



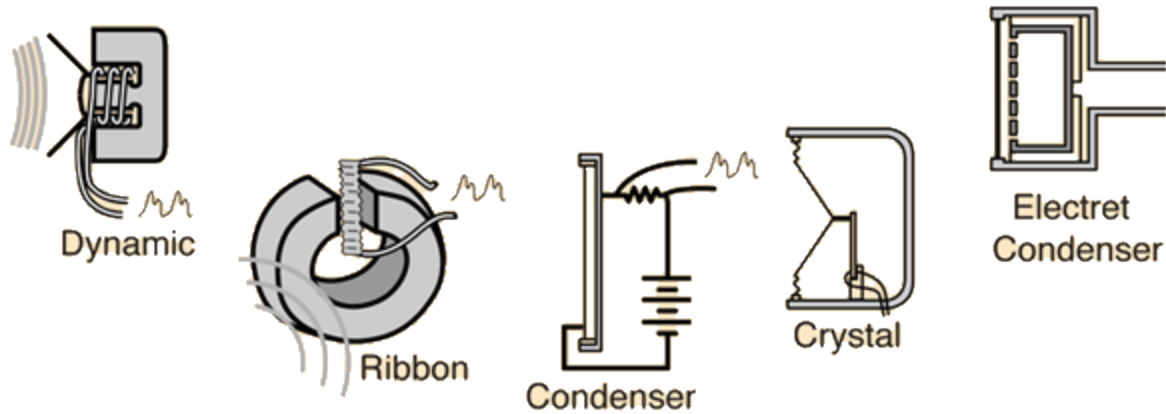
Microphones



▪ VISHAL

Introduction

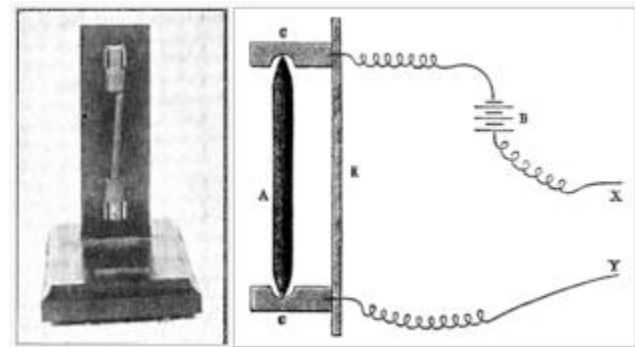
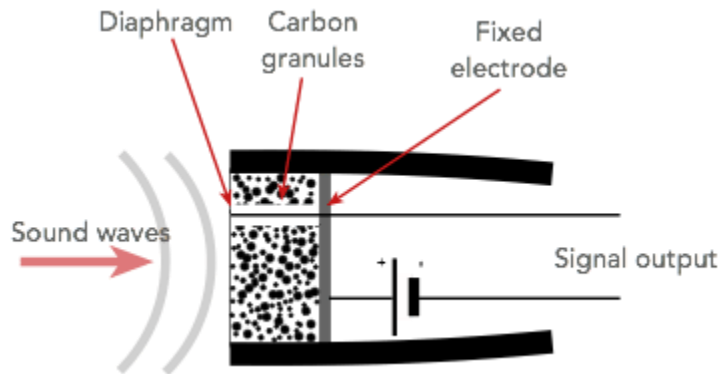
A **microphone** or **mic** is a transducer that converts sound into an electrical signal.



