 49 INFINITELY ADJUSTABLE LEVEL LIGHT, US PAT 3953726 (U.S. PTO Utility 1976)

C 50 IRRADIATION DIRECTION CONTROL APPARATUS FOR VEHICULAR LAMP, US PAT 5907196Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1999)

C 51 LIGHT DESTRIBUTION OF HEADLIGHT BEAM, US PAT 4907877 (U.S. PTO Utility 1990)

C 52 LIGHT MANAGEMENT SYSTEM FOR A VEHICLE, US PAT 5781105Assignee: Ford Motor Company, (U.S. PTO Utility 1998)

C 53 LIGHTING CONTROL FOR MOTOR VEHICLE LAMPS, US PAT 3634677Assignee: ROBERT BOSCH GMBH, (U.S. PTO Utility 1972)

C 54 LIGHTING DEVICE FOR A VEHICLE, US PAT 6049749Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2000)

C 55 LIGHTING DEVICE FOR VEHICLES, US PAT 6293686Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2001)

C 56 LIGHTING SYSTEM FOR A MOTORCYCLE, US PAT 3939339 (U.S. PTO Utility 1976)

C 57 LOAD TRIM COMPENSATING VEHICLE HEADLIGHT DEFLECTION SYSTEM, US PAT 4162424Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1979)

C 58 MAGNETIC COUPLING MECHANISM FOR USE IN AN AUTOMOTIVE VEHICLE, US PAT 5977678Assignee: UT Automotive Dearborn, Inc., (U.S. PTO Utility 1999)

C 59 METHOD AND APPARATUS FOR ADJUSTING THE ORIENTATION OF VEHICLE HEADLIGHTS, US PAT 4204270Assignee: Societe pour l'Equipement de, (U.S. PTO Utility 1980)

C 60 METHOD AND APPARATUS FOR LOCATING A SPECIFIC LOCATION ON A VEHICLE HEADLAMP, US PAT 5331393Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1994)

C 61 METHOD OF MEASURING AND ADJUSTING OPTICAL AXIS OF HEADLIGHT, US PAT 5392111Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1995)

C 62 MOTOR VEHICLE LIGHTING SYSTEM HAVING AT LEAST TWO BEND LIGHTING DRIVING LIGHTS, US PAT 6176590Assignee: Valeo Vision, (U.S. PTO Utility 2001)

C 63 MOTOR VEHICLE WITH HEADLAMP TILTING MECHANISM, US PAT 4066886Assignee: The Lucas Electrical Company Limited, (U.S. PTO Utility 1978)

C 64 MOTORCYCLE HEADLIGHT AIMING DEVICE, US PAT 5426571 (U.S. PTO Utility 1995)

C 65 MULTIPLE SENSOR INCLINATION MEASURING SYSTEM, US PAT 4549277Assignee: Brunson Instrument Company, (U.S. PTO Utility 1985)

C 66 POSITION CONTROL SYSTEM, US PAT 4310172Assignee: General Motors Corporation, (U.S. PTO Utility 1982)

C 67 ROAD SURFACE-SENSITIVE BEAM PATTERN LEVELING SYSTEM FOR A VEHICLE HEADLAMP, US PAT 4868720Assignee: Koito Seisakusho Co., Ltd., (U.S. PTO Utility 1989)

C 68 SIDELIGHTING ARRANGEMENT AND METHOD, US PAT 5428512 (U.S. PTO Utility 1995)

C 69 STEPPER MOTOR SHAFT POSITION SENSOR, US PAT 4791343Assignee: Allied-Signal Inc., (U.S. PTO Utility 1988)

C 70 SUPPORT FRAME FOR HEADLIGHT AIMING APPARATUS, US PAT 5920386Assignee: Panter Master Controls, Inc.; Progressive Tool & Industries Co., (U.S. PTO Utility 1999)

C 71 SWITCHING CONTROL SYSTEM FOR AUTOMATICALLY TURNING HEADLIGHTS OFF AND ON AT INTERSECTIONS, US PAT 6097156 (U.S. PTO Utility 2000)

C 72 SYSTEM FOR AUTOMATICALLY ADJUSTING OPTICAL AXIS DIRECTION OF VEHICLE HEADLIGHT, US PAT 6193398Assignee: DENSO Corporation, (U.S. PTO Utility 2001)

C 73 SYSTEM FOR SELF-ALIGNING VEHICLE HEADLAMPS, US PAT 5633710Assignee: EGS Inc., (U.S. PTO Utility 1997)

C 74 TILTING DEVICE OF VEHICLE HEADLIGHT, US PAT 4916587Assignee: Koito Seisakusho Co., Ltd., (U.S. PTO Utility 1990)

C 75 VARIABLE DISTRIBUTION TYPE AUTOMOTIVE HEADLAMP, US PAT 5060120Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1991)

C 76 VEHICLE CORNERING LAMP SYSTEM, US PAT 5526242Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1996)

C 77 VEHICLE CORNERING LAMP SYSTEM, US PAT 4908560Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1990)

C 78 VEHICLE HEADLIGHT AIMING APPARATUS, US PAT 5485265Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1996)

C 79 VEHICLE HEADLIGHT WITH ADJUSTING MEANS FOR DIFFERENT TRAFFIC CONDITIONS, US PAT 5938319Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1999)

C 80 VEHICULAR CORNERING LAMP SYSTEM, US PAT 5404278Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1995)

C 81 VEHICULAR HEADLAMP PRODUCING LOW BEAM HAVING CUT LINE CONTROLLED IN ACCORDANCE WITH CONDITION OF CURVED ROAD, US PAT 5707129Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1998)

US District Court Civil Docket

U.S. District - Texas Eastern
(Tyler)

6:10cv78

Balther Technologies, Llc v. American Honda Motor Co Inc et A

This case was retrieved from the court on Thursday, March 29, 2012

Date Filed:	**03/08/2010**	**Class Code:**	**CLOSED**
Assigned To:	**Judge Leonard Davis**	**Closed:**	**Yes**
Referred To:		**Statute:**	**35:271**
Nature of suit:	**Patent (830)**	**Jury Demand:**	**Plaintiff**
Cause:	**Patent Infringement**	**Demand Amount:**	**$0**
Lead Docket:	**None**	**NOS Description:**	**Patent**
Other Docket:	**None**		
Jurisdiction:	**Federal Question**		

Litigants

Balther Technologies, Llc
Plaintiff

Attorneys

Eric Miller Albritton
[COR LD NTC]
Albritton Law Firm
PO Box 2649
111 West Tyler, 75601
Longview , TX 75606
USA
(903) 757-8449
Fax: (903) 758-7397
Email: EMA@EMAFIRM.COM

Adam A Biggs
[COR LD NTC]
Law Office of Adam A Biggs, PLLC
1809 W Loop 281
Suite #100 PMB 116
Longview , TX 75601
USA
430-558-8069
Fax: 866-886-0459
Email: AAB@BIGGSFIRM.COM

Christopher Needham Cravey
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-7000
Fax: 7139347011
Email: Ccravey@wmalaw.com

Danny Lloyd Williams

[COR LD NTC]
Williams Morgan & Amerson
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4060
Fax: 17139347011
Email: Dwilliams@wmalaw.com

David Wynne Morehan
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713-934-7000
Fax: 713-934-7011
Email: DMOREHAN@WMALAW.COM

Debra Rochelle Coleman
[COR LD NTC]
Albritton Law Firm
P O Box 2649
Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email: DRC@EMAFIRM.COM

J Mike Amerson
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4055
Fax: 17139347011
Email: Mike@wmalaw.com

Jack Wesley Hill
[COR LD NTC]
Ward & Smith Law Firm
111 W Tyler Street
Longview , TX 75601
USA
903-757-6400
Fax: 903-757-2323
Email: WH@WSFIRM.COM

Jaison Chorikavumkal John
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4060
Fax: 17139347011
Email: Jjohn@wmalaw.com

Matthew Clay Harris
[COR LD NTC]
Albritton Law Firm
P O Box 2649

Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email: MCH@MATTHARRISLAW.COM

Matthew Richard Rodgers
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713/ 934-4061
Email: Mrodgers@wmalaw.com

Michael Aaron Benefield
[COR LD NTC]
Williams Morgan & Amerson PC
10333 Richmond
Suite 1100
Houston , TX 77042
USA
713-934-4091
Fax: 7139347011
Email: MBENEFIELD@WMALAW.COM

Thomas John Ward , Jr
[COR LD NTC]
Ward & Smith Law Firm
P O Box 1231
Longview , TX 75606-1231
USA
903/ 757-6400
Fax: 903/ 757-2323
Email: JW@WSFIRM.COM

American Honda Motor Co Inc
Defendant

Honda Motor Company, Ltd
Defendant

Bmw of North America, Llc
Defendant

Bmw AG
Defendant

Chrysler Group Llc
Defendant

Ferrari North America, Inc
Defendant

Ferrari Spa
Defendant

General Motors, Llc
Defendant

Hyundai Motor America
Defendant

Hyundai Motor Company
Defendant

Jaguar Land Rover North America, Llc
Defendant

Jaguar Cars Limited
Defendant

Maserati North America Inc
Defendant

Maserati Spa
Defendant

Mercedes-Benz USA, Llc
Defendant

Daimler North America Corporation
Defendant

Daimler AG
Defendant

Mazda Motor of North America, Inc
Defendant

Mazda Motor Corp
Defendant

Mitsubishi Motors North America, Inc
Defendant

Michael Charles Smith
[COR LD NTC]
Siebman Burg Phillips & Smith, LLP-Marshall
P O Box 1556
Marshall , TX 75671-1556
USA
903-938-8900
Fax: 19727674620
Email: MICHAELSMITH@SIEBMAN.COM

Mitsubishi Motors Corp
Defendant

Michael Charles Smith
[COR LD NTC]
Siebman Burg Phillips & Smith, LLP-Marshall
P O Box 1556
Marshall , TX 75671-1556
USA
903-938-8900
Fax: 19727674620
Email: MICHAELSMITH@SIEBMAN.COM

Nissan North America, Inc
Defendant

Nissan Motor Co, Ltd
Defendant

Porsche Cars North America, Inc
Defendant

Dr Ing Hc.F Porsche AG
Defendant

Saab Cars North America, Inc
Defendant

Toyota Motor North America, Inc
Defendant

Toyota Motor Sales, USA, Inc

Defendant

Toyota Motor Corp
Defendant

Volkswagen Group of America, Inc
Defendant

Automobili Lamborghini Spa
Defendant

Audi AG
Defendant

Volkswagen AG
Defendant

Ford Motor Company
Defendant

Volvo Cars of North America, Llc
Defendant

Volvo Car Corp
Defendant

Date	#	Proceeding Text	Source
03/08/2010	1	COMPLAINT for Patent Infringement against all defendants (Filing fee $ 350 receipt number 0540000000002387982.), filed by Balther Technologies, LLC. (Attachments: # 1 Exhibit A, # 2 Civil Cover Sheet)(Albritton, Eric) (Entered: 03/08/2010)	
03/08/2010	--	Judge Leonard Davis added. (mll,) (Entered: 03/08/2010)	
03/08/2010	2	Notice of Filing of Patent/Trademark Form (AO 120). AO 120 mailed to the Director of the U.S. Patent and Trademark Office. (Albritton, Eric) (Entered: 03/08/2010)	
03/09/2010	3	NOTICE of Attorney Appearance by Thomas John Ward, Jr on behalf of Balther Technologies, LLC (Ward, Thomas) (Entered: 03/09/2010)	
03/09/2010	4	NOTICE of Attorney Appearance by Jack Wesley Hill on behalf of Balther Technologies, LLC (Hill, Jack) (Entered: 03/09/2010)	
03/09/2010	5	NOTICE of Attorney Appearance by Adam A Biggs on behalf of Balther Technologies, LLC (Biggs, Adam) (Entered: 03/09/2010)	
03/09/2010	6	NOTICE of Attorney Appearance by Debra Rochelle Coleman on behalf of Balther Technologies, LLC (Coleman, Debra) (Entered: 03/09/2010)	
03/09/2010	7	NOTICE of Attorney Appearance by Matthew Clay Harris on behalf of Balther Technologies, LLC (Harris, Matthew) (Entered: 03/09/2010)	
03/10/2010	8	NOTICE of Attorney Appearance by J Mike Amerson on behalf of Balther Technologies, LLC (Amerson, J) (Entered: 03/10/2010)	
03/10/2010	9	NOTICE of Attorney Appearance by Matthew Richard Rodgers on behalf of Balther Technologies, LLC (Rodgers, Matthew) (Entered: 03/10/2010)	
03/10/2010	10	NOTICE of Attorney Appearance by Michael Aaron Benefield on behalf of Balther Technologies, LLC (Benefield, Michael) (Entered: 03/10/2010)	
03/10/2010	11	NOTICE of Attorney Appearance by David Wynne Morehan on behalf of Balther Technologies, LLC (Morehan, David) (Entered: 03/10/2010)	
03/10/2010	12	NOTICE of Attorney Appearance by Danny Lloyd Williams on behalf of Balther Technologies, LLC (Williams, Danny) (Entered: 03/10/2010)	
03/10/2010	13	NOTICE of Attorney Appearance by Jaison Chorikavumkal John on behalf of Balther Technologies, LLC (John, Jaison) (Entered: 03/10/2010)	
03/10/2010	14	NOTICE of Attorney Appearance by Christopher Needham Cravey on behalf of Balther Technologies, LLC (Cravey, Christopher) (Entered: 03/10/2010)	
04/26/2010	15	ORDER that plaintiff file a notice that the case is ready for scheduling conference when all of the defendants have either answered or filed a motion to transfer or dismiss. The	

		notice shall be filed within five days of the last remaining defendant's answer or motion. Signed by Judge Leonard Davis on 04/26/10. cc:attys 4-27-10(mll,) (Entered: 04/27/2010)
04/28/2010	16	E-GOV SEALED SUMMONS Issued as to American Honda Motor Co. Inc., BMW of North America, LLC, Chrysler Group LLC, Daimler North America Corporation, Ferrari North America, Inc., Ford Motor Company, General Motors, LLC, Hyundai Motor America, Jaguar Land Rover North America, LLC, Maserati North America Inc, Mazda Motor of North America, Inc., Mercedes-Benz USA, LLC, Mitsubishi Motors North America, Inc., Nissan North America, Inc., Porsche Cars North America, Inc., SAAB Cars North America, Inc., Toyota Motor North America, Inc., Toyota Motor Sales, U.S.A., Inc., Volkswagen Group of America, Inc., Volvo Cars of North America, LLC., and emailed to pltf for service. (mll,) (Entered: 04/28/2010)
05/17/2010	17	NOTICE of Voluntary Dismissal by Balther Technologies, LLC (Attachments: # 1 Text of Proposed Order)(Albritton, Eric) (Entered: 05/17/2010)
05/18/2010	18	ORDER DISMISSING CASE. This civil action is dismissed without prejudice. Pltf and defts shall bear their own costs, expenses and legal fees. Signed by Judge Leonard Davis on 05/18/10. cc:attys 5-18-10(mll,) (Entered: 05/18/2010)
05/18/2010	19	Agreed MOTION for Extension of Time to File Answer re 1 Complaint by Mitsubishi Motors Corp., Mitsubishi Motors North America, Inc.. (Attachments: # 1 Text of Proposed Order) (Smith, Michael) (Entered: 05/18/2010)
05/19/2010	20	NOTICE by Mitsubishi Motors Corp., Mitsubishi Motors North America, Inc. re 19 Agreed MOTION for Extension of Time to File Answer re 1 Complaint (Notice of Withdrawal of Agreed MOTION for Extension of Time to File Answer) (Smith, Michael) (Entered: 05/19/2010)

285312 (10) 7241034 July 10, 2007

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

7241034

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Link to Claims Section

June 12, 2003

Automatic directional control system for vehicle headlights

REEXAM-LITIGATE:

Reexamination requested July 10, 2010 by PATENT OWNER, Reexamination No. 90/011,011 (O.G. September 7, 2010) Ex. Gp.: 3992 July 10, 2010

Reexamination requested May 16, 2011 by Volkswagen Group of America, Inc.; (Att'y Is: Clifford A. Ulrich, Kenyon & Kenyon, LLP., New York, NY), Reexamination No. 95/001,621 (O.G. June 28, 2011) Ex. Gp.: 3992 May 16, 2011

NOTICE OF LITIGATION

Balther Technologies, LLC v. American Honda Motor Co Inc et al, Filed March 8, 2010, D.C. E.D. Texas, Doc. No. 6:10cv78

INVENTOR: Smith, James E. - Berkey, OHIO, United States of America (US), United States of America (US) ; McDonald, Anthony B. - Perrysburg, OHIO, United States of America (US), United States of America (US)

APPL-NO: 285312 (10)

FILED-DATE: October 31, 2002

GRANTED-DATE: July 10, 2007

ASSIGNEE-PRE-ISSUE:
February 6, 2003 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., DANA CORPORATION 4500 DORR STREET TOLEDO OHIO 43615, Reel and Frame Number: 013729/0559

ASSIGNEE-AT-ISSUE:
Dana Corporation, Toledo, OHIO, United States of America (US), United States company or corporation (02)

ASSIGNEE-AFTER-ISSUE:
February 22, 2008 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., DANA AUTOMOTIVE SYSTEMS GROUP, LLC 4500 DORR STREET TOLEDO OHIO 43615, 4500 DORR STREET, TOLEDO, OHIO, UNITED STATES OF AMERICA (US), 43615, Reel and Frame Number: 020540/0476
June 12, 2009 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).,

STRAGENT, LLC 211 W. TYLER, SUITE C LONGVIEW TEXAS 75601, 211 W. TYLER, SUITE C, LONGVIEW, TEXAS, UNITED STATES OF AMERICA (US), 75601, Reel and Frame Number: 022813/0432
March 8, 2010 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., BALTHER TECHNOLOGIES, LLC, SUITE C-4, 211 W. TYLER, LONGVIEW, TEXAS, UNITED STATES OF AMERICA (US), 75601, Reel and Frame Number: 024045/0235

LEGAL-STATUS:

February 6, 2003 - ASSIGNMENT
February 22, 2008 - ASSIGNMENT
February 22, 2008 - ASSIGNMENT
February 22, 2008 - ASSIGNMENT
June 12, 2009 - ASSIGNMENT
March 8, 2010 - ASSIGNMENT
September 7, 2010 - REQUEST FOR REEXAMINATION FILED
January 10, 2011 - FEE PAYMENT

PRIM-EXMR: Alavi, Ali

CORE TERMS: headlight, directional, controller, adjustment, sensed, algorithm, sensor, actuator, steering, minus, control system, road, suspension, responsive, automatic, feedback, orientation, beam, aiming, height, generating, electrical, input output device, plane, stored, automatically, optical, pitch, calibration, accomplish

ENGLISH-ABST:

A structure and method for operating a directional control system for vehicle headlights that is capable of altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. One or more operating condition sensors may be provided that generate signals that are representative of a condition of the vehicle, such as road speed, steering angle, pitch, suspension height, rate of change of road speed, rate of change of steering angle, rate of change of pitch, and rate of change of suspension height of the vehicle. A controller is responsive to the sensor signal for generating an output signal. An actuator is adapted to be connected to the headlight to effect movement thereof in accordance with the output signal. The controller can include a table that relates values of sensed operating condition to values of the output signal. The controller is responsive to the sensor signal for looking up the output signal in the table.

NO-OF-CLAIMS: 5

Reexamination Requests Filed Weeks of 5/16/11 And 5/23/11 Patent Law Practice Center May 31, 2011 Tuesday 10:11 AM EST

Patent Law Practice Center

May 31, 2011 Tuesday 10:11 AM EST

LENGTH: 2671 words

HEADLINE: Reexamination Requests Filed Weeks of 5/16/11 And 5/23/11

BYLINE: Stefanie Levine

BODY:

... in litigation in the Middle District of North Carolina over that patent and four others.

The following inter partes requests were filed:

(1) 95/001,621 (electronically filed) " U.S. Patent No. **7,241,034** entitled AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS and owned by Dana Corporation. Filed May 16, 2011, by Volkswagen Group of America.

(2) 95/001,622 (electronically filed) ...

Reexamination Requests Filed Weeks of 5/16/11 And 5/23/11 Patent Law Practice Center May 31, 2011 Tuesday 10:11 AM EST

Patent Law Practice Center

May 31, 2011 Tuesday 10:11 AM EST

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The following inter partes requests were filed:

(1) 95/001,621 (electronically filed) " U.S. Patent No. **7,241,034** entitled AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS and owned by Dana Corporation. Filed May 16, 2011, by Volkswagen Group of America.

(2) 95/001,622 (electronically filed) ...

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011 < 95/001621	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 06/29/2012

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
TON, MY TRANG	

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
06/29/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

OFFICE ACTION IN INTER PARTES REEXAMINATION	Control No. 95/001,621 , 90/011,011	Patent Under Reexamination 7,241,034
	Examiner MY-TRANG TON	Art Unit 3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:
Patent Owner on 27 April, 2012
Third Party(ies) on _____

RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:

For Patent Owner's Response:
2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.
For Third Party Requester's Comments on the Patent Owner Response:
30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

PART II. SUMMARY OF ACTION:

1a. ☒ Claims 1-41 are subject to reexamination.
1b. ☐ Claims _____ are not subject to reexamination.
2. ☐ Claims _____ have been canceled.
3. ☐ Claims _____ are confirmed. [Unamended patent claims]
4. ☐ Claims _____ are patentable. [Amended or new claims]
5. ☒ Claims 1,2,4-6,8-10 and 12-37 are rejected.
6. ☒ Claims 3,7,11 and 38-41 are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on _____ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has: ☐ been received. ☐ not been received. ☐ been filed in Application/Control No 95001621.
10. ☐ Other _____

INTER PARTES REEXAMINATION OFFICE ACTION

This is an inter*parte* reexamination of United States Patent No. 7,241,034 ("the '034 patent"). This proceeding is a merger of 90/011,011 and 95/001,621.

Patent Owner's proposed Amendment and remarks filed on 4/27/2012 have been fully considered. Thus, all subsequent reexamination prosecution and examination will be on the basis of the claims as amended in the proposed amendment. **It is noted that although the Office actions will treat proposed amendments as though they have been entered, the proposed amendments will not be effective until the reexamination certificate is issued.**

This action responds to Patent Owner's Amendment of 4/27/2012.

Status of the claims

The following is the status of the claims with respect to the proposed Amendment:

With respect to proposed amendment, Claims 1-41 are pending. Of these, claim 1 is independent claim.

Claims 1-5 are amended.

Claims 6-41 are newly added.

Thus, claims 1-41 are reexamined in this proceeding.

References Relied Upon in the Request

For EP 90/011,011:

U.S. Patent 4,733,333 issued to Shibata (hereinafter "Shibata")

For IP 95/001,621:

1. United Kingdom Patent Application Publication No. 2309773 by Uchida (hereinafter "Uchida").

2. United Kingdom Patent Application Publication No. 2309774 by Takahashi (hereinafter "Takahashi").

3. U.S. Patent No. 5,182,460 by Hussman (hereinafter "Hussman").

4. German Patent Application Publication No. 3110094 by Miskin et al (hereinafter "Miskin et al.").

5. German Patent Application Publication No. 3129891 by Leleve (hereinafter "Leleve").

6. U.S. Patent No. 6,305,823 by Toda et al (hereinafter "Toda et al.").

7. U.S. Patent No. 6,193,398 by Okuchi et al (hereinafter "Okuchi et al.").

8. U.S. Patent No. 5,909,949 by Gotoh (hereinafter "Gotoh").

9. U.S. Patent No. 4,954,933 by Wassen et al (hereinafter "Wassen et al.").

Issues Raised

For EP 90/011,011:

Claims 1 and 3 are anticipated under 35 U.S.C. § 102(b) by Shibata.

For IP 95/001,621:

1. Claims 1, 2, 4, and 5 are anticipated by Uchida under 35 U.S.C. § 102(b).

2. Claims 1, 2, 4, and 5 are anticipated by Takahashi under 35 U.S.C. § 102(b).

3. Claims 1, 2, 4, and 5 are anticipated by Hussman under 35 U.S.C. § 102(b).

4. Claims 1 and 5 are anticipated by Miskin et al. under 35 U.S.C. § 102(b).

5. Claims 1 and 5 are anticipated by Leleve under 35 U.S.C. § 102(b).

6. Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Uchida under 35 U.S.C. § 103(a).

7. Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Takahashi under 35 U.S.C. § 103(a).

8. Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Hussman under 35 U.S.C. § 103(a).

9. Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Miskin et al. under 35 U.S.C. § 103(a).

10. Claims 1, 2, 4, and 5 are unpatentable over the combination of Toda et al. and Leleve under 35 U.S.C. § 103(a).

11. Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Uchida under 35 U.S.C. § 103(a).

12. Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Takahashi under 35 U.S.C. § 103(a).

13. Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Hussman under 35 U.S.C. § 103(a).

14. Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Miskin et al. under 35 U.S.C. § 103(a).

15. Claims 1, 2, 4, and 5 are unpatentable over the combination of Okuchi et al. and Leleve under 35 U.S.C. § 103(a).

16. Claims 1 to 5 are unpatentable over the combination of Gotoh and Uchida under 35 U.S.C. § 103(a).

17. Claims 1 to 5 are unpatentable over the combination of Gotoh and Takahashi under 35 U.S.C. § 103(a).

18. Claims 1 to 5 are unpatentable over the combination of Gotoh and Hussman under 35 U.S.C. § 103(a).

19. Claims 1, 2, 3, and 5 are unpatentable over the combination of Gotoh and Miskin et al. under 35 U.S.C. § 103(a).

20. Claims 1 to 5 are unpatentable over the combination of Gotoh and Leleve under 35 U.S.C. § 103(a).

21. Proposed claims 1, 2, 4 to 6, 9 to 13, 20, 22, 24, 25, 37, 38, 41, 42, 44 and 45 are anticipated by Uchida under 35 U.S.C. § 102(b).

22. Proposed claims 1, 2,4-6, 9-11, 17, 18, 20, 21, 22, 24, 25, 28, 33, 34, 37, 38, 41, 42, 44 and 45 are anticipated by Takahashi under 35 U.S.C. § 102(b).

23. Proposed claims 1, 2, 4-6, 9, 10, 37, 38, 41, 42, 44 and 45 are anticipated by Hussman under 35 U.S.C. § 102(b).

24. Proposed claims 1, 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 36-

42, 44 and 45 are unpatentable over the combination of Toda et al. and Uchida under 35 U.S.C. § 103(a).

25. Proposed claims 1, 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 33, 34, 36-42, 44 and 45 are unpatentable over the combination of Toda et al. and Takahashi under 35 U.S.C. § 103(a).

26. Proposed claims 1, 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 36-42, 44 and 45 are unpatentable over the combination of Toda et al. and Hussman under 35 U.S.C. § 103(a).

27. Proposed claims 1, 2, 4-6, 9-13, 15-18, 20-22, 24, 25, 28, 29, 33, 35, 37-42, 44 and 45 are unpatentable over the combination of Okuchi et al. and Uchida under 35 U.S.C. § 103(a).

28. Proposed claims 1, 2, 4-6, 9-13, 15-18, 20-22, 24, 25, 28, 29, 33-35, 37-42, 44 and 45 are unpatentable over the combination of Okuchi et al. and Takahashi under 35 U.S.C. § 103(a).

29. Proposed claims 1, 2, 4-6, 9-13, 15-18, 20-22, 25, 28, 29, 33, 35, 37-42, 44 and 45 are unpatentable over the combination of Okuchi et al. and Hussman under 35 U.S.C. § 103(a).

