

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) Date: 03/23/2012
HEADLIGHTS)
_____)

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 from 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.

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