Different types of microphones

Carbon Microphone

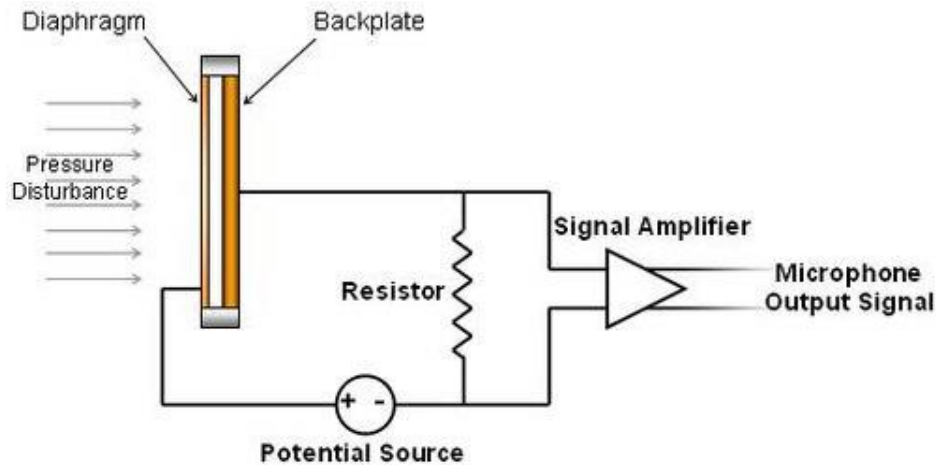
- ❑ The first microphone that enabled proper voice telephony.
- ❑ Independently developed around 1878 by David Edward Hughes in England and Emile Berliner and Thomas Edison in the US.



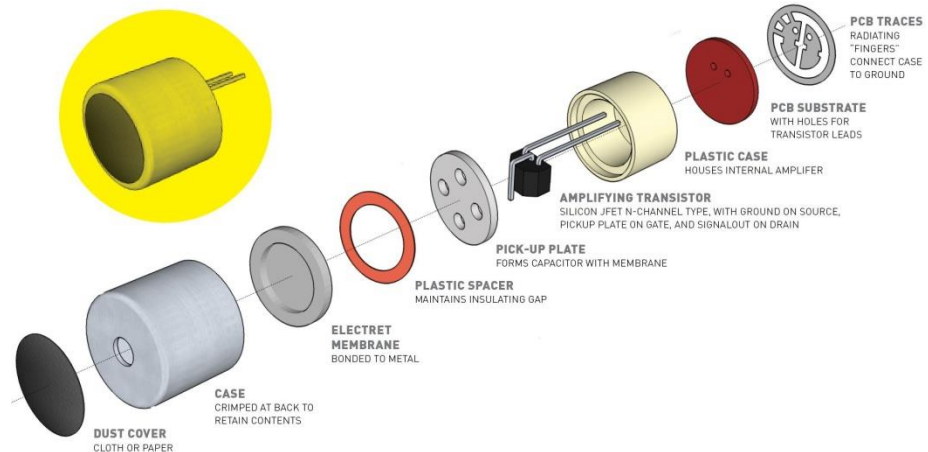
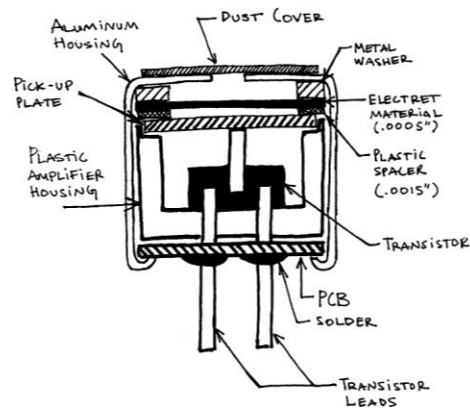
Hughes demonstrated his apparatus to the Royal Society by magnifying the sound of insects scratching through a sound box.

- ❑ Edison was awarded the patent in 1877.
- ❑ This microphone was employed at the first ever radio broadcast, a performance at the New York Metropolitan Opera House in 1910

