

[0272] It is expected that during the life of this patent many relevant imaging devices and systems will be developed and the scope of the terms herein, particularly of the terms “stylus” and “transparent conductive material”, is intended to include all such new technologies a priori.

[0273] Additional objects, advantages, and novel features of the present invention will become apparent to one ordinarily skilled in the art upon examination of the following examples, which are not intended to be limiting. Additionally, each of the various embodiments and aspects of the present invention as delineated hereinabove and as claimed in the claims section below finds experimental support in the following examples.

[0274] It is appreciated that certain features of the invention, which are, for clarity, described in the context of separate embodiments, may also be provided in combination in a single embodiment. Conversely, various features of the invention, which are, for brevity, described in the context of a single embodiment, may also be provided separately or in any suitable subcombination.

[0275] Although the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, it is intended to embrace all such alternatives, modifications and variations that fall within the spirit and broad scope of the appended claims. All publications, patents and patent applications mentioned in this specification are herein incorporated in their entirety by reference into the specification, to the same extent as if each individual publication, patent or patent application was specifically and individually indicated to be incorporated herein by reference. In addition, citation or identification of any reference in this application shall not be construed as an admission that such reference is available as prior art to the present invention.

What is claimed is:

1. A detector for providing position detection of a first kind together with position detection of a second kind the detector comprising:

a sensor,

a patterned arrangement of sensing conductors extending within said sensor, and

detection circuitry associated with said arrangement for detecting signals at same sensing conductors arising from said position detection of a first kind and signals arising from said position detection of a second kind, therefrom to detect positions at said sensor.

2. The detector of claim 1, wherein said position detection of a first kind comprises resonance-based object detection of an object able to produce an electromagnetic resonant field.

3. The detector of claim 1, wherein said position detection of a first kind comprises capacitive-based touch detection.

4. The detector of claim 1, wherein said position detection of a first kind comprises resonance-based object detection of an object able to produce an electromagnetic resonant field and said position detection of a second kind comprises capacitive-based touch detection.

5. The detector of claim 1, wherein said detection circuitry is capable of detecting interactions of said first kind and said interactions of said second kind simultaneously.

6. The detector of claim 1, wherein said detection circuitry is capable of detecting interactions of said first kind and said interactions of said second kind independently.

7. The detector of claim 3, wherein said sensor is located over a detection region, and comprises an oscillator for providing an oscillating signal, excitation circuitry for providing an excitation signal capable of exciting a resonant circuit of an electromagnetic stylus-type object, wherein said patterned arrangement comprises conductive elements extending over said detection region, and wherein said detection circuitry is adapted for detecting the capacitive effect of a conductive object, such as finger touch, and resonance from said electromagnetic stylus-type object at said at least one conductive element.

8. The detector of claim 7, wherein said oscillator is connected to provide said oscillating signal to said excitation circuitry and also to provide an excitation signal for said capacitive based touch detection.

9. The detector of claim 1, wherein said sensor is substantially transparent and suitable for location over a display screen.

10. The detector of claim 1, wherein said detection region is the surface of a display screen and wherein said sensor including said at least one conductive element is substantially transparent.

11. The detector of claim 1, comprising a plurality of conductive elements and wherein said detection circuitry comprises a differential detector arrangement associated with said sensing conductors for detecting differences between outputs of said conductors.

12. The detector of claim 7, wherein said sensing circuitry is configured for sensing a signal at said at least one sensing conductive element induced by a touch of a conductive object subjected to a transmission of said oscillated signal.

13. The detector of claim 7, wherein there is provided at least a second conductive element located within said sensor and having a junction with said one conductive element, wherein said oscillator is applied to one of said conductive element and said junction is configured such that a touch by a capacitive body part causes an a.c short at said junction, said detector being configured to detect a resulting oscillating signal at said second conductive element and therefrom to infer said touch.

14. The detector of claim 13, wherein said detection circuitry is adapted to detect a signal at said at least second conductive element for interpretation as a number of touching objects.

15. The detector of claim 2, wherein multiple resonance-based objects can be detected based on the interpretation of properties of the detected signal.

16. The detector of claim 3, wherein multiple conductive objects can be detected based on the interpretation of properties of the detected signal.

17. The detector of claim 7, wherein said oscillator is connected to oscillate at least one of said detector, part of said detector and said at least one conductive element with respect to a reference voltage level, thereby to permit a capacitive current flow between a conductive touching object and said at least one conductor.

18. The detector of claim 1, wherein said sensor is configured with a transparent medium between itself and an underlying display screen.