

## **E1-08: Development of a thickness monitor**

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When conducting research on thin films deposited by evaporation techniques, monitoring of the thickness of these films is vital. We developed a thickness monitor at a low cost. It basically consists of a quartz crystal sensor, incorporated into an oscillator circuit, which provides and maintains a suitable resonance frequency. In the presence of a deposit on the surface of the crystal, the frequency changes according to the mass deposited. This change in the frequency can be used to calculate the thickness of the material deposited. The circuitry incorporated in this device uses IC's and other electronic components which are freely available in the local market, thus considerably lowering the cost of development.