Condenser Microphones



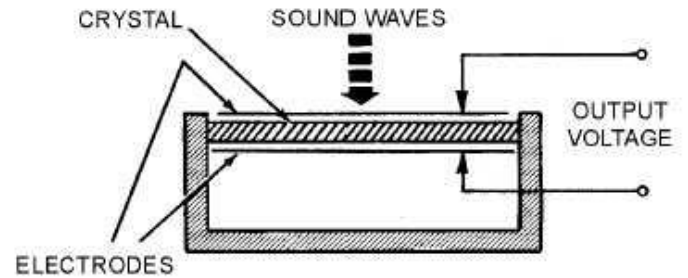
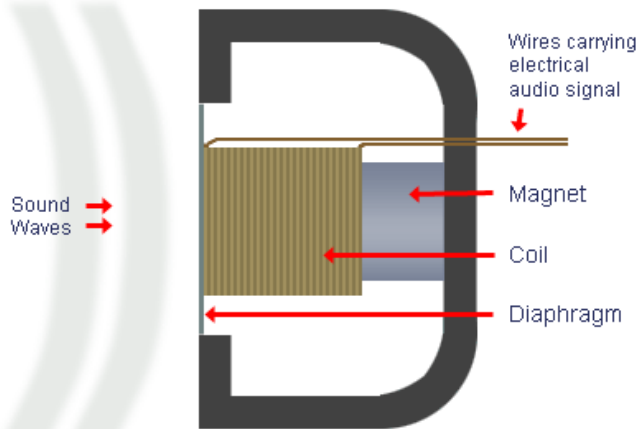
- ❑ The condenser microphone, invented at Western Electric in 1916 by E. C. Wente
- ❑ An electret microphone was invented by Gerhard Sessler and Jim West at Bell laboratories in 1962



Dynamic Microphone

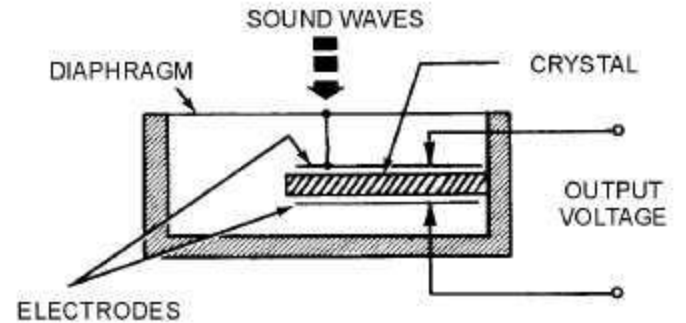
Crystal Microphone

Cross-Section of Dynamic Microphone



DIRECTLY ACTUATED TYPE

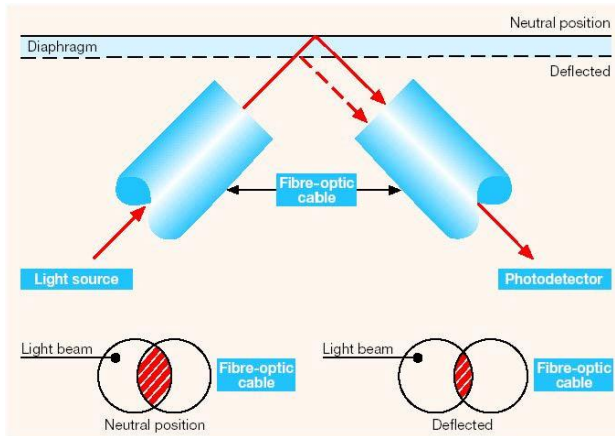
(A)



DIAPHRAGM TYPE

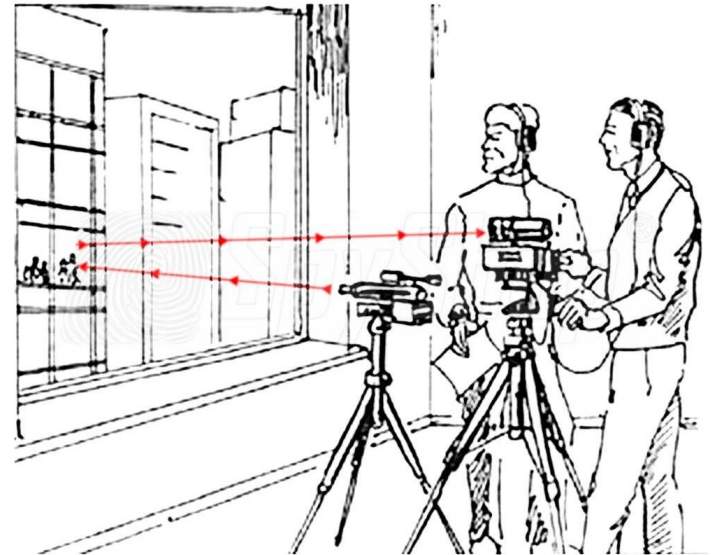
(B)