30. Proposed claims 1-13, 20, 22, 24-26, 28, 29, 37, 38 and 41 to 45 are unpatentable over the combination of Gotoh and Uchida under 35 U.S.C. § 103(a).

31. Proposed claims 1-12, 14, 16-18, 20-22, 24-26, 28, 29, 33, 34, 37,

38 and 41-45 are unpatentable over the combination of Gotoh and Takahashi under 35 U.S.C. § 103(a).

32. Proposed claims 1-13, 24, 26, 28, 29, 37, 38 and 41-45 are unpatentable over the combination of Gotoh and Hussman under 35 U.S.C. § 103(a).

33. Proposed claims 17, 19, 21, 23, 26 and 30-32 are unpatentable in view of the combination of Uchida and the admitted prior art described in the '034 patent specification under 35 U.S.C. § 103(a).

34. Proposed claims 19, 23, 26 and 30-32 are unpatentable in view of the combination of Takahashi and the admitted Prior Art described in the '034 Patent specification under 35 U.S.C. § 103(a).

35. Proposed claims 17-21, 23-26 and 30-32 are unpatentable in view of the combination of Hussman and the admitted Prior Art described in the '034 Patent specification under 35 U.S.C. § 103(a).

36. Proposed claim 27 is unpatentable over the combination of Uchida and Wassen et al. under 35 U.S.C. § 103(a).

37. Proposed claim 27 is unpatentable over the combination of Takahashi and Wassen et al. under 35 U.S.C. § 103(a).

38. Proposed Claim 27 is unpatentable over the combination of Hussman and Wassen et al. under 35 U.S.C. § 103(a).

*** It is noted that the proposed grounds of rejections in Issues 3, 8, 13 and 18 that were found not to raise a SNQ in the Order will not be discussed further.

*** As explained in the Order of 6/23/2011, it was agreed that Issues 1-2, 4-7, 9-12, 14-17 and 19-20 raised an SNQ for the original claims 1-5 under reexamination. However, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and new claims 6-41 that accompanied the amendment (see MPEP 2221). Thus, Issues 1-2, 4-7, 9-12, 14-17 and 19-20 raised for the original claims 1-5 will not be evaluated.

*** Issues 21-38 raised for amended claims 1-5 and newly added claims 6-41 will be evaluated below.

Status of Previous Rejection in EP 90/011,011

The following rejection was previously made by the Office:

Claims 1 and 3 was previous rejected under 35 U.S.C. § 102(b) as being anticipated by Shibata.

This rejection **is withdrawn**.

Amended claim 1 now required: "*two or more sensors ... including two or more of road speed, steering angle, pitch, and suspension height of the vehicle*"

*and "a controller ... in response to relatively small variations in the sensed conditions" in combination with "**two or more actuators** each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal*". These features are not taught by Shibata. Shibata, is not seen to teach the amendatory subject matter of independent claim 1.

Claim 3 is dependent claim and therefore is distinguishable from Shibata at least the same reasons as its respective independent base claim 1, and add further claim limitation of its own.

Accordingly, the previous rejection of claims 1 and 3 under 35 U.S.C. § 102(b) as being anticipated by Shibata are withdrawn.

Rejections proposed in IP 95/001, 621

Within the scope of this reexamination proceeding, the request proposes the rejections in issues 21-38 for amended claims 1-5 and newly added claims 6-41 are discussed below.

Analysis

Issue 21: The proposed rejection of claims 1, 2, 4-6, 9-13, 20, 22, 24, 25, 37, 38, 41, 42, 44 and 45 are anticipated by Uchida under 35 U.S.C. § 102(b) (Request at pages 48-50).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 9-13, 20, 22, 24, 25, 37, 38, 41 as anticipated by Uchida under 35 U.S.C § 102(b) were proposed by the requester in the request for reexamination, pages 48-50 and claim chart, pages 156-172, is **NOT ADOPTED**.

It is not agreed that consideration of Uchida presented a reasonable rejection with respect to the amended claims 1-41 of the '034 patent. This rejection will not be applied against these claims for the following reason:

Independent claim 1 now required:

"two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions; and

said two or more actuators each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal".

While Uchida does teach in Fig. 1 two or more sensors (i.e, 2, 7) that are each adapted to generate a signal (output of 2, 7) that is representative of at least one of a plurality of sensed conditions of a vehicle (page 9, lines 13-23), the sensed conditions including at least steering angle and pitch of the vehicle (page 6, lines 9-15; page 9, lines 28-33; page 12, line 27- page 13, line 15); and a controller (3) that is responsive to the two or more sensor signals (the output of 2, 7) for generating at least one output signal (output of 3a, 3b). However, Uchida Fig. 1 only shows one actuator (4) connected to the headlight (5) to effect movement thereof in accordance with the output signal (the output of 3a, 3b). Thus, the proposed rejection of claim 1 fails to persuasively show any teaching of Uchida corresponding to the feature of "***two or more actuators that each being adapted to be connected to the headlight*** *to effect movement thereof in accordance with said at least one output signal*" of claim 1. Therefore, the reference put forth in the request, Uchida, is not seen to teach the amendatory subject matter of independent claim 1.

Claims 2, 4-6, 9-13, 20, 22, 24, 25, 37, 38, 41 depend upon claim 1. Since the proposed rejection for claim 1 was not adopted; therefore, the proposed rejection for dependent claims 2, 4-6, 9-13, 20, 22, 24, 25, 37, 38, 41 are also not adopted.

Issue 22: The proposed rejection of claims 1, 2, 4-6, 9-11, 17, 18, 20-22, 24, 25, 28, 33, 34, 37, 38, 41, 42, 44 and 45 are anticipated by Takahashi under 35 U.S.C. § 102(b) (Request at pages 50-52 and claim chart, pages 173-192).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 8, 15, 17-19, 23-24, 28-29, 31-32, 35-37 (the number of claims as of the Amendment filed 4/27/2012) as anticipated by Takahashi under 35 U.S.C § 102(b) were proposed by the requester in the request for reexamination, pages 50-52 and claim chart, pages 173-192, is **ADOPTED with modifications to the rationale in support thereof**.

Claims 1, 2, 4-6, 8, 15, 17-19, 23-24, 28-29, 31-32, 35-37 are rejected under 35 U.S.C. § 102(b) as being anticipated by Takahashi.

Regarding claim 1: Takahashi discloses an automatic directional control system (1, Fig. 1) for a vehicle headlight (6), comprising:

"Therefore, there is conventionally known a device which includes a device for detecting the posture of the vehicle by detecting the inclination and height of a vehicle body, and calculates the amount of variations in the inclination of the vehicle based on the information that is obtained by the detect device, thereby being able to adjust automatically the illumination direction of the lamp." (page 2, lines 6-13)

two or more sensors (2, 3) that are each adapted to generate a signal (output of 2 and 3) that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

"The vehicle posture detection device 2 is used to detect the posture of a vehicle (including the vertical inclination of the vehicle in the advancing direction thereof). For example, when there is used height detection device 7 which detects the height of the body of the vehicle, as shown in Fig. 2, there are available a method which measures a distance L between the height detection device 7 and a road surface G by use of detect waves such as ultrasonic waves, laser beams or the like, and a method in which the height detection device 7 detects the expansion and contraction amount x of a suspension S in order to detect the amount of variations in the vertical position of the axle of the vehicle." (page 5, line 30 to page 6, line 9)

"The vehicle running condition detection device 4 is used to detect the running conditions of the vehicle (including the stopping or stationary condition thereof), while the detect signal of the vehicle running condition detection device 3 is transmitted to the control device 4. As the vehicle running condition detection device 3, for example, there can be used vehicle speed detection device which is one of the existing facilities of the vehicle. Also, every kind of information can be used, provided that it can be used to detect the running conditions of the vehicle." (page 6, lines 16-25)

a controller (4) that is responsive to said two or more sensor signals (output of 2 and 3) for generating at least one output signal (output of 4) only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators (19, 19', Fig. 9) from being operated continuously or

unduly frequently in response to relatively small variations in the sensed conditions; and

> "Therefore, when the amount of variations with time of the detect signal of the vehicle posture detect signal 2 is equal to or larger than a reference value, it may be judged that the gradient of the road has varied, and the illumination direction of the lamp 6 may be corrected in accordance with the detect signal of the vehicle posture detection device 2." (page 8, lines 26-32)

> "Also, in order to prevent the illumination direction of the lamp 6 from being corrected inadvertently when a sudden change in the posture of the vehicle occurs temporarily or due to the wrong operation of the lamp 6 caused by external disturbances, for example, when the vehicle makes a sudden start or a sudden stop, preferably, a threshold value with respect to time may be set in detection of the road gradient and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a time equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected; or, a threshold value with respect to the running distance of the vehicle may be set and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a distance equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected." (page 9, lines 16-34)

said two or more actuators (19, 19', Fig. 9) each being adapted to be connected to the headlight (6) to effect movement thereof in accordance with said at least one output signal (the output signal of 4).

> "A rudder resistance network 18, which corresponds to the above-mentioned drive control device 5a, is used to convert the output signal of the microcomputer 10 into an analog signal and transmits it to actuators 19 and 19' which are disposed downstream thereof." (page 16, line 31 to page 17, line 1)

Regarding claim 2: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (2 and 3) further generate a signal that is representative of the road speed of the vehicle.

> "The vehicle running condition detection device 4 is used to detect the running conditions of the vehicle (including the stopping or stationary condition thereof), while the detect signal of the

vehicle running condition detection device 3 is transmitted to the control device 4. As the vehicle running condition detection device 3, for example, there can be used vehicle speed detection device which is one of the existing facilities of the vehicle. Also, every kind of information can be used, provided that it can be used to detect the running conditions of the vehicle." (page 6, lines 16-25)

Regarding claim 4: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (2 and 3) further generates a signal that is representative of a rate of change of pitch of the vehicle.

"Therefore, there is conventionally known a device which includes a device for detecting the posture of the vehicle by detecting the inclination and height of a vehicle body, and calculates the amount of variations in the inclination of the vehicle based on the information that is obtained by the detect device, thereby being able to adjust automatically the illumination direction of the lamp." (page 2, lines 6-13)

Regarding claim 5: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (2 and 3) further generates a signal that is representative of the suspension height of the vehicle.

"Therefore, there is conventionally known a device which includes a device for detecting the posture of the vehicle by detecting the inclination and height of a vehicle body, and calculates the amount of variations in the inclination of the vehicle based on the information that is obtained by the detect device, thereby being able to adjust automatically the illumination direction of the lamp." (page 2, lines 6-13)

"The vehicle posture detection device 2 is used to detect the posture of a vehicle (including the vertical inclination of the vehicle in the advancing direction thereof). For example, when there is used height detection device 7 which detects the height of the body of the vehicle, as shown in Fig. 2, there are available a method which measures a distance L between the height detection device 7 and a road surface G by use of detect waves such as ultrasonic waves, laser beams or the like, and a method in which the height detection device 7 detects the expansion and contraction amount x of a suspension S in order to detect the amount of variations in the vertical position of the axle of the vehicle." (page 5, line 30 to page 6, line 9)

Regarding claim 6: The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor (2) and a second sensor (3).

Regarding claim 8: The automatic directional control system defined in claim 6, wherein said first sensor (2) is physically separate from said second sensor (3).

Regarding claim 15: The automatic directional control system defined in claim 1, wherein the two or more actuators (19, 19') include the first actuator (19) that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

> "In particular, the method I) is the simplest method that can change the illumination pattern of the lamp 6 within a vertical plane, in which the entire lamp is rotated about the rotary shaft thereof to thereby change the illumination angle of the lamp 6 with respect to a horizontal plane including the optical axis of the lamp. For example, in the method 1), there can be used a drive mechanism in which the right and left side surfaces of the lamp 6 are supported rotatably, and the rotary shaft of the lamp 6 is rotated directly by a drive source such as a motor or the like, or a member fixed to or formed integrally with the lamp 6 is rotated by the drive device 5." (page 11, lines 21 to 32)

Regarding claim 17: The automatic directional control system defined in claim 1, wherein the two or more actuators (19, 19') include an electronically controlled mechanical actuator.

"A rudder resistance network 18, which corresponds to the above-mentioned drive control device 5a, is used to convert the output signal of the microcomputer 10 into an analog signal and transmits it to actuators 19 and 19' which are disposed downstream thereof." (page 16, line 31 to page 17, line 1)

"As an example of such lamp, there is available a lamp including a mechanism which can use the rotational force of the motor as the rotational force of the lam through a transmission mechanism using a worm and worm wheel (for example, see Japanese Patent Publication No. Hei. 63-166672)." (page 11, line 32 to page 12, line 3)

Regarding claim 18: The automatic directional control system defined in claim 1, wherein the two or more actuators (19, 19', Fig. 9) include a step motor.

"Besides this, according to the invention, the lamp or the component thereof can be driven or controlled by use of a stepping motor to thereby correct the illumination direction of the lamp." (page 18, lines 5-8)

Regarding claim 19: The automatic directional control system defined in claim 1, wherein the two or more actuators (19, 19', Fig. 9) include a servo motor.

"A rudder resistance network 18, which corresponds to the above-mentioned drive control device 5a, is used to convert the output signal of the microcomputer 10 into an analog signal and transmits it to actuators 19 and 19' which are disposed downstream thereof." (page 16, line 31 to page 17, line 1)
"As an example of such lamp, there is available a lamp including a mechanism which can use the rotational force of the motor as the rotational force of the lam through a transmission mechanism using a worm and worm wheel (for example, see Japanese Patent Publication No. Hei. 63-166672)." (page 11, line 32 to page 12, line 3)

Regarding claim 23: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor (10, Fig. 9).

> "When a turn-on switch 12 for the lamp 6 is put into operation, a supply voltage from a constant voltage supply circuit 13 and a reset signal from a reset circuit 14 are supplied to the microcomputer 10." (page 16, lines 1-4)

Regarding claim 24. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller (10).

Regarding claim 28: The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes memory (15, Fig. 9).

> "Also, a non-volatile memory 15 (such as an electrically erasable EEPROM, or the like) for storing control programs and data values therein) [sic] and an oscillator 16 used to generate a clock signal are additionally attached to the microcomputer 10." (page 16, lines 5-9)

Regarding claim 29: The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory (15, Fig. 9).

> "Also, a non-volatile memory 15 (such as an electrically erasable EEPROM, or the like) for storing control programs and data values therein) [sic] and an oscillator 16 used to generate a clock signal are additionally attached to the microcomputer 10." (page 16, lines 5-9)

Regarding claim 31: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

> "The vehicle posture detection device 2 is used to detect the posture of a vehicle (including the vertical inclination of the vehicle in the advancing direction thereof). For example, when there is used height detection device 7 which detects the height of the body of the vehicle, as shown in Fig. 2, there are available a method which measures a distance L between the height detection device 7 and a road surface G by use of detect waves such as ultrasonic waves, laser beams or the like, and a method in which the height detection device 7 detects the expansion and contraction amount x of a suspension S in order to detect the amount of variations in the vertical position of the axle of the vehicle." (page 5, line 30 to page 6, line 9)

Regarding claim 32. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

> "Therefore, there is conventionally known a device which includes a device for detecting the posture of the vehicle by detecting the inclination and height of a vehicle body, and calculates the amount of variations in the inclination of the vehicle based on the information that is obtained by the detect device, thereby being able to adjust automatically the illumination direction of the lamp." (page 2, lines 6-13)

> "The vehicle posture detection device is used to detect the posture of a vehicle (including the vertical inclination of the vehicle in the advancing direction thereof). For example, when there is used height detection device 7 which detects the height of the body of the vehicle, as shown in Fig. 2, there are available a method which measures a distance L between the height detection device 7 and a road surface G by use of detect waves such as ultrasonic waves, laser beams or the like, and a method in which the height detection device 7 detects the expansion and contraction amount x of a suspension S in order to detect the amount of variations in the vertical position of the axle of the vehicle." (page 5, line 30 to page 6, line 9)

Regarding claim 35: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such

that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

> "Therefore, when the amount of variations with time of the detect signal of the vehicle posture detect signal 2 is equal to or larger than a reference value, it may be judged that the gradient of the road has varied, and the illumination direction of the lamp 6 may be corrected in accordance with the detect signal of the vehicle posture detection device 2." (page 8, lines 26-32)
>
> "Also, in order to prevent the illumination direction of the lamp 6 from being corrected inadvertently when a sudden change in the posture of the vehicle occurs temporarily or due to the wrong operation of the lamp 6 caused by external disturbances, for example, when the vehicle makes a sudden start or a sudden stop, preferably, a threshold value with respect to time may be set in detection of the road gradient and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a time equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected; or, a threshold value with respect to the running distance of the vehicle may be set and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a distance equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected." (page 9, lines 16-34)

Regarding claim 36: The automatic directional control system defined in claim 1, wherein said controller (4) is configured to be responsive to said two or more sensor signals (2 and 3) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators (19, 19', Fig. 9) from being operated continuously in response to relatively small variations in the sensed conditions.

> "Therefore, when the amount of variations with time of the detect signal of the vehicle posture detect signal 2 is equal to or larger than a reference value, it may be judged that the gradient of the road has varied, and the illumination direction of the lamp 6 may be corrected in accordance with the detect signal of the vehicle posture detection device 2." (page 8, lines 26-32)
>
> "Also, in order to prevent the illumination direction of the lamp 6 from being corrected inadvertently when a sudden change in the posture of the vehicle occurs temporarily or due to the wrong operation of the lamp 6 caused by external disturbances, for example, when

the vehicle makes a sudden start or a sudden stop, preferably, a threshold value with respect to time may be set in detection of the road gradient and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a time equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected; or, a threshold value with respect to the running distance of the vehicle may be set and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a distance equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected." (page 9, lines 16-34)

Regarding claim 37: The automatic directional control system defined in claim 1, wherein said controller (4) is configured to be responsive to said two or more sensor signals (2 and 3) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions.

"Therefore, when the amount of variations with time of the detect signal of the vehicle posture detect signal 2 is equal to or larger than a reference value, it may be judged that the gradient of the road has varied, and the illumination direction of the lamp 6 may be corrected in accordance with the detect signal of the vehicle posture detection device 2." (page 8, lines 26 to 32)

"Also, in order to prevent the illumination direction of the lamp 6 from being corrected inadvertently when a sudden change in the posture of the vehicle occurs temporarily or due to the wrong operation of the lamp 6 caused by external disturbances, for example, when the vehicle makes a sudden start or a sudden stop, preferably, a threshold value with respect to time may be set in detection of the road gradient and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a time equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected; or, a threshold value with respect to the running distance of the vehicle may be set and, only when the amount of variations in the detect signal of the vehicle posture detection device 2 exceeds a given reference value and such excessive state continues for a distance equal to or more than the threshold value, the illumination direction of the lamp 6 may be corrected." (page 9, lines 16 to 34)

Issue 23: The proposed rejection of claims 1, 2, 4-6, 9, 10, 37, 38, 41, 42, 44 and 45 are anticipated by Hussman Under 35 U.S.C. § 102(b) (Request at pages 52-53, and claim chart, pages 193-202).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 9, 10, 37, 38, 41 as anticipated by Hussman under 35 U.S.C § 102(b) were proposed by the requester in the request for reexamination, pages 52-53 and claim chart, pages 193-202, is **NOT ADOPTED**.

It is not agreed that consideration of Toda in view of Hussman presented a reasonable rejection with respect to the amended claims 1-41 of the '034 patent. This rejection will not be applied against these claims for the following reason:

As pointed out on pages 52-53 of the request, and the claim chart, pages 193-202, the requester indicates that Hussman teaches a controller that is responsive to the sensor signal for performing the recited functions at col. 3, lines 30-39 and lines 49-61; col. 4, lines 6-12 and col. 6, lines 51-64.

However, these paragraphs do not teach the limitation "a controller that is **responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated**
continuously or unduly frequently in response to relatively small variations in the sensed conditions" as recited in amended claim 1.

Hussman merely teaches:

> "The curve-recognition device K is electrically conductively coupled with the switchover device SE and thereby couples the third filter F3 electrically conductively with the regulator R if a difference signal other than zero is fed to it from the subtractor SU. When no difference signal from the subtractor SU is present, the curve-recognition device K switches the switchover device SE so that the first filter FI is coupled to the regulator R". (col. 3, lines 30-39)
>
> "At the coupling between the switchover device SE and the regulator R, a matching device AE is, here for example, arranged which, upon a switchover by the switchover device SE, adjusts the various nominal values to one another so that discontinuities or jumps in the adjustment and regulation of the illumination range are avoided". (col. 4, lines 6-12)

There is no evidence presented in these paragraphs that Hussman teaches a controller would include the same function as called for in claim 1. Thus, Hussman does not teach a key element of claim 1. The proposed rejection of amended claim 1 fails to persuasively show any teaching of Hussman corresponding to the feature of "the controller that is **responsive to said two or more sensor signals for generating at least one output signal**

only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions" of claim 1. Moreover, the independent claim 1 now required: "**two or more actuators** each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal". However, Hussman only shows one actuator (R). Hence, the reference put forth in the request, Hussman, is not seen to teach the amendatory subject matter of independent claim 1.

Claims 2, 4-6, 9, 10, 37, 38, 41 depend upon claim 1. Since the proposed rejection for claim 1 was not adopted; therefore, the proposed rejection for dependent claims 2, 4-6, 9, 10, 37, 38 and 41 are also not adopted.

Issue 24: The proposed rejection of claims 1, 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 36-42, 44 and 45 are unpatentable over the combination of Toda et al. and Uchida under 35 U.S.C. § 103(a) (Request at pages 53-56, and claim chart, pages 203-237).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 31-37 as unpatentable over Toda in view of Uchida under 35 U.S.C § 103(a) were proposed by the requester in the request for reexamination, pages 53-56 and claim chart, pages 203-237, is **ADOPTED with modifications to the rationale in support thereof**.

Claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 31-37 are rejected under 35 U.S.C § 103(a) as being unpatentable over Toda in view of Uchida.

Regarding claim 1: Toda discloses an automatic directional control system (Fig. 1) for a vehicle headlight (1L, 1R) comprising:

two or more sensors (12, 14) that are each adapted to generate a signal (output of 12 and 14) that is representative of at least one of a plurality of

sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11 to 18)

a controller (CPU 16) that is responsive to said two or more sensor signals (output of 12 and 14) for generating at least one output signal (output of CPU 16);

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11 to 18)

and two or more actuators (17L, 17R) each being adapted to be connected to the headlight (1L, 1R) to effect movement thereof in accordance with said at least one output signal (the output signal of CPU 16).

> "The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R).
>
> The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 7-18)

However, Toda does not specifically disclose "*only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions*" as required in claim 1.

Uchida teaches a vehicle lamp illumination directional control device which detects both the posture and speed of a vehicle and adjusts the illumination direction of a vehicle lamp so that the illumination direction can always be kept in a predetermined direction (page 1, lines 3-7). Uchida discloses that signals to the drive means are over-ridden when acceleration is not above a given threshold, such as when the vehicle is running over a rough road, to prevent excessive adjustment of the illumination direction.

It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Uchida in Toda's automatic leveling device as a mere application of a known technique to a known device ready for improvement to yield predictable results. One of ordinary skill in the art would readily predict that the device would function to prevent excessive adjustment of the illumination direction, and, thus, the combination would function predictably.

Regarding claim 2: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (12, 14) further generate a signal that is representative of the road speed of the vehicle.

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11-18)

Regarding claim 4: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (12 and 14) further generates a signal that is representative of a rate of change of pitch of the vehicle.

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11-18)

Regarding claim 5: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (12 and 14) further generates a signal that is representative of the suspension height of the vehicle.

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11 to 18)

Regarding claim 6: The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor (12) and a second sensor (14).

Regarding claim 8: The automatic directional control system defined in claim 6, wherein said first sensor (12) is physically separate from said second sensor (14).

Regarding claim 9: The automatic directional control system defined in claim 1, further comprising one or more additional sensors (20L, 20R) for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, a suspension height, or a rate of change of suspension height of the vehicle.

> "In the actuator failure judgment control step 130, as will be described later, the control unit 16 determines based on signals from the actuator failure detection sensors 20 (20L, 20R) whether or not there is a failure of driving of the motors 10 (10L, 10R). If no failure is detected, move to step 108 where the control unit 16 outputs signals to the motor drivers 18 (18L, 18R) so as to drive the motors 10 (10L, 10R) a magnitude corresponding to the pitch angle 0_a when the vehicle is at halt, and then return to step 100. This simultaneously levels the left and right headlamps 1 (1L, 1R)" (col. 5, lines 1-5)
>
> First, in step 132, a signal from the actuator failure detection sensor 20R is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10R of the fight-hand side headlamp 1R fails. If NO (no failure), move to step 136, where a signal from the actuator failure detection sensor 18L is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10L of the left-hand side headlamp 10L fails. If NO (no failure) then move to step 108, where the control circuit 16 outputs signals to the motor drivers 18R, 18L so as to control the motors 10R, 10L based on the pitch angle 01 when the vehicle is at a halt calculated in step 106 and stored in the RAM (or the pitch angle 02 at the time of stable running operated in step 128 and stored in the RAM), then returning to step 100. Thus, in a case where neither of the leveling motors 10L, 10R of the left and right headlamps is failing, the left and right headlamps are simultaneously leveled. In

addition, in a case where the driving of the motors 10L, 10R is controlled based on the pitch angle 02 at the time of stable running, as is previously described, a flag is set. (col. 6, lines 30-51)

Regarding claim 12: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (20L, 20R) generate a signal that is representative of the rate of change of pitch of the vehicle.

"In the actuator failure judgment control step 130, as will be described later, the control unit 16 determines based on signals from the actuator failure detection sensors 20 (20L, 20R) whether or not there is a failure of driving of the motors 10 (10L, 10R). If no failure is detected, move to step 108 where the control unit 16 outputs signals to the motor drivers 18 (18L, 18R) so as to drive the motors 10 (10L, 10R) a magnitude corresponding to the pitch angle 0_a when the vehicle is at halt, and then return to step 100. This simultaneously levels the left and right headlamps 1 (1L, 1R)" (col. 5, lines 1-5)

First, in step 132, a signal from the actuator failure detection sensor 20R is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10R of the fight-hand side headlamp 1R fails. If NO (no failure), move to step 136, where a signal from the actuator failure detection sensor 18L is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10L of the left-hand side headlamp 10L fails. If NO (no failure) then move to step 108, where the control circuit 16 outputs signals to the motor drivers 18R, 18L so as to control the motors 10R, 10L based on the pitch angle 01 when the vehicle is at a halt calculated in step 106 and stored in the RAM (or the pitch angle 02 at the time of stable running operated in step 128 and stored in the RAM), then returning to step 100. Thus, in a case where neither of the leveling motors 10L, 10R of the left and right headlamps is failing, the left and right headlamps are simultaneously leveled. In addition, in a case where the driving of the motors 10L, 10R is controlled based on the pitch angle 02 at the time of stable running, as is previously described, a flag is set. (col. 6, lines 30-51)

Regarding claim 14: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include the first actuator (17L) connected to the headlight to effect movement thereof in a first direction and a second actuator (17R) connected to the

headlight to effect movement thereof in a second direction different form the first direction.

Regarding claim 15: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include the first actuator (19) that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

> "In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)

Regarding claim 17: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include an electronically controlled mechanical actuator.

