CLAIMS

1. A method of forming a stacked integrated component media insert for an ophthalmic lens, the method comprising:

forming substrate layers with functionality;

assembling the substrate layers;

forming electrical interconnections between substrate layers; and

encapsulating the stacked feature with a material for bonding within the body of a molded ophthalmic lens.

2. The method of Claim 1, wherein the substrate layers are assembled into one of a circular annular shape or a portion of an annular shape.

3. The method of Claim 1 or 2, wherein the stacked functional layers are adhered to insulating layers forming a stacked feature.

4. The method of any preceding claim, wherein a second stacked integrated component layer is shaped into at least a portion of a circular annulus with an external radius that is smaller than that of the first layer.

5. The method of any preceding claim, wherein one or more layers comprise a metallic feature surface.

6. The method of Claim 5, wherein solder film is placed upon the surface of the one or more layers comprising a metallic feature.

7. The method of any preceding claim, comprising arranging a battery on the stacked integrated component media insert, wherein the battery is chargeable via one or more of radio frequency and magnetic inductance.

8. The method of any preceding claim, comprising arranging a thin film battery on the stacked integrated component media insert and altering the surface of the battery to define the appearance of the battery.

9. The method of any preceding claim, wherein the substrate layers are flexible.

10. A method comprising the steps of forming a stacked integrated component media insert according to any one of Claims 1 to 9 and bonding the media insert in an ophthalmic lens.

11. A stacked integrated component layer insert comprising:

substrate layers with functionality; wherein the substrate layers are assembled to form electrical interconnections between the substrate layers creating a stacked feature;

wherein the stacked feature is encapsulated with a material for bonding within the body of a molded ophthalmic lens.

12. The stacked integrated component layer insert of Claim 11, wherein the substrate layers are assembled into one of a circular annular shape or a portion of an annular shape.

13. The stacked integrated component layer insert of Claim 11 or 12, wherein the stacked functional layers are adhered to insulating layers forming a stacked feature.

14. The stacked integrated component layer insert of any one Claims 11, 12 or 13, wherein a second stacked integrated component layer is shaped into at least a portion of a circular annulus with an external radius that is smaller than that of the first layer.

15. The stacked integrated component layer insert of any one of Claims 11, 12 or 13, wherein one or more layers comprise a metallic feature surface.

16. The stacked integrated component layer Insert of Claim 15, wherein solder film is placed upon the surface of the one or more layers comprising a metallic feature.

17. The stacked integrated component layer insert of any one of Claims 11, 12, 13 14, 15 or 16, comprising a battery, wherein the battery is configured to be chargeable via one or more of radio frequency and magnetic inductance.

18. The stacked integrated component layer insert of any one of Claims 11, 12, 13 14, 15 16 or 17, comprising a thin film battery, wherein the surface of the battery is configured to define a predetermined appearance.

19. The stacked integrated component layer insert of any one of Claims 11, 12, 13 14, 15, 16, 17 or 18, wherein the substrate layers are flexible.

20. An ophthalmic lens comprising a stacked integrated component layer insert according to any one of Claims 11 to 19 bonded therein.

Claims

1. A method of forming a stacked integrated component media insert for an ophthalmic lens, the method comprising the steps of:

forming substrate layers with functionality;

assembling the substrate layers to form a stacked feature;

forming electrical interconnections between the substrate layers; and

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, additionally comprising the step of:

assembling one or more of the substrate layers into one of an annular shape or a portion of an annular shape.

3. The method of claims 1 or 2, additionally comprising the step of:

adhering the substrate layers to one or more insulating layers.

4. The method of claims 1 or 2, wherein at least two of the substrate layers are shaped into at least a portion of an annulus with an external radius of one of the substrate layers being smaller than that of another one of the substrate layers.

5. The method of claims 1 or 2, wherein one or more of the substrate layers comprise a metallic feature surface.

6. The method of claim 5, additionally comprising the step of:

placing solder film upon the surface of the one or more substrate layers comprising the metallic feature surface.

7. The method of claims 1 or 2, additionally comprising the step of:

arranging a battery on the stacked integrated component media insert, wherein the battery is chargeable via one or more of radio frequency and magnetic inductance.

8. The method of claims 1 or 2, wherein the substrate layers are flexible.

9. A method comprising the steps of forming a stacked integrated component media insert according to claims 1 or 2 and bonding the stacked integrated component media insert in an ophthalmic lens.

10. A stacked integrated component layer insert comprising:
substrate layers with functionality assembled into a stacked feature;
electrical interconnections between the substrate layers; and
a material encapsulating the stacked feature suitable for inclusion within a body of a molded ophthalmic lens.

11. The stacked integrated component layer insert of claim 10, wherein one or more of the substrate layers are assembled into one of an annular shape or a portion of an annular shape.

12. The stacked integrated component layer insert of claims 10 or 11, wherein the substrate layers are adhered to one or more insulating layers.

13. The stacked integrated component layer insert of claims 10 or 11, wherein at least two of the substrate layers are shaped into at least a portion of an annulus with an external radius of one of the substrate layers being smaller than that of another one of the substrate layers.

14. The stacked integrated component layer insert of claims 10 or 11, wherein one or more of the substrate layers comprise a metallic feature surface.

15. The stacked integrated component layer insert of claim 14, wherein solder film is placed upon the surface of one or more of the substrate layers comprising the metallic feature.

16. The stacked integrated component layer insert of claims 10 or 11, additionally comprising:

a battery configured to be chargeable via one or more of radio frequency and magnetic inductance.

17. The stacked integrated component layer insert of claims 10 or 11, wherein the substrate layers are flexible.

18. An ophthalmic lens comprising a stacked integrated component layer insert according to claims 10 or 11 bonded therein.