WHAT IS CLAIMED IS:

1. A single side touch panel structure comprising:

a substrate;

a display device disposed under the substrate;

a mask layer made of an opaque material, wherein the mask layer is used to shield light emitted from ~~a~~ the display device ~~disposed under the substrate~~, the mask layer having a mask pattern to partially expose the substrate;

a first transparent conducting layer formed on the mask layer and an exposed portion of the substrate, wherein the first transparent conducting layer has a plurality of first patterns that are arranged in series along a first direction, wherein the first transparent conducting layer is contacted with the mask layer;

an insulating layer formed on the first transparent conducting layer; and

a second transparent conducting layer formed on the insulating layer, wherein the second transparent conducting layer has a plurality of second patterns that are arranged in series along a second direction that intersects the first direction at an angle, the first and second patterns crossing each other, the first and second patterns being separated from each other by the insulating layer, a plurality of capacitors being formed at intersections between the first and second patterns.

2. The single side touch panel structure according to claim 1, wherein the substrate is a glass substrate, and the first and second transparent conducting layers are made of indium tin oxide (ITO), and the insulating layer is made of silicon dioxide (SiO_2).

3. The single side touch panel structure according to claim 1, wherein each of the first patterns comprises a plurality of first body portions and a plurality of first connecting portions, and two neighboring first body portions are connected with each other via one first connecting portion, and wherein each of the second patterns comprises a plurality of second body portions and a plurality of second connecting portions, and two neighboring second body portions are connected with each other via one second

connecting portion, and wherein the second connecting portions are respectively disposed above the first connecting portions, and the first and second connecting portions are located at the intersections between the first and second patterns, and are vertically separated from each other by the insulating layer, and wherein the first connecting portions, the insulating layer, and the second connecting portions form a plurality of capacitors whose capacitance values are modified when the second connecting portions are pressed.

4. The single side touch panel structure according to claim 1, wherein the first and second body portions include square shapes, rectangular shapes, lozenge shapes, circular shapes, elliptical shapes, or polygonal shapes, and the first and second connecting portions each has a strip shape.

5. The single side touch panel structure according to claim 1, further comprises an external connection wiring layer on the second transparent conducting layer, and the external connection wiring layer is used to connect to an external device, and the external connection wiring layer is made of a conducting material including silver.

6. A single side touch panel structure comprising:

a substrate;

a display device disposed under the substrate;

a mask layer made of an opaque material, wherein the mask layer is used to shield light emitted from ~~a~~ the display device ~~disposed under the substrate~~, the mask layer having a mask pattern to partially expose the substrate;

a buffer layer formed on the mask layer and an exposed portion of the substrate, wherein the buffer layer is contacted with the mask layer;

a first transparent conducting layer formed on the buffer layer, wherein the first transparent conducting layer has a plurality of first patterns that are arranged in series along a first direction, wherein the first transparent conducting layer is contacted with the buffer layer;

an insulating layer formed on the first transparent conducting layer; and

a second transparent conducting layer formed on the insulating layer, wherein the second transparent conducting layer has a plurality of second patterns that are arranged in series along a second direction that intersects the first direction at an angle, the first and second patterns crossing each other, the first and second patterns being separated from each other by the insulating layer, a plurality of capacitors being formed at intersections between the first and second patterns, the buffer layer serving as an anti-reflection layer or another insulating layer.

7. The single side touch panel structure according to claim 6, wherein the substrate is a glass substrate, and the first and second transparent conducting layers are made of indium tin oxide (ITO), and the insulating layer is made of silicon dioxide (SiO_2).

8. The single side touch panel structure according to claim 6, wherein each of the first patterns comprises a plurality of first body portions and a plurality of first connecting portions, and two neighboring first body portions are connected with each other via one first connecting portion, and wherein each of the second patterns comprises a plurality of second body portions and a plurality of second connecting portions, and two neighboring second body portions are connected with each other via one second connecting portion, and wherein the second connecting portions are respectively disposed above the first connecting portions, and the first and second connecting portions are located at the intersections between the first and second patterns, and are vertically separated from each other by the insulating layer, and wherein the first connecting portions, the insulating layer, and the second connecting portions form a plurality of capacitors whose capacitance values are modified when the second connecting portions are pressed.

