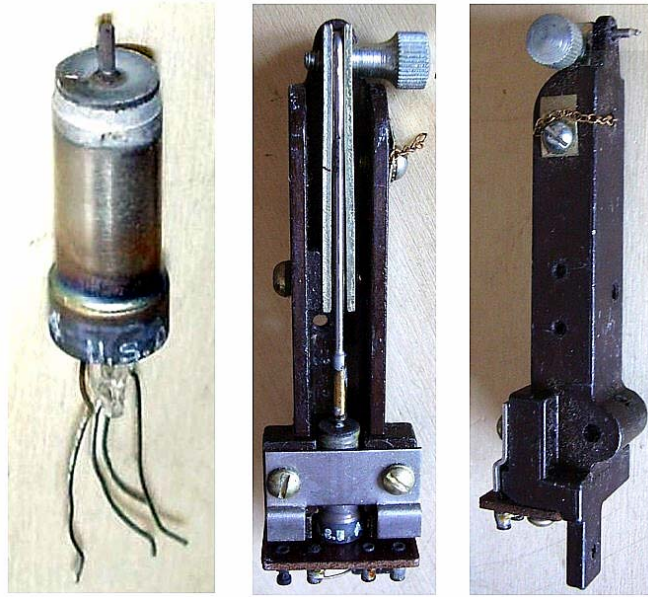


5734 – Electronic Vibration Sensor



Mechano-electronic traducer, triode-type. A cross-section of the tube is shown in the next page. The rod extending from the top protrudes internally, through the metal diaphragm, to form a tiny conical-shaped plate. Angular displacements of the shaft cause the anode to move with respect to other electrodes, so varying the plate current. The sensitive plate system is characterized for having very low mass and hence high resonant frequency.

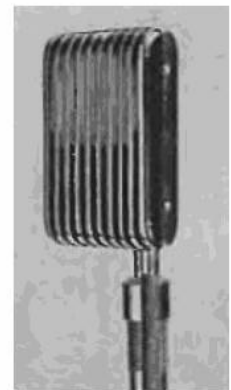
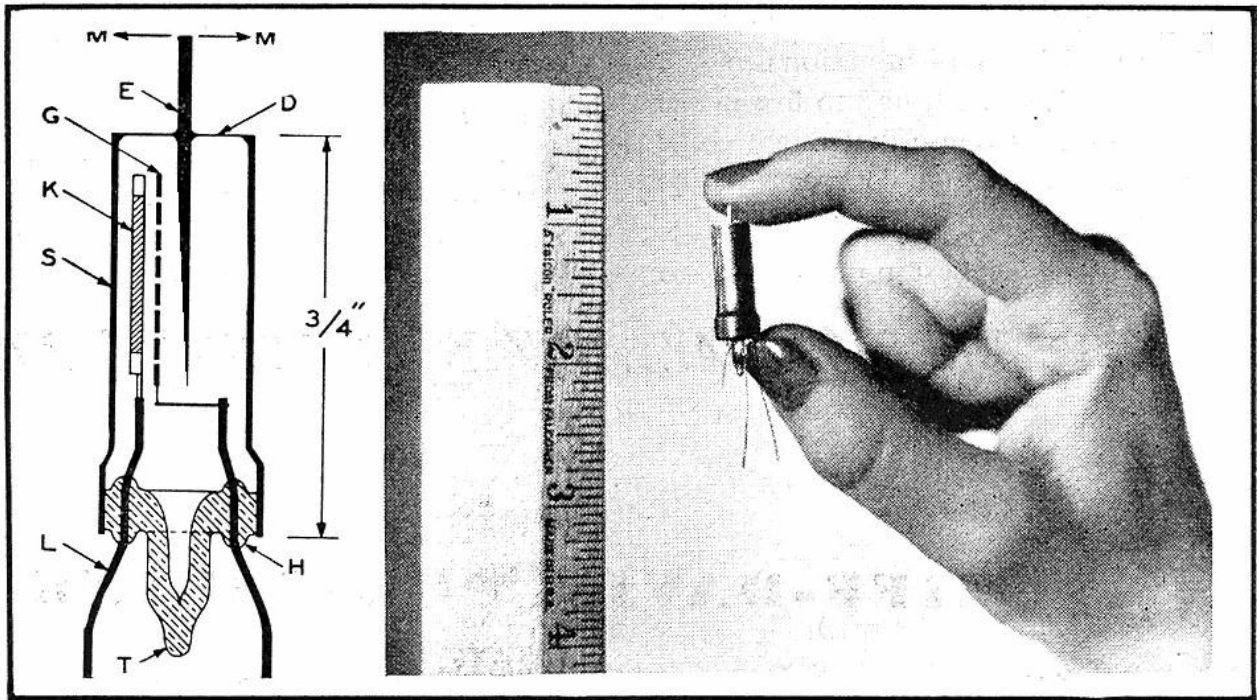
12000 cycles resonance. 0.5 degree maximum shaft displacement. Flying leads.

6.3V at 0.15A heater.

Originally proposed by RCA for use in audio applications, as microphones and phono pick-up cartridges to replace delicate crystal elements. The same RCA assembled demo units of record players and of microphones, as shown in this [1947 paper by Harry F. Olson](#). The two pictures on the right above show a pick-up prototype found in America on ebay some years ago. Probably the need for increasing frequency response over 15 kHz, derived from the introduction of microgroove records around 1950, caused the tube to be abandoned for audio applications. Anyway this quite unique sensor was used in other niche applications, as in this [roughness gage](#) described in Electronics, November 1953.

5734 was currently listed by Newark still in the early sixties, sold for 20,30 dollars unit price.

Registered to RCA in October 1948. Likely derived from a previous General Electric design described in [Electronics, March 1937](#). Data available in the RMA record [701](#).



Above the internal structure and overall dimension, less than 20 mm for the body, of the 5734 'Vibron'. Below the RCA prototypes of a record player and of a couple of microphones. Source of images below: [The Journal of the Acoustical Society of America, March 1947.](#)