> "In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)
>
> "The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a

magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18 to 24)

Regarding claim 18: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include a step motor.

"In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)

Regarding claim 19: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include a servo motor.

"In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)

"The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18-24)

Regarding claim 23: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor (CPU 16).

> "The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18 to 24)

Regarding claim 24. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller (CPU 16).

> The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18 to 24)

Regarding claim 25: The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes at least one position feedback sensor (20L, 20R) capable of providing a position feedback signal (feedback from 10 to 16) associated with at least one of the two or more actuators (17L, 17R).

Regarding claim 31: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

> "When a two-sensor system is used in which vehicle height sensors are provided on both the front and rear wheels, the vehicle pitch angle is obtained from displacement distances of the vehicle height at the front and rear of the vehicle and a wheel base of the vehicle, or a distance between front and rear axles of the vehicle." (col. 3, lines 48 to 53)

Regarding claim 32. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

> "When a two-sensor system is used in which vehicle height sensors are provided on both the front and rear wheels, the vehicle pitch angle is obtained from displacement distances of the vehicle height at the front and rear of the vehicle and a wheel base of the vehicle, or a distance between front and rear axles of the vehicle." (col. 3, lines 48 to 53)

Regarding claim 33: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

> "But while the vehicle is running, in order to eliminate disturbance, the CPU 16 is constructed so as to calculate a pitch angle of the vehicle only on condition that the vehicle speed is equal to or higher than a reference value, the acceleration is equal to or lower than a reference value, and this state (in which the vehicle speed is equal to or higher than the reference value and the acceleration is equal to lower than the reference value) continues for a predetermined period of time or longer. For example, when a vehicle is running on a rough road in which disturbance is

caused by irregularities on the road surface or the like, the vehicle cannot run at a speed of 30 km/h or higher, and in order to eliminate an abrupt acceleration causing the vehicle posture to be changed, it is proper to limit the acceleration to 0.5 m/s2 or lower. Therefore, an abrupt detection of an abnormal value and any influence from the detection of an abnormal value are impeded by permitting calculation of a pitch angle of the vehicle to occur only on condition that the state in which the vehicle speed is equal to or higher than 30 km/h and the acceleration is equal to or lower than 0.5 m/s2 continues for three seconds or longer. In addition, the CPU 16 determines whether the lighting switch is switched on or off, and it outputs a signal to the motor drivers 18 (18L, 18R) to drive the motors 10 (10L, 10R) only when the lighting switch is switched on." (col. 4, lines 1-25)

Regarding claim 34: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

"But while the vehicle is running, in order to eliminate disturbance, the CPU 16 is constructed so as to calculate a pitch angle of the vehicle only on condition that the vehicle speed is equal to or higher than a reference value, the acceleration is equal to or lower than a reference value, and this state (in which the vehicle speed is equal to or higher than the reference value and the acceleration is equal to lower than the reference value) continues for a predetermined period of time or longer. For example, when a vehicle is running on a rough road in which disturbance is caused by irregularities on the road surface or the like, the vehicle cannot run at a speed of 30 km/h or higher, and in order to eliminate an abrupt acceleration causing the vehicle posture to be changed, it is proper to limit the acceleration to 0.5 m/s2 or lower. Therefore, an abrupt detection of an abnormal value and any influence from the detection of an abnormal value are impeded by permitting calculation of a pitch angle of the vehicle to occur only on condition that the state in which the vehicle speed is equal to or higher than 30 km/h and the acceleration is equal to or lower than 0.5 m/s2 continues for three seconds or longer. In addition, the CPU 16 determines whether the lighting switch is switched on or off, and it outputs a signal to the motor drivers 18 (18L, 18R) to drive the motors 10 (10L, 10R) only when the lighting switch is switched on." (col. 4, lines 1 to 25)

Regarding claim 35: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

> "But while the vehicle is running, in order to eliminate disturbance, the CPU 16 is constructed so as to calculate a pitch angle of the vehicle only on condition that the vehicle speed is equal to or higher than a reference value, the acceleration is equal to or lower than a reference value, and this state (in which the vehicle speed is equal to or higher than the reference value and the acceleration is equal to lower than the reference value) continues for a predetermined period of time or longer. For example, when a vehicle is running on a rough road in which disturbance is caused by irregularities on the road surface or the like, the vehicle cannot run at a speed of 30 km/h or higher, and in order to eliminate an abrupt acceleration causing the vehicle posture to be changed, it is proper to limit the acceleration to 0.5 m/s2 or lower. Therefore, an abrupt detection of an abnormal value and any influence from the detection of an abnormal value are impeded by permitting calculation of a pitch angle of the vehicle to occur only on condition that the state in which the vehicle speed is equal to or higher than 30 km/h and the acceleration is equal to or lower than 0.5 m/s2 continues for three seconds or longer. In addition, the CPU 16 determines whether the lighting switch is switched on or off, and it outputs a signal to the motor drivers 18 (18L, 18R) to drive the motors 10 (10L, 10R) only when the lighting switch is switched on." (col. 4, lines 1- 25)

Regarding claim 36: The automatic directional control system defined in claim 1, wherein said controller (CPU16) is configured to be responsive to said two or more sensor signals (the output of 12 and 14) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators (17L, 17R) from being operated continuously in response to relatively small variations in the sensed conditions (Toda in combination with Uchida: Uchida teaches that the vehicle is judged to be in acceleration or deceleration running condition by determining if a

calculated value of acceleration is more or less than a reference value. Page 10, line 26 to page 11, line 6).

Regarding claim 37: The automatic directional control system defined in claim 1, wherein said controller (4) is configured to be responsive to said two or more sensor signals (2 and 3) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions (Toda in combination with Uchida: Uchida teaches that the vehicle is judged to be in acceleration or deceleration running condition by determining if a calculated value of acceleration is more or less than a reference value. Page 10, line 26 to page 11, line 6).

Issue 25: The proposed rejection of claims 1, 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 33, 34, 36-42, 44 and 45 are unpatentable over the combination of Toda et al. and Takahashi under 35 U.S.C. § 103(a) (Request at pages 56-58, and claim chart, pages 238-272).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 28-29, 31-37 as unpatentable over Toda in view of Takahashi under 35 U.S.C § 103(a) were proposed by the requester in the request for reexamination, pages 56-58 and claim chart, pages 238-272, is **ADOPTED with modifications to the rationale in support thereof**.

Claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 28-29, 31-37 are rejected under 35 U.S.C § 103(a) as unpatentable over Toda in view of Takahashi.

Regarding claim 1: Toda discloses an automatic directional control system (Fig. 1) for a vehicle headlight (1L, 1R) comprising:

two or more sensors (12, 14) that are each adapted to generate a signal (output of 12 and 14) that is representative of at least one of a plurality of

sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11 to 18)

a controller (CPU 16) that is responsive to said two or more sensor signals (output of 12 and 14) for generating at least one output signal (output of CPU 16);

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11 to 18)

and two or more actuators (17L, 17R) each being adapted to be connected to the headlight (1L, 1R) to effect movement thereof in accordance with said at least one output signal (the output signal of CPU 16).

> "The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R).
>
> The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 7-18)

However, Toda does not specifically disclose "*only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions*" as required in claim 1.

Takahashi teaches a threshold value with respect to vehicle posture prevents the adjustment of the illumination direction when the vehicle makes sudden stops or starts. A threshold value with respect to time may be set in detection of the road gradient, and only when the amount of variations in the detection signal of the vehicle posture exceed a given reference value and such excessive state continues for a time longer than the set threshold time will the illumination direction be adjusted (page 9, line 16 to page 10, line 3).

It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Takahashi in Toda's automatic leveling device as a mere application of a known technique to a known device ready for improvement to yield predictable results. One of ordinary skill in the art would readily predict that the device would function to prevent the adjustment of the illumination direction when the vehicle makes sudden stops or starts, and, thus, the combination would function predictably.

Regarding claim 2: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (12, 14) further generate a signal that is representative of the road speed of the vehicle.

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11-18)

Regarding claim 4: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (12 and 14) further generates a signal that is representative of a rate of change of pitch of the vehicle.

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11-18)

Regarding claim 5: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (12 and 14) further generates a signal that is representative of the suspension height of the vehicle.

> "The headlamp automatic leveling device includes the actuators 17 (17L, 17R) for tilt adjusting respective optical axes L of the headlamps 1 (1L, 1R) vertically, actuator failure detection sensors 20 (20L, 20R), a headlamp switch-on switch 11, vehicle speed sensors 12 as a vehicle speed detection means for detecting the speed of a vehicle, vehicle height sensors 14 constituting a part of a vehicle pitch angle detection means, a CPU 16 as a control unit." (col. 3, lines 11-18)

Regarding claim 6: The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor (12) and a second sensor (14).

Regarding claim 8: The automatic directional control system defined in claim 6, wherein said first sensor (12) is physically separate from said second sensor (14).

Regarding claim 9: The automatic directional control system defined in claim 1, further comprising one or more additional sensors (20L, 20R) for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, a suspension height, or a rate of change of suspension height of the vehicle.

> "In the actuator failure judgment control step 130, as will be described later, the control unit 16 determines based on signals from the actuator failure detection sensors 20 (20L, 20R) whether or not there is a failure of driving of the motors 10 (10L, 10R). If no failure is detected, move to step 108 where the control unit 16 outputs signals to the motor drivers 18 (18L, 18R) so as to drive the motors 10 (10L, 10R) a magnitude corresponding to the pitch angle 0_a when the vehicle is at halt, and then return to step 100. This simultaneously levels the left and right headlamps 1 (1L, 1R)" (col. 5, lines 1-5)
>
> First, in step 132, a signal from the actuator failure detection sensor 20R is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10R of the fight-hand side headlamp 1R fails. If NO (no failure), move to step 136, where a signal from the actuator failure detection sensor 18L is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10L of the left-hand side headlamp 10L fails. If NO (no failure) then move to step 108, where the control circuit 16 outputs signals to the motor drivers 18R, 18L so as to control the motors 10R, 10L based on the pitch angle 01 when the vehicle is at a halt calculated in step 106 and stored in the RAM (or the pitch angle 02 at the time of stable running operated in step 128 and stored in the RAM), then returning to step 100. Thus, in a case where neither of the leveling motors 10L, 10R of the left and right headlamps is failing, the left and right headlamps are simultaneously leveled. In

addition, in a case where the driving of the motors 10L, 10R is controlled based on the pitch angle 02 at the time of stable running, as is previously described, a flag is set. (col. 6, lines 30-51)

Regarding claim 12: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (20L, 20R) generate a signal that is representative of the rate of change of pitch of the vehicle.

"In the actuator failure judgment control step 130, as will be described later, the control unit 16 determines based on signals from the actuator failure detection sensors 20 (20L, 20R) whether or not there is a failure of driving of the motors 10 (10L, 10R). If no failure is detected, move to step 108 where the control unit 16 outputs signals to the motor drivers 18 (18L, 18R) so as to drive the motors 10 (10L, 10R) a magnitude corresponding to the pitch angle 0_a when the vehicle is at halt, and then return to step 100. This simultaneously levels the left and right headlamps 1 (1L, 1R)" (col. 5, lines 1-5)

First, in step 132, a signal from the actuator failure detection sensor 20R is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10R of the fight-hand side headlamp 1R fails. If NO (no failure), move to step 136, where a signal from the actuator failure detection sensor 18L is compared with an allowable value set in advance, and from this it is determined whether or not the leveling motor 10L of the left-hand side headlamp 10L fails. If NO (no failure) then move to step 108, where the control circuit 16 outputs signals to the motor drivers 18R, 18L so as to control the motors 10R, 10L based on the pitch angle 01 when the vehicle is at a halt calculated in step 106 and stored in the RAM (or the pitch angle 02 at the time of stable running operated in step 128 and stored in the RAM), then returning to step 100. Thus, in a case where neither of the leveling motors 10L, 10R of the left and right headlamps is failing, the left and right headlamps are simultaneously leveled. In addition, in a case where the driving of the motors 10L, 10R is controlled based on the pitch angle 02 at the time of stable running, as is previously described, a flag is set. (col. 6, lines 30-51)

Regarding claim 14: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include the first actuator (17L) connected to the headlight to effect movement thereof in a first direction and a second actuator (17R) connected to the

headlight to effect movement thereof in a second direction different form the first direction.

Regarding claim 15: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include the first actuator (19) that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

> "In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)

Regarding claim 17: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include an electronically controlled mechanical actuator.

> "In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)
>
> "The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a

magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18-24)

Regarding claim 18: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include a step motor.

"In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)

Regarding claim 19: The automatic directional control system defined in claim 1, wherein the two or more actuators (17L, 17R) include a servo motor.

"In FIG. 1, reference number 1 (1L, 1R) denotes a pair of left and fight headlamps for an automotive vehicle, the headlights having the same construction. A front lens 4 is mounted in the front opening of a lamp body, so that a lamp space S is provided. In the lamp space S, a parabolic reflector 5 having a bulb 6 as a light source securely inserted therein is supported in such a manner as to be tilted around a horizontal tilt shaft 7 (in FIG. 1, a shaft normal relative to the surface of paper) and the parabolic reflectors 5 are then constructed so as to be tilt adjusted by actuators 17 (17L, 17R), respectively. The actuators 17 (17L, 17R) each comprise a stepping motor 10 (10L, 1 OR) which includes an actuator main body and a motor driver 18 (18L, 18R)." (col. 2, line 65 to col. 3, line 10)

"The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18-24)

Regarding claim 23: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a microprocessor (CPU 16).

> "The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18-24)

Regarding claim 24. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller (CPU 16).

> The CPU 16 calculates vehicle speed depending on data from sensors 12 and calculates vehicle height depending on data from sensors 14, judges whether the headlamps are switched on or off, and output to motor drivers 18 (18L, 18R) a control signal for driving the motors 10 (10L, 10R) a magnitude corresponding to operating pitch angle data. A timer 13 is also connected to the CPU 16." (col. 3, lines 18-24)

Regarding claim 25: The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes at least one position feedback sensor (20L, 20R) capable of providing a position feedback signal (feedback from 10 to 16) associated with at least one of the two or more actuators (17L, 17R).

Regarding claim 28: The automatic directional control system defined in claim 1, wherein the automatic directional control system further includes memory (Takahashi, 15, Fig. 9).

> "Also, a non-volatile memory 15 (such as an electrically erasable EEPROM, or the like) for storing control programs and data values therein) [sic] and an oscillator 16 used to generate a clock signal are additionally attached to the microcomputer 10." (page 16, lines 5-9)

Regarding claim 29: The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory (Takahashi, 15, Fig. 9).

> "Also, a non-volatile memory 15 (such as an electrically erasable EEPROM, or the like) for storing control programs and data values therein) [sic] and an oscillator 16 used to generate a clock signal are additionally attached to the microcomputer 10." (page 16, lines 5-9)

Regarding claim 31: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

> "When a two-sensor system is used in which vehicle height sensors are provided on both the front and rear wheels, the vehicle pitch angle is obtained from displacement distances of the vehicle height at the front and rear of the vehicle and a wheel base of the vehicle, or a distance between front and rear axles of the vehicle." (col. 3, lines 48-53)

Regarding claim 32. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

> "When a two-sensor system is used in which vehicle height sensors are provided on both the front and rear wheels, the vehicle pitch angle is obtained from displacement distances of the vehicle height at the front and rear of the vehicle and a wheel base of the vehicle, or a distance between front and rear axles of the vehicle." (col. 3, lines 48-53)

Regarding claim 33: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

> "But while the vehicle is running, in order to eliminate disturbance, the CPU 16 is constructed so as to calculate a pitch angle of the vehicle only on condition that the vehicle speed is equal to or higher than a reference value, the acceleration is equal to or lower than a reference value, and this state (in which the vehicle speed is equal to or higher than the reference value and the acceleration is equal to lower than the reference value) continues for a predetermined period of time or longer. For example, when a vehicle is running on a rough road in which disturbance is caused by irregularities on the road surface or the like, the vehicle cannot run at a speed of 30 km/h or higher, and in order to eliminate an abrupt acceleration causing the vehicle posture to be changed, it is proper to limit the acceleration to 0.5 m/s2 or lower. Therefore, an abrupt detection of an abnormal value and any influence from the detection of an abnormal value are impeded by permitting calculation of a pitch angle of the vehicle to occur only on condition that the state in which the vehicle speed is equal to or higher than 30 km/h and the acceleration is equal to or lower than 0.5 m/s2 continues for three seconds or longer. In addition, the CPU 16 determines whether the lighting switch is switched on or off, and it outputs a signal to the motor drivers 18 (18L, 18R) to drive the motors 10 (10L, 10R) only when the lighting switch is switched on." (col. 4, lines 1-25)

Regarding claim 34: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such

that the controller is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

> "But while the vehicle is running, in order to eliminate disturbance, the CPU 16 is constructed so as to calculate a pitch angle of the vehicle only on condition that the vehicle speed is equal to or higher than a reference value, the acceleration is equal to or lower than a reference value, and this state (in which the vehicle speed is equal to or higher than the reference value and the acceleration is equal to lower than the reference value) continues for a predetermined period of time or longer. For example, when a vehicle is running on a rough road in which disturbance is caused by irregularities on the road surface or the like, the vehicle cannot run at a speed of 30 km/h or higher, and in order to eliminate an abrupt acceleration causing the vehicle posture to be changed, it is proper to limit the acceleration to 0.5 m/s2 or lower. Therefore, an abrupt detection of an abnormal value and any influence from the detection of an abnormal value are impeded by permitting calculation of a pitch angle of the vehicle to occur only on condition that the state in which the vehicle speed is equal to or higher than 30 km/h and the acceleration is equal to or lower than 0.5 m/s2 continues for three seconds or longer. In addition, the CPU 16 determines whether the lighting switch is switched on or off, and it outputs a signal to the motor drivers 18 (18L, 18R) to drive the motors 10 (10L, 10R) only when the lighting switch is switched on." (col. 4, lines 1-25)

Regarding claim 35: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

> "But while the vehicle is running, in order to eliminate disturbance, the CPU 16 is constructed so as to calculate a pitch angle of the vehicle only on condition that the vehicle speed is equal to or higher than a reference value, the acceleration is equal to or lower than a reference value, and this state (in which the vehicle speed is equal to or higher than the reference value and the acceleration is equal to lower than the reference value) continues for a predetermined period of time or longer. For example, when a vehicle is running on a rough road in which disturbance is caused by irregularities on the road surface or the like, the vehicle cannot run at a speed of 30 km/h or higher, and in order to eliminate an abrupt acceleration causing the vehicle posture to be changed, it is proper to limit the acceleration to 0.5 m/s2 or lower. Therefore, an abrupt detection

> of an abnormal value and any influence from the detection of an abnormal value are impeded by permitting calculation of a pitch angle of the vehicle to occur only on condition that the state in which the vehicle speed is equal to or higher than 30 km/h and the acceleration is equal to or lower than 0.5 m/s2 continues for three seconds or longer. In addition, the CPU 16 determines whether the lighting switch is switched on or off, and it outputs a signal to the motor drivers 18 (18L, 18R) to drive the motors 10 (10L, 10R) only when the lighting switch is switched on." (col. 4, lines 1-25)

Regarding claim 36: The automatic directional control system defined in claim 1, wherein said controller (CPU16) is configured to be responsive to said two or more sensor signals (the output of 12 and 14) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators (17L, 17R) from being operated continuously in response to relatively small variations in the sensed conditions (Takahashi teaches the threshold value with respect to vehicle posture prevents the adjustment of the illumination direction when the vehicle makes sudden stops or starts. The threshold value with respect to time may be set in detection of the road gradient, and only when the amount of variations in the detection signal of the vehicle posture exceed a given reference value and such excessive state continues for a time longer than the set threshold time will the illumination direction be adjusted (page 9, line 16 to page 10, line 3)).

Regarding claim 37: The automatic directional control system defined in claim 1, wherein said controller (4) is configured to be responsive to said two or

more sensor signals (2 and 3) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions (Takahashi teaches the threshold value with respect to vehicle posture prevents the adjustment of the illumination direction when the vehicle makes sudden stops or starts. The threshold value with respect to time may be set in detection of the road gradient, and only when the amount of variations in the detection signal of the vehicle posture exceed a given reference value and such excessive state continues for a time longer than the set threshold time will the illumination direction be adjusted (page 9, line 16 to page 10, line 3)).

Issue 26: The proposed rejection of claims 1, 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 36-42, 44 and 45 are unpatentable over the combination of Toda and Hussman Under 35 U.S.C. § 103(a) (Request at pages 58-61, and claim chart, pages 273-302).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 36-41 as unpatentable over the combination of Toda and Hussman under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 58-61 and claim chart, pages 273-302, is **NOT ADOPTED**.

It is not agreed that consideration of Toda in view of Hussman presented a reasonable rejection with respect to the amended claims 1-41 of the '034 patent. This rejection will not be applied against these claims for the following reason: Particularly, without the additional teachings of Hussman, Toda is not presented in a different light than it was presented in the prosecution history. As indicated above issue 23, Hussman does not specifically include the teachings identified "a controller ... *only when said at least one of the two or more sensor signals changes by more than* ***a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions***" as having the significance of the reasonable likelihood of prevailing with respect to the amended claim 1.

Since Toda does not clearly suggest "... *only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from*

being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions", and Hussman which is relied upon as the secondary reference for the teaching, does not also clearly demonstrate the details of "*...only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions".* Neither Toda nor Hussman teaches a key element of claim 1.

Hussman only teaches:

> "The curve-recognition device K is electrically conductively coupled with the switchover device SE and thereby couples the third filter F3 electrically conductively with the regulator R if a difference signal other than zero is fed to it from the subtractor SU. When no difference signal from the subtractor SU is present, the curve-recognition device K switches the switchover device SE so that the first filter FI is coupled to the regulator R". (col. 3, lines 30-39)
>
> "At the coupling between the switchover device SE and the regulator R, a matching device AE is, here for example, arranged which, upon a switchover by the switchover device SE, adjusts the various nominal values to one another so that discontinuities or jumps in the adjustment and regulation of the illumination range are avoided". (col. 4, lines 6-12)

Therefore, the combination of Toda in view of Hussman do not result the lacking limitation "... *only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the*

sensed conditions" as called for in claim 1. Thus, the rejection based on Toda in view of Hussman for claim 1 is not adopted.

Claims 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 36-41 depend upon claim 1. Since the proposed rejection for claim 1 was not adopted; therefore, the proposed rejection for dependent claims 2, 4-6, 9-13, 17, 18, 20-22, 24, 25, 28, 29, 36-41 are also not adopted.

Issue 27: The proposed rejection of claims 1, 2, 4-6, 9-13, 15-18, 20-22, 24, 25, 28, 29, 33, 35, 37-42, 44 and 45 are unpatentable over the combination of Okuchi et al. and Uchida under 35 U.S.C. § 103(a) (Request at pages 61-63, and claim chart, pages 303-344).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are unpatentable over the combination of Okuchi et al. and Uchida under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 61-63, and claim chart, pages 303-344, is **ADOPTED with modifications to the rationale in support thereof**.

Claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okuchi et al. and Uchida.

Regarding claim 1: Okuchi discloses an automatic directional control system (Fig. 1) for a vehicle headlight (30L, 30R) comprising:

> "In a vehicle headlight optical axis automatic adjusting system, a pitch angle in the longitudinal direction of a vehicle is calculated from a signal of a height sensor." (Abstract)

two or more sensors (11F, 11R) that are each adapted to generate a signal (output of 11F, 11R) that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." , (col. 4, line 58 to col. 5, line 8)

a controller (20) that is responsive to said two or more sensor signals (output of 11F, 11R) for generating at least one output signal (output of 20);

and two or more actuators (35L, 35R) each being adapted to be connected to the headlight (30L, 30R) to effect movement thereof in accordance with said at least one output signal (the output signal of 20).

However, Okuchi does not specifically disclose "*only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions*" as required in claim 1.

Uchida teaches a vehicle lamp illumination directional control device which detects both the posture and speed of a vehicle and adjusts the illumination direction of a vehicle lamp so that the illumination direction can always be kept in a predetermined direction (page 1, lines 3-7). Uchida discloses that signals to the drive means are over-ridden when acceleration is not above a given threshold, such as when the vehicle is running over a rough road, to prevent excessive adjustment of the illumination direction.

It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Uchida in Okuchi's automatic adjusting system as a mere application of a known technique to a known device ready for improvement to yield predictable results. One of ordinary skill in the art would readily predict that the device would function to detect both the posture and speed of a vehicle and adjusts the illumination direction of a vehicle lamp so

that the illumination direction can always be kept in a predetermined direction, and, thus, the combination would function predictably.

Regarding claim 2: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (11F, 11R) further generate a signal that is representative of the road speed of the vehicle.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)
>
> "FIG. 20 is a timing diagram showing a transition state of the rear height value measured by the height sensor 11 according to a change in the vehicle speed [km/h] when the vehicle changes from the state where the vehicle is stopped on a flat place, an acceleration mode, and to a constant speed driving mode". (col. 15, lines 16-21)

Regarding claim 4: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (11F, 11R) further generates a signal that is representative of a rate of change of pitch of the vehicle.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided

between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

"On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as +/- 2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak filtering is performed so that the actuator is allowed to respond quickly to the change in the pitch angle." (col. 6, lines 6 to 14)

Regarding claim 5: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (11F, 11R) further generates a signal that is representative of the suspension height of the vehicle.

"Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

"FIG. 19 is a timing diagram showing a transition state of a displacement [mm] in each of the rear height value measured by the height sensor 11 according to a change in the vehicle speed [km], a measured front height based on the measured rear height, and a measured front height for comparison. The vehicle speed changes in accordance with the order of a state where the vehicle is stopped riding on a block or the like, acceleration, constant speed driving, deceleration, and a state where the vehicle is stopped on a flat place.

In FIG. 19, in the initial vehicle stop mode, a state where the rear suspension contracts when the vehicle is stopped riding on a block or the like is sensed and the measured rear height is obtained. After that, the front height value is calculated based on the displacement in the measured rear height, so that the measured front height includes an error and is largely deviated

from the actual measured front height. An error accordingly occurs in calculation of the pitch angle of the vehicle body. When the optical axis direction of the headlight 30 is adjusted based on the pitch angle, the direction is deviated from a proper angle and glare may be given to an oncoming vehicle or the like." (col. 14, line 61 to col. 15, line 3)

Regarding claim 6: The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor (11F) and a second sensor (11R).

Regarding claim 8: The automatic directional control system defined in claim 6, wherein said first sensor (11F) is physically separate from said second sensor (11R).

Regarding claim 9: The automatic directional control system defined in claim 1, further comprising one or more additional sensors (12, 13, 14) for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, a suspension height, or a rate of change of suspension height of the vehicle.

'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).

"The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 10: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (12, 13, 14, Fig. 18) generate a signal that is representative of the rate of change of road speed of the vehicle.

> 'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).
>
> "The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 12: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (12, 13, 14) generate a signal that is representative of the rate of change of pitch of the vehicle.

> 'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).
>
> "The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 13: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (12, 13, 14) generate a signal that is representative of a suspension height of the vehicle.

'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).

"The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 14: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include the first actuator (35L) connected to the headlight to effect movement thereof in a first direction and a second actuator (35R) connected to the headlight to effect movement thereof in a second direction different form the first direction.

