2154, which may each be in active states including combinations of net displacement and high frequency vibration. A control system coupled to elements **2152** and **2154** may detect the physical stimuli using any suitable processing equipment or combination of processing equipment (e.g., signal input **662** and demodulator **660** of FIG. **6**). In some embodiments, one or more elements of one or more arrays may each be in particular activated states, which may form topological features on display **2102**. For example, in some embodiments, one or more elements of one or more arrays may each be in particular activated states and display **2102** may include one more topological features (e.g., raised buttons, depressions, moving raised cursor).

[0129] In some embodiments, haptic systems **1800-2100** shown in FIGS. **18-21**, respectively, may use regenerative power management. For example, tactile stimuli may include applying mechanical work against one or more shape change elements, which may convert the applied mechanical work (e.g., user applying force and displacement to a shape change element) into electrical work (i.e., current and voltage), which may be transmitted by control leads to any suitable power control system. In some embodiments, regenerative power management may prolong battery life by recovering energy supplied by a user or other tactile stimulus.

[0130] Shown in FIG. **22** is flow diagram **2200** which includes illustrative steps for providing haptic feedback in accordance with some embodiments of the present disclosure. Step **2202** may include identifying one or more shape change elements, which may be included in one or more arrays. In some embodiments, identifying a shape change element may include, for example, receiving a signal or change in signal from a shape change element (e.g., in response to a tactile stimulus). In some embodiments, identifying a shape change element may be performed by any suitable processing equipment executing software commands. Step **2204** may include determining one or more change parameters associated with one more characteristics (e.g., size, vibration mode) of the identified shape change elements. Change parameters may include activation mode, activation timing, activation scheduling, activation details (e.g., displacement, force, pressure), any other suitable parameters, or any combinations thereof. In some embodiments, for example, determining change parameters may be performed using processing equipment which may execute software commands. Step **2206** may include making changes to one or more characteristics of one or more shape change elements (e.g., activating one or more shape change elements). Step **2206** may be performed using any suitable processing equipment.

[0131] In some embodiments, a haptic system may detect a stimuli at a particular location on a display screen by receiving a signal or change in signal from one or more shape change elements. The haptic system may identify the one or more shape change elements as having received stimulus. In response to the stimulus, for example, the haptic system may determine that one or more shape change elements should be activated in a particular state (e.g., compound net displacement and vibration). The haptic system may activate one or more of the shape change elements, using suitable processing equipment, in accordance with the determined activation state.

[0132] In some embodiments, for example, processing equipment may identify one or more shape change elements in one or more arrays based on software commands (e.g., independent of tactile stimulus). The processing equipment may determine one or more activated states of the one or more shape elements based on software commands. The processing equipment may activate the one or more identified shape change elements in accordance with the determined activated states by sending suitable signals over suitable control leads.

[0133] Any of the steps of flow diagram **2200** may be rearranged, omitted, appended, or otherwise modified without departing from the present disclosure. For example, in some embodiments, steps **2202** and **2204** may be reversed. In some embodiments, processing equipment may determine a particular activated state and then may identify one or more shape change elements of one or more arrays to activate in accordance with the determined activated state.

[0134] Shown in FIG. **23** is flow diagram **2300** which includes illustrative steps for altering a displayed graphic in accordance with some embodiments of the present disclosure. Step **2303** may include displaying a graphic on a suitable elastic screen sheet (e.g., displaying a picture on a display screen). Step **2304** may include making changes to one or more characteristics (e.g., vibration mode, shape) of one or more shape change elements. Step **2306** may include adjustment of displayed content. In some embodiments, one or more image processing techniques (e.g., to compensate for a contoured display surface) may be used to adjust the displayed content.

[0135] In some embodiments, haptic systems may map graphics onto contoured screen features. For example, a particular graphic (e.g., video clip) may be displayed on the display screen of a particular user device (e.g., user device **800** of FIG. **8**, user device **900** of FIG. **9**) as shown by step **2302**. The display screen may then undergo deformation (e.g., contouring), as shown by step **2304**. The user device may use image processing techniques to alter the displayed graphic in response to the screen contouring, as shown by step **2306**.

[0136] For example, in some embodiments, a contour elevation map with text annotations may be displayed on a display screen of a user device. A user device may contour the display screen, by activating one or more shape change elements, to correspond to the elevation at a particular region on the contour map. The user device may alter the display to compensate for the contoured surface by stretching, compressing, moving, rotating, warping, curving or otherwise altering the displayed graphic (e.g., contour map with text annotations).

[0137] In a further example, in some embodiments, a raised button may be formed on the screen surface. Graphics displayed near the edges of the raised button may be displayed at an angle relative to a user's viewing direction. The user device may, in some embodiments, display the graphics in a different location, in an different form, or any other display alteration. Image processing techniques such as, for example, Euclidian transformations (e.g., translation, rotation), image morphing, feature detection, stereoscopy (e.g., 3-D imaging), rendering (e.g., shading, texture mapping), any other suitable image processing techniques or computer graphic techniques, or any suitable combinations thereof may be used by a user device to adapt displayed graphics to contoured features.

[0138] In some embodiments, a user device may alter the display on or near a surface feature by coloring, mapping, warping, shading, or otherwise distinguishing the region of the display corresponding to the contoured feature. For example, in some embodiments, a display screen may feature