ber **24**, a conductive track on an extension **26** of electrode **29**. When pressure is applied to sub-area **22**, the resistance between elements **22** and **29** changes. Effectively this defines a single switching or pressure sensitive area **22** in upper layer **20**.

Referring to FIG. **3**, a multiple key textile switch/sensor device is similar in form to that shown in FIG. **2** except that under upper layer **30** are adhered three discrete electrodes constituted by electrically conductive sub-areas **32**,**34** and **36** isolated from each other by the non-conducting textile support and electrically linkable to external circuitry by way of connective members **33**,**35**,**37** respectively, which are conductive tracks on extension **31** of layer **30**. Variably resistive element **38** is provided as a coating on lower electrode **39**; it is of the type decreasing in resistance when mechanically deformed, since it depends on low or zero conductivity in the plane of element **38**. Electrical connection to lower electrode **39** is by means of conductor **24** and extension **26**, as in FIG. **2**. When pressure is applied to any of the areas overlying electrodes **32**,**34** and **36**, the resistance between the relevant electrode(s) and lower electrode **39** decreases.

Referring to FIG. **4**. in a matrix switch/sensor device the upper layer **40** and lower layer **42** each contains parallel linear electrodes consisting of isolated rows **44** and columns **46** of conductive areas woven into a non-conducting textile support. Conductive areas **44**,**46** are warp yarns that have been woven between non-conductive yarns. Variably resistive element **48** is a sheet of fabric carrying nickel/silicone QTC granules as in FIG. **1** applied by padding with an aqueous dispersion of the granules, which are of the type decreasing in resistance on mechanical deformation. Layer **48** is supported between layers **40** and **42** and coincides in area with electrodes **44** and **46**. When pressure is applied to a localised area of upper layer **40** or lower layer **42** there is a decrease in resistance at the junctions of the conductive rows **44** and columns **46** which fall within the localised area of applied pressure. This device can be used as a pressure map to locate force applied within the area of the textile electrodes. By defining area of the textile electrodes as keys, this device can also be used as a multi-key keypad.

EXAMPLE

One electrode is a fabric consisting of a 20 g/m2 knitted mesh containing metallised nylon yarns. The variably resistive element was applied to this fabric by transfer coating of:

75% w/w water based polyurethane (Impranil-Dow chemical); and

27% w/w nickel/silicone QTC granules (size 45-70 micrometres)

and was cured on the fabric at 110 C. The other textile electrode element is another piece of the same knitted mesh. Each electrode was then sewn onto a non-conducting support fabric sheet of greater area than the electrode. The sensor was assembled with the coated side of the first electrode element facing the second electrode. Separate connective textile elements each consisting of metallised nylon thread were sewn up to each electrode so that good electrical contact was made with each. On the non-conducting support fabric outside the electrodes two metal textile press-studs were fixed such that each was in contact with the two conductive yarn tails. An electrical circuit was then connected to the press-studs so that a sensor circuit was completed.

The invention claimed is:

1. A variable resistance user-interface comprising:

at least two textile-form flexible conductive electrode layers, including a first textile-form flexible conductive electrode layer and a second textile-form flexible conductive electrode layer;

at least two textile-form conductive linking members, including a first textile-form conductive linking member and a second textile-form conductive linking member; and

a textile-form variably resistive element capable of exhibiting a change in electrical resistance upon mechanical deformation,

wherein the textile-form variably resistive element is formed as a coating applied to the first textile-form flexible conductive electrode layer;

wherein the first textile-form flexible conductive electrode layer is connected to the first textile-form conductive linking member, which is in turn connective to external circuitry;

wherein the second textile-form flexible conductive electrode layer is positioned adjacent the textile-form variably resistive element;

wherein the second textile-form flexible conductive electrode layer is connected to the second textile-form conductive linking member, which is in turn connective to the external circuitry; and

wherein the textile-form variably resistive element is positioned between the first textile-form flexible conductive electrode layer and the second textile-form flexible conductive electrode layer.

2. The variable resistance user-interface according to claim **1** in which at least one of the textile-form flexible conductive electrode layers comprises a non-conducting textile into which a conductive yarn is woven, knitted or embroidered.

3. The variable resistance user-interface according to claim **1** in which at least one of the textile-form flexible conductive layers comprises a non-conductive textile to which is applied a conductive printing ink.

4. The variable resistance user-interface according to claim **1** in which the textile-form variably resistive element comprises particulate variably resistive material and an elastomer binder.

5. The variable resistance user-interface according to claim **4** in which the particulate variably resistive material is a polymer composition in which a filler selected from one or more powder-form metallic elements or alloys, electrically conductive oxides of said elements and alloys, and mixtures thereof, is in admixture with a non-conductive elastomer, having been mixed in a controlled manner whereby the filler is dispersed within the non-conductive elastomer and remains structurally intact, and voids present in filler powder become infilled with the non-conductive elastomer during curing of the non-conductive elastomer.

6. The variable resistance user-interface according to claim **1** in which at least one of the first and second textile-form flexible conductive electrode layers is supported by a non-conductive textile having a sub-area greater than the textile-form flexible conductive electrode layer, and

wherein the non-conductive textile support also supports at least one of the first and second textile-form conductive linking members, respectively.

7. The variable resistance user-interface according to claim **6** in which the sub-area carries a terminal at which the