Regarding claim 15: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include the first actuator (35L) that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

"As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a
DC motor for driving the movable member 34 in the directions shown by the double-headed arrow.
The movable member 34 is driven in the back and forth directions by the actuator 35L (35R) so that the reflector 32 is vertically inclined about the end of the supporting member 33 as a fulcrum only by an actuator driving angle (target optical axis direction adjusting angle) ea which will be described hereinlater, thereby adjusting the optical axis direction of the headlight 30L (30R). The optical axis direction of the headlight 30L (30R) is initially set on the assumption that one driver is on the vehicle." (col. 5, lines 24-40)

Regarding claim 17: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include an electronically controlled mechanical actuator.

> "The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 to 15)
>
> "As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a DC motor for driving the movable member 34 in the directions shown by the double-headed arrow." (col. 5, lines 24 to 33)

Regarding claim 18: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include a step motor.

> "The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 to 15)
>
> "As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a DC motor for driving the movable member 34 in the directions shown by the double-headed arrow." (col. 5, lines 24 to 33)

Regarding claim 19: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include a servo motor.

" "The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11-15)

"As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a DC motor for driving the movable member 34 in the directions shown by the double-headed arrow." (col. 5, lines 24-33)

Regarding claim 23: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) includes a microprocessor (CPU 21).

"The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 – 15)

Regarding claim 24. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) includes a programmable electronic controller.

"The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 – 15)

Regarding claim 28: The automatic directional control system defined in claim 1, wherein the automatic directional control system (20) further includes memory (EEPROM 29, Fig. 8).

> "In this embodiment, as shown by a dotted line in FIG. 8, a non-volatile rewritable memory such as an EEPROM 29 is provided as a storing medium in which the system error ' information is stored in advance and the EEPROM 29 is housed in the ECU 20. The EEPROM 29 may be externally connected to the ECU 20." (col. 12, lines 12-18)

Regarding claim 29: The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory (EEPROM 29, Fig. 8).

> "In this embodiment, as shown by a dotted line in FIG. 8, a non-volatile rewritable memory such as an EEPROM 29 is provided as a storing medium in which the system error ' information is stored in advance and the EEPROM 29 is housed in the ECU 20. The EEPROM 29 may be externally connected to the ECU 20." (col. 12, lines 12-18)

Regarding claim 30: The automatic directional control system defined in claim 28, wherein the memory (EEPROM 29, Fig. 8) is configured to store predetermined reference position associated with the headlight.

> "In this embodiment, as shown by a dotted line in FIG. 8, a non-volatile rewritable memory such as an EEPROM 29 is provided as a storing medium in which the system error ' information is stored in advance and the EEPROM 29 is housed in the ECU 20. The EEPROM 29 may be externally connected to the ECU 20. The system error information denotes factors exerting influence on the calculation of the inclination angle, such as an installation error of the vehicle 0 height sensor 11 to the vehicle, an error of spring constants of the front and rear suspensions, a weight error due to variation in the specifications of the vehicle, a positional error of the center of gravity, and the like. The control routine shown in FIG. 14 is repeatedly executed every 5 predetermined time by the CPU 21." (col. 12, lines 12-26)

Regarding claim 31: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such

that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

Regarding claim 32. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

> In the diagram of FIG. 3, the filter A corresponding to the stop mode is used when the vehicle speed V is lower than a few km/h (for example, 2 [kin/hi). When the vehicle is stopped, a large change in the pitch angle due to loading, unloading, or the like is expected. No filtering or very weak filtering is therefore performed so that the actuator is 5 allowed to respond quickly to the change in the pitch angle.
> On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [kin/hi) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as -,-2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak

filtering is performed so that the actuator is allowed to respond quickly to the chance in the pitch angle." (col. 5, line 66- col. 6, line 14)

Regarding claim 33: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

"When the vehicle speed V is equal to or higher than a few km/h (such as 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V is lower than the preset threshold (for example, +/- 2 [m/s2]), the filter C corresponding to the constant speed mode is used. Since it is generally expected that the pitch angle does not largely change, strong filtering is performed so as to remove high frequency components of a vibration at the time of driving and the change in the pitch angle due to unevenness of the road surface, thereby preventing the actuator from responding." (col. 6, lines 29-38)

"In the diagram of FIG. 3, the filter A corresponding to the stop mode is used when the vehicle speed V is lower than a few km/h (for example, 2 [kin/hi). When the vehicle is stopped, a large change in the pitch angle due to loading, unloading, or the like is expected. No filtering or very weak filtering is therefore performed so that the actuator is 5 allowed to respond quickly to the change in the pitch angle.
On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [kin/hi) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as -,-2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak filtering is performed so that the actuator is allowed to respond quickly to the change in the pitch angle." (col. 5, line 66- col. 6, line 14)

Regarding claim 34: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency

changes in the suspension height of the vehicle that are a result of bumps in a road.

> "When the vehicle speed V is equal to or higher than a few km/h (such as 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V is lower than the preset threshold (for example, +/- 2 [m/s2]), the filter C corresponding to the constant speed mode is used. Since it is generally expected that the pitch angle does not largely change, strong filtering is performed so as to remove high frequency components of a vibration at the time of driving and the change in the pitch angle due to unevenness of the road surface, thereby preventing the actuator from responding." (col. 6, lines 29-38)

> "In the diagram of FIG. 3, the filter A corresponding to the stop mode is used when the vehicle speed V is lower than a few km/h (for example, 2 [kin/hi). When the vehicle is stopped, a large change in the pitch angle due to loading, unloading, or the like is expected. No filtering or very weak filtering is therefore performed so that the actuator is 5 allowed to respond quickly to the change in the pitch angle.
> On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [kin/hi) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as -,-2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak filtering is performed so that the actuator is allowed to respond quickly to the change in the pitch angle." (col. 5, line 66- col. 6, line 14)

Regarding claim 35: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

> "When the vehicle speed V is equal to or higher than a few km/h (such as 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V is lower than the preset threshold (for example, +/- 2 [m/s2]), the filter C corresponding to the constant speed mode is used. Since it is generally expected that the pitch angle does not largely change, strong filtering is performed so as to remove high frequency components of a vibration at the time of driving and the change in the pitch angle due to unevenness of the road surface, thereby preventing the actuator from responding." (col. 6, lines 29-38)

Regarding claim 36: The automatic directional control system defined in claim 1, wherein said controller (20) is configured to be responsive to said two or more sensor signals (11F, 11R) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators (35L, 35R) from being operated continuously in response to relatively small variations in the sensed conditions (Uchida teaches adjusting the illumination direction of a vehicle lamp so that the illumination direction can always be kept in a predetermined direction (page 1, lines 3-7) and the signals to the drive means are over-ridden when acceleration is not above a given threshold, such as when the vehicle is running over a rough road, to prevent excessive adjustment of the illumination direction).

Regarding claim 37: The automatic directional control system defined in claim 1, wherein said controller (20) is configured to be responsive to said two or more sensor signals (11F, 11R) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions (Uchida teaches adjusting the illumination direction of a vehicle lamp so that the illumination direction can always be kept in a predetermined direction (page 1, lines 3-7) and the

signals to the drive means are over-ridden when acceleration is not above a given threshold, such as when the vehicle is running over a rough road, to prevent excessive adjustment of the illumination direction).

Issue 28: The proposed rejection of claims 1, 2, 4-6, 9-13, 15-18, 20-22, 24, 25, 28, 29, 33-35, 37-42, 44 and 45 are unpatentable over the combination of Okuchi et al. and Takahashi under 35 U.S.C. § 103(a) (Request at pages 63-66, and claim chart, pages 345-387).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are unpatentable over the combination of Okuchi et al. and Takahashi under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 63-66, and claim chart, pages 345-387, is **ADOPTED with modifications to the rationale in support thereof**.

Claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okuchi et al. and Takahashi.

Regarding claim 1: Okuchi discloses an automatic directional control system (Fig. 1) for a vehicle headlight (30L, 30R) comprising:

> "In a vehicle headlight optical axis automatic adjusting system, a pitch angle in the longitudinal direction of a vehicle is calculated from a signal of a height sensor." (Abstract)

two or more sensors (11F, 11R) that are each adapted to generate a signal (output of 11F, 11R) that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." , (col. 4, line 58 to col. 5, line 8)

a controller (20) that is responsive to said two or more sensor signals (output of 11F, 11R) for generating at least one output signal (output of 20);

and two or more actuators (35L, 35R) each being adapted to be connected to the headlight (30L, 30R) to effect movement thereof in accordance with said at least one output signal (the output signal of 20).

However, Okuchi does not specifically disclose "*only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions*" as required in claim 1.

Takahashi teaches a threshold value with respect to vehicle posture prevents the adjustment of the illumination direction when the vehicle makes sudden stops or starts. A threshold value with respect to time may be set in detection of the road gradient, and only when the amount of variations in the detection signal of the vehicle posture exceed a given reference value and such excessive state continues for a time longer than the set threshold time will the illumination direction be adjusted (page 9, line 16 to page 10, line 3).

It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Takahashi in Okuchi's automatic adjusting system as a mere application of a known technique to a known device ready for improvement to yield predictable results. One of ordinary skill in the art would readily predict that the device would function to prevent the adjustment of the

illumination direction when the vehicle makes sudden stops or starts, and, thus, the combination would function predictably.

Regarding claim 2: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (11F, 11R) further generate a signal that is representative of the road speed of the vehicle.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)
>
> "FIG. 20 is a timing diagram showing a transition state of the rear height value measured by the height sensor 11 according to a change in the vehicle speed [km/h] when the vehicle changes from the state where the vehicle is stopped on a flat place, an acceleration mode, and to a constant speed driving mode". (col. 15, lines 16-21)

Regarding claim 4: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (11F, 11R) further generates a signal that is representative of a rate of change of pitch of the vehicle.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided

between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

"On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as +/- 2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak filtering is performed so that the actuator is allowed to respond quickly to the change in the pitch angle." (col. 6, lines 6 to 14)

Regarding claim 5: The automatic directional control system defined in claim 1, wherein at least one of said two or more sensors (11F, 11R) further generates a signal that is representative of the suspension height of the vehicle.

"Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

"FIG. 19 is a timing diagram showing a transition state of a displacement [mm] in each of the rear height value measured by the height sensor 11 according to a change in the vehicle speed [km], a measured front height based on the measured rear height, and a measured front height for comparison. The vehicle speed changes in accordance with the order of a state where the vehicle is stopped riding on a block or the like, acceleration, constant speed driving, deceleration, and a state where the vehicle is stopped on a flat place.

In FIG. 19, in the initial vehicle stop mode, a state where the rear suspension contracts when the vehicle is stopped riding on a block or the like is sensed and the measured rear height is obtained. After that, the front height value is calculated based on the displacement in the measured rear height, so that the measured front height includes an error and is largely deviated

from the actual measured front height. An error accordingly occurs in calculation of the pitch angle of the vehicle body. When the optical axis direction of the headlight 30 is adjusted based on the pitch angle, the direction is deviated from a proper angle and glare may be given to an oncoming vehicle or the like." (col. 14, line 61 to col. 15, line 3)

Regarding claim 6: The automatic directional control system defined in claim 1, wherein said two or more sensors include a first sensor (11F) and a second sensor (11R).

Regarding claim 8: The automatic directional control system defined in claim 6, wherein said first sensor (11F) is physically separate from said second sensor (11R).

Regarding claim 9: The automatic directional control system defined in claim 1, further comprising one or more additional sensors (12, 13, 14) for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of steering angle of the vehicle, a rate of change of pitch of the vehicle, a suspension height, or a rate of change of suspension height of the vehicle.

'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).

"The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 10: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (12, 13, 14, Fig. 18) generate a signal that is representative of the rate of change of road speed of the vehicle.

> 'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).
>
> "The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 12: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (12, 13, 14) generate a signal that is representative of the rate of change of pitch of the vehicle.

> 'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).
>
> "The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 13: The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors (12, 13, 14) generate a signal that is representative of a suspension height of the vehicle.

'The various sensor signals from the wheel speed sensor 12 and the like are used for determining the mode of the vehicle, such as stop mode, acceleration mode, deceleration mode, and constant speed mode" (col. 5, lines 20-23).

"The various sensor signals from the vehicle speed sensor 12, the right-wheel speed sensor 13, the left-wheel speed sensor 14, and the like are used to determine a driving mode of the vehicle such as stop mode, acceleration or deceleration mode, and constant speed driving (stable driving) mode, and to determine whether the vehicle is in a tuning state or not." (col. 15, lines 49-55)

Regarding claim 14: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured to include the first actuator (35L) connected to the headlight to effect movement thereof in a first direction and a second actuator (35R) connected to the headlight to effect movement thereof in a second direction different form the first direction.

Regarding claim 15: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include the first actuator (35L) that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

"As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a
DC motor for driving the movable member 34 in the directions shown by the double-headed arrow.
The movable member 34 is driven in the back and forth directions by the actuator 35L (35R) so that the reflector 32 is vertically inclined about the end of the supporting member 33 as a fulcrum only by an actuator driving angle (target optical axis direction adjusting angle) ea which will be described hereinlater, thereby adjusting the optical axis direction of the headlight 30L (30R). The optical axis direction of the headlight 30L (30R) is initially set on the assumption that one driver is on the vehicle." (col. 5, lines 24-40)

Regarding claim 17: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include an electronically controlled mechanical actuator.

> "The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 to 15)
>
> "As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a DC motor for driving the movable member 34 in the directions shown by the double-headed arrow." (col. 5, lines 24 to 33)

Regarding claim 18: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include a step motor.

> "The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 to 15)
>
> "As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a DC motor for driving the movable member 34 in the directions shown by the double-headed arrow." (col. 5, lines 24 to 33)

Regarding claim 19: The automatic directional control system defined in claim 1, wherein the two or more actuators (35L, 35R) include a servo motor.

" "The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 to 15)

"As shown in FIG. 2, the headlight 30L (30R) includes a lamp 31, a reflector 32 for fixing the lamp 31, a supporting member 33 of a rod shape for supporting the reflector 32 swingably in the directions shown by the arc arrow, a movable member 34 having also a rod shape, for supporting the reflector 32, and the actuator 35L (35R) such as a stepping motor or a DC motor for driving the movable member 34 in the directions shown by the double-headed arrow." (col. 5, lines 24 to 33)

Regarding claim 23: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) includes a microprocessor (CPU 21).

"The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 – 15)

Regarding claim 24. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) includes a programmable electronic controller (21-24).

"The ECU 20 is a logical operating circuit comprising a CPU 21 as a known central processing unit, a ROM 22 in which control programs are stored, a RAM 23 for storing various data, a B/U (back-up) RAM 24, an input/output circuit 25, and a bus line 26 connecting these elements." (col. 5, lines 11 – 15)

Regarding claim 28: The automatic directional control system defined in claim 1, wherein the automatic directional control system (20) further includes memory (EEPROM 29, Fig. 8).

> "In this embodiment, as shown by a dotted line in FIG. 8, a non-volatile rewritable memory such as an EEPROM 29 is provided as a storing medium in which the system error ' information is stored in advance and the EEPROM 29 is housed in the ECU 20. The EEPROM 29 may be externally connected to the ECU 20." (col. 12, lines 12-18)

Regarding claim 29: The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory (EEPROM 29, Fig. 8).

> "In this embodiment, as shown by a dotted line in FIG. 8, a non-volatile rewritable memory such as an EEPROM 29 is provided as a storing medium in which the system error ' information is stored in advance and the EEPROM 29 is housed in the ECU 20. The EEPROM 29 may be externally connected to the ECU 20." (col. 12, lines 12-18)

Regarding claim 30: The automatic directional control system defined in claim 28, wherein the memory (EEPROM 29, Fig. 8) is configured to store predetermined reference position associated with the headlight.

> "In this embodiment, as shown by a dotted line in FIG. 8, a non-volatile rewritable memory such as an EEPROM 29 is provided as a storing medium in which the system error ' information is stored in advance and the EEPROM 29 is housed in the ECU 20. The EEPROM 29 may be externally connected to the ECU 20. The system error information denotes factors exerting influence on the calculation of the inclination angle, such as an installation error of the vehicle 0 height sensor 11 to the vehicle, an error of spring constants of the front and rear suspensions, a weight error due to variation in the specifications of the vehicle, a positional error of the center of gravity, and the like. The control routine shown in FIG. 14 is repeatedly executed every 5 predetermined time by the CPU 21." (col. 12, lines 12-26)

Regarding claim 31: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such

that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

Regarding claim 32. The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

> "Referring first to Fig. 1, a front (front-wheel) height sensor 11F is attached to a front suspension provided between a front axle and a vehicle chassis on a driver's seat side or a front passenger seat side. A rear (rear-wheel) height sensor 11R is attached to a rear suspension provided between the rear axle and the vehicle chassis on the driver's seat side or the rear passenger seat side. A front height value (a displacement of the vehicle height on the front wheel side) HF and a rear height value (a displacement of the vehicle height on the rear wheel side) HR as relative displacements (displacements of the vehicle height) between the respective axles on the front and rear wheel sides and the vehicle chassis supplied from the height sensors 11F and 11R, and various sensor signals of wheel speed pulses and the like from a wheel speed sensor 12 which is mounted as a vehicle speed sensor on the vehicle side and is used for known TRC and ABS controls and the like are supplied to an ECU (Electronic Control Unit) 20." (col. 4, line 58 to col. 5, line 8)

> In the diagram of FIG. 3, the filter A corresponding to the stop mode is used when the vehicle speed V is lower than a few km/h (for example, 2 [kin/hi). When the vehicle is stopped, a large change in the pitch angle due to loading, unloading, or the like is expected. No filtering or very weak filtering is therefore performed so that the actuator is 5 allowed to respond quickly to the change in the pitch angle.
> On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [kin/hi) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as -,-2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak

filtering is performed so that the actuator is allowed to respond quickly to the chance in the pitch angle." (col. 5, line 66- col. 6, line 14)

Regarding claim 33: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) is programmed to be responsive to changes in the suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

"When the vehicle speed V is equal to or higher than a few km/h (such as 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V is lower than the preset threshold (for example, +/- 2 [m/s2]), the filter C corresponding to the constant speed mode is used. Since it is generally expected that the pitch angle does not largely change, strong filtering is performed so as to remove high frequency components of a vibration at the time of driving and the change in the pitch angle due to unevenness of the road surface, thereby preventing the actuator from responding." (col. 6, lines 29-38)

"In the diagram of FIG. 3, the filter A corresponding to the stop mode is used when the vehicle speed V is lower than a few km/h (for example, 2 [kin/hi). When the vehicle is stopped, a large change in the pitch angle due to loading, unloading, or the like is expected. No filtering or very weak filtering is therefore performed so that the actuator is 5 allowed to respond quickly to the change in the pitch angle.
On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [kin/hi) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as -,-2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak filtering is performed so that the actuator is allowed to respond quickly to the change in the pitch angle." (col. 5, line 66- col: 6, line 14)

Regarding claim 34: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the controller (20) is programmed to be responsive to changes in the

suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

> "When the vehicle speed V is equal to or higher than a few km/h (such as 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V is lower than the preset threshold (for example, +/- 2 [m/s2]), the filter C corresponding to the constant speed mode is used. Since it is generally expected that the pitch angle does not largely change, strong filtering is performed so as to remove high frequency components of a vibration at the time of driving and the change in the pitch angle due to unevenness of the road surface, thereby preventing the actuator from responding." (col. 6, lines 29-38)

> "In the diagram of FIG. 3, the filter A corresponding to the stop mode is used when the vehicle speed V is lower than a few km/h (for example, 2 [kin/hi). When the vehicle is stopped, a large change in the pitch angle due to loading, unloading, or the like is expected. No filtering or very weak filtering is therefore performed so that the actuator is 5 allowed to respond quickly to the change in the pitch angle.
> On the other hand, when the vehicle speed v is equal to or larger than a few km/h (for example, 2 [kin/hi) and the acceleration dV/dt obtained by differentiating the vehicle speed V exceeds a preset threshold (such as -,-2 [m/s2]), the filter B corresponding to the acceleration mode or the deceleration mode is used. Since the change in the pitch angle is large, no filtering or very weak filtering is performed so that the actuator is allowed to respond quickly to the change in the pitch angle." (col. 5, line 66- col. 6, line 14)

Regarding claim 35: The automatic directional control system defined in claim 1, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

> "When the vehicle speed V is equal to or higher than a few km/h (such as 2 [km/h]) and the acceleration dV/dt obtained by differentiating the vehicle speed V is lower than the preset threshold (for example, +/- 2 [m/s2]), the filter C corresponding to the constant speed mode is used. Since it is generally expected that the pitch angle does not largely change, strong filtering is performed so as to remove high frequency components of a vibration at the time of driving and the change in the pitch angle due to unevenness of the road surface, thereby preventing the actuator from responding." (col. 6, lines 29-38)

Regarding claim 36: The automatic directional control system defined in claim 1, wherein said controller (20) is configured to be responsive to said two or more sensor signals (11F, 11R) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators (35L, 35R) from being operated continuously in response to relatively small variations in the sensed conditions (Takahashi teaches the threshold value with respect to time may be set in detection of the road gradient, and only when the amount of variations in the detection signal of the vehicle posture exceed a given reference value and such excessive state continues for a time longer than the set threshold time will the illumination direction be adjusted (page 9, line 16 to page 10, line 3)).

Regarding claim 37: The automatic directional control system defined in claim 1, wherein said controller (20) is configured to be responsive to said two or more sensor signals (11F, 11R) for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of the two or more actuators from being operated unduly frequently in response to relatively small variations in the sensed conditions (Takahashi teaches the

threshold value with respect to time may be set in detection of the road gradient, and only when the amount of variations in the detection signal of the vehicle posture exceed a given reference value and such excessive state continues for a time longer than the set threshold time will the illumination direction be adjusted (page 9, line 16 to page 10, line 3)).

Issue 29: The proposed rejection of claims 1, 2, 4-6, 9-13, 15-18, 20-22, 25, 28, 29, 33, 35, 37-42, 44 and 45 are unpatentable over the combination of Okuchi et al. and Hussman under 35 U.S.C. § 103(a) (Request at pages 66-69, and claim chart, pages 388-425).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1, 2, 4-6, 9-13, 15-18, 20-22, 25, 28, 29, 33, 35, 37-42, 44 and 45 are unpatentable over the combination of Okuchi et al. and Hussman under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 66-69, and claim chart, pages 388-425, is **NOT ADOPTED**.

It is not agreed that consideration of Okuchi in view of Hussman presented a reasonable rejection with respect to the amended claims 1-41 of

the '034 patent. This rejection will not be applied against these claims for the following reason: Particularly, without the additional teachings of Hussman, Okuchi is not presented in a different light than it was presented in the prosecution history. As indicated above issue 23, Hussman does not specifically include the teachings identified "a controller ... *only when said at least one of the two or more sensor signals changes by more than* ***a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions***" as having the significance limitation with respect to the amended claim 1.

Since Okuchi does not clearly suggest "... *only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions*", and Hussman which is relied upon as the secondary reference for the teaching, does not also clearly demonstrate the details of "...*only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or*

unduly frequently in response to relatively small variations in the sensed conditions". Neither Okuchi nor Hussman teaches a key element of claim 1.

Hussman only teaches:

> "The curve-recognition device K is electrically conductively coupled with the switchover device SE and thereby couples the third filter F3 electrically conductively with the regulator R if a difference signal other than zero is fed to it from the subtractor SU. When no difference signal from the subtractor SU is present, the curve-recognition device K switches the switchover device SE so that the first filter FI is coupled to the regulator R". (col. 3, lines 30-39)
>
> "At the coupling between the switchover device SE and the regulator R, a matching device AE is, here for example, arranged which, upon a switchover by the switchover device SE, adjusts the various nominal values to one another so that discontinuities or jumps in the adjustment and regulation of the illumination range are avoided". (col. 4, lines 6-12)

Therefore, the combination of Okuchi in view of Hussman do not result the lacking limitation "... *only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions"* as called for in claim 1. Thus, the rejection based on Okuchi in view of Hussman for claim 1 is not adopted.

Claims 2, 4-6, 9-13, 15-18, 20-22, 25, 28, 29, 33-35, 37-41 depend upon claim 1. Since the proposed rejection for claim 1 was not adopted; therefore,

the proposed rejection for dependent claims 2, 4-6, 9-13, 15-18, 20-22, 25, 28, 33-35, 37-41 are also not adopted.

Issue 30: The proposed rejection of claims 1-13, 20, 22, 24-26, 28, 29, 37, 38 and 41-45 are unpatentable over the combination of Gotoh and Uchida under 35 U.S.C. § 103(a) (Request at pages 69-71 and claim chart, pages 426-460).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42-45.

2/ The rejection of claims 1-13, 20, 22, 24-26, 28, 29, 37, 38 and 41 as unpatentable over the combination of Gotoh and Uchida under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 69-71 and claim chart, pages 426-460, is **NOT ADOPTED**.

This rejection will not be applied against these claims for the following reason:

Independent claim 1 now required:

"two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than

> a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions; and
>
> said two or more actuators each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal".

Gotoh only seen disclosed in Fig. 3 two or more sensors (21, 22, 23) and a controller (ECU 10). However, there are no actuators disclosed in Gotoh. And while Uchida does teach in Fig. 1 two or more sensors (i.e, 2, 7), a controller (3) and actuator (4). However, claim 1 now required "**two or more actuators**". Uchida Fig. 1 only shows one actuator (4) connected to the headlight (5) to effect movement thereof in accordance with the output signal (the output of 3a, 3b). Thus, the proposed rejection of claim 1 fails to persuasively show any teaching of Gotoh in view of Uchida corresponding to the feature of "***two or more actuators that each being adapted to be connected to the headlight*** *to effect movement thereof in accordance with said at least one output signal*" of claim 1. The references put forth in the request, Gotoh and Uchida, are not seen to teach the amendatory subject matter of independent claim 1.

Claims 2-13, 20, 22, 24-26, 28, 29, 37, 38, 41 depend upon claim 1. Since the proposed rejection for claim 1 was not adopted; therefore, the proposed rejection for dependent claims 2-13, 20, 22, 24-26, 28, 29, 37, 38, 41 are also not adopted.

Issue 31: The proposed rejection of claims 1-12, 14, 16-18, 20-22, 24-26, 28, 29, 33, 34, 37, 38 and 41-45 are unpatentable over the combination of Gotoh and Takahashi under 35 U.S.C. § 103(a) (Request at pages 71-74 and claim chart, pages 461-495).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42-45.

2/ The rejection of claims 1-12, 14, 16-18, 20-22, 24-26, 28, 29, 33, 34, 37, 38 and 41 as unpatentable over the combination of Gotoh and Takahashi under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 71-74 and claim chart, pages 461-495, is **NOT ADOPTED**.

This rejection will not be applied against these claims for the following reason:

Independent claim 1 now required:

"two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle, said sensed conditions including at least steering angle and pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions; and

said two or more actuators each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal".

Gotoh only seen disclosed in Fig. 3 two or more sensors (21, 22, 23) and a controller (ECU 10). However, there are no actuators disclosed in Gotoh. Thus, Gotoh, is not seen to teach the amendatory subject matter of independent claim 1. Furthermore, Requester does not provide a detail explanation of the pertinency and manner of combining actuators of Takahashi to the device of Gotoh. Requester provides no motivation/suggestion or convincing line of reasoning to support the substitution of Gotoh and Takahashi. Thus, the rejection of claim 1 as unpatentable over the combination of Gotoh and Takahashi is not accepted.

