[0064] Advantages and embodiments of the present invention are further illustrated by the following examples. The particular materials, amounts and dimensions recited in these examples, as well as other conditions and details, should not be construed to unduly limit the present invention.

EXAMPLE 1

[0065] A touch sensor according to one embodiment of the present invention was assembled as follows.

[0066] A 3 mm thick square soda lime glass substrate was dip coated in a solution containing an organic conductive material available from Bayer Company under the trade designation Baytron P. The solution further included ethylene glycol and an epoxysilane coupling agent. The solution was diluted with isopropyl alcohol. The glass substrate was coated on both sides from the dipping process. The coated glass substrate was dried and cured at 85° C. for 6 minutes, resulting in conductive polymer films being formed on both sides of the glass substrate.

[0067] Next, a linearization pattern was screen printed along the perimeter of one side of the panel using a carbon-loaded conductive ink. The printed substrate was cured at 130° C. for 6 minutes.

[0068] Next, conductive leads were connected to the four corners of the linearization pattern using a conductive epoxy. The assembly was cured at 130° C. for 6 minutes.

[0069] Next, both sides of the assembly were spray coated with a solution containing a silicone modified polyacrylate and an aromatic isocyanate resin. The sprayed assembly was cured at 130° C. for 1 hour, resulting in sprayed protective coatings on both sides of the assembly.

[0070] Next, a 0.4 mm thick square soda lime glass was bonded to the side of the panel that was printed with the linearization pattern. The bonding was accomplished using the optically clear adhesive designated as adhesive 8142 available from 3M Company.

[0071] Next, the completed assembly was activated using an EX II controller connected to the conductive leads. A finger draw test resulted in a linearity better than 1%.

EXAMPLE 2

[0072] A touch sensor according to one embodiment of the present invention was prepared similar to Example 1, except that a 0.4 mm thick rectangular soda lime glass substrate was used for the dip coating. The completed assembly was activated using a controller EX II. A finger draw test resulted in a linearity better than 1%.

EXAMPLE 3

[0073] A touch sensor according to one embodiment of the present invention was assembled as follows.

[0074] A linearization pattern was screen printed along the perimeter of one side of a 3 mm thick rectangular soda lime glass substrate that was coated, on the same side, with a 1500 ohms per square TAO. The conductive ink used to print the linearization pattern was from DuPont Company under the trade designation **7713**. The printed substrate was cured at 500° C. for 15 minutes.

[0075] Next, conductive leads were connected to the four corners of the linearization pattern similar to Example 1.

[0076] Next, a 0.4 mm thick square soda lime glass was bonded to the side of the panel that was printed with the linearization pattern. The bonding was accomplished using an optical adhesive from Norland Corporation under the trade designation NOA 68. The adhesive was cured using ultra violet radiation.

[0077] Next, the completed assembly was activated using a controller EX II connected to the conductive leads. A finger draw test resulted in a linearity better than 1%.

[0078] All patents, patent applications, and other publications cited above are incorporated by reference into this document as if reproduced in full. While specific examples of the invention are described in detail above to facilitate explanation of various aspects of the invention, it should be understood that the intention is not to limit the invention to the specifics of the examples. Rather, the intention is to cover all modifications, embodiments, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. A capacitive touch sensor comprising:

an electrically continuous optically transparent conductive film covering a touch sensitive area;

an optically transparent self-supporting flexible glass layer disposed on the conductive film; and

an electrical circuitry configured to detect a signal induced by capacitive coupling between the conductive film and a touch input applied to the flexible glass layer, the signal being used to determine the touch location.

2. The capacitive touch sensor of claim 1, further comprising an optically transparent bonding layer for bonding the flexible glass layer to the conductive film.

3. The capacitive touch sensor of claim 2, wherein the bonding layer is an adhesive.

4. The capacitive touch sensor of claim 2 further comprising a barrier layer disposed between the bonding layer and the conductive film.

5. The capacitive touch sensor of claim 2, wherein the bonding layer is UV curable.

6. The capacitive touch sensor of claim 5, wherein the bonding layer comprises a UV absorber.

7. The capacitive touch sensor of claim 1, further comprising a field linearization pattern disposed along the perimeter of the touch sensitive area.

8. The capacitive touch sensor of claim 7, wherein the flexible glass layer covers at least a portion of the linearization pattern.

9. The capacitive touch sensor of claim 1, wherein the conductive film is disposed on an optically transparent substrate.

10. The capacitive touch sensor of claim 1, wherein the flexible glass layer covers at least a portion of the electrical circuitry.

11. The capacitive touch sensor of claim 1, further comprising electronics adapted to receive the detected signal to determine the touch location.

12. The capacitive touch sensor of claim 1, wherein the sheet resistance of the conductive film is in the range of 100 to 50,000 Ohms/Square.