frequency. To determine the location of the user input **113**, similar to the case of Input A, the change in the electric fields of the first and second frequency as felt by horizontal array conductors **246***b* and *c* may also be used to triangulate the location of the user input. Alternatively, the vertical array conductor **248***b* may come into contact with the horizontal array conductor **246***a* at the particular region **113** and provide a second signal to indicate that the user input is at the particular region **113**. However, any other suitable method to determine that the user input is located at the particular region **113** may be used.

[0043] When the user provides an Input E, similarly to the case of Input C, the change in the electric field of the first frequency as felt by the horizontal array conductor **246***a* is substantially small while the change in the electric field of the second frequency as felt by horizontal array conductor **246***a* is substantially large and the user interface system preferably infers that the user input is located at a portion of the surface **115** that includes a particular region **113**. To determine the location of the Input E, the change in the electric fields of the first and/or second frequency as felt by horizontal array conductors **246***b* and *c* may also be used to triangulate the location of the user input. For example, if the change in the electric field of the second frequency as felt by the horizontal array conductor **246***a* is substantially equal than as felt by the horizontal array conductor **246***b*, then the user interface system may infer that the user input is located in between a particular region **113** that corresponds to the horizontal array conductor **246***a* and a particular region **113** that corresponds to the horizontal array conductor **246***b*. Alternatively, in the variation of the user interface system where the vertical conductor and the horizontal conductor of a particular region **113** come into contact when a user input is provided at the particular region **113**, the absence of contact while a substantially large change in the electric field is detected may be used to determine that the user input is in close proximity to a particular region **113**. However, any other suitable method to determine the location of the Input E may be used.

[0044] Alternatively, the processor **160** may determine the location of the of the user input and, when the user input is detected to be at a particular region **113**, the processor **160** may primarily detect changes in the electric field of the second frequency. To determine that the user input is located at the particular region **113**, the change in the electric fields of the first and second frequency as detected by the sensing system may be used to triangulate the location of the user input. The processor **160** may function to evaluate the changes in the electric fields of the first and second frequencies independently to determine the location of the user input, but may alternatively evaluate changes in the electric fields of the first and second frequencies together, which may achieve a more accurate determination of user input location. Alternatively, the elongated vertical conductor **242***a* may come into contact with the horizontal array conductor **246***a* at the particular region **113** and provide a second signal to indicate that the user input is at the particular region **113**. However, any other suitable method to determine that the user input is located at the particular region **113** may be used.

[0045] In a second variation of the second preferred embodiment, the second sensor portion **140***b* may include a first and second conductor at a particular region **113**, as described in U.S. application Ser. No. 12/497,622. As described above in the first preferred embodiment, the distance between the first and second conductor changes when a user provides an input at the particular region to detect and receive a user input. The distance between first and second conductor at the particular region **113** preferably decreases as a user input is provided at the particular region **113** (for example, one that inwardly deforms the particular region **113**), but may alternatively increase. The first and second conductor may alternatively come into contact to substantially acutely detect a user input substantially proximal to the particular region **113**. The first and second conductor may alternatively come into contact to substantially acutely detect a user input substantially proximal to the particular region **113**. Because the second sensor portion **140***b* includes conductors that are configured to detect a user input at the particular region **113**, the sensitivity for detection of a user input, determining the location of the user input, and/or detecting any other suitable characteristic of the user input may be increased. However, any other suitable arrangement of conductors may be used for the second sensor portion **140***b* to provide the higher second sensitivity to a user input provided substantially proximal to the particular region **113**.

[0046] In a third variation of the second preferred embodiment, the sensor system may substantially similar or identical to that of the first sensor portion **140***a* of the first preferred embodiment. In this variation, the sensor system functions to determine the location of the user input. However, because the sensor system as described in U.S. application Ser. No. 12/497,622 is not used, substantially more accurate details of user input (for example, speed of user input, direction of user input, pressure of user input, or the amount of inward deformation of the particular region **113**) may not be detected.

[0047] The sensor **140** of the preferred embodiments is preferably one of the variations and arrangements described above, but may alternatively be any other suitable variation or arrangement. For example, a current of a unique frequency may be transmitted through each electric field emitting conductor (elongated vertical conductors **242** and vertical array conductors **248**), resulting in a plurality of electric fields that are each of a different frequency, which may facilitate in determining the location of the user input. In a second example, the horizontal array conductors **246** and the non-array horizontal conductor **244** as the electric field emitters and the vertical array conductors **248** and the elongated vertical conductors **242** may function as the electric field receivers. In a third example, user inputs located at a particular region **113** may be detected by the a horizontal array conductor coming into contact with a vertical array conductor (or elongated vertical conductor) while user input located at a portion of the surface **115** that does not include a particular region **113** may be detected from disruptions in the electric field. However, any other suitable method that allows for user inputs both located at a portion of the surface **115** that includes a particular region **115** and at a portion of the surface **115** that does not include a particular region **115** to be detected simultaneously may be used. The sensor **140** may also function to detect the occurrence of multiple user inputs (commonly known as "multi-touch"), in various combinations: multiple user inputs, each at a different particular region **113**, each at various locations on the surface **115** that do not include a particular region **113**, or a combination of inputs at both the particular regions **113** and at locations on the surface **115** that do not include a particular region **113**.

[0048] In the user interface system **100** of the preferred embodiments, the fluid **112** may affect the electromagnetic fields that are generated within the sensor system **140**, for