

15. A touch-sensitive manually operable controller for providing position control information relative to three axes, the controller comprising:

- a top surface, a bottom surface, and a peripheral side surface;
- a first sensor positioned on the side surface of the controller and generally aligned on and orthogonal relative to an X-axis of a Cartesian coordinate system, the first sensor adapted for providing a first Y-signal in response to the position of a force applied to the sensor along the Y-axis and a first Z-signal in response to the position of a force applied to the sensor along the Z-axis;
- a second sensor positioned on the top surface of the controller and generally aligned on and orthogonal relative to an Y-axis of a Cartesian coordinate system, the second sensor adapted for providing a first X-signal in response to the position of a force applied to the sensor along the X-axis and a second Z-signal in response to the position of a force applied to the sensor along the Z-axis;
- a third sensor positioned on the side surface of the controller and generally aligned on and orthogonal relative to an Z-axis of a Cartesian coordinate system, the third sensor adapted for providing a second X-signal in response to the position of a force applied to the sensor along the X-axis and a second Y-signal in response to the position of a force applied to the sensor along the Y-axis; and
- a fourth sensor positioned on the side surface of the controller opposite the first sensor and generally aligned on and orthogonal relative to an X-axis of a Cartesian coordinate system, the fourth sensor adapted for providing a third Y-signal in response to the position of a force applied to the sensor along the Y-axis and a third Z-signal in response to the position of a force applied to the sensor along the Z-axis.

16. A touch-sensitive manually operable controller for providing position control information relative to three axes, the controller comprising:

- a top surface, a bottom surface, and a peripheral side surface;
- a first sensor positioned on the side surface of the controller and generally aligned on and orthogonal relative to an X-axis of a Cartesian coordinate system, the first sensor adapted for providing a first roll-signal in response to the position of a force applied to the sensor along the Y-axis and a first yaw-signal in response to the position of a force applied to the sensor along the Z-axis;
- a second sensor positioned on the top surface of the controller and generally aligned on and orthogonal relative to an Y-axis of a Cartesian coordinate system, the second sensor adapted for providing a second roll-signal in response to the position of a force applied to the sensor along the X-axis and a first pitch-signal in response to the position of a force applied to the sensor along the Z-axis;
- a third sensor positioned on the side surface of the controller and generally aligned on and orthogonal relative to an Z-axis of a Cartesian coordinate system, the third sensor adapted for providing second pitch-signal in response to the position of a force applied to the sensor along the Y-axis; and
- a fourth sensor positioned on the side surface of the controller opposite the first sensor and generally aligned on and orthogonal relative to an X-axis of a Cartesian coordinate system, the fourth sensor adapted for providing a third roll-signal in response to the position of a force applied to the sensor along the Y-axis and a second yaw-signal in response to the position of a force applied to the sensor along the Z-axis.

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