

Title (en)  
TWO-DIMENSIONAL GIMBALED SCANNING ACTUATOR WITH VERTICAL ELECTROSTATIC COMB-DRIVE FOR ACTUATION AND/OR SENSING

Title (de)  
KARDANISCHE ZWEIDIMENSIONALE ABTASTVORRICHTUNG MIT VERTIKALEN KAMMFÖRMIGEN ELEKTROSTATISCHEN ANTRIEBSVORRICHTUNGEN ZUR BETÄTIGUNG UND/ODER MESSUNG

Title (fr)  
ACTIONNEUR DE BALAYAGE BIDIMENSIONNEL A CARDAN DOTE DE XXX VERTICAL ELECTROSTATIQUE PERMETTANT L'ACTIVATION ET/OU LA DETECTION

Publication  
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Application  
**EP 01924326 A 20010322**

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Abstract (en)  
[origin: WO0173937A2] A two-dimensional scanner consists of a rotatable gimbal structure with vertical electrostatic comb-drive actuators and sensors. The scanner's two axes of rotation may be controlled independently by activating two sets of vertical comb-drive actuators. The first set of vertical comb-drive actuator is positioned in between a outer frame of the gimbal structure and the base, and the second set of vertical comb-drive actuator is positioned in between the iner part of the gimbal structure and the outer frame of the gimbal structure. The inner part of the gimbal structure may include a reflective surface, and the device may be used as a mirror. Furthermore, the capacitance of the vertical comb-drives may be measured to monitor the angular position of the mirror, and the capacitive position-monitoring signal may be used to implement closed-loop feedback control of the mirror angle. The two-dimensional scanner may be fabricated in a semiconductor process. Two-dimensional scanners may be used to produce fiber-optic switches.

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IPC 8 full level  
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