Claims 2-12, 14, 16-18, 20-22, 24-26, 28, 29, 33, 34, 37, 38, 41 depend upon claim 1. Since the proposed rejection for claim 1 was not adopted; therefore, the proposed rejection for dependent claims 2-12, 14, 16-18, 20-22, 24-26, 28, 29, 33, 34, 37, 38, 41 are also not adopted.

Issue 32: The proposed rejection of claims 1-13, 24, 26, 28, 29, 37, 38 and 41-45 are unpatentable over the combination of Gotoh and Hussman under 35 U.S.C. § 103(a) (Request at pages 74-76, and claim chart, pages 496-522).

1/ As noted above, this Office action is based on claims 1-5 under reexamination as amended on 4/27/2012 and newly added claims 6-41 that accompanied the amendment (see MPEP 2221). In the amendment filed 4/27/2012, there are no claims 42, 44 and 45.

2/ The rejection of claims 1-13, 24, 26, 28, 29, 37, 38 and 41 are unpatentable over the combination of Gotoh et al. and Hussman under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 74-76, and claim chart, pages 496-522, is **NOT ADOPTED**.

It is not agreed that consideration of Gotoh in view of Hussman presented a reasonable rejection with respect to the amended claims 1-41 of the '034 patent. This rejection will not be applied against these claims for the following reason: Particularly, without the additional teachings of Hussman, Gotoh is not presented in a different light than it was presented in the prosecution history. As indicated above issue 23, Hussman does not specifically include the teachings identified "a controller ... *only when said at least one of the two or more sensor signals changes by more than* ***a predetermined minimum threshold amount to prevent at least one first***

one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions" as having the significance limitation with respect to the amended claim 1.

Since Gotoh does not clearly suggest "... *only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions*", and Hussman which is relied upon as the secondary reference for the teaching, does also not clearly demonstrate the details of "...*only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions*". Neither Gotoh nor Hussman teaches a key element of claim 1.

Hussman only teaches:

> "The curve-recognition device K is electrically conductively coupled with the switchover device SE and thereby couples the third filter F3 electrically conductively with the regulator R if a difference signal other than zero is fed to it from the subtractor SU. When no difference signal from the subtractor SU is present, the curve-recognition device K switches the switchover device SE so that the first filter FI is coupled to the regulator R". (col. 3, lines 30-39)

> "At the coupling between the switchover device SE and the regulator R, a matching device AE is, here for example, arranged which, upon a switchover by the switchover device SE, adjusts the various nominal values to one another so that discontinuities or jumps in the adjustment and regulation of the illumination range are avoided". (col. 4, lines 6-12)

Therefore, the combination of Gotoh in view of Hussman do not result the lacking limitation "... *only when said at least one of the two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in the sensed conditions"* as called for in claim 1. Moreover, Claim 1 now required "**two or more actuators**"; However, there is no actuators disclosed in Gotoh. Thus, the rejection based on Gotoh in view of Hussman for claim 1 is not adopted.

Claims 2-13, 24, 26, 28, 29, 37, 38, 41 depend upon claim 1. Since the proposed rejection for claim 1 was not adopted; therefore, the proposed rejection for dependent claims 2-13, 24, 26, 28, 29, 37, 38, 41 are also not adopted.

Issue 33: The proposed rejection of claims 17, 19, 21, 23, 26, 30-32 are unpatentable over the combination of Uchida and the admitted prior art described in the '034 patent specification under 35 U.S.C. § 103(a) (Request at pages 76-78, and claim chart, pages 523-530).

The rejection of claims 17, 19, 21, 23, 26, 30-32 are unpatentable over the combination of Uchida and the admitted prior art described in the '034 patent specification under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages76-78, and claim chart, pages 523-530, is **NOT ADOPTED**.

Claims 17, 19, 21, 23, 26, 30-32 depend upon claim 1. Since the proposed rejection for claim 1, issue 21 was not adopted; Therefore, the proposed rejection for dependent claims 17, 19, 21, 23, 26, 30-32 are also not adopted.

Issue 34: The proposed rejection of claims 19, 23, 26 and 30-32 (claims 16, 20, 21, 25-27 as amended on 4/27/2012) are unpatentable in view of the combination of Takahashi and the admitted prior art described in the '034 patent specification under 35 U.S.C. § 103(a) (Request at pages 78-80, and claim chart, pages 531-536).

The rejection of claims 19, 23, 26 and 30-32 (similar as claims 16, 20, 21, 25-27 as amended on 4/27/2012) are unpatentable in view of the

combination of Takahashi and the admitted prior art described in the '034 patent specification under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 78-80, and claim chart, pages 531-536, is **ADOPTED**.

Claims 16, 20, 21, 25-27 (as amended on 4/27/2012) are rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of the admitted prior art described in the '034 patent specification.

Pages 78-80 and claim chart, pages 531-536 of the request for reexamination is hereby incorporated by reference for the Requester's explanation of the proposed rejection.

Issue 35: The proposed rejection of claims 17-21, 23-26, 30-32 are unpatentable over the combination of Hussman and the admitted prior art described in the '034 patent specification under 35 U.S.C. § 103(a) (Request at pages 80-82, and claim chart, pages 537-548).

The rejection of claims 17-21, 23-26, 30-32 are unpatentable over the combination of Hussman and the admitted prior art described in the '034 patent specification under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 80-82, and claim chart, pages 537-548, is **NOT ADOPTED**.

Claims 17-21, 23-26, 30-32 depend upon claim 1. Since the proposed rejection for claim 1, issue 23 was not adopted; Therefore, the proposed rejection for dependent claims 17-21, 23-26, 30-32 are also not adopted.

Issue 36: The proposed rejection of claim 27 is unpatentable over the combination of Uchida and Wassen under 35 U.S.C. § 103(a) (Request at pages 82-84, and claim chart, page 549).

The rejection of claim 27 is unpatentable over the combination of Uchida and Wassen under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 82-84, and claim chart, page 549, is **NOT ADOPTED**.

Claim 27 depends upon claim 1. Since the proposed rejection for claim 1, issue 21 was not adopted; Therefore, the proposed rejection for dependent claim 27 is also not adopted.

Issue 37: The proposed rejection of claim 27 (similar with claim 22 as amended on 4/27/2012) are unpatentable in view of the combination of Takahashi and Wassen under 35 U.S.C. § 103(a) (Request at pages 84-85, and claim chart, page 550).

The rejection of claim 27 (similar as claim 22 as amended on 4/27/2012) is unpatentable in view of the combination of Takahashi and Wassen under 35

U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 84-85, and claim chart, page 550, is **ADOPTED**.

Claim 22 is rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of Wassen.

Pages 84-85 and claim chart, page 550 of the request for reexamination is hereby incorporated by reference for the Requester's explanation of the proposed rejection. Two or more actuators are seen in Fig. 9, 19 and 19', of Takahashi.

Issue 38: The proposed rejection of claim 27 is unpatentable over the combination of Hussman and Wassen under 35 U.S.C. § 103(a) (Request at pages 85-87, and claim chart, page 551).

The rejection of claim 27 is unpatentable over the combination of Hussman and Wassen under 35 U.S.C. § 103(a) were proposed by the requester in the request for reexamination, pages 85-87, and claim chart, page 551, is **NOT ADOPTED**.

Claim 27 depends upon claim 1. Since the proposed rejection for claim 1, issue 23 was not adopted; therefore, the proposed rejection for dependent claim 27 is also not adopted.

PROPOSED REJECTION OF PROPOSED CLAIMS 12 TO 16 UNDER 35 U.S.C. § 314(A)

As noted above, all subsequent reexamination prosecution and examination will be on the basis of claims 1-41 as amended in the proposed amendment filed on 4/27/2012. Thus, the proposed rejection with respect to claims 12-16 under 35 U.C.C 314(A) has been considered but is moot in view of the amendment filed on 4/27/2012.

PROPOSED REJECTION OF PROPOSED CLAIMS 12 TO 16 UNDER 35 U.S.C. § 112.

As noted above, all subsequent reexamination prosecution and examination will be on the basis of claims 1-41 as amended in the proposed amendment filed on 4/27/2012. Thus, the proposed rejection with respect to claims 12-16 under 35 U.C.C 314(A) has been considered but is moot in view of the amendment filed on 4/27/2012.

Allowable Subject Matter

Claims 3, 7, 11 and 38-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Service of Papers

After the filing of a request for reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on the other party (or parties where two or more third party requester proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248. See 37 CFR 1.550(t).

Extensions of Time

Extensions of time under 37 CFR 1.136(a) will not be permitted in inter partes reexamination proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 314(c) requires that inter partes reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.937). Patent owner extensions of time in inter partes reexamination proceedings are provided for in 37 CFR 1.956. Extensions of time are not available for third party requester comments, because a comment period of 30 days from service of patent owner's response is set by statute 35 U.S.C. 314(b)(3). Time periods may be extended only upon a strong showing of sufficient cause.

Notification of Concurrent Proceedings

The patent owner is reminded of the continuing responsibility under 37 CFR 1.985(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the '034 patent throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP 2686 and 2686.04.

Complete Response Reminder

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be an Action Closing Prosecution (ACP), will be governed by 37 CFR 1.1 16(b) and (d), which will be strictly enforced.

Service of Papers

Any paper filed by either the patent owner or the third party requester must be served on the other party in the reexamination proceeding in the manner provided by 37 CFR 1.248. See 37 CFR 1.903 and MPEP 2666.06.

Amendments in Reexamination Procedures

Patent owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally presented pursuant to 37 CFR 1.52(a) and (b), and must contain any fees required by 37 CFR 1.20(c). Amendments in an inter partes reexamination proceeding are made in the same manner that amendments in an ex parte reexamination are made. MPEP 2666.01. See MPEP 2250 for guidance as to the manner of making amendments in a reexamination proceeding.

All correspondence relating to this inter partes reexamination proceeding should be directed:

By Mail to: Mail Stop Inter Partes Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Attn: Central Reexamination Unit
Randolph Building, Lobby Level
401 Dulany Street
Alexandria, VA 22314

By EFS-Web:
Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at

https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html

EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete.

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/My-Trang Nu Ton/
Primary Examiner, CRU 3992

Conferees:
/Margaret Rubin/
Primary Examiner CRU 3992

ANDREW J. FISCHER
Supervisory Patent Reexamination Specialist
CRU -- Art Unit 3992

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
	)
7,241,034	) Art Unit: 3992
	)
Applications No. 95/001,621 & 90/011,011	) Examiner: MY-TRANG N. TON
	)
Filed: 05/16/2011	) Atty. Docket No.:
	) SVIPGP109RE
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 07/26/2012

AMENDMENT E

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

In response to the Office Action mailed 6/29/2012 ("Office Action"), please enter the following amendments believed to place the Claims in condition for allowance.

AMENDMENTS TO THE CLAIMS

Amended claims follow:

1. (Cancelled).

2. (Cancelled).

3. (Currently Amended) [The automatic directional control system defined in claim 1] An automatic directional control system for a vehicle headlight, comprising:

two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle such that two or more sensor signals are generated, said sensed conditions including at least a steering angle and a pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when at least one of said two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in at least one of the sensed conditions; and

said two or more actuators each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal;

wherein at least one of said two or more sensors generates [a]at least one of said two or more sensor signals that is representative of [the]a rate of change of the steering angle of the vehicle.

4. (Currently Amended) The automatic directional control system defined in claim [1]3, wherein at least one of said two or more sensors generates a signal that is representative of [the]a rate of change of the pitch of the vehicle.

5. (Currently Amended) The automatic directional control system defined in claim [1]3, wherein at least one of said two or more sensors generates a signal that is representative of [the]a suspension height of the vehicle.

6. (New) The automatic directional control system defined in claim 3, wherein said two or more sensors include a first sensor and a second sensor.

7. (New) An automatic directional control system for a vehicle headlight, comprising:

two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle such that two or more sensor signals are generated, said sensed conditions including at least a steering angle and a pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when at least one of said two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in at least one of the sensed conditions; and

said two or more actuators each being adapted to be connected to the vehicle headlight to effect movement thereof in accordance with said at least one output signal;

wherein said two or more sensors include a first sensor and a second sensor; and

wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

8. (New) The automatic directional control system defined in claim 7, wherein said first sensor is physically separate from said second sensor.

9. (New) The automatic directional control system defined in claim 7, further comprising one or more additional sensors for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of the steering angle of the vehicle, a rate of

change of the pitch of the vehicle, a suspension height of the vehicle, or a rate of change of suspension height of the vehicle.

10. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the road speed of the vehicle.

11. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the steering angle of the vehicle.

12. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the pitch of the vehicle.

13. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the suspension height of the vehicle.

14. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured to include a first actuator connected to the headlight to effect movement thereof in a first direction and a second actuator connected to the headlight to effect movement thereof in a second direction different from the first direction.

15. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

16. (New) The automatic directional control system defined in claim 15, wherein the two or more actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

17. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include an electronically controlled mechanical actuator.

18. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a step motor.

19. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a servo motor.

20. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a microstepping motor capable of being operated in fractional step increments.

21. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted both up and down relative to a horizontal reference position and left and right relative to a vertical reference position.

22. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects is capable of being adjusted relative to the vehicle by manual operation of the two or more actuators.

23. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

24. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

25. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with at least one of the two or more actuators.

26. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes a Hall Effect sensor.

27. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes an optical interrupter.

28. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system further includes memory.

29. (New) The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory.

30. (New) The automatic directional control system defined in claim 28, wherein the memory is configured to store a predetermined reference position associated with the headlight.

31. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

32. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

33. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in a suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

34. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in a suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

35. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

36. (New) The automatic directional control system defined in claim 7, wherein said controller is configured to be responsive to said two or more sensor signals for generating said at least one output signal only when said at least one of the two or more sensor signals changes by more than the predetermined minimum threshold amount to prevent said at least one of the two or more actuators from being operated continuously in response to said relatively small variations in the at least one of the sensed conditions.

37. (New) The automatic directional control system defined in claim 7, wherein said controller is configured to be responsive to said two or more sensor signals for generating said at least one output signal only when said at least one of the two or more sensor signals changes by more than the predetermined minimum threshold amount to prevent

said at least one of the two or more actuators from being operated unduly frequently in response to said relatively small variations in the at least one of the sensed conditions.

38. (New) The automatic directional control system defined in claim 7, wherein said controller is further responsive to at least one of said two or more sensor signals to automatically activate one or more vehicle lights that are different than the headlight.

39. (New) The automatic directional control system defined in claim 38, wherein said one or more vehicle lights that are different than the headlight include one or more lights for illuminating a road in front of the vehicle during a turn.

40. (New) The automatic directional control system defined in claim 7, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight.

41. (New) The automatic directional control system defined in claim 7, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight to extend an angular range of a road surface.

REMARKS

Applicant thanks the Examiner for noting the allowable subject matter. Applicant has incorporated the subject matter of amended Claim 1 (as presented in Applicant's Amendment D2, dated 4/27/2012) into Claims 3 and 7. Furthermore, Applicant has amended the claims such that the remaining dependent claims depend on either Claim 3 or Claim 7. Table 1 shows a summary of Applicant's amendments, relative to Applicant's Amendment D2, dated 4/27/2012.

Table 1

Claim 1 – Cancelled.
Claim 2 - Cancelled.
Claim 3 – Applicant deleted "The automatic directional control system defined in claim 1" and the comma added in Amendment D2. Applicant inserted the subject matter of amended Claim 1 (the subject matter as presented in Amendment D2). Applicant deleted "a" and added "at least one of said two or more sensor" before "signal". Applicant added an "s" to "signal". Applicant added "the" before "steering angle". Applicant deleted "further", which was added in the Amendment D2.
Claim 4 - Applicant deleted "1" and inserted "3" such that Claim 4 depends on Claim 3. Applicant deleted "further", which was added in Amendment D2. Applicant added "the" before "pitch".
Claim 5 - Applicant deleted "1" and inserted "3" such that Claim 5 depends on Claim 3. Applicant deleted "further", which was added in Amendment D2. Applicant deleted "the" and added "a" before "suspension height of the vehicle".
Claim 6 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "3" such that Claim 6 depends on Claim 3.
Claim 7 – Applicant inserted the subject matter of amended Claim 1 (the subject matter as presented in Amendment D2), in addition to the subject matter of Claim 6 (as presented in Amendment D2).
Claim 8 – Applicant deleted "6" (which was presented in Amendment D2) and

inserted "7" such that Claim 8 depends on Claim 7.

Claim 9 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 9 depends on Claim 7. Applicant added "of a vehicle" after "suspension height."

Claim 10 – Same text as Amendment D2.

Claim 11 – Applicant added "the" before "steering angle of the vehicle".

Claim 12 – Applicant added "the" before "pitch of the vehicle".

Claim 13 – Same text as Amendment D2.

Claim 14 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 14 depends on Claim 7. Applicant changed "form" to "from".

Claim 15 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 15 depends on Claim 7.

Claim 16 – Same text as Amendment D2.

Claim 17 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 17 depends on Claim 7.

Claim 18 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 18 depends on Claim 7.

Claim 19 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 19 depends on Claim 7.

Claim 20 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 20 depends on Claim 7.

Claim 21 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 21 depends on Claim 7.

Claim 22 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 22 depends on Claim 7.

Claim 23 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 23 depends on Claim 7.

Claim 24 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 24 depends on Claim 7.

Claim 25 - Applicant deleted "1" (which was presented in Amendment D2) and

inserted "7" such that Claim 25 depends on Claim 7.

Claim 26 – Same text as Amendment D2.

Claim 27 – Same text as Amendment D2.

Claim 28 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 28 depends on Claim 7.

Claim 29 – Same text as Amendment D2.

Claim 30 – Same text as Amendment D2.

Claim 31 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 31 depends on Claim 7.

Claim 32 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 32 depends on Claim 7. Applicant added "a" and deleted "the" before "suspension height".

Claim 33 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 33 depends on Claim 7. Applicant added "a" and deleted "the" before "suspension height".

Claim 34 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 34 depends on Claim 7.

Claim 35 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 35 depends on Claim 7.

Claim 36 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 36 depends on Claim 7. Applicant added "the at least one of" before "the sensed conditions".

Claim 37 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 37 depends on Claim 7. Applicant added "the at least one of" before "the sensed conditions".

Claim 38 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 38 depends on Claim 7. Also, applicant inserted "to at least one of".

Claim 39 – Same text as Amendment D2.

Claim 40 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 40 depends on Claim 7.

Claim 41 - Applicant deleted "1" (which was presented in Amendment D2) and inserted "7" such that Claim 41 depends on Claim 7.

Applicant believes no fees are due. In the event any fees are due, the Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-4964 (Order No. SVIPGP109RE).

In the event the Examiner believes a telephone conversation would advance prosecution, Applicant invites the Examiner to telephone the undersigned attorney at the number listed below.

Additionally, the undersigned hereby certifies that a true and complete copy of the forgoing Amendment E has been served on Third Party Requestor by mailing said copy on 26 Jul 2012, via First Class Mail, postage prepaid to:

Kenyon & Kenyon, LLP
One Broadway
New York, NY 10004

Respectfully submitted,

Dated: 26 July 2012

The Caldwell Firm, LLC
PO Box 59655
Dallas, Texas 75229-0655
Telephone: (972) 243-4523
pcaldwell@thecaldwellfirm.com

Patrick E. Caldwell, Esq.
Reg. No. 44,580

Electronic Acknowledgement Receipt

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Application Number:	95001621
International Application Number:	
Confirmation Number:	1240
Title of Invention:	Automatic Directional Control System for Vehicle Headlights
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	26-JUL-2012
Filing Date:	16-MAY-2011
Time Stamp:	20:15:39
Application Type:	inter partes reexam

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	SVIPGP109RE_Amndt_E_vF_07-26-2012.pdf	57906 d623ca3972794b2eb553ea804252de417ec9ec55	no	12

Warnings:	
Information:	

Total Files Size (in bytes):	57906

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Litigation Search Report CRU 3999

Reexam Control No. 95/001,621

TO: My Trang Ton **Location: CRU** **Art Unit: 3992** **Date: 12/06/2012** **Merged: 90/011,011**	**From: Patricia Volpe** **Location: CRU 3999** **MDE 5D30** **Phone: (571) 272-6825** **Patricia.volpe@uspto.gov**

Search Notes

Litigation search for U.S. Patent Number: 7,241,034

Status (**CLOSED**) 6:10cv78 *Balther Technologies, Llc v. American Honda Motor Co. Inc. et al*

1) I performed a KeyCit Search in Westlaw, which retrieves all history on the patent including any litigation.

2) I performed a search on the patent in Lexis CourtLink for any open dockets or closed cases.

3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.

4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.

5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

Date of Printing: Dec 06, 2012

KEYCITE

C US PAT 7241034 AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS, Assignee: Dana Corporation (Jul 10, 2007)

History

Direct History

=> 1 **AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS,** US PAT 7241034, 2007 WL 1978614 (U.S. PTO Utility Jul 10, 2007)

Patent Family

2 AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR A VEHICLE HEADLIGHT USES SENSOR TO GENERATE SIGNAL REPRESENTATIVE OF CONDITION OF VEHICLE, CONTROLLER RESPONSIVE TO SENSOR SIGNAL TO GENERATE OUTPUT SIGNAL AND ACTUATOR TO EFFECT HEADLIGHT MOVEMENT, Derwent World Patents Legal 2003-543647

Assignments

3 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 002, (DATE RECORDED: Mar 08, 2010)

4 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 002, (DATE RECORDED: Jun 12, 2009)

5 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 030, (DATE RECORDED: Feb 22, 2008)

6 Action: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). Number of Pages: 003, (DATE RECORDED: Feb 06, 2003)

Patent Status Files

.. Request for Re-Examination, (OG DATE: Jun 29, 2011)

.. Request for Re-Examination, (OG DATE: Sep 07, 2010)

.. Patent Suit(See LitAlert Entries),

Docket Summaries

10 BALTHER TECHNOLOGIES, LLC v. AMERICAN HONDA MOTOR CO. INC. ET AL, (E.D.TEX. Mar 08, 2010) (NO. 6:10CV00078), (35 USC 271 PATENT INFRINGEMENT)

Litigation Alert

11 Derwent LitAlert P2010-11-45 (Mar 08, 2010) Action Taken: complaint

Prior Art (Coverage Begins 1976)

C 12 ADJUSTABLE HEADLIGHTS, HEADLIGHT ADJUSTING AND DIRECTION SENSING CONTROL SYSTEM AND METHOD OF ADJUSTING HEADLIGHTS, US PAT 5868488 (U.S. PTO Utility 1999)

C 13 APPARATUS AND METHOD FOR CONTROLLING LIGHT DISTRIBUTION OF HEADLAMP, US PAT 5660454Assignee: Toyota Jidosha Kabushiki Kaisha, (U.S. PTO Utility 1997)

C 14 APPARATUS AND METHOD FOR CONTROLLING THE LIGHT-RANGE OF MOTOR VEHICLE HEADLIGHTS, US PAT 5193894Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1993)

C 15 APPARATUS FOR AUTOMATICALLY ADJUSTING AIMING OF HEADLIGHTS OF AN AUTOMOTIVE VEHICLE, US PAT 5877680Assignee: Denso Corporation; Toyota Jidosha Kabushiki Kaisha, (U.S. PTO Utility 1999)

C 16 APPARATUS FOR CONTROLLING A HEADLIGHT OF A VEHICLE, US PAT 4891559Assignee: Nippondenso Soken, Inc.; Nippondenso Co., Ltd., (U.S. PTO Utility 1990)

C 17 APPARATUS FOR REGULATING THE ILLUMINATION FIELD OF A VEHICLE HEADLIGHT, US PAT 6144159Assignee: Robert Bosch GmbH, (U.S. PTO Utility 2000)

C 18 ARRANGEMENT FOR AUTOMATIC HEADLIGHT ADJUSTMENT, US PAT 6231216Assignee: Dr. Ing. h.c.F. Porsche AG, (U.S. PTO Utility 2001)

C 19 AUTOMATIC LEVELING APPARATUS FOR USE WITH AUTOMOBILE HEADLAMPS, US PAT 6183118Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2001)

C 20 AUTOMATIC LEVELING DEVICE FOR AUTOMOTIVE VEHICLE HEADLAMPS, US PAT 6305823Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2001)

C 21 AUTOMOTIVE ILLUMINATION SYSTEM, US PAT 4943893Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1990)

C 22 CONTINUOUSLY VARIABLE HEADLAMP CONTROL, US PAT 6281632Assignee: Gentex Corporation, (U.S. PTO Utility 2001)

C 23 CORNERING LIGHT SYSTEM FOR TWO-WHEELED VEHICLES, US PAT 4024388Assignee: Marvin H. Kleinberg, Inc.; Richard Morganstern Inc.; Scholnick, Seymour A., (U.S. PTO Utility 1977)

C 24 DEVICE FOR ADJUSTING THE INCLINATION OF AUTOMOBILE HEADLIGHTS, US PAT 4186428Assignee: Cibie Projecteurs, (U.S. PTO Utility 1980)

C 25 DEVICE FOR ADJUSTING THE LEVEL OF A VEHICLE HEADLIGHT, US PAT 5779342Assignee: Bayerische Motoren Werke Aktiengellschaft, (U.S. PTO Utility 1998)

C 26 DEVICE FOR ADJUSTING AN OBJECT TO ASSUME A PREDETERMINED ANGLE TO A CERTAIN PLANE, US PAT 4217631 (U.S. PTO Utility 1980)

C 27 DEVICE FOR ADJUSTING A PRESETTABLE LIGHTING LEVEL OF A HEADLIGHT IN MOTOR VEHICLES, US PAT 5785405Assignee: Bayerische Motoren Werke, (U.S. PTO Utility 1998)

C 28 DEVICE FOR CONTROLLING THE LIGHT WIDTH OF HEADLIGHTS FOR VEHICLES, US

PAT 5896011Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1999)

C 29 DEVICE FOR REGULATING LIGHT WIDTH OF HEADLIGHTS FOR VEHICLES, AND VEHICLE PROVIDED THEREWITH, US PAT 6142655Assignee: Robert Bosch GmbH, (U.S. PTO Utility 2000)

C 30 DIRECTION TURNING DEVICE FOR A HEADLIGHT OF AN AUTOMOBILE, US PAT 5550717 (U.S. PTO Utility 1996)

C 31 FOCUSING MIRROR CONTROL SYSTEM AND METHOD FOR ADJUSTING SAME, US PAT 6118113 (U.S. PTO Utility 2000)

C 32 HEAD LAMP DEVICE FOR VEHICLE, US PAT 6010237Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 2000)

C 33 HEAD LAMP DEVICE FOR VEHICLE, US PAT 5909949Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1999)

C 34 HEADLAMP, US PAT 5158352Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1992)

C 35 HEADLAMP DRIVE AND CONTROL APPARATUS, US PAT 4583152Assignee: Aisin Seiki Kabushiki Kaisha, (U.S. PTO Utility 1986)

C 36 HEADLAMP FOR MOTOR VEHICLES WITH PROGRAMMABLE LIGHT DISTRIBUTION, US PAT 4868721 (U.S. PTO Utility 1989)

C 37 HEADLAMP POSITIONING DEVICE, US PAT 5181429Assignee: Saia AG, (U.S. PTO Utility 1993)

C 38 HEADLIGHT AIMING AND LIGHT PATTERN TESTING APPARATUS AND METHOD, US PAT 4948249Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1990)

C 39 HEADLIGHT AIMING APPARATUS, US PAT 5751832Assignee: Progressive Tool & Industries Co.; Panter Master Controls, Inc., (U.S. PTO Utility 1998)

