

arranged to be connected as a tracking filter to track the frequency of a capacitance-measuring signal from one to another of the sensor pads, possibly during a scan thereof.

- [0026] 9. A detector, which comprises, means to improve the selectivity of capacitances taken into account to determine touch detection.
- [0027] 10. A detector, which comprises a multiplexer and a buffer and means adapted to connect part of the multiplexer other than its channels to an output of the buffer.
- [0028] 11. A detector, wherein said multiplexer part comprises power supply rails of the multiplexer.
- [0029] 12. A detector, wherein said multiplexer part comprises a control port of the multiplexer.
- [0030] 13. A detector, wherein said multiplexer part comprises a chip substrate of the multiplexer.
- [0031] 14. A detector, which comprises a sensor pad, a shield for the sensor pad and means to apply a frequency signal to the sensor pad for touch detection and apply to the shield a signal of substantially the same frequency, amplitude, phase and shape as the said frequency signal.
- [0032] 15. A detector, wherein the shield signal applying means are adapted not to control the d.c. level of the signal applied to the shield.
- [0033] 16. A detector, which comprises a sensor pad and means to charge the sensor pad and measure its charging rate.
- [0034] 17. A detector, wherein the charging and measuring means are adapted to charge the sensor pad with a constant current for a fixed time and measure the voltage achieved.
- [0035] 18. A detector, which comprises means to recognise a time profile of capacitance change indicative of a touch to be detected.
- [0036] 19. A detector, which comprises means to detect a snap effect in a time profile of capacitance change indicative of a touch to be detected.
- [0037] 20. A detector, which comprises means to enhance a time profile of capacitance change indicative of a touch to be detected.
- [0038] 21. A detector, wherein said enhancing means comprise means adapted to enhance a snap portion of said profile.
- [0039] 22. A detector, wherein said enhancing means comprise means adapted to correct a base line of said profile.
- [0040] 23. A detector, wherein said enhancing means comprise means adapted to correct the maximum amplitude of said profile.
- [0041] 24. A detector, which comprises means to provide an adaptive pattern match to a time profile of capacitance change indicative of a touch to be detected.
- [0042] 25. A detector, which comprises sensor pads and means which, upon the occurrence of signals indicative of such detection from a plurality of the sensor pads, produce a signal indicative of a touch position among the sensor pads.
- [0043] 26. A detector, which comprises means for serially scanning said sensor pads to obtain said signals indicative of touch detection.
- [0044] 27. A detector, which comprises means for normalising said signals indicative of touch detection and adding the normalised signals to obtain said signal indicative of a touch position.
- [0045] 28. A detector, which comprises means for palm rejection.
- [0046] 29. A detector, which comprises means for interpolation from an array of activated sensory elements to determine a mean position of touch.
- [0047] 30. A detector, wherein the interpolation means are effectively self-calibrating.
- [0048] 31. A detector, wherein the interpolation means are adapted to effect interpolation by a geometrical method.
- [0049] 32. A capacitive detector, which is adapted to detect a touch, i.e. an action of actually touching.
- [0050] More particularly, there may be provided detectors having the features defined in any of the following Points 1-33:
- [0051] 1. A detector, which comprises a plurality of said accumulators and is adapted to ensure that if the value in one of the accumulators is greater than a predetermined level when it is reset to zero and it is the biggest accumulated value at that time among the accumulators then a touch down indication is produced, otherwise all accumulators continue to accumulate as before.
- [0052] 2. A detector, which is adapted to ensure that if a second slightly higher threshold than said predetermined level is exceeded then said increments are weighted more greatly.
- [0053] 3. A detector, which comprises a narrow band buffer.
- [0054] 4. A detector, which comprises means for reducing the effect of noise which comprise capacitive coupling of the buffer into the detector.
- [0055] 5. A detector, which comprises a plurality of sensor pads of different inherent capacitances and means to approximate impedances which include said capacitances
- [0056] 6. A detector, which comprises circuitry comprising said impedances and adapted to operate at respective frequencies to approximate the impedances.
- [0057] 7. A detector, wherein said impedances comprise components having respective resistances to approximate the impedances.