

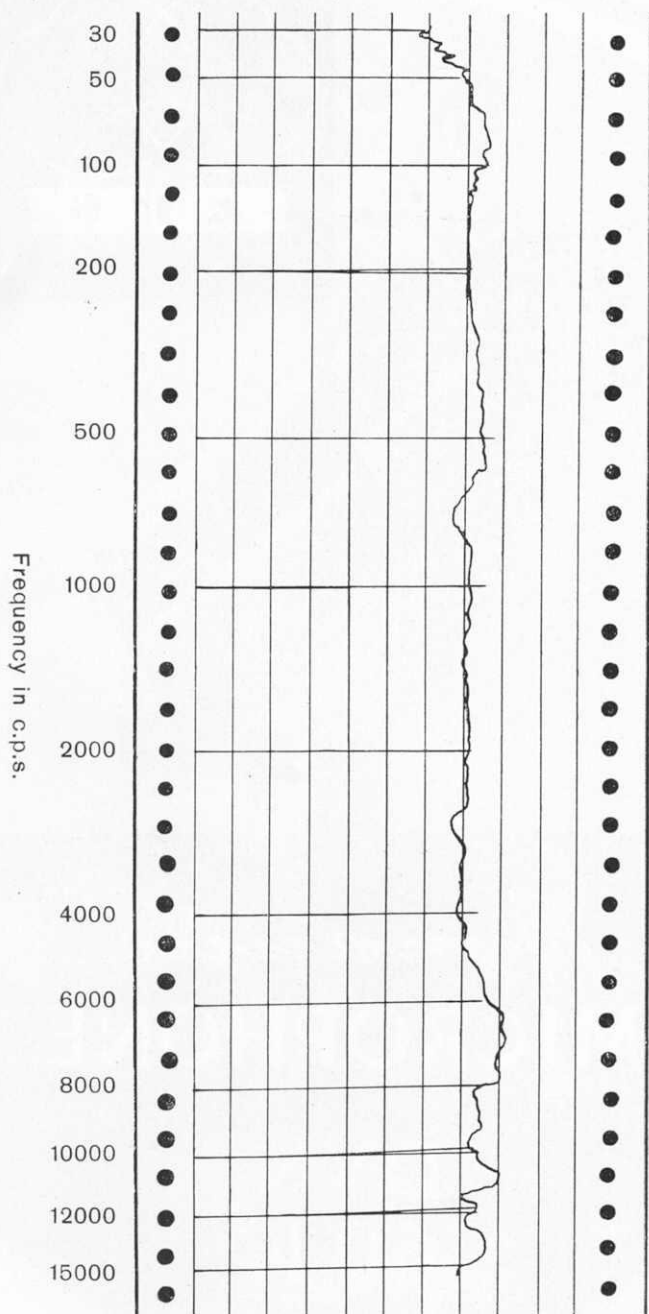


S T U R S A

*Dynamic*  
**MICROPHONE**

**DYN  
60 K  
STUDIO**

Frequency response at 0° angle of incidence



Sound pressure (1 division = 5 db)

Fig. 1

The DYN 60 K STUDIO Microphone is a pressure receiver of the moving coil type having an aperiodic spherical response characteristic and uniform sensitivity over a wide range of frequencies. It is mainly intended for studio work and for all electro-acoustical installations where there is a demand for very high fidelity reproduction. For many applications the omnidirectional characteristic is desirable. Large sound bodies such as orchestras, choirs or the organ — particularly in rooms having favourable reverberation constants — may be reproduced by the DYN 60 K STUDIO Microphone with a high degree of fidelity and brilliancy. But it is also suitable for close talking as, contrary to the tendency of directional microphones, to over-emphasize the lower frequencies at short distances, speech is reproduced without the slightest distortion, irrespective of range. The actual plotted curve of its frequency response is included with each individual instrument supplied. By virtue of its uniform sensitivity over a wide range of frequencies and its aperiodically omnidirectional response this microphone is highly suitable for sound measurement purposes.

**Frequency Response and Directional Characteristics.** Fig. 1 shows the frequency response for  $0^{\circ}$  angle of sound incidence. The almost identical shape of the response curves for various angles of sound incidence (not shown) is remarkable and proves the truly spherical characteristic which prevents distortion even when the instrument is used dieways. Expert design, precision craftsmanship and careful calibration of each microphone result in a response curve which, for  $0^{\circ}$  of sound incidence, does not deviate by more than  $\pm 2.5$  db from the horizontal, between 50 and 15,000 c.p.s.

**Sensitivity.** The DYN 60 K STUDIO Microphone will give an output of  $1 \text{ mV}/\mu\text{bar}$ .

**Impedance.** The moving coil, having an impedance of 60 ohms at 1000 c.p.s., is directly connected to the output terminals.

**Maximum Length of Leads.** As the electrical resistance of the microphone cable will be in series with that of the moving coil, the voltage will be divided and the loss introduced by the cable can, therefore, be computed by comparing the total resistance of the cable with that of the moving coil. The use of a good grade cable up to 600 ft in length does not usually lower overall sensitivity appreciably.

**Matching.** It is advantageous to increase the voltage fed to the grid of the first amplifier tube by inserting, between the microphone and the grid, a transformer having a high ratio and a sufficiently straight line frequency characteristic. Using a ratio of 1:30, the noise voltage of the first tube (approx.  $6 \mu\text{V}$ ) will be 54 db below the useful input to the grid,

at  $3 \text{ mV}/\mu\text{bar}$ . In order to avoid hum pickup from power transformers etc. efficient magnetic shielding of the microphone transformer is as essential as it's positioning at a sufficient distance and at an optimum angle with regard to the field of interference. Owing to the low M. C. impedance, shielding of the microphone cable is not absolutely essential.

All exposed parts of the microphone being precision ground and specially treated, humidity and dust do not in any way interfere with the satisfactory operation of the microphone. Reasonable care should, nevertheless, be taken in handling a precision instrument of this kind.

The vibratory characteristics of the diaphragm are determined mainly by acoustical mass, elasticity and impedance, the basic resonance thereby being made ineffective. This lack of a basic resonance, in conjunction with other details of design, make the 60 K STUDIO Microphone practically shock- and windproof.

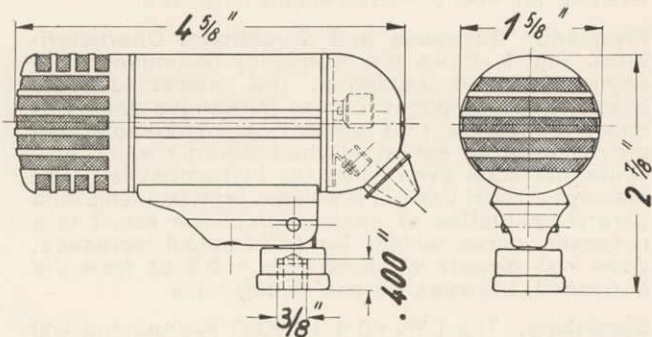


Fig. 2

**Dimensions:** see fig. 2

**Weight:** 14 ozs. net, 19 ozs. including case.

Each microphone is supplied in a handsome lined case.

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