C 40 HEADLIGHT AIMING APPARATUS AND DISPLAY, US PAT 5164785Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1992)

C 41 HEADLIGHT AIMING METHOD USING PATTERN FRAMING, US PAT 5373357Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1994)

C 42 HEADLIGHT ARRANGEMENT FOR MOTOR VEHICLE, US PAT 6227691Assignee: Robert Bosch GmbH, (U.S. PTO Utility 2001)

C 43 HEADLIGHT ARRANGEMENT FOR VEHICLES, US PAT 4768135Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1988)

C 44 HEADLIGHT BEAM CONTROL SYSTEM FOR MOTOR VEHICLES, US PAT 4225902 (U.S. PTO Utility 1980)

C 45 HEADLIGHT CONTROL APPARATUS FOR MOTORCYCLES, US PAT 4870545Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1989)

C 46 HEADLIGHT FOR VEHICLE, US PAT 4833573Assignee: Koito Seisakusho Co., Ltd., (U.S. PTO Utility 1989)

C 47 HEADLIGHT MOVING APPARATUS FOR A MOTOR VEHICLE, US PAT 5099400 (U.S. PTO Utility 1992)

C 48 HEIGHT SENSOR AND VEHICULAR HEADLIGHT BEAM AXIS LEVELING APPARATUS,

US PAT 6234654Assignee: Denso Corporation, (U.S. PTO Utility 2001)

C 49 INFINITELY ADJUSTABLE LEVEL LIGHT, US PAT 3953726 (U.S. PTO Utility 1976)

C 50 IRRADIATION DIRECTION CONTROL APPARATUS FOR VEHICULAR LAMP, US PAT 5907196Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1999)

C 51 LIGHT DESTRIBUTION OF HEADLIGHT BEAM, US PAT 4907877 (U.S. PTO Utility 1990)

C 52 LIGHT MANAGEMENT SYSTEM FOR A VEHICLE, US PAT 5781105Assignee: Ford Motor Company, (U.S. PTO Utility 1998)

C 53 LIGHTING CONTROL FOR MOTOR VEHICLE LAMPS, US PAT 3634677Assignee: ROBERT BOSCH GMBH, (U.S. PTO Utility 1972)

C 54 LIGHTING DEVICE FOR A VEHICLE, US PAT 6049749Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2000)

C 55 LIGHTING DEVICE FOR VEHICLES, US PAT 6293686Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 2001)

C 56 LIGHTING SYSTEM FOR A MOTORCYCLE, US PAT 3939339 (U.S. PTO Utility 1976)

C 57 LOAD TRIM COMPENSATING VEHICLE HEADLIGHT DEFLECTION SYSTEM, US PAT 4162424Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1979)

C 58 MAGNETIC COUPLING MECHANISM FOR USE IN AN AUTOMOTIVE VEHICLE, US PAT 5977678Assignee: UT Automotive Dearborn, Inc., (U.S. PTO Utility 1999)

C 59 METHOD AND APPARATUS FOR ADJUSTING THE ORIENTATION OF VEHICLE HEADLIGHTS, US PAT 4204270Assignee: Societe pour l'Equipement de, (U.S. PTO Utility 1980)

C 60 METHOD AND APPARATUS FOR LOCATING A SPECIFIC LOCATION ON A VEHICLE HEADLAMP, US PAT 5331393Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1994)

C 61 METHOD OF MEASURING AND ADJUSTING OPTICAL AXIS OF HEADLIGHT, US PAT 5392111Assignee: Honda Giken Kogyo Kabushiki Kaisha, (U.S. PTO Utility 1995)

C 62 MOTOR VEHICLE LIGHTING SYSTEM HAVING AT LEAST TWO BEND LIGHTING DRIVING LIGHTS, US PAT 6176590Assignee: Valeo Vision, (U.S. PTO Utility 2001)

C 63 MOTOR VEHICLE WITH HEADLAMP TILTING MECHANISM, US PAT 4066886Assignee: The Lucas Electrical Company Limited, (U.S. PTO Utility 1978)

C 64 MOTORCYCLE HEADLIGHT AIMING DEVICE, US PAT 5426571 (U.S. PTO Utility 1995)

C 65 MULTIPLE SENSOR INCLINATION MEASURING SYSTEM, US PAT 4549277Assignee: Brunson Instrument Company, (U.S. PTO Utility 1985)

C 66 POSITION CONTROL SYSTEM, US PAT 4310172Assignee: General Motors Corporation, (U.S. PTO Utility 1982)

C 67 ROAD SURFACE-SENSITIVE BEAM PATTERN LEVELING SYSTEM FOR A VEHICLE HEADLAMP, US PAT 4868720Assignee: Koito Seisakusho Co., Ltd., (U.S. PTO Utility 1989)

C 68 SIDELIGHTING ARRANGEMENT AND METHOD, US PAT 5428512 (U.S. PTO Utility 1995)

C 69 STEPPER MOTOR SHAFT POSITION SENSOR, US PAT 4791343Assignee: Allied-Signal Inc., (U.S. PTO Utility 1988)

C 70 SUPPORT FRAME FOR HEADLIGHT AIMING APPARATUS, US PAT 5920386Assignee: Panter Master Controls, Inc.; Progressive Tool & Industries Co., (U.S. PTO Utility 1999)

C 71 SWITCHING CONTROL SYSTEM FOR AUTOMATICALLY TURNING HEADLIGHTS OFF AND ON AT INTERSECTIONS, US PAT 6097156 (U.S. PTO Utility 2000)

C 72 SYSTEM FOR AUTOMATICALLY ADJUSTING OPTICAL AXIS DIRECTION OF VEHICLE HEADLIGHT, US PAT 6193398Assignee: DENSO Corporation, (U.S. PTO Utility 2001)

C 73 SYSTEM FOR SELF-ALIGNING VEHICLE HEADLAMPS, US PAT 5633710Assignee: EGS Inc., (U.S. PTO Utility 1997)

C 74 TILTING DEVICE OF VEHICLE HEADLIGHT, US PAT 4916587Assignee: Koito Seisakusho Co., Ltd., (U.S. PTO Utility 1990)

C 75 VARIABLE DISTRIBUTION TYPE AUTOMOTIVE HEADLAMP, US PAT 5060120Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1991)

C 76 VEHICLE CORNERING LAMP SYSTEM, US PAT 5526242Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1996)

C 77 VEHICLE CORNERING LAMP SYSTEM, US PAT 4908560Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1990)

C 78 VEHICLE HEADLIGHT AIMING APPARATUS, US PAT 5485265Assignee: Hopkins Manufacturing Corporation, (U.S. PTO Utility 1996)

C 79 VEHICLE HEADLIGHT WITH ADJUSTING MEANS FOR DIFFERENT TRAFFIC CONDITIONS, US PAT 5938319Assignee: Robert Bosch GmbH, (U.S. PTO Utility 1999)

C 80 VEHICULAR CORNERING LAMP SYSTEM, US PAT 5404278Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1995)

C 81 VEHICULAR HEADLAMP PRODUCING LOW BEAM HAVING CUT LINE CONTROLLED IN ACCORDANCE WITH CONDITION OF CURVED ROAD, US PAT 5707129Assignee: Koito Manufacturing Co., Ltd., (U.S. PTO Utility 1998)

US District Court Civil Docket

U.S. District - Texas Eastern
(Tyler)

6:10cv78

Balther Technologies, Llc v. American Honda Motor Co. Inc. et al

This case was retrieved from the court on Thursday, November 29, 2012

Date Filed:	**03/08/2010**	**Class Code:**	**CLOSED**
Assigned To:	**Judge Leonard Davis**	**Closed:**	**Yes**
Referred To:		**Statute:**	**35:271**
Nature of suit:	**Patent (830)**	**Jury Demand:**	**Plaintiff**
Cause:	**Patent Infringement**	**Demand Amount:**	**$0**
Lead Docket:	**None**	**NOS Description:**	**Patent**
Other Docket:	**None**		
Jurisdiction:	**Federal Question**		

Litigants

Balther Technologies, Llc
Plaintiff

Attorneys

Eric Miller Albritton
LEAD ATTORNEY;ATTORNEY TO BE NOTICED
ALBRITTON LAW FIRM
Po Box 2649
111 West Tyler, 75601
Longview , TX 75606
USA
(903) 757-8449
Fax: (903) 758-7397
Email:Ema@emafirm.Com

Adam A Biggs
ATTORNEY TO BE NOTICED
Law Office of Adam A. Biggs, PLLC
1809 W. Loop 281 Suite #100 Pmb 116
Longview , TX 75601
USA
430-558-8069
Fax: 866-886-0459
Email:Aab@biggsfirm.Com

Christopher Needham Cravey
ATTORNEY TO BE NOTICED
Williams Morgan & Amerson PC
10333 Richmond Suite 1100
Houston , TX 77042
USA
713/934-7000
Fax: 7139347011
Email:Ccravey@wmalaw.Com

Danny Lloyd Williams
ATTORNEY TO BE NOTICED
Williams Morgan & Amerson

10333 Richmond Suite 1100
Houston , TX 77042
USA
713/934-4060
Fax: 17139347011
Email:Dwilliams@wmalaw.Com

David Wynne Morehan
ATTORNEY TO BE NOTICED
Williams Morgan & Amerson PC
10333 Richmond Suite 1100
Houston , TX 77042
USA
713-934-7000
Fax: 713-934-7011
Email:Dmorehan@wmalaw.Com

Debra R. Coleman
ATTORNEY TO BE NOTICED
Albritton Law Firm
P O Box 2649
Longview , TX 75606
USA
(903) 757-8449
Fax: (903) 758-7397
Email:Drc@emafirm.Com

J Mike Amerson
ATTORNEY TO BE NOTICED
Williams Morgan & Amerson PC
10333 Richmond Suite 1100
Houston , TX 77042
USA
713/934-4055
Fax: 17139347011
Email:Mike@wmalaw.Com

Jack Wesley Hill
ATTORNEY TO BE NOTICED
Ward & Smith Law Firm
Po Box 1231 1127 Judson Road Suite 220
Longview , TX 75606
USA
903-757-6400
Fax: 903-757-2323
Email:Wh@wsfirm.Com

Jaison Chorikavumkal John
ATTORNEY TO BE NOTICED
Williams Morgan & Amerson PC
10333 Richmond Suite 1100
Houston , TX 77042
USA
713/934-4060
Fax: 17139347011
Email:Jjohn@wmalaw.Com

Matthew Clay Harris
ATTORNEY TO BE NOTICED
Albritton Law Firm
P O Box 2649
Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email:Mch@mattharrislaw.Com

Matthew Richard Rodgers
ATTORNEY TO BE NOTICED
Williams Morgan & Amerson PC
10333 Richmond Suite 1100
Houston , TX 77042
USA
713/934-4061
Email:Mrodgers@wmalaw.Com

Michael A. Benefield
ATTORNEY TO BE NOTICED
Albritton Law Firm
P O Box 2649
Longview , TX 75606
USA
903-757-8449
Fax: 903-758-7397
Email:Mab@emafirm.Com

Thomas John Ward , Jr
ATTORNEY TO BE NOTICED
Ward & Smith Law Firm
Po Box 1231 1127 Judson Road Suite 220
Longview , TX 75606
USA
903/757-6400
Fax: 903/757-2323
Email:Jw@wsfirm.Com

American Honda Motor Co. Inc.
Defendant

Honda Motor Company, Ltd.
Defendant

Bmw of North America, Llc
Defendant

Bmw AG
Defendant

Chrysler Group Llc
Defendant

Ferrari North America, Inc.
Defendant

Ferrari S.P.A.
Defendant

General Motors, Llc
Defendant

Hyundai Motor America
Defendant

Hyundai Motor Company
Defendant

Jaguar Land Rover North America, Llc
Defendant

Jaguar Cars Limited
Defendant

Maserati North America Inc
Defendant

Maserati S.P.A.
Defendant

Mercedes-Benz USA, Llc
Defendant

Daimler North America Corporation
Defendant

Daimler AG
Defendant

Mazda Motor of North America, Inc.
Defendant

Mazda Motor Corp.
Defendant

Mitsubishi Motors North America, Inc.
Defendant

Michael Charles Smith
ATTORNEY TO BE NOTICED
Siebman Burg Phillips & Smith, LLP-Marshall
P O Box 1556
Marshall , TX 75671-1556
USA
903-938-8900
Fax: 19727674620
Email:Michaelsmith@siebman.Com

Mitsubishi Motors Corp.
Defendant

Michael Charles Smith
ATTORNEY TO BE NOTICED
Siebman Burg Phillips & Smith, LLP-Marshall
P O Box 1556
Marshall , TX 75671-1556
USA
903-938-8900
Fax: 19727674620
Email:Michaelsmith@siebman.Com

Nissan North America, Inc.
Defendant

Nissan Motor Co., Ltd.
Defendant

Porsche Cars North America, Inc.
Defendant

Dr. Ing. Hc.F. Porsche AG
Defendant

Saab Cars North America, Inc.
Defendant

Toyota Motor North America, Inc.
Defendant

Toyota Motor Sales, U.S.A., Inc.
Defendant

Toyota Motor Corp.
Defendant

Volkswagen Group of America, Inc.
Defendant

Automobili Lamborghini S.P.A.

Defendant

Audi AG
Defendant

Volkswagen AG
Defendant

Ford Motor Company
Defendant

Volvo Cars of North America, Llc
Defendant

Volvo Car Corp.
Defendant

Date	#	Proceeding Text	Source
03/08/2010	1	COMPLAINT for Patent Infringement against all defendants (Filing fee $ 350 receipt number 0540000000002387982.), filed by Balther Technologies, LLC. (Attachments: # 1 Exhibit A, # 2 Civil Cover Sheet)(Albritton, Eric) (Entered: 03/08/2010)	
03/08/2010		Judge Leonard Davis added. (mll,) (Entered: 03/08/2010)	
03/08/2010	2	Notice of Filing of Patent/Trademark Form (AO 120). AO 120 mailed to the Director of the U.S. Patent and Trademark Office. (Albritton, Eric) (Entered: 03/08/2010)	
03/09/2010	3	NOTICE of Attorney Appearance by Thomas John Ward, Jr on behalf of Balther Technologies, LLC (Ward, Thomas) (Entered: 03/09/2010)	
03/09/2010	4	NOTICE of Attorney Appearance by Jack Wesley Hill on behalf of Balther Technologies, LLC (Hill, Jack) (Entered: 03/09/2010)	
03/09/2010	5	NOTICE of Attorney Appearance by Adam A Biggs on behalf of Balther Technologies, LLC (Biggs, Adam) (Entered: 03/09/2010)	
03/09/2010	6	NOTICE of Attorney Appearance by Debra Rochelle Coleman on behalf of Balther Technologies, LLC (Coleman, Debra) (Entered: 03/09/2010)	
03/09/2010	7	NOTICE of Attorney Appearance by Matthew Clay Harris on behalf of Balther Technologies, LLC (Harris, Matthew) (Entered: 03/09/2010)	
03/10/2010	8	NOTICE of Attorney Appearance by J Mike Amerson on behalf of Balther Technologies, LLC (Amerson, J) (Entered: 03/10/2010)	
03/10/2010	9	NOTICE of Attorney Appearance by Matthew Richard Rodgers on behalf of Balther Technologies, LLC (Rodgers, Matthew) (Entered: 03/10/2010)	
03/10/2010	10	NOTICE of Attorney Appearance by Michael Aaron Benefield on behalf of Balther Technologies, LLC (Benefield, Michael) (Entered: 03/10/2010)	
03/10/2010	11	NOTICE of Attorney Appearance by David Wynne Morehan on behalf of Balther Technologies, LLC (Morehan, David) (Entered: 03/10/2010)	
03/10/2010	12	NOTICE of Attorney Appearance by Danny Lloyd Williams on behalf of Balther Technologies, LLC (Williams, Danny) (Entered: 03/10/2010)	
03/10/2010	13	NOTICE of Attorney Appearance by Jaison Chorikavumkal John on behalf of Balther Technologies, LLC (John, Jaison) (Entered: 03/10/2010)	
03/10/2010	14	NOTICE of Attorney Appearance by Christopher Needham Cravey on behalf of Balther Technologies, LLC (Cravey, Christopher) (Entered: 03/10/2010)	
04/26/2010	15	ORDER that plaintiff file a notice that the case is ready for scheduling conference when all of the defendants have either answered or filed a motion to transfer or dismiss. The notice shall be filed within five days of the last remaining defendant's answer or motion. Signed by Judge Leonard Davis on 04/26/10. cc:attys 4-27-10(mll,) (Entered: 04/27/2010)	
04/28/2010	16	E-GOV SEALED SUMMONS Issued as to American Honda Motor Co. Inc., BMW of North America, LLC, Chrysler Group LLC, Daimler North America Corporation, Ferrari North America, Inc., Ford Motor Company, General Motors, LLC, Hyundai Motor America, Jaguar Land Rover North America, LLC, Maserati North America Inc, Mazda Motor of North America, Inc., Mercedes-Benz USA, LLC, Mitsubishi Motors North America, Inc.,	

		Nissan North America, Inc., Porsche Cars North America, Inc., SAAB Cars North America, Inc., Toyota Motor North America, Inc., Toyota Motor Sales, U.S.A., Inc., Volkswagen Group of America, Inc., Volvo Cars of North America, LLC., and emailed to pltf for service. (mll,) (Entered: 04/28/2010)
05/17/2010	17	NOTICE of Voluntary Dismissal by Balther Technologies, LLC (Attachments: # 1 Text of Proposed Order)(Albritton, Eric) (Entered: 05/17/2010)
05/18/2010	18	ORDER DISMISSING CASE. This civil action is dismissed without prejudice. Pltf and defts shall bear their own costs, expenses and legal fees. Signed by Judge Leonard Davis on 05/18/10. cc:attys 5-18-10(mll,) (Entered: 05/18/2010)
05/18/2010	19	Agreed MOTION for Extension of Time to File Answer re 1 Complaint by Mitsubishi Motors Corp., Mitsubishi Motors North America, Inc.. (Attachments: # 1 Text of Proposed Order) (Smith, Michael) (Entered: 05/18/2010)
05/19/2010	20	NOTICE by Mitsubishi Motors Corp., Mitsubishi Motors North America, Inc. re 19 Agreed MOTION for Extension of Time to File Answer re 1 Complaint (Notice of Withdrawal of Agreed MOTION for Extension of Time to File Answer) (Smith, Michael) (Entered: 05/19/2010)

285312 (10) 7241034 July 10, 2007

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

7241034

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Link to Claims Section

July 10, 2007

Automatic directional control system for vehicle headlights

REEXAM-LITIGATE:

Reexamination requested July 10, 2010 by PATENT OWNER, Reexamination No. 90/011,011 (O.G. September 7, 2010) Ex. Gp.: 3992 July 10, 2010

Reexamination requested May 16, 2011 by Volkswagen Group of America, Inc.; (Att'y Is: Clifford A. Ulrich, Kenyon & Kenyon, LLP., New York, NY), Reexamination No. 95/001,621 (O.G. June 28, 2011) Ex. Gp.: 3992 May 16, 2011

NOTICE OF LITIGATION

Balther Technologies, LLC v. American Honda Motor Co Inc et al, Filed March 8, 2010, D.C. E.D. Texas, Doc. No. 6:10cv78

INVENTOR: Smith, James E. - Berkey, Ohio, United States of America (US), United States of America () ; McDonald, Anthony B. - Perrysburg, Ohio, United States of America (US), United States of America ()

APPL-NO: 285312 (10)

FILED-DATE: October 31, 2002

GRANTED-DATE: July 10, 2007

ASSIGNEE-PRE-ISSUE:
February 6, 2003 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., DANA CORPORATION 4500 DORR STREET TOLEDO OHIO 43615, Reel and Frame Number: 013729/0559

ASSIGNEE-AT-ISSUE:
Dana Corporation, Toledo, Ohio, United States of America (US), United States company or corporation (02)

ASSIGNEE-AFTER-ISSUE:
February 22, 2008 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., DANA AUTOMOTIVE SYSTEMS GROUP, LLC 4500 DORR STREET TOLEDO OHIO 43615, 4500 DORR STREET, TOLEDO, OHIO, UNITED STATES OF AMERICA (US), 43615, Reel and Frame Number: 020540/0476
June 12, 2009 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).,

STRAGENT, LLC 211 W. TYLER, SUITE C LONGVIEW TEXAS 75601, 211 W. TYLER, SUITE C, LONGVIEW, TEXAS, UNITED STATES OF AMERICA (US), 75601, Reel and Frame Number: 022813/0432
March 8, 2010 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., BALTHER TECHNOLOGIES, LLC, SUITE C-4, 211 W. TYLER, LONGVIEW, TEXAS, UNITED STATES OF AMERICA (US), 75601, Reel and Frame Number: 024045/0235

LEGAL-REP: MacMillan, Sobanski & Todd, LLC

PRIM-EXMR: Alavi, Ali

CORE TERMS: headlight, directional, controller, adjustment, sensed, algorithm, sensor, actuator, steering, minus, control system, road, suspension, responsive, automatic, feedback, orientation, beam, aiming, height, generating, electrical, input output device, plane, stored, automatically, optical, pitch, calibration, accomplish

NO-OF-CLAIMS: 5

1. Weekly: Honey Hope Honesty Enterprise unchanged on weak volume, News Bites Asian Markets, September 8, 2012 Saturday, 674 words

2. Reexamination Requests Filed Weeks of 5/16/11 And 5/23/11, Patent Law Practice Center, May 31, 2011 Tuesday 10:11 AM EST, , 2671 words, Stefanie Levine

Source: **Combined Source Set 3 - News, Most Recent Two Years (English, Full Text)**
Terms: **7241034 or 7,241,034** (Suggest Terms for My Search)
View: Cite
Date/Time: Thursday, December 6, 2012 - 11:24 AM EST

In

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011 95/001,621	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 12/18/2012

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
TON, MY TRANG	
ART UNIT	**PAPER NUMBER**
3992	
MAIL DATE	**DELIVERY MODE**
12/18/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

Kenyon & Kenyon, LLP One Broadway

New York, NY

10004

MAILED

DEC 18 2012

CENTRAL REEXAMINATION UNIT

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NUMBER *95/001,621; 90/011,011*

PATENT NUMBER *7,241,034*.

TECHNOLOGY CENTER *3900*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

ACTION CLOSING PROSECUTION (37 CFR 1.949)	Control Nos.	Patent Under Reexamination
	95/001,621; 90/011,011	7,241,034
	Examiner	Art Unit
	MY-TRANG TON	3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:
Patent Owner on 26 July, 2012
Third Party(ies) on _____

Patent owner may once file a submission under 37 CFR 1.951(a) within 1 month(s) from the mailing date of this Office action. Where a submission is filed, third party requester may file responsive comments under 37 CFR 1.951(b) within 30-days (not extendable- 35 U.S.C. § 314(b)(2)) from the date of service of the initial submission on the requester. **Appeal cannot be taken from this action.** Appeal can only be taken from a Right of Appeal Notice under 37 CFR 1.953.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

PART II. SUMMARY OF ACTION:

1a. ☒ Claims 1-41 are subject to reexamination.
1b. ☐ Claims _____ are not subject to reexamination.
2. ☒ Claims 1 and 2 have been canceled.
3. ☐ Claims _____ are confirmed. [Unamended patent claims]
4. ☒ Claims 3-13 and 15-35, 38-41 are patentable. [Amended or new claims]
5. ☒ Claims 14,36 and 37 are rejected.
6. ☐ Claims _____ are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable ☐ are not acceptable.
8 ☐ The drawing correction request filed on _____ is: ☐ approved. ☐ disapproved.
9 ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has: ☐ been received. ☐ not been received. ☐ been filed in Application/Control No _____
10. ☐ Other _____

ACTION CLOSING PROSECUTION

This is an inter partes reexamination of United States Patent Number 7,241,034 ("the '034 patent"), a merger of proceedings having control Number 95/001,621 and 90/011,011.

The '034 patent issued on July 10, 2007 based on US Patent Application No. 10/285,312 (the base application) filed on October 31, 2002.

The '034 patent is currently assigned to "Dana Corporation".

Status of Patent Owner's Response

Patent owner responded to the prior office action on 7/26/2012 ("Response") and proposed amendments to claims 3-5, and cancellation of claims 1-2. This proposed amendment has been considered by the examiner and made of record. This action is in response to the Patent Owner's response.

Status of Requester's Comments

There is no comment from the third Party requester.

Status of the claims

The following is the status of the claims with respect to the proposed Amendment:

Claims 1-2 are cancelled.

Claims 3-5 are amended (Amend claim 3 to allegedly incorporate the features of claim 1, and amend claim 4-5 to depend on claim 3).

Claims 6-41 are newly added (the amendments filed 4/27/2012).

Of these, claims 3 and 7 are independent claims.

Thus, all subsequent reexamination prosecution and examination will be on the basis of the claims as amended in the proposed amendment. **It is noted that although the Office actions will treat proposed amendments as though they have been entered, the proposed amendments will not be effective until the reexamination certificate is issued.**

References

Request for reexamination in EP 90/011,011:

U.S. Patent 4,733,333 issued to Shibata (hereinafter "Shibata")

Request for reexamination in IP 95/001,621:

1. United Kingdom Patent Application Publication No. 2309773 by Uchida (hereinafter "Uchida").

2. United Kingdom Patent Application Publication No. 2309774 by Takahashi (hereinafter "Takahashi").

3. U.S. Patent No. 5,182,460 by Hussman (hereinafter "Hussman").

4. German Patent Application Publication No. 3110094 by Miskin et al (hereinafter "Miskin et al.").

5. German Patent Application Publication No. 3129891 by Leleve (hereinafter "Leleve").

6. U.S. Patent No. 6,305,823 by Toda et al (hereinafter "Toda. et al.").

7. U.S. Patent No: 6,193,398 by Okuchi et al (hereinafter "Okuchi et al.").

8. U.S. Patent No. 5,909,949 by Gotoh (hereinafter "Gotoh").

9. U.S. Patent No. 4,954,933 by Wassen et al (hereinafter "Wassen et al.").

Status of Previous not adopted Rejections

Request for reexamination in EP 90/011,011:

Shibata's issue has been withdrawn in the Non-Office action. For reasoning see the Non-final Office action at pages 9-10.

Request for reexamination in IP 95/001,621:

1/ Issues 3, 8, 13 and 18 were found not to raise a SNQ in the Order will not be listed and will not be discussed further.

2/ Issues 1-2, 4-7, 9-12, 14-17 and 19-20 raised for the original claims 1-5 will not be evaluated because of the amendment filed on 4/27/2012.

3/ Issues 21, 23, 26, 29-33, 35, 36, 38 were found not adopted in the non-final Office action are not listed and will not be discussed further. For reasoning see the Non-final Office action at pages 11-12, 23-25, 53-55, 85-98.

Status of Previous Rejections

The following rejections were previously made by the Office:

Issue 22: Claims 1, 2, 4-6, 8, 15, 17-19, 23-24, 28-29, 31-32, 35-37 are rejected under 35 U.S.C. § 102(b) as being anticipated by Takahashi.

Issue 24: Claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 31-37 are rejected under 35 U.S.C § 103(a) as being unpatentable over Toda in view of Uchida.

Issue 25: Claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 28-29, 31-37 are rejected under 35 U.S.C § 103(a) as unpatentable over Toda in view of Takahashi.

Issue 27: Claims 1, 2, 4-6, 8-10,~ 12-15, 17-19, 23-24, 28-37 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Okuchi et al. and Uchida.

