

Liquid Lens Eliminates Camera Shake

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Mobile phone cameras could be freed from the curse of shake-induced blur, thanks to a new liquid lens developed by Varioptic of Lyon, France, and shown at the Mobile World Congress in Barcelona last week. The A316S liquid-lens actuator provides optical image stabilisation by selectively tilting the lens within the camera module in real time, counteracting the wobble and refocusing the light.



Varioptic liquid lenses use a watertight cell containing two immiscible liquids. The shape of the liquid interface is controlled by a voltage, which in turn changes the power of the lens. The breakthrough in the A316S is to apply this distorting voltage selectively in different locations.

To determine the extent of vibration in the first place, the camera module is fitted with a motion sensor which measures the wobble and translates it into a voltage. A processor then decides where to best apply that voltage to the lens. The system uses less than 50 mW of power during a shot and can compensate for a camera shake of $\pm 0.6^\circ$, according to Varioptic. Additional applications suggest themselves, not least of which is cameras used in vehicles for driver-assistance systems.