Fiber Optic Microphone

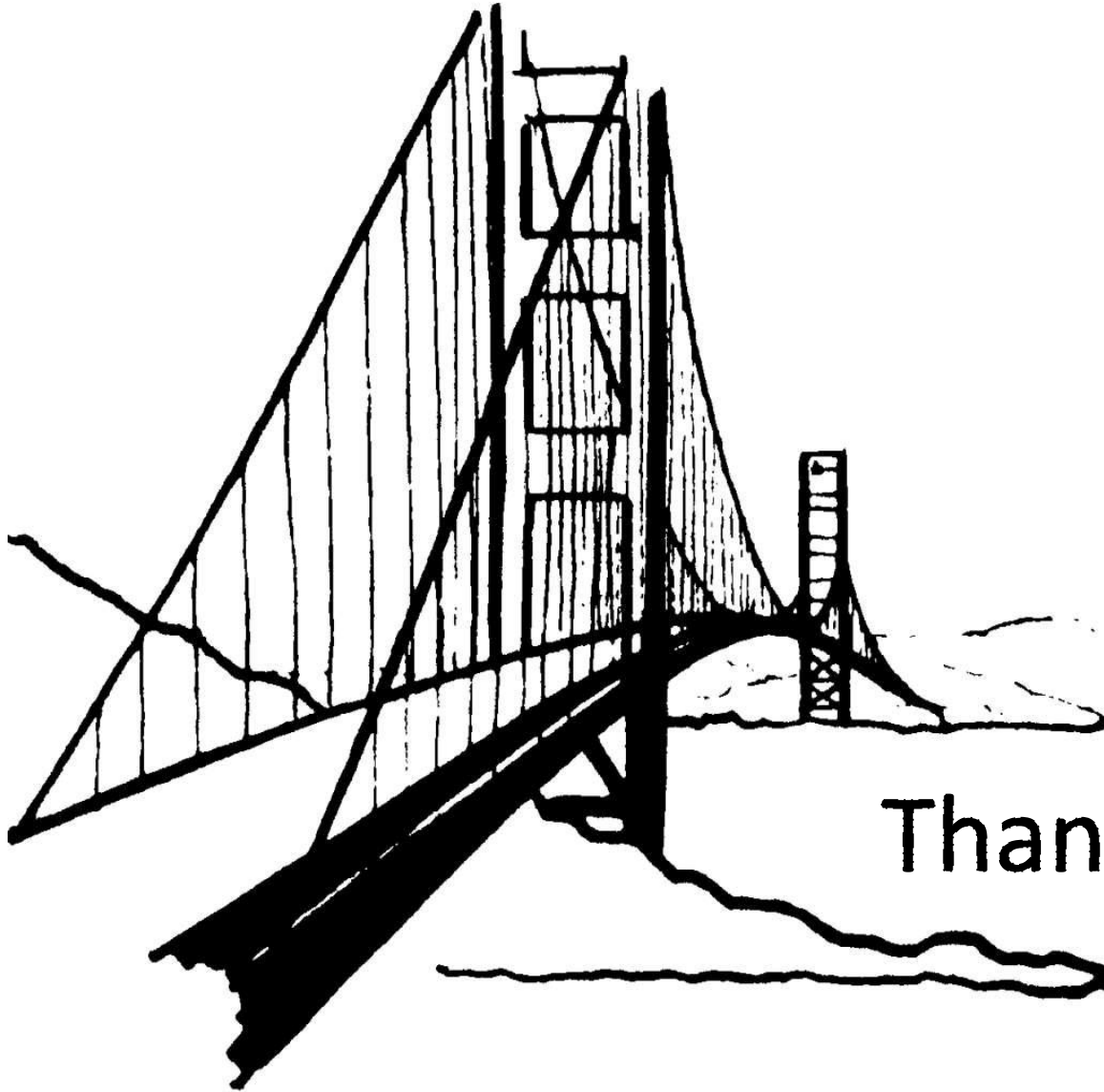


- ❑ Robust, resistant to environmental changes in heat and moisture, and can be produced for any directionality
- ❑ Well suited for environment where high magnetic field or electric field can affect the communication.

Laser Microphone



Used to determine that a building in Abbottabad contained a previously unseen male inhabitant – eventually determined to be Osama bin Laden.



Thank you