Issue 28: Claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okuchi et al. and Takahashi.

Issue 34: Claims 16, 20, 21, 25-27 (as amended on 4/27/2012) are rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of the admitted prior art described in the '034 patent specification.

Issue 37: Claim 22 is rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of Wassen.

Details of previous rejections

In view of the amendment filed by Patent Owner on 7/26/2012, grounds of rejection have been changed to reflect the changes.

As to issue 22: The rejection of claims 1, 2, 4-6, 8, 15, 17-19, 23-24, 28-29, 31-32, 35-37 under 35 U.S.C. § 102(b) as being anticipated by Takahashi **is withdrawn.**

Insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, Takahashi is no longer an anticipatory reference. Examiner agrees to withdrawn the previously adopted rejections in issue 22. The reference put forth in the request, Takahashi, is not seen to teach the subject matter of claims 3 and 7.

Remaining proposed reject claims 4-6, 8, 15, 17-19, 23-24, 28-29, 31-32, 35-37 are dependent claims and therefore are distinguishable from Takahashi at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

As to issue 24: The rejection of claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 31-37 under 35 U.S.C § 103(a) as being unpatentable over Toda in view of Uchida **is withdrawn**.

Insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Toda and Uchida no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 24. The references put forth in the request, Toda in view of Uchida, are not seen to teach the subject matter of claims 3 and 7.

Remaining proposed reject claims 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 31-37 are dependent claims and therefore are distinguishable from Toda in view of Uchida at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

As to issue 25: The rejection of claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 28-29, 31-37 under 35 U.S.C § 103(a) as unpatentable over Toda in view of Takahashi **is withdrawn.**

Insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Toda and Takahashi no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 25. The references put forth in the request, Toda in view of Takahashi, are not seen to teach the subject matter of claims 3 and 7.

Remaining proposed reject claims 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 28-29, 31-37 are dependent claims and therefore are distinguishable from Toda in view of Takahashi at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

As to issue 27: The rejection of claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 under 35 U.S.C. § 103(a) as unpatentable over the combination of Okuchi et al and Uchida **is withdrawn.**

Insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Okuchi and Uchida no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 27. The references put

forth in the request, Okuchi in view of Uchida, are not seen to teach the subject matter of claims 3 and 7.

Remaining proposed reject claims 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are dependent claims and therefore are distinguishable from Okuchi in view of Uchida at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

As to issue 28: The rejection of claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okuchi et al. and Takahashi **is withdrawn**.

Insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Okuchi and Takahashi no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 28. The references put forth in the request, Okuchi in view of Takahashi, are not seen to teach the subject matter of claims 3 and 7.

Remaining proposed reject claims 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are dependent claims and therefore are distinguishable from Okuchi in view of Takahashi at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

As to issue 34: The rejection of claims 16, 20, 21, 25-27 (as amended on 4/27/2012) under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of the admitted prior art described in the '034 patent specification **is withdrawn.**

Claims 16, 20, 21, 25-27 are dependent claims and therefore are distinguishable from Takahashi in view of the admitted prior art described in the '034 patent specification at least the same reasons as their respective independent claim 7, and add further claim limitations of their own.

As to issue 37: The rejection of claim 22 under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of Wassen **is withdrawn**.

Claim 22 is dependent claim and therefore is distinguishable from Takahashi in view of Wassen at least the same reasons as its respective independent claim 7, and add further claim limitation of its own.

Claim Rejections - 35 USC § 112

Claims 14, 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 14: claim 7 already recites the limitations "two or more actuators". It appears that "a first actuator" and "a second actuator" now recite in claim 14 are a part of "two or more actuators" already recites in claim 7. Thus, in order to avoid any confusion, it is suggested that claim 14 should be amended as:

> 14. (Currently Amended) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured [to include] such that said two or more actuators include a first actuator and a second actuator and wherein [a] the first actuator connected to the headlight to effect movement thereof in a first direction and [a] the second actuator connected to the headlight to effect movement thereof in a second direction different form the first direction.

Claims 36 and 37 include the same limitations for "the controller" as claim 7 and are therefore redundant. These claims should be cancelled.

STATEMENT OF REASONS FOR PATENTABILITY AND/OR CONFIRMATION

The following is an examiner's statement of reasons for patentability and/or confirmation of the claims found patentable in this reexamination proceeding:

Independent claim 3 is patentable because of the fact that no single reference of record or combination of references teach "at least one of said two

or more sensors generates at least one of said two or more sensor signals that is **representative of a rate of change of the steering angle of the vehicle**" in combination with a "**a controller" and "two or more actuators**" as required in claim 3.

Dependent claims 4-6 come freighted with the limitations of claim 3 from which they stem and are therefore patentable for the same reasons.

Independent claim 7 is patentable because of the fact that no single reference of record or combination of references teach "wherein **said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle** " in combination with **"a controller" and "two or more actuators**" as required in claim 7.

Dependent claims 8-13, 15-35, 38-41 come freighted with the limitations of claim 7 from which they stem and are therefore patentable for the same reasons.

Any comments considered necessary by PATENT OWNER regarding the above statement must be submitted promptly to avoid processing delays. Such submission by the patent owner should be labeled: "Comments on Statement of Reasons for Patentability and/or Confirmation" and will be placed in the reexamination file.

Conclusion

This is an ACTION CLOSING PROSECUTION (ACP); see MPEP § 2671.02.

(1) Pursuant to 37 CFR 1.951(a), the patent owner may once file written comments limited to the issues raised in the reexamination proceeding and/or present a proposed amendment to the claims which amendment will be subject to the criteria of 37 CFR 1.116 as to whether it shall be entered and considered. Such comments and/or proposed amendments must be filed within a time period of 30 days or one month (whichever is longer) from the mailing date of this action. Where the patent owner files such comments and/or a proposed amendment, the third party requester may once file comments under 37 CFR 1.951(b) responding to the patent owner's submission within 30 days from the date of service of the patent owner's submission on the third party requester.

(2) If the patent owner does not timely file comments and/or a proposed amendment pursuant to 37 CFR 1.951(a), then the third party requester is precluded from filing comments under 37 CFR 1.951(b).

(3) Appeal **cannot** be taken from this action, since it is not a final Office action.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) will not be permitted in *inter partes* reexamination proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 314(c) requires that *inter partes* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.937). Patent owner extensions of time in *inter partes* reexamination proceedings are provided for in 37 CFR 1.956. Extensions of time are not available for third party requester comments, because a comment period of 30 days from service of patent owner's response is set by statute. 35 U.S.C. 314(b)(3).

Notification of Other Proceedings

The patent owner is reminded of the continuing responsibility under 37 CFR 1.985(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the '034 patent throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP § 2686 and 2686.04.

All correspondence relating to this inter partes reexamination proceeding should be directed:

By Mail to: Mail Stop InterPartes Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand:
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Randolph Building
401 Dulany Street
Alexandria, VA 22314

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Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272- 7705.

/My-Trang N. Ton/
Primary Examiner
Central Reexam Unit 3992

Conferees:

/Margaret Rubin/
Primary Examiner 3992

ANDREW J. FISCHER
Supervisory Patent Reexamination Specialist
CRU -- Art Unit 3992

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
	)
7,241,034	) Art Unit: 3992
	)
Applications No. 95/001,621 & 90/011,011	) Examiner: MY-TRANG N. TON
	)
Filed: 05/16/2011	) Atty. Docket No.:
	) SVIPGP109RE
For: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS	) Date: 01/02/2013

COMMENTS ON STATEMENT OF REASONS FOR PATENTABILITY AND/OR CONFIRMATION

AND

AMENDMENT F

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

In response to the Office Action Closing Prosecution mailed 12/18/2012 ("Office Action"), please enter the following.

AMENDMENTS TO THE CLAIMS

Amended claims follow:

1. (Cancelled).

2. (Cancelled).

3. (Currently Amended) [The automatic directional control system defined in claim 1] An automatic directional control system for a vehicle headlight, comprising:

two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle such that two or more sensor signals are generated, said sensed conditions including at least a steering angle and a pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when at least one of said two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in at least one of the sensed conditions; and

said two or more actuators each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal;

wherein at least one of said two or more sensors generates [a]at least one of said two or more sensor signals that is representative of [the]a rate of change of the steering angle of the vehicle.

4. (Currently Amended) The automatic directional control system defined in claim [1]3, wherein at least one of said two or more sensors generates a signal that is representative of [the]a rate of change of the pitch of the vehicle.

5. (Currently Amended) The automatic directional control system defined in claim [1]3, wherein at least one of said two or more sensors generates a signal that is representative of [the]a suspension height of the vehicle.

6. (New) The automatic directional control system defined in claim 3, wherein said two or more sensors include a first sensor and a second sensor.

7. (New) An automatic directional control system for a vehicle headlight, comprising:

two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle such that two or more sensor signals are generated, said sensed conditions including at least a steering angle and a pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when at least one of said two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in at least one of the sensed conditions; and

said two or more actuators each being adapted to be connected to the vehicle headlight to effect movement thereof in accordance with said at least one output signal;

wherein said two or more sensors include a first sensor and a second sensor; and

wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

8. (New) The automatic directional control system defined in claim 7, wherein said first sensor is physically separate from said second sensor.

9. (New) The automatic directional control system defined in claim 7, further comprising one or more additional sensors for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of the steering angle of the vehicle, a rate of

change of the pitch of the vehicle, a suspension height of the vehicle, or a rate of change of suspension height of the vehicle.

10. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the road speed of the vehicle.

11. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the steering angle of the vehicle.

12. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the pitch of the vehicle.

13. (New) The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the suspension height of the vehicle.

14. (Currently Amended) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that said two or more actuators include a first actuator and a second actuator and wherein the first actuator connected to the headlight to effect movement thereof in a first direction and the second actuator connected to the headlight to effect movement thereof in a second direction different from the first direction.

15. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

16. (New) The automatic directional control system defined in claim 15, wherein the two or more actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

17. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include an electronically controlled mechanical actuator.

18. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a step motor.

19. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a servo motor.

20. (New) The automatic directional control system defined in claim 7, wherein the two or more actuators include a microstepping motor capable of being operated in fractional step increments.

21. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted both up and down relative to a horizontal reference position and left and right relative to a vertical reference position.

22. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects is capable of being adjusted relative to the vehicle by manual operation of the two or more actuators.

23. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

24. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

25. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with at least one of the two or more actuators.

26. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes a Hall Effect sensor.

27. (New) The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes an optical interrupter.

28. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system further includes memory.

29. (New) The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory.

30. (New) The automatic directional control system defined in claim 28, wherein the memory is configured to store a predetermined reference position associated with the headlight.

31. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

32. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

33. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in a suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

34. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in a suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

35. (New) The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

36. (Cancelled).

37. (Cancelled).

38. (New) The automatic directional control system defined in claim 7, wherein said controller is further responsive to at least one of said two or more sensor signals to automatically activate one or more vehicle lights that are different than the headlight.

39. (New) The automatic directional control system defined in claim 38, wherein said one or more vehicle lights that are different than the headlight include one or more lights for illuminating a road in front of the vehicle during a turn.

40. (New) The automatic directional control system defined in claim 7, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight.

41. (New) The automatic directional control system defined in claim 7, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight to extend an angular range of a road surface.

REMARKS

Patent Owner thanks the Examiner for noting the allowable subject matter. Patent Owner has amended Claim 14 to overcome alleged 35 U.S.C. §112 issues. Furthermore, Patent Owner has cancelled Claims 36 and 37. Table 1 shows a summary of Patent Owner's amendments, relative to Patent Owner's Amendment E, dated 7/26/2012.

Table 1

Claim 1 – Cancelled, same as Amendment E.
Claim 2 – Cancelled, same as Amendment E.
Claim 3 – Same text as Amendment E.
Claim 4 – Same text as Amendment E.
Claim 5 – Same text as Amendment E.
Claim 6 – Same text as Amendment E.
Claim 7 – Same text as Amendment E.
Claim 8 – Same text as Amendment E.
Claim 9 – Same text as Amendment E.
Claim 10 – Same text as Amendment E.
Claim 11 – Same text as Amendment E.
Claim 12 – Same text as Amendment E.
Claim 13 – Same text as Amendment E.
Claim 14 – Patent Owner deleted "to include" (which was presented in Amendment D1) and inserted "such that said two or more actuators include a first actuator and a second actuator and wherein." Patent Owner changed "a" to "the" relating to "the first actuator connected to the headlight" and "the second actuator connected to the headlight."
Claim 15 – Same text as Amendment E.
Claim 16 – Same text as Amendment E.
Claim 17 – Same text as Amendment E.
Claim 18 – Same text as Amendment E.
Claim 19 – Same text as Amendment E.

Claim 20 – Same text as Amendment E.
Claim 21 – Same text as Amendment E.
Claim 22 – Same text as Amendment E.
Claim 23 – Same text as Amendment E.
Claim 24 – Same text as Amendment E.
Claim 25 – Same text as Amendment E.
Claim 26 – Same text as Amendment E.
Claim 27 – Same text as Amendment E.
Claim 28 – Same text as Amendment E.
Claim 29 – Same text as Amendment E.
Claim 30 – Same text as Amendment E.
Claim 31 – Same text as Amendment E.
Claim 32 – Same text as Amendment E.
Claim 33 – Same text as Amendment E.
Claim 34 – Same text as Amendment E.
Claim 35 – Same text as Amendment E.
Claim 36 – Cancelled
Claim 37 – Cancelled
Claim 38 – Same text as Amendment E.
Claim 39 – Same text as Amendment E.
Claim 40 – Same text as Amendment E.
Claim 41 – Same text as Amendment E.

Patent Owner further notes that the '034 patent is currently assigned to "Stragent, LLC" and not to "Dana Corporation" as stated by the Examiner on Page 2 of the Office Action. Patent Owner includes the accompanying 3.73(b) statement and assignment documents for the Examiner's convenience.

In the event fees are due, the Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 50-4964 (Order No.

SVIPGP109RE). Patent Owner invites the Examiner to telephone the undersigned attorney at the number listed below in the event such communication would advance prosecution.

Additionally, the undersigned hereby certifies that a true and complete copy of the forgoing COMMENTS ON STATEMENT OF REASONS FOR PATENTABILITY AND/OR CONFIRMATION AND AMENDMENT F has been served on Third Party Requestor by mailing said copy on 02 Jan 2013, via First Class Mail, postage prepaid to:

Kenyon & Kenyon, LLP
One Broadway
New York, NY 10004

Respectfully submitted,

Dated: 02 Jan 2013

The Caldwell Firm, LLC
PO Box 59655
Dallas, Texas 75229-0655
Telephone: (214) 734-2313
pcaldwell@thecaldwellfirm.com

Patrick E. Caldwell, Esq.
Reg. No. 44,580

PTO/SB/96 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Stragent, LLC

Application No./Patent No.: 7,241,034 Filed/Issue Date: 7-10-2007

Titled: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS

Stragent, LLC , a Limited Liability Company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy therefore is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Smith, James E. and McDonald, Anthony B. To: Dana Corporation

The document was recorded in the United States Patent and Trademark Office at
Reel 013729 , Frame 0559 , or for which a copy thereof is attached.

2. From: Dana Corporation To: Dana Automotive Systems Group, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 020540 , Frame 0476 , or for which a copy thereof is attached.

3. From: Dana Automotive Systems Group, LLC To: Stragent, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 022813 , Frame 0432 , or for which a copy thereof is attached.

☒ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Andrew Gordon/ 12/31/2012

Signature Date

Andrew Gordon Executive VP

Printed or Typed Name Title

PTO/SB/96 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Stragent, LLC

Application No./Patent No.: 7,241,034 Filed/Issue Date: 7-10-2007

Titled: AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS

Stragent, LLC , a Limited Liability Company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy therefore is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Stragent, LLC To: Balther Technologies, LLC

The document was recorded in the United States Patent and Trademark Office at

Reel 024045 , Frame 0235 , or for which a copy thereof is attached.

2. From: Balther Technologies, LLC To: Stragent, LLC

The document was recorded in the United States Patent and Trademark Office at

Reel _____ , Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____ , Frame _____, or for which a copy thereof is attached.

☒ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Andrew Gordon/ 12/31/2012

Signature Date

Andrew Gordon Executive VP

Printed or Typed Name Title

ASSIGNMENT

WHEREAS, Balther Technologies, LLC, a Texas Limited Liability Company having a place of business at 211 W. Tyler, Suite C, Longview, TX 75601 (hereinafter "ASSIGNOR") is owner of:

Title: Automatic Directional Control System For Vehicle Headlights
Application Number: 10/285,312
Filing Date: 10/31/2002
Patent Number: 7,241,034
Issue Date: 7/10/2007

("Patent(s)/Application(s)")

WHEREAS, Stragent, LLC, a Texas Limited Liability Company having a place of business at 211 W. Tyler, Suite C, Longview, TX 75601 (hereinafter "ASSIGNEE") desires to acquire ASSIGNOR's entire right, title, and interest in and to the Patent(s)/Application(s);

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby acknowledges that it has sold, assigned, and transferred, and by these presents does hereby sell, assign, and transfer, unto ASSIGNEE, its successors, legal representatives, and assigns, the entire, irrevocable, and unconditional right, title, and interest of ASSIGNOR in, to, and under the Patent(s)/Application(s), and the inventions disclosed in the Patent(s)/Application(s) (regardless of whether claimed) including but not limited to (a) all rights of ASSIGNOR in any and all priority patent application(s), and all foreign and domestic patents that may issue from the Patent(s)/Application(s) and the aforementioned priority patent application(s), including reexaminations, reissues, renewals, continuations, continuations-in-part, divisionals, or extensions thereof that have been or may hereafter be filed, and (b) the right to sue for and collect damages for past, present, and future infringements of the Patent(s)/Application(s).

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 4 day of December 2010.

Chris Edgeworth

Name: Christopher M. Edgeworth
Title: President & CEO, Balther Technologies, LLC

Electronic Acknowledgement Receipt

EFS ID:	14597985
Application Number:	90011011
International Application Number:	
Confirmation Number:	3919
Title of Invention:	AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS
First Named Inventor/Applicant Name:	7,241,034
Customer Number:	92045
Filer:	Patrick Edgar Caldwell
Filer Authorized By:	
Attorney Docket Number:	SVIPGP109RE
Receipt Date:	02-JAN-2013
Filing Date:	10-JUL-2010
Time Stamp:	18:06:04
Application Type:	Reexam (Patent Owner)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		SVIPGP109RE_Combined_Amndt_F_vF_01-02-2013.pdf	362488 4a1d6465bc470dcd3d530ab1d99005a4668d8376	yes	14

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	11
	Assignee showing of ownership per 37 CFR 3.73.	12	14
Warnings:			
Information:			
	Total Files Size (in bytes):	362488	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/001,621 + 90/011011	05/16/2011	7,241,034	SVIPGP109RE	1240

92045 7590 03/05/2013

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
TON, MY TRANG	
ART UNIT	**PAPER NUMBER**
3992	
MAIL DATE	**DELIVERY MODE**
03/05/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

Kenyon & Kenyon, LLP

One Broadway

New York, NY 10004

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NUMBER *95/001,621*; 90/011,011

PATENT NUMBER *7,241,034*.

TECHNOLOGY CENTER *3900*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

Right of Appeal Notice (37 CFR 1.953)	Control No.	Patent Under Reexamination
	95/001,621; 90/011,011	7,241,034
	Examiner	Art Unit
	MY-TRANG TON	3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:
Patent Owner on 02 January, 2013
Third Party(ies) on _____

Patent owner and/or third party requester(s) may file a notice of appeal with respect to any adverse decision with payment of the fee set forth in 37 CFR 41.20(b)(1) within **one-month or thirty-days (whichever is longer)**. See MPEP 2671. In addition, a party may file a notice of **cross** appeal and pay the 37 CFR 41.20(b)(1) fee **within fourteen days of service** of an opposing party's timely filed notice of appeal. See MPEP 2672.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

If no party timely files a notice of appeal, prosecution on the merits of this reexamination proceeding will be concluded, and the Director of the USPTO will proceed to issue and publish a certificate under 37 CFR 1.997 in accordance with this Office action.

The proposed amendment filed 02 January, 2013 ☒ will be entered ☐ will not be entered*

*Reasons for non-entry are given in the body of this notice.

1a. ☒ Claims 1-41 are subject to reexamination.
1b. ☐ Claims _____ are not subject to reexamination.
2. ☒ Claims 1,2,36 and 37 have been cancelled.
3. ☐ Claims _____ are confirmed. [Unamended patent claims].
4. ☒ Claims 3-35 and 38-41 are patentable. [Amended or new claims].
5. ☐ Claims _____ are rejected.
6. ☐ Claims _____ are objected to.
7. ☐ The drawings filed on _____ ☐ are acceptable. ☐ are not acceptable.
8. ☐ The drawing correction request filed on _____ is ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d) or (f). The certified copy has:
   ☐ been received. ☐ not been received. ☐ been filed in Application/Control No. _____.
10. ☐ Other _____

Attachments

1. ☐ Notice of References Cited by Examiner, PTO-892
2. ☐ Information Disclosure Citation, PTO/SB/08
3. ☐ _____

DETAIL OFFICE ACTION

This is an inter partes reexamination of United States Patent Number 7,241,034 (herein "the '034 patent"), a merger of proceedings having control Number 95/001,621 and 90/011,011.

The '034 patent issued on July 10, 2007 based on US Patent Application No. 10/285,312 (the base application) filed on October 31, 2002.

The '034 patent is currently assigned to "Stragent, LLC".

This is a RIGHT OF APPEAL NOTICE (RAN); see MPEP § 2673.02 and § 2674. The decision in this Office action as to the patentability or unpatentability of any original patent claim, any proposed amended claim and any new claim in this proceeding is a **FINAL DECISION**.

Submissions after Action Closing Prosecution

Patent owner responded to the ACP on 1/2/2013 ("Response") and proposed amendments to claim 14, and cancellation of claims 36 and 37.

Status of Patent Owner's Response

The proposed amendment filed 1/2/2013 has been considered by the examiner and made of record. This action is in response to the Patent Owner's response.

Status of Requester's Comments

There is no comment from the third Party requester.

Status of Claims

The following is the status of the claims with respect to the proposed Amendment:

Claims 1, 2 (the amendment filed 4/27/2012) and 36, 37 (the Amendment filed 1/2/2013) are cancelled.

Claim 14 is amended to correct the rejection under 35 U.S.C 112, second paragraph (the amendment filed 1/2/2013).

Claims 3-13, 15-35 and 38-41 are remained as of the amendments filed 4/27/2012.

Of these, claims 3 and 7 are independent claims.

The Action Closing Prosecution, dated 12/18/2012, indicated that claims 3-13, 15-35, 38-41 were noted as being patentable. Amended claim 14 is now patentable.

Prior Art References

Request for reexamination in EP 90/011,011:

U.S. Patent 4,733,333 issued to Shibata (hereinafter "Shibata")

Request for reexamination in IP 95/001,621:

1. United Kingdom Patent Application Publication No. 2309773 by Uchida (hereinafter "Uchida").

2. United Kingdom Patent Application Publication No. 2309774 by Takahashi (hereinafter "Takahashi").

3. U.S. Patent No. 5,182,460 by Hussman (hereinafter "Hussman").

4. German Patent Application Publication No. 3110094 by Miskin et al (hereinafter "Miskin et al.").

5. German Patent Application Publication No. 3129891 by Leleve (hereinafter "Leleve").

6. U.S. Patent No. 6,305,823 by Toda et al (hereinafter "Toda. et al.").

7. U.S. Patent No: 6,193,398 by Okuchi et al (hereinafter "Okuchi et al.").

8. U.S. Patent No. 5,909,949 by Gotoh (hereinafter "Gotoh").

9. U.S. Patent No. 4,954,933 by Wassen et al (hereinafter "Wassen et al.").

Status of Previous not adopted Rejections

Request for reexamination in EP 90/011,011:

Shibata's issue has been withdrawn in the Non-Office action. For reasoning see the Non-final Office action at pages 9-10.

Request for reexamination in IP 95/001,621:

1/ Issues 3, 8, 13 and 18 were found not to raise a SNQ in the Order will not be listed and will not be discussed further.

2/ Issues 1-2, 4-7, 9-12, 14-17 and 19-20 raised for the original claims 1-5 will not be evaluated because of the amendment filed on 4/27/2012.

3/ Issues 21, 23, 26, 29-33, 35, 36, 38 were found not adopted in the non-final Office action are not listed and will not be discussed further. For reasoning see the Non-final Office action at pages 11-12, 23-25, 53-55, 85-98.

Status of Previous Rejections

The following rejections are previously noted by the Office:

As to issue 22: The rejection of claims 1, 2, 4-6, 8, 15, 17-19, 23-24, 28-29, 31-32, 35-37 under 35 U.S.C. § 102(b) as being anticipated by Takahashi.

As noted in the ACP, insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, Takahashi is no longer an anticipatory reference. Examiner agrees to withdrawn the previously adopted rejections in issue 22. Thus, the anticipated rejection based on the Takahashi **was withdrawn.**

As noted in the ACP, remaining proposed reject claims 4-6, 8, 15, 17-19, 23-24, 28-29, 31-32, 35-37 are dependent claims and therefore are distinguishable from Takahashi at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

The ACP mailed out 12/18/2012 is incorporated herein by reference.

As to issue 24: The rejection of claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 31-37 under 35 U.S.C § 103(a) as being unpatentable over Toda in view of Uchida.

As noted in the ACP, insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Toda and Uchida no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 24. The references put forth in the request, Toda in view of Uchida, are not seen to teach the subject matter of claims 3 and 7. Thus, the obviousness rejection based on the combination of Toda in view of Uchida **was withdrawn.**

As noted in the ACP, remaining proposed reject claims 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 31-37 are dependent claims and therefore are distinguishable from Toda in view of Uchida at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

The ACP mailed out 12/18/2012 is incorporated herein by reference.

As to issue 25: The rejection of claims 1, 2, 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 28-29, 31-37 under 35 U.S.C § 103(a) as unpatentable over Toda in view of Takahashi.

As noted in the ACP, insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Toda and Takahashi no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 25. The references put forth in the request, Toda in view of Takahashi, are not seen to teach the subject matter of claims 3 and 7. Thus, the obviousness rejection based on the combination of Toda in view of Takahashi **was withdrawn.**

As noted in the ACP, remaining proposed reject claims 4-6, 8-9, 12, 14, 15, 17-19, 23-25, 28-29, 31-37 are dependent claims and therefore are distinguishable from Toda in view of Takahashi at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

The ACP mailed out 12/18/2012 is incorporated herein by reference.

As to issue 27: The rejection of claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 under 35 U.S.C. § 103(a) as unpatentable over the combination of Okuchi et al and Uchida.

As noted in the ACP, insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Okuchi and Uchida no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 27. The references put forth in the request, Okuchi in view of Uchida, are not seen to teach the subject matter of claims 3 and 7. Thus, the obviousness rejection based on the combination of Okuchi in view of Uchida **was withdrawn**.

As noted in the ACP, remaining proposed reject claims 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are dependent claims and therefore are distinguishable from Okuchi in view of Uchida at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

The ACP mailed out 12/18/2012 is incorporated herein by reference.

As to issue 28: The rejection of claims 1, 2, 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Okuchi et al. and Takahashi.

