address line **310** and a V^+ address line **320**. The V^- address line **310** and the V^+ address line **320** are located within the charge circuit **350**. When the V^- address line **310** is excited, the electrode **104** exhibits a negative charge. As discussed, in response to the negative charge, the area of electrostatic film **102** directly above the electrode **104** in cell **112** repels from the negatively excited electrode **104** and creates a protrusion **116**. When the V^+ address line **320** is excited, the electrode **104** exhibits a positive charge. In response, the area of the electrostatic film **102** directly above the electrode **104** in cell **112** attracts to the positively excited electrode **104** and creates an indentation **114**.

[0030] The individual electrodes **104** in the interface **10** are interconnected by a series of electrically conductive row and column couplers. The row and column couplers are in turn coupled to a power source (see FIG. **3**A), thereby enabling the electrodes to be collectively or individually excited. More specifically, any individual electrode **104** may be selectively excited by addressing that electrode using the corresponding row and column couplers.

[0031] FIG. **2**B is an elevated view illustrating excitation of individual electrodes according to the dynamic tactile interface of FIG. **1**A. The row couplers **201***a*, **201***b*, **201***c*, **201***d*, **201***e* are each electrically coupled to a plurality of electrodes **104** that are in the same row (in this example across all five columns of the matrix). The column couplers **202***a*, **202***b*, **202***c*, **202***d*, **202***e* are each electrically coupled to a plurality of electrodes **104** that are in the same column (in this example, across all five rows). For example, to cause a protrusion **116** and effectuate a "bump" state in the electrode having a cell matrix site of (3,1), a positive charge is applied to both the row coupler **201***c* (i.e., row **3**) and the column coupler **202***a* (i.e., column **1**). In some embodiments, for a single electrode **104** to be excited, it receives an excitation from both its corresponding row and column couplers. Thus, the cells **112** (and the electrodes **104** therein) can be individually addressed, allowing the creation of any regular periodic pattern, a periodic pattern, random pattern, or tactile image on the device **10**. In the example illustrated in FIG. **2**B, the electrodes **104** having matrix sites of (3,1); (3,2); (4,1); (4,2); (5,1); and (5,2) have been excited with positive charges to create a protrusion **116** over the respective cells **112**. Similarly, the electrodes **104** having matrix sites of (1,2) and (1,3) have been excited with negative charges to create an indent **114** over the respective cells **112**.

[0032] FIG. **3**B is a block diagram illustrating an addressing scheme according to the dynamic tactile interface **10** of FIG. **1**A. Each individual electrode **104** is associated with a charge circuit **350** that controls the respective V^- address line **310** and the V^+ address line **320** for that electrode **104**. Each charge circuit **350** is coupled to a row decoder **340** and a column decoder **330**. The row decoder **340** and column decoder **350** are controlled by a controller **360**. In light of the present disclosure it is understood that the controller **360** is any microcontroller or electronic circuit generally known in the art capable of sending excitation signals to the row decoder **340** and column decoder **330**, causing portions of the electrostatic device **10** to exhibit an indent **114** or protrusion **116** (see FIGS. **1**B and **1**C). In response to receiving user feedback, the controller **360** is capable of updating and adjusting the device in areas that require tactile feedback. The controller **360** excites the areas that require tactile feedback by sending excitation signals to the row decoder **340** and column decoder **330**. Based on a desired tactile pattern on the device **10**, the controller **360** determines when a particular row coupler **202** and column coupler **201** combination should be excited, and sends a corresponding excitation signal to the row decoder **340** and column decoder **350**. Such an excitation signal causes the row decoder **340** to excite specific row coupler(s) **202** and the column decoder to excite specific column coupler(s) **201**.

[0033] In some embodiments, the charge circuits **350** include AND logic gate to detect a decoder signal from the row decoder **340** and the column decoder **330**. In this case, the charge circuit **350** will not excite the electrode **104** unless a decoder signal is received from both the row decoder **340** and column decoder **330**. The charge circuit **350** also includes the Address Line Selector **370** circuit to evaluate the decoder signal(s) from row decoder **340** and column decoder **350**. The Address Line Selector **370** evaluates these signals to determine whether to excite the V^- address line **310** or the V^+ address line **320** to effect a positive or negative charge on the electrode, and thus an indentation **114** or protrusion **116**. The charge circuit **350** is configured to excite the electrode **104** via V^- address line **310** or the V^+ address line **320** if the appropriate decoder signal(s) arrive from both the row decoder **340** and the column decoder **330**. The controller **360** is configured to send excitation signals to the row decoder **340** and column decoder **330**, which in turn, sends the decoder signals to charge circuit **350**. The charge circuit **350** determines whether to excite the V^- address line **310** or the V^+ address line **320**. As discussed, exciting the V^- address line **310** creates an indentation **114** and exciting the V+address line **320** creates a protrusion **116**.

[0034] FIG. **5** is a flow diagram illustrating a method of exciting electrodes according to the dynamic tactile interface **10** of FIG. **1**A. As described above, areas of an image capable of tactile feedback are identified. As previously described, electrodes in the dynamic tactile interface **10** corresponding to the areas are identified. A voltage is applied to the electrodes to create the desired state for the electrodes in the dynamic tactile interface **10**. The dynamic tactile interface **10** can be implemented as part of a viewable display type of device, or as a device without any viewable display.

[0035] FIG. **6** is a block diagram illustrating a computer architecture or system **1000** that is arranged in accordance with the present disclosure. Example embodiments of dynamic tactile interfaces **10** include a controller **360**, which may be realized and/or implemented as illustrated by FIG. **6**. A system bus **1002** transports data amongst the Central Processing Unit (CPU) **1004**, RAM **1006**, the Basic Input Output System (BIOS) **1008** and other components. The CPU **1004** may include a cache memory component **1024**. The RAM **1006** may include a dynamic tactile interface process **1200**. The dynamic tactile interface process **1200** may determine the control information or excitation signal requirements for the row decoders **340** and the column decoders **330** to produce the desired tactile pattern described above with reference, for example, to the controller **360** and FIG. **3**B. The computer system **1000** may include one or more external storage ports **1017** for accessing a hard disk drive, optical storage drive (e.g., CD-ROM, DVD-ROM, DVD-RW), flash memory, tape device, or other storage device (not shown). The relevant storage device(s) are coupled through the external storage port **1017** which is coupled to the system bus **1002** via a disk controller **1022**. A keyboard and pointing device (e.g. mouse, touch pad) (not shown) can be coupled to the keyboard/mouse port(s) **1012**, and other I/O devices could be