CLAIMS

1. A method of forming a media substrate for an ophthalmic lens, the method comprising:

forming substrate layers with electrical functionality;

assembling the substrate layers into one of: a circular annular shape and a portion of an annular shape;

adhering the substrate functional layers to insulating layers thereby forming a stacked feature;

forming electrical interconnections between substrate layers;

encapsulating the stacked feature with one or more materials that may be bonded within the body of a molded ophthalmic lens.

2. The method of claim 1 wherein at least one of the layers of the media substrate comprises a solid state energy source.

3. The method of claim 2 wherein the media substrate comprises an annular shape.

4. The method of claim 2 wherein the media substrate comprises a silicon substrate.

5. The method of claim 2 additionally comprising fixing a variable focus lens to the media substrate.

6. The method of claim 2 additionally comprising the steps of forming an integrated circuit on a substrate functional layer.

7. The method of claim 6 additionally comprising forming a through silicon via in at least one substrate functional layer.

8. The method of claim 2 additionally comprising the step of stacking multiple substrate functional layers into a three dimensional shape comprising a general profile of an ophthalmic lens.

9. A stacked functionalized media substrate for an ophthalmic lens, the substrate comprising:

a first thin silicon layer shaped into a circular annulus;

a first adhesive film upon a first surface of the first thin silicon layer; and

a second thin silicon layer shaped into a circular annulus with an external radius smaller than that of the first layer.

10. The stacked functionalized layer insert of claim 9 wherein:

the first thin silicon layer comprises a semiconductor substrate with electronic circuitry in proximity to its first surface.

11. The stacked functionalized media substrate of claim 9 wherein:

the second thin layer comprises a substrate with layers comprising an electrochemical energizing component.

12. The stacked functionalized media substrate of claim 9 wherein:

the insert is encapsulated in a polysilicone based polymer.

13. An ophthalmic lens comprising

a first thin silicon layer shaped into a circular annulus;

a first adhesive film upon a first surface of the first thin silicon layer;

a second thin silicon layer shaped into a circular annulus with an external radius smaller than that of the first layer; and

a polymeric lens form in which the media substrate is embedded.

14. The ophthalmic lens of claim 13 additionally comprising at least one layer comprising one or more electrochemical cells.

15. The ophthalmic lens of claim 14 additionally comprising at least one layer comprising semiconductor electronic circuitry capable of controlling electric current flow from the electrochemical cells.

16. The ophthalmic lens of claim 15 wherein:

the electronic circuitry is electrically connected to an electroactive lens component within the lens.

17. The ophthalmic lens of claim 16 additionally comprising a metallic layer capable of functioning as an antenna.

CLAIMS

The invention claimed is:

1. A method of forming a media substrate for an ophthalmic lens, the method comprising:

forming functionalized substrate layers with electrical functionality;

assembling the functionalized substrate layers into one of: an annular shape and a portion of an annular shape;

adhering the functionalized substrate layers to insulating layers thereby forming a stacked feature configured to at least partially circumscribe an optical zone;

forming electrical interconnections between the functionalized substrate layers;

encapsulating the stacked feature with one or more materials suitable for inclusion within a body of a molded ophthalmic lens.

2. The method of claim 1 wherein at least one of the functionalized substrate layers of the media substrate comprises a solid state energy source.

3. The method of claim 2 wherein the media substrate comprises an annular shape.

4. The method of claim 2 wherein the media substrate comprises a silicon substrate.

5. The method of claim 2 additionally comprising fixing a variable focus lens to the media substrate.

6. The method of claim 2 additionally comprising the steps of forming an integrated circuit on one of the functionalized substrate layers.

7. The method of claim 6 additionally comprising forming a through silicon via in at least one of the functionalized substrate layers.

8. The method of claim 6 additionally comprising the step of stacking at least two of the functionalized substrate layers into a three dimensional shape comprising a general profile of the ophthalmic lens.