As noted in the ACP, insofar as claim 3 has been amended to allegedly incorporate the features of claims 1 and 3, and claim 7 has been amended to allegedly incorporate the features of claims 1 and 7, the combination of Okuchi and Takahashi no longer renders claims 3 and 7 obvious. Examiner agrees to withdrawn the previously adopted rejections in issue 28. The references put forth in the request, Okuchi in view of Takahashi, are not seen to teach the subject matter of claims 3 and 7. Thus, the obviousness rejection based on the combination of Okuchi in view of Takahashi **was withdrawn.**

As noted in the ACP, remaining proposed reject claims 4-6, 8-10, 12-15, 17-19, 23-24, 28-37 are dependent claims and therefore are distinguishable from Okuchi in view of Takahashi at least the same reasons as their respective independent claims 3 and 7, and add further claim limitations of their own.

The ACP mailed out 12/18/2012 is incorporated herein by reference.

As to issue 34: The rejection of claims 16, 20, 21, 25-27 (as amended on 4/27/2012) under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of the admitted prior art described in the '034 patent specification.

As noted in the ACP, claims 16, 20, 21, 25-27 are dependent claims and therefore are distinguishable from Takahashi in view of the admitted prior art described in the '034 patent specification at least the same reasons as their respective independent claim 7, and add further claim limitations of their own. Thus, the obviousness rejection based on the combination of Takahashi in view of the admitted prior art described in the '034 patent specification **was withdrawn.**

The ACP mailed out 12/18/2012 is incorporated herein by reference.

As to issue 37: The rejection of claim 22 under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of Wassen.

As noted in the ACP, claim 22 is dependent claim and therefore is distinguishable from Takahashi in view of Wassen at least the same reasons as its respective independent claim 7, and adds further claim limitation of its own. Thus, the obviousness rejection based on the combination of Takahashi in view of Wassen **was withdrawn.**

The ACP mailed out 12/18/2012 is incorporated herein by reference.

STATEMENT OF REASONS FOR PATENTABILITY AND/OR CONFIRMATION

The following is an examiner's statement of reasons for patentability and/or confirmation of the claims found patentable in this reexamination proceeding:

As noted in the ACP, independent claim 3 is patentable because of the fact that no single reference of record or combination of references teach "at least one of said two or more sensors generates at least one of said two or more sensor signals that is **representative of a rate of change of the steering angle of the vehicle**" in combination with a "**a controller" and "two or more actuators**" as required in claim 3.

Dependent claims 4-6 come freighted with the limitations of claim 3 from which they stem and are therefore patentable for the same reasons.

Independent claim 7 is patentable because of the fact that no single reference of record or combination of references teach "wherein **said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle** " in combination with **"a controller" and "two or more actuators"** as required in claim 7.

Dependent claims 8-35, 38-41 come freighted with the limitations of claim 7 from which they stem and are therefore patentable for the same reasons.

Any comments considered necessary by PATENT OWNER regarding the above statement must be submitted promptly to avoid processing delays. Such submission by the patent owner should be labeled: "Comments on Statement of Reasons for Patentability and/or Confirmation" and will be placed in the reexamination file.

Conclusion

Extensions of time under 37 CFR 1.136(a) will not be permitted in *inter partes* reexamination proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 314(c) requires that *inter partes* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.937). Patent owner extensions of time in *inter partes* reexamination proceedings are provided for in 37 CFR 1.956. Extensions of time are not available for third party requester comments, because a comment period of 30 days from service of patent owner's response is set by statute. 35 U.S.C. 314(b (3).

The patent owner is reminded of the continuing responsibility under 37 CFR 1.985(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the base patent throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP § 2686 and 2686.04.

This is a RIGHT OF APPEAL NOTICE (RAN); see MPEP § 2673.02 and § 2674. The decision in this Office action as to the patentability or unpatentability of any original patent claim, any proposed amended claim and any new claim in this proceeding is a FINAL DECISION.

No amendment can be made in response to the Right of Appeal Notice in an *inter partes* reexamination. 37 CFR 1.953(c). Further, no affidavit or other evidence can be submitted in an *inter partes* reexamination proceeding after the right of appeal notice, except as provided in 37 CFR 1.981 or as permitted by 37 CFR 41.77(b)(1). 37 CFR 1.116(f).

Each party has a **thirty-day or one-month time period, whichever is longer**, to file a notice of appeal. The patent owner may appeal to the Board of Patent Appeals and Interferences with respect to any decision adverse to the patentability of any original or proposed amended or new claim of the patent by filing a notice of appeal and paying the fee set forth in 37 CFR 41.20(b)(1). The

third party requester may appeal to the Board of Patent Appeals and Interferences with respect to any decision favorable to the patentability of any original or proposed amended or new claim of the patent by filing a notice of appeal and paying the fee set forth in 37 CFR 41.20(b)(1).

In addition, a patent owner who has not filed a notice of appeal may file a notice of cross appeal within **fourteen days of service** of a third party requester's timely filed notice of appeal and pay the fee set forth in 37 CFR 41.20(b)(1). A third party requester who has not filed a notice of appeal may file **a notice of cross appeal within fourteen days of service** of a patent owner's timely filed notice of appeal and pay the fee set forth in 37 CFR 41.20(b)(1).

Any appeal in this proceeding must identify the claim(s) appealed, and must be signed by the patent owner (for a patent owner appeal) or the third party requester (for a third party requester appeal), or their duly authorized attorney or agent.

Any party that does not file a timely notice of appeal or a timely notice of cross appeal will lose the right to appeal from any decision adverse to that party, but will not lose the right to file a respondent brief and fee where it is appropriate for that party to do so. If no party files a timely appeal, the reexamination prosecution will be terminated, and the Director will proceed to issue and publish a certificate under 37 CFR 1.997 in accordance with this Office action.

All correspondence relating to this inter partes reexamination proceeding should be directed:

By Mail to: Mail Stop lnterPartes Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS- Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning." processing complete.

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272- 7705.

/My-Trang Nu Ton/
Primary Examiner
Central Reexam Unit 3992

Conferees:
/Margaret Rubin/
Primary Examiner, CRU 3992

/ANDREW J. FISCHER/
Supervisory Patent Examiner, Art Unit 3992

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/001,621 90/011011	05/16/2011	7,241,034	SVIPGP109RE	1240

92045 7590 04/29/2013

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
TON, MY TRANG	
ART UNIT	**PAPER NUMBER**
3992	

MAIL DATE	DELIVERY MODE
04/29/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011 95/001,621	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 04/29/2013

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
TON, MY TRANG	

ART UNIT	PAPER NUMBER
3992	

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UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patents and Trademark Office
P.O.Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS
KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

Date:

MAILED

APR 29 2013

CENTRAL REEXAMINATION UNIT

Transmittal of Communication to Third Party Requester
Inter Partes Reexamination

REEXAMINATION CONTROL NO. : 95001621 + 90/011011
PATENT NO. : 7241034
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the inter partes reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an ex parte reexamination has been merged with the inter partes reexamination, no responsive submission by any ex parte third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/001621& 90/011011	16 May, 2011	7,241,034	SVIPGP109RE

	EXAMINER	
The Caldwell Firm, LLC PO Box 59655 Dept. SVIPGP Dallas, TX 75229	MY-TRANG TON	
	ART UNIT	PAPER
	3992	20130411

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

On March 5, 2013, the USPTO mailed a right of appeal notice (RAN) for reexamination of U.S Patent 7,241,034, a merger of proceedings having control Number 95/001,621 and 90/011,011, indicated under Status of claims section on page 4, lines 7-8, that "Claims 3-13, 15-35 and 38-41 are remained as of the amendments filed 4/27/2012". However, lines 7-8 of page 4 should be "Claims 3-13, 15-35 and 38-41 are remained as of the amendments filed 7/26/2012 and 1/2/2013".

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272- 7705.

/My-Trang Ton/ Primary Examiner, CRU 3992	/Margaret Rubin/ Primary Examiner, CRU 3992 /Andrew J. Fischer/ SPRS, CRU 3992

PTO-90C (Rev.04-03)

Transmittal of Communication to Third Party Requester *Inter Partes* Reexamination	Control No.	Patent Under Reexamination	
	95/001,621; 90/011,011	7,241,034	
	Examiner	Art Unit	
	MY-TRANG TON	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

Kenyon & Kenyon, LLP
One Broadway
New York, NY 10004

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination prceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,011 95/001,631	07/10/2010	7,241,034	SVIPGP109RE	3919

92045 7590 05/17/2013

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229

EXAMINER	
TON, MY TRANG	

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
05/17/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

Kenyon & Kenyon, LLP

One Broadway

New York, NY 10004

MAILED

MAY 17 2013

CENTRAL REEXAMINATION UNIT

Transmittal of Communication to Third Party Requester *Inter Partes* Reexamination

REEXAMINATION CONTROL NUMBER *95/001,621*.

PATENT NUMBER *7,241,034*.

TECHNOLOGY CENTER *3900*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

NOTICE OF INTENT TO ISSUE INTER PARTES REEXAMINATION CERTIFICATE	Control No. 95/001,621; 90/011,011	Patent Under Reexamination 7,241,034
	Examiner MY-TRANG TON	Art Unit 3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

1. ☒ Prosecution on the merits is (or remains) closed in this *inter partes* reexamination proceeding. This proceeding is subject to reopening at the initiative of the Office or upon petition. *Cf.* 37 CFR 1.313(a). A Certificate will be issued in view of:
   a. ☒ The communication filed on 02 January, 2013 by Patent Owner.
   b. ☐ Patent owner's failure to file an appropriate timely response to the Office action dated
   c. ☒ The failure to timely file an Appeal with fee by all parties to the reexamination proceeding entitled to do so. 37 CFR 1.959 and 41.61.
   d. ☐ The failure to timely file an Appellant's Brief with fee by all parties to the reexamination proceeding entitled to do so. 37 CFR 41.66(a).
   e. ☐ The decision on appeal by the ☐ Board of Patent Appeals and Interferences ☐ Court dated
   f. ☐ Other:

2. ☒ The Reexamination Certificate will indicate the following:
   a. Change in the Specification: ☐ Yes ☒ No
   b. Change in the Drawings: ☐ Yes ☒ No
   c. Status of the Claims:
      (1) Patent claim(s) confirmed:
      (2) Patent claim(s) amended (including dependent on amended claim(s)): 3-5
      (3) Patent claim(s) cancelled: 1 and 2.
      (4) Newly presented claim(s) patentable: 6-35 and 38-41.
      (5) Newly presented cancelled claims: 36 and 37.
      (6) Patent claim(s) ☐ previously ☐ currently disclaimed:
      (7) Patent claim(s) not subject to reexamination:

3. ☒ Note the attached statement of reasons for patentability and/or confirmation. Any comments considered necessary by patent owner regarding reasons for patentability and/or confirmation must be submitted promptly to avoid processing delays. Such submission(s) should be labeled: "Comments On Statement of Reasons for Patentability and/or Confirmation."

4. ☐ Note attached NOTICE OF REFERENCE CITED, (PTO-892).

5. ☐ Note attached LIST OF REFERENCES CITED (PTO/SB/08 or PTO/SB/08 substitute).

6. ☐ The drawings filed on _____ is: ☐ approved ☐ disapproved.

7. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. § 119(a) - (d) or (f).
   a)☐ All b)☐ Some* c)☐ None of the certified copies have
   ☐ been received.
   ☐ not been received.
   ☐ been filed in Application No.
   ☐ been filed in reexamination Control No.
   ☐ been received by the International Bureau in PCT Application No.
   * Certified copies not received:

8. ☐ Note Examiner's Amendment.

9. ☐ Other:

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

Notice of Intent to Issue Reexamination Certificate for *Control No.* 95/001,621 and 90/011,011

This is an inter partes reexamination of United States Patent Number 7,241,034 (herein "the '034 patent"), a merger of proceedings having control Number 95/001,621 and 90/011,011.

The '034 patent is currently assigned to Dana Corporation.

Review of Facts

1/ Amendments were filed on April 27, 2012 and July 26, 2012. These amendments have been considered and entered.

2/ An Action Closing Prosecution was mailed on December 18, 2012.

3/ A Right of Appeal Notice was mailed on March 5, 2013 in which Patent Owner and Third Party Requester were given a thirty-day or one-month time period (whichever is longer) to file a notice of appeal.

4/ No response has been received.

The RAN indicates:

If no party timely files a notice of appeal, prosecution on the merits of this reexamination proceeding will be concluded, and the Director of the USPTO will proceed to issue and publish a certificate under 37 CFR 1.997 accordance with this Office action.

Accordingly, this Notice of Intent to Issue Inter Partes Reexamination Certificate is being issued.

Claim Status

Claims 1-41 are subject to reexamination.

Of these:

1/ Claims 1-2 and 36-37 are cancelled (the Amendments filed July 26, 2012 and January 2, 2013).

2/ Claims 3-35 and 38-41 are patentable. Of these, claims 3 and 7 are independent claims.

STATEMENT OF REASONS FOR PATENTABILITY AND/OR CONFIRMATION

The following is an examiner's statement of reasons for patentability and/or confirmation of the claims found patentable in this reexamination proceeding:

Independent claim 1 is patentable because of the fact that no single reference of record or combination of references teach "at least one of said two or more sensors generates at least one of said two or more sensor signals that is **representative of a rate of change of the steering angle of the vehicle**" in combination with a "a **controller" and "two or more actuators**" as required in claim 3.

Claims 4-6 depend directly from claim 3 are patentable for at least the reasons claim 3 is found patentable.

Independent claim 7 is patentable because of the fact that no single reference of record or combination of references teach "wherein **said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is**

adapted to generate a signal that is representative of a condition including the pitch of the vehicle " in combination with "**a controller" and** "**two or more actuators**" as required in claim 7.

Claims 8-35 and 38-41 depend directly from claim 7 are patentable for at least the reasons claim 7 is found patentable.

Any comments considered necessary by PATENT OWNER regarding the above statement must be submitted promptly to avoid processing delays. Such submission by the patent owner should be labeled: "Comments on Statement of Reasons for Patentability and/or Confirmation" and will be placed in the reexamination file.

All correspondence relating to this *inter partes* reexamination proceeding should be directed:

By Mail to: Mail Stop *Inter Partes* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete.

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/My-Trang N. Ton/
Primary Examiner
Central Reexamination Unit 3992

Conferees:

/Margaret Rubin/
Primary Examiner CRU 3992

/ANDREW J. FISCHER/
Supervisory Patent Examiner, Art Unit 3992

Issue Classification	Application/Control No.	Applicant(s)/Patent under Reexamination	
	95/001,621; 90/011,011	7,241,034	
	Examiner	Art Unit	
	MY-TRANG TON	3992	

ISSUE CLASSIFICATION

ORIGINAL			CROSS REFERENCE(S)						
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)						
362	465	701	49						
INTERNATIONAL CLASSIFICATION									
B 6 0 Q	1/00								
B 0 6 R	22/00								
	/								
	/								
	/								

(Assistant Examiner) (Date)	/My Trang Nu Ton/ Primary Examiner, CRU 3992	Total Claims Allowed: 37
(Legal Instruments Examiner) (Date)	(Primary Examiner) (Date)	O.G. Print Claim(s): 3 / O.G. Print Fig.: 1

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		31		61		91		121		151		181
	2		32		62		92		122		152		182
	3		33		63		93		123		153		183
	4		34		64		94		124		154		184
	5		35		65		95		125		155		185
	6		36		66		96		126		156		186
	7		37		67		97		127		157		187
	8		38		68		98		128		158		188
	9		39		69		99		129		159		189
	10		40		70		100		130		160		190
	11		41		71		101		131		161		191
	12		42		72		102		132		162		192
	13		43		73		103		133		163		193
	14		44		74		104		134		164		194
	15		45		75		105		135		165		195
	16		46		76		106		136		166		196
	17		47		77		107		137		167		197
	18		48		78		108		138		168		198
	19		49		79		109		139		169		199
	20		50		80		110		140		170		200
	21		51		81		111		141		171		201
	22		52		82		112		142		172		202
	23		53		83		113		143		173		203
	24		54		84		114		144		174		204
	25		55		85		115		145		175		205
	26		56		86		116		146		176		206
	27		57		87		117		147		177		207
	28		58		88		118		148		178		208
	29		59		89		119		149		179		209
	30		60		90		120		150		180		210

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	95/001,621; 90/011,011	7,241,034
	Certificate Date	Certificate Number
		C1

Requester Correspondence Address:	☐ Patent Owner	☒ Third Party

Kenyon & Kenyon, LLP
One Broadway
New York, NY 10004

LITIGATION REVIEW ☒	MT (examiner initials)	5/13/13 (date)
Case Name		Director Initials
U.S. District - Texas Eastern (Tyler) 6:10cv78 Balther Technologies, Llc v. American Honda Motor Co. Inc. et al		

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
1. 90/011011	
2.	
3.	
4.	

Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination	
	95/001,621	7,241,034	
	Examiner	Art Unit	
	MY-TRANG TON	3992	

SEARCHED			
Class	Subclass	Date	Examiner
N/A	-	5/13/2013	MT

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
n/a	-	5/13/2013	MT

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
None	5/13/2013	MT

Issue Classification	Application/Control No.	Applicant(s)/Patent under Reexamination	
	95/001,621; 90/011,011	7,241,034	
	Examiner	Art Unit	
	MY-TRANG TON	3992	

ISSUE CLASSIFICATION

ORIGINAL			CROSS REFERENCE(S)						
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)						
362	465	701	49						
INTERNATIONAL CLASSIFICATION									
B 6 0 Q	1/00								
B 0 6 R	22/00								
	/								
	/								
	/								

(Assistant Examiner) (Date)	/My Trang Nu Ton/ Primary Examiner, CRU 3992 (Primary Examiner) (Date)	Total Claims Allowed: 37
(Legal Instruments Examiner) (Date)		O.G. Print Claim(s): 3 / O.G. Print Fig.: 1

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		31		61		91		121		151		181
	2		32		62		92		122		152		182
	3		33		63		93		123		153		183
	4		34		64		94		124		154		184
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	6		36		66		96		126		156		186
	7		37		67		97		127		157		187
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APPLICANTS

7,241,034, Residence Not Provided;
BALTHER TECHNOLOGIES, LLC (OWNER), LONGVIEW, TX;
KENYON & KENYON LLP, (3RD.PTY.REQ.), NEW YORK, NY;
VOLKSWAGEN GROUP OF AMERICA, INC. (REAL.PTY.IN.INTEREST.), HERNDON, VA;
KENYON & KENYON LLP, NEW YORK, NY

**** CONTINUING DATA ***************************

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**** FOREIGN APPLICATIONS ***************************

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ADDRESS

The Caldwell Firm, LLC
PO Box 59655
Dept. SVIPGP
Dallas, TX 75229
UNITED STATES

TITLE

Automatic Directional Control System for Vehicle Headlights

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United States Patent
Smith et al.

(10) **Number: US 7,241,034 C1**
(45) **Certificate Issued: Jun. 14, 2013**

(54) **AUTOMATIC DIRECTIONAL CONTROL SYSTEM FOR VEHICLE HEADLIGHTS**

(75) Inventors: **James E. Smith**, Berkey, OH (US); **Anthony B. McDonald**, Perrysburg, OH (US)

(73) Assignee: **Balther Technologies, LLC**, Longview, TX (US)

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(52) **U.S. Cl.**
USPC **362/465**; 701/49

(58) **Field of Classification Search**
None
See application file for complete search history.

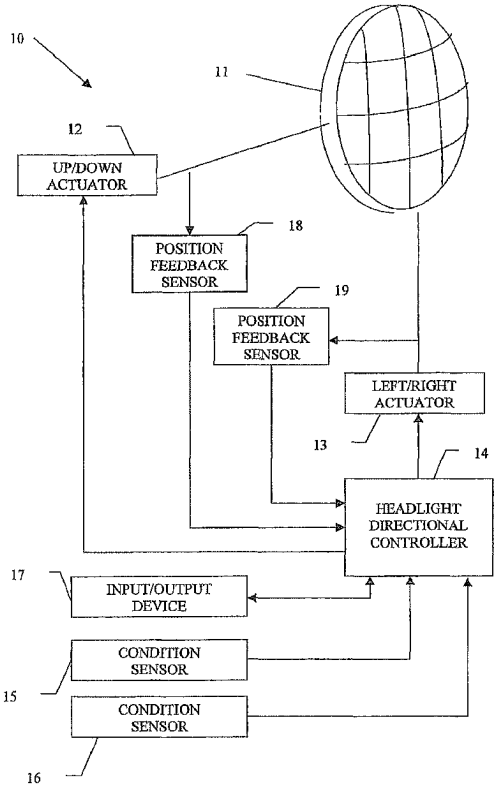
(56) **References Cited**

To view the complete listing of prior art documents cited during the proceedings for Reexamination Control Numbers 95/001,621 and 90/011,011, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

Primary Examiner — My Trang Nu Ton

(57) **ABSTRACT**

A structure and method for operating a directional control system for vehicle headlights that is capable of altering the directional aiming angles of the headlights to account for changes in the operating conditions of the vehicle. One or more operating condition sensors may be provided that generate signals that are representative of a condition of the vehicle, such as road speed, steering angle, pitch, suspension height, rate of change of road speed, rate of change of steering angle, rate of change of pitch, and rate of change of suspension height of the vehicle. A controller is responsive to the sensor signal for generating an output signal. An actuator is adapted to be connected to the headlight to effect movement thereof in accordance with the output signal. The controller can include a table that relates values of sensed operating condition to values of the output signal. The controller is responsive to the sensor signal for looking up the output signal in the table.



INTER PARTES REEXAMINATION CERTIFICATE ISSUED UNDER 35 U.S.C. 316

THE PATENT IS HEREBY AMENDED AS INDICATED BELOW.

Matter enclosed in heavy brackets [ ] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

Claims **1-2** are cancelled.

Claims **3-5** are determined to be patentable as amended.

New claims **6-39** are added and determined to be patentable.

3. [The automatic directional control system defined in claim 1] *An automatic directional control system for a vehicle headlight, comprising:*

two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle such that two or more sensor signals are generated, said sensed conditions including at least a steering angle and a pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when at least one of said two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one first one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in at least one of the sensed conditions; and

said two or more actuators each being adapted to be connected to the headlight to effect movement thereof in accordance with said at least one output signal;

wherein *at least one of* said [sensor] *two or more sensors* generates [a signal] *at least one of said two or more sensor signals* that is representative of [the] *a rate of change of the* steering angle of the vehicle.

4. The automatic directional control system defined in claim [1] *3*, wherein *at least one of* said [sensor] *two or more sensors* generates a signal that is representative of [the] *a rate of change of the* pitch of the vehicle.

5. The automatic directional control system defined in claim [1] *3*, wherein *at least one of* said [sensor] *two or more sensors* generates a signal that is representative of [the] *a* suspension height of the vehicle.

6. The automatic directional control system defined in claim 3, wherein said two or more sensors include a first sensor and a second sensor.

7. An automatic directional control system for a vehicle headlight, comprising:

two or more sensors that are each adapted to generate a signal that is representative of at least one of a plurality of sensed conditions of a vehicle such that two or more sensor signals are generated, said sensed conditions including at least a steering angle and a pitch of the vehicle;

a controller that is responsive to said two or more sensor signals for generating at least one output signal only when at least one of said two or more sensor signals changes by more than a predetermined minimum threshold amount to prevent at least one of two or more actuators from being operated continuously or unduly frequently in response to relatively small variations in at least one of the sensed conditions; and

said two or more actuators each being adapted to be connected to the vehicle headlight to effect movement thereof in accordance with said at least one output signal;

wherein said two or more sensors include a first sensor and a second sensor; and

wherein said first sensor is adapted to generate a signal that is representative of a condition including the steering angle of the vehicle and said second sensor is adapted to generate a signal that is representative of a condition including the pitch of the vehicle.

8. The automatic directional control system defined in claim 7, wherein said first sensor is physically separate from said second sensor.

9. The automatic directional control system defined in claim 7, further comprising one or more additional sensors for sensing one or more of a rate of change of road speed of the vehicle, a rate of change of the steering angle of the vehicle, a rate of change of the pitch of the vehicle, a suspension height of the vehicle, or a rate of change of suspension height of the vehicle.

10. The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the road speed of the vehicle.

11. The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the steering angle of the vehicle.

12. The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the rate of change of the pitch of the vehicle.

13. The automatic directional control system defined in claim 9, wherein at least one of said one or more additional sensors generate a signal that is representative of the suspension height of the vehicle.

14. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that said two or more actuators include a first actuator and a second actuator and wherein the first actuator connected to the headlight to effect movement thereof in a first direction and the second actuator connected to the headlight to effect movement thereof in a second direction different from the first direction.

15. The automatic directional control system defined in claim 7, wherein the two or more actuators include a first actuator that is adapted to be connected to the headlight to effect movement thereof in a vertical direction.

16. The automatic directional control system defined in claim 15, wherein the two or more actuators include a second actuator that is adapted to be connected to the headlight to effect movement thereof in a horizontal direction.

17. The automatic directional control system defined in claim 7, wherein the two or more actuators include an electronically controlled mechanical actuator.

18. The automatic directional control system defined in claim 7, wherein the two or more actuators include a step motor.

19. The automatic directional control system defined in claim 7, wherein the two or more actuators include a servo motor.

20. The automatic directional control system defined in claim 7, wherein the two or more actuators include a microstepping motor capable of being operated in fractional step increments.

21. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the headlight is adjustably mounted on the vehicle such that a directional orientation at which a beam of light projects therefrom is capable of being adjusted both up and down relative to a horizontal reference position and left and right relative to a vertical reference position.

22. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that, while in a calibration mode, a directional orientation at which a beam of light projects is capable of being adjusted relative to the vehicle by manual operation of the two or more actuators.

23. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller includes a microprocessor.

24. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller includes a programmable electronic controller.

25. The automatic directional control system defined in claim 7, wherein the automatic directional control system further includes at least one position feedback sensor capable of providing a position feedback signal associated with at least one of the two or more actuators.

26. The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes a Hall Effect sensor.

27. The automatic directional control system defined in claim 25, wherein the at least one position feedback sensor includes an optical interrupter.

28. The automatic directional control system defined in claim 7, wherein the automatic directional control system further includes memory.

29. The automatic directional control system defined in claim 28, wherein the memory includes non-volatile memory.

30. The automatic directional control system defined in claim 28, wherein the memory is configured to store a predetermined reference position associated with the headlight.

31. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by sensing a front and a rear suspension height of the vehicle.

32. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the pitch of the vehicle is capable of being determined by a pitch sensor.

33. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in a suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle.

34. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the controller is programmed to be responsive to changes in a suspension height of the vehicle that occur at frequencies lower than a suspension rebound frequency of the vehicle, thereby ignoring frequency changes in the suspension height of the vehicle that are a result of bumps in a road.

35. The automatic directional control system defined in claim 7, wherein the automatic directional control system is configured such that the predetermined minimum threshold amount functions as a filter to minimize undesirable operation of at least one of the two or more actuators.

36. The automatic directional control system defined in claim 7, wherein said controller is further responsive to at least one of said two or more sensor signals to automatically activate one or more vehicle lights that are different than the headlight.

37. The automatic directional control system defined in claim 36, wherein said one or more vehicle lights that are different than the headlight include one or more lights for illuminating a road in front of the vehicle during a turn.

38. The automatic directional control system defined in claim 7, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight.

39. The automatic directional control system defined in claim 7, wherein said controller is further responsive to a steering angle in excess of a predetermined magnitude for automatically activating one or more vehicle lights that are different than the headlight to extend an angular range of a road surface.

* * * * *