WHAT IS CLAIMED IS:

1. A powered ophthalmic lens, the powered ophthalmic lens comprising:

a contact lens including an optic zone and a peripheral zone; and

an emitter-detector pair sensor system incorporated into the peripheral zone of the contact lens, the emitter-detector pair sensor system comprising an emitter for sending out a signal, a detector for capturing a reflection of the signal, a controller operatively associated with the emitter and detector configured to determine the distance between the contact lens and an object and output a control signal based on the determined distance, and at least one actuator configured to receive the control signal and implement a predetermined function,

wherein the emitter comprises circuitry to output an infrared signal.

2. The powered ophthalmic lens according to Claim 1, wherein the contact lens comprises a variable-power optic incorporated into the optic zone.

3. The powered ophthalmic lens according to Claim 2, wherein the actuator configures the variable-power optic for either near or for distance vision in response to the determined distance.

4. The powered ophthalmic lens according to Claim 1, wherein the controller comprises a microcontroller and associated memory.

5. The powered ophthalmic lens according to Claim 1, further comprising a power supply.

6. The powered ophthalmic lens according to Claim 5, wherein the power supply comprises a battery.

7. A powered ophthalmic lens, the powered ophthalmic lens comprising:

a contact lens; and

an emitter-detector pair sensor system incorporated into the contact lens, the emitter-detector pair sensor system comprising an emitter for sending out a signal, a detector for capturing a reflection of the signal, a controller operatively associated with the emitter and detector configured to determine the distance between the contact lens and an object and output a control signal based on the determined distance, and at least one actuator configured to receive the control signal and implement a predetermined function,

wherein the emitter comprises circuitry to output an an infrared signal.

8. The powered ophthalmic lens according to Claim 7, wherein the contact lens comprises a variable-power optic incorporated into the optic zone.

9. The powered ophthalmic lens according to Claim 8, wherein the actuator configures the variable-power optic for either near or for distance vision in response to the determined distance.

10. The powered ophthalmic lens according to Claim 7, wherein the controller comprises a microcontroller and associated memory.

11. The powered ophthalmic lens according to Claim 7, further comprising a power supply.

12. The powered ophthalmic lens according to Claim 11, wherein the power supply comprises a battery.

13. A powered ophthalmic lens, the powered ophthalmic lens comprising: an intraocular lens; and

an emitter-detector pair sensor system incorporated into the intraocular lens, the emitter-detector pair sensor system comprising an emitter for sending out a signal, a detector for capturing a reflection of the signal, a controller operatively associated with the emitter and detector configured to determine the distance between the contact lens and an object and output a control signal based on the determined distance, and at

least one actuator configured to receive the control signal and implement a predetermined function,

wherein the emitter comprises circuitry to output an an infrared signal.

WHAT IS CLAIMED IS:

1. A powered ophthalmic lens comprising:

a contact lens including an optic zone and a peripheral zone; and

an emitter-detector pair sensor system incorporated into the peripheral zone of the contact lens, the emitter-detector pair sensor system comprising at least two emitters for sending out a signal, at least two detectors for capturing a reflection of the signal, a controller operatively associated with the emitter and detector configured to determine the distance between the contact lens and an object and output a control signal based on the determined distance;

a pupil tracker for providing information on direction of gaze of an eye;

means to select which emitter detector pair or pairs should be activated or sampled to provide the control signal, based on the information on the direction of gaze of the eye; and

at least one actuator configured to receive the one or more control signals and implement a predetermined function.

2. The powered ophthalmic lens according to Claim 1, wherein the emitter includes circuitry to output an ultrasonic or infrared signal.

3. The powered ophthalmic lens according to Claim 1, wherein the contact lens comprises a variable-power optic incorporated into the optic zone.

4. The powered ophthalmic lens according to Claim 3, wherein the actuator configures the variable-power optic for either near or for distance vision in response to the determined distance.

5. The powered ophthalmic lens according to Claim 1, wherein the controller comprises a microcontroller and associated memory.

6. The powered ophthalmic lens according to Claim 1, further comprising a power

supply.

7. The powered ophthalmic lens according to Claim 6, wherein the power supply comprises a battery.

8. A powered ophthalmic lens, the powered ophthalmic lens comprising:

a contact lens; and

an emitter-detector pair sensor system incorporated into the contact lens, the emitter-detector pair sensor system comprising at least two emitters for sending out a signal, at least two detectors for capturing a reflection of the signal, a controller operatively associated with the emitter and detector configured to determine the distance between the contact lens and an object and output a control signal based on the determined distance;

a pupil tracker for providing information on direction of gaze of an eye;

means to select which emitter detector pair or pairs should be activated or sampled to provide the control signal, based on the information on the direction of gaze of the eye; and

at least one actuator configured to receive the one or more control signals and implement a predetermined function.

9. The powered ophthalmic lens according to Claim 8, wherein the emitter includes circuitry to output an ultrasonic or infrared signal.

10. The powered ophthalmic lens according to Claim 8, wherein the contact lens comprises a variable-power optic incorporated into the optic zone.

11. The powered ophthalmic lens according to Claim 10, wherein the actuator configures the variable-power optic for either near or for distance vision in response to the determined distance.

12. The powered ophthalmic lens according to Claim 8, wherein the controller comprises a microcontroller and associated memory.

13. The powered ophthalmic lens according to Claim 8, further comprising a power supply.

14. The powered ophthalmic lens according to Claim 13, wherein the power supply comprises a battery.

15. A powered ophthalmic lens, the powered ophthalmic lens comprising: an intraocular lens; and

an emitter-detector pair sensor system incorporated into the intraocular lens, the emitter-detector pair sensor system comprising at least two emitters for sending out a signal, at least two detectors for capturing a reflection of the signal, a controller operatively associated with the emitter and detector configured to determine the distance between the contact lens and an object and output a control signal based on the determined distance;

a pupil tracker for providing information on direction of gaze of an eye;

means to select which emitter detector pair or pairs should be activated or sampled to provide the control signal, based on the information on the direction of gaze of the eye; and

at least one actuator configured to receive the one or more control signals and implement a predetermined function.