

6. (Original) The apparatus of Claim 1 wherein the controller comprises a microcontroller operable under control of a stored program.

7. (Original) A method of providing a unique output representative of a key uniquely selected by a user from a plurality of keys in which each key is operable to provide a respective detected signal having a respective signal strength responsive to a presence of at least a portion of the user, the method comprising the sequentially executed steps of:

(a) measuring the respective detected signal strength associated with each key in the plurality thereof;

(b) comparing each of the measured signal strengths with a respective selected threshold value to form a subset of keys having associated signals greater than the respective threshold values;

(c) determining that no key has been selected if the subset is empty, and otherwise determining that the key that is in the subset and that is associated with a maximum signal strength is the current uniquely selected key;

(d) subsequent to determining a uniquely selected key, modifying step (c) to bias subsequent determinations in favor of the uniquely selected key and then repeating steps (a), (b) and the modified step (c).

8. (Original) The method of Claim 7 wherein the step of measuring the respective detected signal strength associated with each key comprises measuring a respective signal representative of a respective capacitive coupling of the user to the respective key.

9. (Original) The method of Claim 7 wherein the plurality of keys comprises a keyboard array and the portion of the user comprises a finger.

10. (Original) The method of Claim 7 wherein one of the keys in the plurality thereof is operable as a two dimensional touch surface.

11. (Original) The method of Claim 7 wherein one of the keys in the plurality thereof is a guard ring disposed about at least one other of the keys.

12. (Original) The method of Claim 7 wherein step d) comprises increasing the signal strength associated with the uniquely selected key.

13. (Original) The method of Claim 7 wherein step d) comprises decreasing the signal strength associated with each of the keys other than the uniquely selected key.

14. (Original) The method of Claim 7 wherein each of the keys has associated therewith a respective counter containing a value that is altered if the respective measured signal value exceeds the respective threshold, wherein the step of determining a maximum signal strength comprises comparing respective values stored in respective counters and wherein the modification to the determining step (c) comprises changing a value stored in at least one of the counters.

15. (Original) The method of Claim 7 wherein steps (b), (c), and (d) are carried out by a microcontroller.

16. (Original) A method of providing a unique output representative of a key selected by a user from a plurality of keys operable to provide respective detected signals having respective signal strengths responsive to a presence of at least a portion of the user, the method comprising the steps of:

(a) measuring, at a first instant, the respective detected signal strength associated with each key in the plurality thereof, and retaining for further consideration at the first instant respective retained values representative of only those signal strengths exceeding respective threshold values;

(b) selecting, as the initial user-selected key, that key having the maximum of all the values retained at the first instant;

(c) measuring, at a second instant, later than the first instant, the respective detected

signal strength associated with each key in the plurality thereof, and retaining for further consideration at the second instant respective retained values representative only of those signal strengths exceeding respective threshold values;

(d) comparing, in a fashion biased in favor of the initial user-selected key, the values retained for further consideration at the second instant to select the user-selected key at the second instant.

17. (Original) The method of Claim 16 wherein the step of measuring the respective detected signal strength associated with each key comprises measuring a respective signal representative of a respective capacitive coupling of the user to the respective key.

18. (Original) The method of Claim 16 wherein the plurality of keys comprises a keyboard array and the portion of the user comprises a finger.

19. (Original) The method of Claim 16 wherein one of the keys in the plurality thereof is operable as a two dimensional touch surface.

20. (Original) The method of Claim 16 wherein one of the keys in the plurality thereof is a guard ring disposed about at least one other of the keys.

21. (Original) The method of Claim 16 wherein the comparison in step (d) is biased in favor of the initially selected key by increasing the signal strength value associated with the initially user-selected key.

22. (Original) The method of Claim 16 wherein the comparison in step (d) is biased in favor of the initially selected key by decreasing respective signal strength values associated with all keys other than the initially user-selected key.

23. (Original) The method of Claim 16 wherein each key has a counter respectively associated therewith, and wherein the steps of retaining, comparing, and altering are carried out by means of logical and arithmetic operations conducted on the respective counters.
24. (Original) The method of Claim 16, wherein the selecting, comparing and retaining steps are carried out by a microcontroller.
25. (New) A device comprising:
a controller operable to receive sensor values from a plurality of keys and bias a determination of a selected key as a function of a previously selected key.
26. (New) The device of claim 25 wherein the controller biases the determination by a predetermined threshold.
27. (New) The device of claim 25 wherein the predetermined threshold is a selected number of counter cycles.
28. (New) The device of claim 25 and further comprising a separate counter associated with each key.
29. (New) The device of claim 25 wherein the controller comprises a programmed microcontroller.
30. (New) The device of claim 25 wherein the controller is further operable to determine an active key is inactive when sensor values associated with the active key fall below a hysteresis value.
31. (New) The device of claim 25 wherein the controller is further operable to select a key as a function of sensor values when there is no previously determined selected key.

32. (New) The device of claim 31 wherein the controller selects a key having sensor values above a threshold and above sensor values for all other keys when there is no previously determined selected key.

33. (New) A device comprising:
a plurality of keys for selection by a user;
a sensor to provide sensor values responsive to selection of the keys; and
a controller coupled to the sensor to receive the sensor values from the plurality of keys and bias a determination of an active key as a function of a current active key.

34. (New) The device of claim 33 wherein the controller designates a key as active when it has corresponding sensor values that exceed a first threshold and no other keys are designated active.

35. (New) The device of claim 34 wherein the controller designates a key as active when it has corresponding sensor values that exceed sensor values of a current active key by a second threshold.

36. (New) The device of claim 35 wherein the controller designates an active key as inactive when its corresponding sensor values fall below a hysteresis value.

37. (New) The device of claim 33 wherein each key comprises a capacitive proximity sensor.

38. (New) The device of claim 37 wherein at least one of the keys includes a guard ring.

39. (New) The device of claim 37 wherein the sensor values are responsive to respective user capacitive coupling to respective keys.

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