

body **4205**, and excludes the use of first sensor **4210** and first edge sensor **4215**. A fourth edge sensor **4275** having a fourth edge sensing surface **4276** is positioned around the periphery of fourth sensor **4270** to provide a continuation command signal as described above. A number of control buttons **4280** located on the front surface **4212** of wedge shaped body **4205** may be added to perform additional controller functions.

FIG. **48b** illustrates a controller **4290** in accordance with yet another embodiment of the present invention. Controller **4290** is similar to controller **4265** except it excludes control buttons **4280** and further includes first sensor **4210** and first edge sensor **4215** as described in FIG. **47b**.

FIG. **48c** illustrates a method of operating controller **4285** to produce an x,y and z translation signal. The method is similar to the method as described with reference to FIG. **47g**, except that method excludes use of first sensor **4210** and first edge sensor **4215** and includes the use of fourth sensor **4270** and fourth edge sensor **4275**. When the user moves her finger on the fourth sensing surface **4271**, the x,z coordinates are changed by an x,z translation signal generated by a fourth transducer coupled to fourth sensor **4270**. The x and z coordinates are changed based on the direction of finger movement as follows: towards left surface **4247**, the x coordinates are increased, towards right surface **4222**, the x coordinates are decreased, towards rear surface **4282**, the z coordinates are increased, and towards front surface **4212**, the z coordinates are decreased.

FIG. **48d** illustrates a method of operating controller **4285** to generate a pitch, yaw and roll rotation signal. The method is similar to the method as described with reference to FIG. **47g**. However this method excludes the use of first sensor **4210** and first edge sensor **4215**, but further includes the use of fourth sensor **4270** and fourth edge sensor **4275**. The user presses a finger against sensing surface **4271** and either sensing surface **4211** or sensing surface **4221**. The user may then slide the finger contacting sensing surface **4271** to a second position while maintaining contact with the sensing surface with both fingers. When the user slides her finger, the combination of the two transducers generate a pitch or roll rotation signal depending on the direction of the finger movement on sensing surface **4271** as follows: towards left surface **4247**, a positive roll signal is generated, towards right surface **4222**, a negative roll signal is generated, towards rear surface **4285**, a positive pitch signal is generated, and towards front surface **4212**, a negative pitch signal is generated.

FIG. **48e** illustrates a method of operating controller **4290** to generate an x, y and z translation signal. The method is similar to the method as described with reference to FIG. **48c**, but further includes the use of first sensor **4210** and first edge sensor **4215** to the method as described with reference to FIG. **47g**.

FIG. **48f** illustrates a method of operating controller **4290** to generate a pitch, yaw, and roll rotation signal. The method is similar to the method as described with reference to FIG. **48d**, but further includes the use of first sensor **4210** and first edge sensor **4215** in the method as described with reference to FIG. **47h**. Any two sensing surfaces **4211**, **4221**, **4246** and **4271** may be used to initiate the generation of a pitch, yaw or roll rotation signal.

FIGS. **49a-f** illustrate several different embodiments of a number of controllers **4315a-f** in accordance with the present invention. Controllers **4315a-f** include a cube shaped body **4320** with a front surface **4321**, a rear surface **4322**, a top surface **4323**, a left surface **4324**, and a right surface **4326** in the same fashion as shown on wedge shaped

body **4205**. In the embodiments shown, cube shaped body **4320** supports two to five sensors each with corresponding edge sensors in different configurations located on the faces of cube shaped body **4320** in the same fashion shown on wedge shaped body **4205**.

FIG. **49g** illustrates a method of operating controllers **4315a-f** to generate an x, y or z translation signal. The method follows the same logic and includes operations that are similar to the operations found in the methods for operating controller **4290** as described with reference to FIG. **48e**. As with the methods of operating controllers **4200**, **4240**, **4265**, and **4290** to generate an x, y or z translation signal, a set of Cartesian axes **4325** provides for the orientation of the controller. Cartesian axes **4325** includes an x axis **4330**, a y axis **4335**, and a z axis **4340**.

For example, if a user wants to generate an x translation signal, she must swipe her finger along a surface of an available sensor located on a surface of cube shaped body **4320** in the direction of the x axis **4330**. For example, a user may execute a finger swipe on the front surface **4321** or the rear surface **4322** of controller **4315b** in the direction of x-axis **4330** to generate an x translation signal. If a user wanted to generate a y translation signal from controller **4315f**, she would execute a finger swipe in the direction of y-axis **4335** on any of the faces of controller **4315** except for the top surface **4323**.

FIG. **49h** illustrates a method of operating controllers **4315a-f** to generate a pitch, yaw or roll rotation signal. The method follows the same logic and includes operations that are similar to the operations found in methods for operating controller **4290** with reference to FIG. **48f**. As with the methods of operating controllers **4200**, **4240**, **4265**, and **4290** to generate a pitch, yaw or roll rotation signal, set of Cartesian axes **4325** provides for the orientation of the controller.

For example, if a user wants to generate an pitch rotation signal, she must swipe her finger along a surface of an available sensor located on a surface of cube shaped body **4320** in the direction of the pitch rotation around x axis **4330**. For example, a user may execute a finger swipe on the front surface **4321** or the rear surface **4322** of controller **4315b** in the direction of pitch rotation around x axis **4330** while holding another finger against any other available sensor to generate a pitch rotation signal.

FIG. **50a** illustrates a controller **4350** in accordance with yet another embodiment of the present invention. Controller **4350** includes cube shaped body **4320** having trackballs **4352** mounted on the different faces of cube shaped body **4320**. The trackballs **4352** have the same function as the sensors used in controllers **4315a-f**.

FIG. **50b** illustrates a controller **4355** in accordance with yet another embodiment of the present invention. Controller **4355** includes a cube shaped body **4320** having finger stick sensors **4356** mounted on the different faces of cube shaped body **4320**. Finger stick sensors **4356** serve the same function as the sensors used in controllers **4315a-f**. One example of a finger stick sensor is the Aurora Multi-Axis Force Sensor manufactured by Bourns, Incorporated of Riverside, Calif.

FIG. **50c** illustrates a controller **4360** in accordance with yet another embodiment of the present invention. Controller **4360** includes a cube shaped body **4320** having zone force sensitive resistor thin film sensors ("zone sensors") **4362** covered by a zone sensor cover **4364** and mounted on the different faces of cube shaped body **4320**.

FIG. **51a** illustrates a method of operating controller **4360**. Based on a change in pressure, a combination of three