9. The single side touch panel structure according to claim 6, wherein the first and second body portions include square shapes, rectangular shapes, lozenge shapes, circular shapes, elliptical shapes, or polygonal shapes, and the first and second connecting portions each has a strip shape.

10. The single side touch panel structure according to claim 6, further comprises an external connection wiring layer on the second transparent conducting layer, and the external connection wiring layer is used to connect to an external device, and the external connection wiring layer is made of a conducting material including silver.

11. A method of manufacturing a single side touch panel structure, comprising:

disposing a display device under a substrate;

forming a mask layer on ~~a~~ the substrate, wherein the mask layer is made of an opaque material and is used to shield light emitted from ~~a~~ the display device ~~disposed under the substrate~~, the mask layer having a mask pattern formed by etching to partially expose the substrate;

forming a first transparent conducting layer on the mask layer and an exposed portion of the substrate, wherein the first transparent conducting layer has a plurality of first patterns that are arranged in series along a first direction, and each of the first patterns comprises a plurality of first body portions and a plurality of first connecting portions, and two neighboring first body portions are connected with each other via one first connecting portion, wherein the first transparent conducting layer is contacted with the mask layer;

forming an insulating layer on the first transparent conducting layer; and

forming a second transparent conducting layer on the insulating layer, wherein the second transparent conducting layer has a plurality of second patterns that are arranged in series along a second direction, and each of the second patterns comprises a plurality of second body portions and a plurality of second connecting portions, and two neighboring second body portions are connected with each other via one second connecting portion, and wherein the first and second patterns cross each other, and are separated from each other by the insulating layer, and a plurality of capacitors are formed at the intersections between the first and second patterns.

12. The method according to claim 11, wherein the substrate is a glass substrate, and the first and second transparent conducting layers are made of indium tin oxide (ITO), and the insulating layer is made of silicon dioxide (SiO_2).

13. The method according to claim 11, wherein the first and second body portions include square shapes, rectangular shapes, lozenge shapes, circular shapes, elliptical shapes, or polygonal shapes, and the first and second connecting portions each has a strip shape.

14. The method according to claim 11, further comprising:

forming an external connection wiring layer on the second transparent conducting layer, wherein the external connection wiring layer is used to connect to an external device, and is made of a conducting material including silver.

15. A method of manufacturing a single side touch panel structure, comprising:

disposing a display device under a substrate;

forming a mask layer on ~~a~~ the substrate, wherein the mask layer is made of an opaque material and is used to shield light emitted from ~~a~~ the display device ~~disposed under the substrate~~, the mask layer having a mask pattern formed by etching to partially expose the substrate;

forming a buffer layer on the mask layer and an exposed portion of the substrate, wherein the buffer layer is contacted with the mask layer;

forming a first transparent conducting layer on the buffer layer, wherein the first transparent conducting layer has a plurality of first patterns that are arranged in series along a first direction, and each of the first patterns comprises a plurality of first body portions and a plurality of first connecting portions, and two neighboring first body portions are connected with each other via one first connecting portion, wherein the first transparent conducting layer is contacted with the buffer layer;

forming an insulating layer on the first transparent conducting layer; and

forming a second transparent conducting layer on the insulating layer, wherein the second transparent conducting layer has a plurality of second patterns that are

arranged in series along a second direction, and each of the second patterns comprises a plurality of second body portions and a plurality of second connecting portions, and two neighboring second body portions are connected with each other via one second connecting portion, and wherein the first and second patterns cross each other, and are separated from each other by the insulating layer, and a plurality of capacitors are formed at the intersections between the first and second patterns.

16. The method according to claim 15, wherein the substrate is a glass substrate, and the first and second transparent conducting layers are made of indium tin oxide (ITO), and the insulating layer is made of silicon dioxide (SiO_2).

17. The method according to claim 15, wherein the first and second body portions include square shapes, rectangular shapes, lozenge shapes, circular shapes, elliptical shapes, or polygonal shapes, and the first and second connecting portions each has a strip shape.

18. The method according to claim 15, further comprising:

forming an external connection wiring layer on the second transparent conducting layer, wherein the external connection wiring layer is used to connect to an external device, and is made of a conducting material including silver.