

19. A low-latency touch sensitive device comprising:
- a. a plurality of row conductors and column conductors arranged such that:
 - i. each of the paths of the conductors of the plurality of row conductors cross each of the paths of the conductors of the plurality of column conductors, and wherein
 - ii. when the touch sensitive device is not being touched, a first level of signal is coupled between them, and
 - iii. when the touch sensitive device is being touched, a second level of signal is coupled between them;
 - b. row signal generator operatively connected to the plurality of row conductors, the row signal generator adapted to simultaneously generate a plurality of unique orthogonal row signals, each unique orthogonal row signal being orthogonal to each of the other unique orthogonal row signals;
 - c. column signal decoder operatively connected to the plurality of column conductors, the column signal decoder adapted to detect a level for each of the plurality of unique orthogonal row signals on each of the plurality of column conductors;
 - d. column signal generator operatively connected to the plurality of column conductors, the column signal generator adapted to simultaneously generate a plurality of unique orthogonal column signals, each unique orthogonal column signal being orthogonal to each of the other unique orthogonal column signals;
 - e. row signal decoder operatively connected to the plurality of row conductors, the row signal decoder adapted to detect a level for each of the plurality of unique orthogonal column signals on each of the plurality of row conductors and a level for each of the plurality of unique orthogonal row signals on each of the plurality of row conductors; and
 - f. a processor configured to associate each of a plurality of simultaneous touch events with a discrete source based on a detected amount of at least one of the

plurality of orthogonal row signals present on at least one of the plurality of row conductors; wherein the processor is further configured:

- i) to distinguish a two-handed gesture from a one-handed gesture;
- ii) to distinguish at least two of the plurality of touch events as having been initiated by different users;
- iii) to distinguish a passive object from a hand;
- iv) to identify a passive object whether a user is touching the object or not;
- v) to identify a stylus or other passive object;
- vi) to identify a signal generator, a stylus or other active object;
- vii) to use the association to improve palm rejection and/or accidental-touch rejection;
- viii) to determine whether the plurality of touch events come from one hand;
- ix) to determine whether the plurality of touch events come from two hands of the same person;
- x) to determine whether the plurality of touch events come from touches from multiple people;
- xi) to determine whether two contacts, each identified in different frames, are being made by different users;
- xii) to determine whether two contacts, each identified in different frames, are the same contact;
- xiii) to utilize multiple thresholds;
- xiv) to detect coupling between a row being touched by a first one of a user's digits and a row being touched by a second one of the user's digits;
- xv) to detect coupling between a column being touched by a first one of a user's digits and a column being touched by a second one of the user's digits;
- xvi) to detect coupling between rows in proximity to a touch event caused by one part of a user's body and rows in proximity to a touch event caused by another part of a user's body; and/or
- xvii) to apply a label to a contact.

~~20. The device of claim 19, wherein the processor is further configured to distinguish a two-handed gesture from a one-handed gesture.~~

~~21. The device of claim 19, wherein the processor is further configured to distinguish at least two of the plurality of touch events as having been initiated by different users.~~

~~22. The device of claim 19, wherein the processor is further configured to distinguish a passive object from a hand.~~

~~23. The device of claim 19, wherein the processor is further configured to identify a passive object whether a user is touching the object or not.~~

~~24. The device of claim 19, wherein the processor is further configured to identify a stylus or other passive object.~~

~~25. — The device of claim 19, wherein the processor is further configured to identify a signal generator, a stylus or other active object.~~

~~26. — The device of claim 19, wherein the processor is further configured to use the association to improve palm rejection and/or accidental touch rejection.~~

~~27. — The device of claim 19, wherein the processor is further configured~~

~~i) to determine whether the plurality of touch events come from one hand;~~

~~ii) to determine whether the plurality of touch events come from two hands of the same person;~~

~~iii) to determine whether the plurality of touch events come from touches from multiple people;~~

~~iv) to determine whether two contacts, each identified in different frames, are being made by different users;~~

~~v) to determine whether two contacts, each identified in different frames, are the same contact; and/or~~

~~vi) to utilize multiple thresholds.~~

~~28~~20. The device of claim 19, wherein the processor is a signal processor.

~~29. — The device of claim 19, wherein the processor is further configured~~

~~i) to detect coupling between a row being touched by a first one of a user's digits and a row being touched by a second one of the user's digits;~~

~~ii) to detect coupling between a column being touched by a first one of a user's digits and a column being touched by a second one of the user's digits; and/or~~

~~iii) to detect coupling between rows in proximity to a touch event caused by one part of a user's body and rows in proximity to a touch event caused by another part of a user's body.~~

~~30~~21. The device of claim 19, wherein the touch events comprise an action by a user that occurs in proximity to the touch sensitive device.

~~31. The device of claim 19, wherein the processor is further configured to apply a label to a contact.~~

~~32~~22. The device of claim 19, wherein the row conductors and column conductors are arranged in a shape other than a grid.

~~33~~23. The device of claim 19, further comprising a third type of conductors in addition to row conductors and column conductors.