portion of the inactive film region of each electroactive polymer film and electrically coupled to the second electrode thereof.

19. The transducer assembly of claim **18** further comprising a passive polymer layer over each exposed side of the electroactive polymer films, wherein activation of the active regions changes a thickness dimension of the passive polymer layers.

20. The transducer assembly of claim **18** further comprising a first conductive via extending through the stacked electroactive polymer films at a location which includes the first electrode of each film and a second conductive via extending through the stacked electroactive polymer films at a location which includes the second electrodes.

21. A method of fabricating a transducer comprising:

providing a transducer comprising: an electroactive polymer film comprising a thin dielectric elastomer layer, wherein a portion of the dielectric elastomer layer is sandwiched between first and second electrodes wherein the overlapping portions of the electrodes define an active film region with the remaining portion of film defining an inactive film region; a first conductive layer disposed on at least a portion of the inactive film region and electrically coupled to the first electrode, and a second conductive layer disposed on at least a portion of the inactive film region and electrically coupled to the second electrode; and at least one passive polymer layer, the polymer layer extending over at least a portion of one side of the electroactive polymer film, wherein activation of the active region changes a thickness dimension of the passive polymer layer; and

forming first and second vias through the electroactive transducer at locations comprising first and second conductive layers, respectively, wherein the vias are drilled to a depth at least to the conductive layers; and

filling the vias with a conductive material, wherein the vias are electrically coupled to a source of power.

22. The method of claim **21** further comprising potting the filled vias with a non-conductive material.

23. The method of claim **21** further comprising placing a non-conductive tape over the filled vias.

24. The method of claim **21** further comprising mounting the transducer to electrical traces coupled to a source of power, wherein the vias are drilled through the entire thickness of the transducer.

25. The method of claim **21** further comprising inserting conductive leads into the conductive material.

26. The method of claim **21**, wherein forming the vias comprises drilling, punching, molding, piercing, or coring the electroactive transducer.

27. A method of fabricating a transducer comprising:

providing a transducer comprising: an electroactive polymer film comprising a thin dielectric elastomer layer, wherein a portion of the dielectric elastomer layer is sandwiched between first and second electrodes wherein the overlapping portions of the electrodes define an active film region with the remaining portion of film defining an inactive film region; a first conductive layer disposed on at least a portion of the inactive film region and electrically coupled to the first electrode, and a second conductive layer disposed on at least a portion of the inactive film region and electrically coupled to the second electrode; and at least one passive polymer layer, the polymer layer extending over one side of the electroactive polymer film, wherein activation of the active region changes a thickness dimension of the passive polymer layer; and

driving first and second conductive contacts having a piercing configuration through the transducer at locations comprising first and second conductive layers, respectively, to a depth that penetrates the conductive layers.

28. The method of claim **27** further comprising mounting the transducer to electrical traces coupled to a source of power, wherein exposed ends of the conductive contacts are electrically coupled to the source of power.

29. A transducer comprising:

an electroactive polymer film comprising a thin dielectric elastomer layer, wherein a portion of the dielectric elastomer layer is sandwiched between first and second electrodes, wherein each of the electrodes comprises symmetrical trace patterns apposing each other, wherein the areas of electrode apposition are active and the remaining areas are inactive, wherein activation of the active areas increases a thickness dimension of the inactive areas.

30. The transducer of claim **29**, wherein the respective trace patterns comprises a plurality of substantially parallel, spaced apart traces.

31. The transducer of claim **30**, wherein the plurality of traces form a concentric pattern.

32. The transducer of claim **31**, wherein the electrode patterns are sized for use in a button actuator.

33. The transducer of claim **29**, wherein the plurality of traces form a novelty shape.

34. The transducer of claim **29**, wherein the transducer has a strip configuration.

35. The transducer of claim **34**, wherein the transducer strip is singulated from a continuous strip of electroactive polymer film.

36. The transducer of claim **35**, wherein the electrode patterns are continuous along the strip.

37. The transducer of claim **35**, wherein the electrode patterns are discrete and repeating along the strip.

38. The transducer of claim **34**, wherein the transducer strip frames an open space.

39. The transducer of claim **38**, wherein the transducer forms a gasket-type actuator.

40. The transducer of claim **39**, wherein the gasket-type actuator is used for actuating a touch screen device.

41. A user interface device providing haptic feedback comprising:

an array of transducers of claim **32**; and

at least one user contact surface positioned over the array of transducers.

42. The user interface device of claim **41**, wherein the user interface device is a keypad or keyboard.

43. A user interface device providing haptic feedback comprising:

an array of transducers of claim **17**; and

at least one user contact surface positioned over the array of transducers.

44. The user interface device of claim **43**, wherein the user interface device is a keypad or keyboard.

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