being configured in a relatively thin film of up to about 100 microns in thickness between said electrodes to thereby minimize the power necessary to drive the active material to the various indices of refraction, the different indices of refraction creating a gradient index of refraction across said system, a substrate material for supporting the electrodes, said substrate material having at least one of a curved surface, prismatic surface, and fresnel surface.

19. The lens of claim **18** wherein said substrate material is a gel.

20. The lens of claim **18** wherein said substrate material is selected from the group of materials consisting of glass, glass-ceramic silicone, silicon resin, acrylic nylon, plastic, styrene, methyl methacrylates, cellulose acetates and gas permeable substances.

21. The lens of claim **18** wherein said electrodes are in the form of at least one of concentric lines and a linear array.

22. The lens of claim **18** wherein said substrate material includes an alignment layer.

23. The lens of claim **18** wherein the means of addressably impressing the electric fields comprises a microprocessor having means for storing, accessing and displaying information in the form of visual indicia in said lens and memory means for controlling said microprocessor.

24. The lens of claim **23** wherein control means includes means for establishing wireless communication between said matrix and said microprocessor.

25. The lens of claim **23** wherein the control means is remote from the microprocessor and the lens system includes an antenna and receiver responsively coupled to the memory means.

26. The lens of claim **18** wherein said optically active material is varied for producing at least one of sphere, cylinder, prism and axis variations therein.

27. A light transmission device comprising: a carrier mixed with an electrically and optically active material, said device at least momentarily operatively coupled to a matrix of programmable electrodes, said electrodes being programmed to produce a gradient electric field across said matrix.

28. The device of claim **27** wherein the carrier is a curable liquid polymer.

29. The device of claim **27** wherein the carrier is a hydrophilic contact lens blank.

30. A variable lens comprising: a fresnel surface having a selected optical power; an energy stimulus responsive optically active material deposited in optical relation with the fresnel surface for varying said optical power in response to an energy stimulus input; and control means for generating said energy stimulus input; wherein said fresnel surface comprises a plurality of optical elements formed of separately addressable electrodes, each of said electrodes coupled to the control means.

31. The lens of claim **30** wherein said optically active material is a relatively thin film of liquid crystal of up to about 100 microns thick.

32. The lens of claim **30** wherein said energy stimulus is at least one of the following: electric field, magnetic field, electromagnetic field, light field, sonic field, radiation field.

33. A variable power Fresnel lens comprising:

a plurality of optically active lens elements arranged in a Fresnel lens pattern and responsive to a source of energy stimulus for changing the index of refraction over the lens surface, a source of energy stimulus and means for applying said energy stimulus to said lens elements in a controlled manner for selecting the optical power of said lens.

34. The lens recited in claim **33** wherein said energy stimulus is at least one of the following: electric field, magnetic field, electromagnetic field, light field, sonic field, radiation field.

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