CLAIMS

1. A touch panel comprising:

a substrate;

a plurality of electrodes provided on the substrate;

a plurality of lines each electrically connected with one of the plurality of electrodes;

a controller configured to determine the difference between a signal provided by at least one line out of the plurality of lines and a signal provided by another line adjacent the at least one line out of the plurality of lines; and

a floating electrode located within a predetermined distance from the at least one line and the other line and electrically independent from the plurality of lines such that noise produced in the at least one line can be propagated to reach the other line.

2. The touch panel according to claim 1, further comprising: a connecting portion configured to electrically connect the substrate with the controller,

wherein each of the plurality of lines includes a substrate line provided on the substrate and electrically connected with one of the plurality of electrodes, a connection line provided on the connecting portion, and a controller line provided in the controller,

the substrate line, the connection line and the controller line are electrically connected, and

the floating electrode is located within the predetermined distance from at least one line out of the substrate line, the connection line and the controller line, and another line adjacent the at least one line out of the plurality of lines.

3. The touch panel according to claim 1 or 2, wherein the floating electrode is loop-shaped.

4. The touch panel according to claim 3, wherein the floating electrode is located in the substrate, the connecting portion and the controller.

5. The touch panel according to claim 2, wherein the floating electrode is located to at least partly overlap at least one line out of the substrate line, the connection line and the controller line and another line adjacent the at least one line out of the plurality of lines, as viewed in a thickness direction of the substrate.

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1. A touch panel comprising:

a substrate;

a plurality of electrodes provided on the substrate;

a plurality of lines each electrically connected with one of the plurality of electrodes;

a controller configured to determine the difference between a signal provided by at least one line out of the plurality of lines and a signal provided by another line adjacent the at least one line out of the plurality of lines; and

a floating electrode located within a predetermined distance from the at least one line and the other line and electrically independent from the plurality of lines such that noise produced in the at least one line can be propagated to reach the other line.

2. The touch panel according to claim 1, further comprising: a connecting portion configured to electrically connect the substrate with the controller,

wherein each of the plurality of lines includes a substrate line provided on the substrate and electrically connected with one of the plurality of electrodes, a connection line provided on the connecting portion, and a controller line provided in the controller,

the substrate line, the connection line and the controller line are electrically connected, and

the floating electrode is located within the predetermined distance from at least one line out of the substrate line, the connection line and the controller line, and another line adjacent the at least one line out of the plurality of lines.

3. The touch panel according to claim 1 or 2, wherein the floating electrode is loop-shaped.

4. The touch panel according to claim 2, wherein the floating electrode is located in the substrate, the connecting portion and the controller.

5. The touch panel according to claim 2, wherein the floating electrode is located to at least partly overlap at least one line out of the substrate line, the connection line and the controller line and another line adjacent the at least one line out of the plurality of lines, as viewed in a thickness direction of the substrate.