

Electro-Voice

MICROPHONES

ELECTRO-VOICE, INC.
Buchanan, Michigan

TECHNICAL DATA SHEET No. 37

MODEL — 654

TYPE — DYNAMIC

The ELECTRO-VOICE Model 654 (See Fig. 1) is a dynamic type, non-directional microphone designed and engineered to the highest standards of high fidelity FM, AM and TV broadcast service. The exterior dimensions of the microphone make it particularly useful in solving the problems of TV staging. Yet, its slim, trim design is made possible without the necessity for closely associated auxiliary equipment. The traditional concept of bulk in dynamic microphones has been abandoned in the Model 654. Microphone diameter is only one inch and its length is less than 10 inches. The capacity of the magnetic circuit is equivalent to that of microphones having heads four times as large. The baton design of the 654 makes it handy for "pass around" use in audience participation and man-in-the-street shows. The microphone can be worked from any or all directions without audible frequency discrimination.

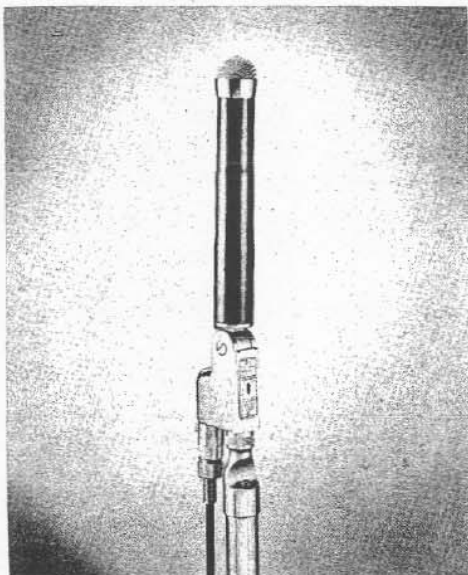


FIG. 1 — MODEL 654 MICROPHONE

PHYSICAL:

Microphone case is sturdy, extruded tube, finished in ebony black. The 654 is supplied with built-in blast filter of acoustically treated wire mesh grille which stops wind and breath blasts.

The case may be swiveled 90° on the microphone stud which is provided with standard $\frac{3}{8}$ "—27 thread for mounting on an upright stand. The stud is easily removed from the stand when the microphone is to be carried by hand.

Bass response of dynamic microphones depends upon the cubic capacity of the acoustic cavity behind

the diaphragm. In the 654 the dimensions of this cavity are held to limits that will permit excellent low frequency response without loss of level.

ACOUSTICAL:

The Model 654 microphone is omnidirectional at low frequencies, becoming directional at high frequencies. This characteristic is a function of the microphone case and does not classify the 654 as a directional microphone.

Microphone diaphragm is E-V's exclusive Acoustalloy, modified for optimum modulus of elasticity in small diameter. Because case cavity size is directly proportional to diaphragm area, the reduced case dimensions are possible with no loss of efficiency. Acoustalloy permits smoother response over a wider frequency range and is practically indestructible under normal use, resisting high humidity, temperature extremes, corrosive effects of salt air and severe mechanical shocks.

The built-in blast filter of the 654 effectively prevents wind and breath blasts from actuating microphone diaphragm, but does not impede passage of audio frequencies.

ELECTRICAL:

Frequency response is uniform from 50 to 14,000 cps. ± 2.5 db (See Fig. 3). Smooth, peak-free response reduces feedback problems and increases effective microphone listening level.

Power Rating: (0 db = 6mw/10 dynes/cm²) is —55 db, providing excellent signal-to-thermal noise ratio. Alnico V and Armco magnetic iron are combined in a non-welded magnetic circuit to develop 15,000 gauss, comparable to that available in microphone heads four times the size of that of the 654. The moving coil type generating element is free from proximity effect and requires no closely associated auxiliary equipment.

APPLICATION:

The Model 654 is specifically designed for high fidelity FM, AM, TV and public address pick-ups. Its small size makes it inconspicuous, easy to disguise in TV program staging. Wide-range frequency response, high fidelity characteristics and wide pick-up range make it particularly useful in audience participation shows and group work. It is recommended for all around public address work, indoors and outdoors, orchestra pick-up, auditorium and church installations and high fidelity recording.

MECHANICAL:

IMPEDANCE: 50 and 250 ohms. Line balanced to ground. Impedances selected by moving recessed switch in stand coupler with pencil point.

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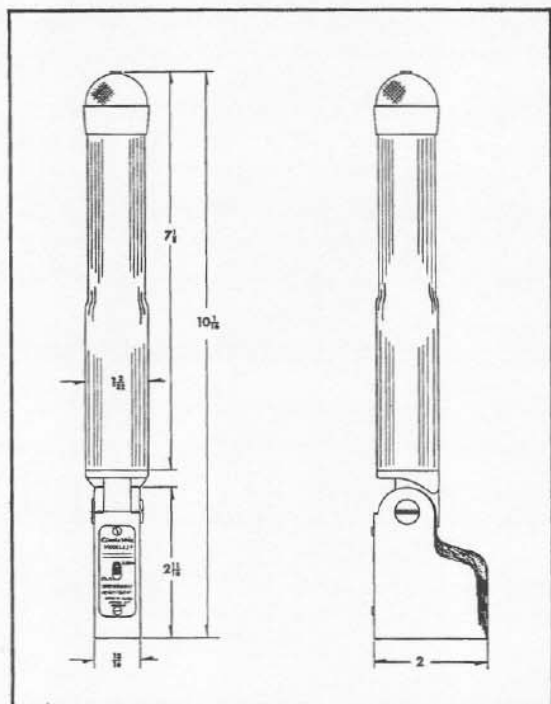


FIG. 2 — DIMENSIONS, MODEL 654

STAND COUPLER: Standard $\frac{5}{8}$ "—27 thread.

CABLE: 20 feet of two-conductor shielded, broadcast type cable.

CABLE CONNECTOR: Locking three contact wiping type. Cannon connector built into the microphone stud.

CABLE CONNECTIONS: Terminal No. 1 shield (ground), No. 2 and 3 Line.

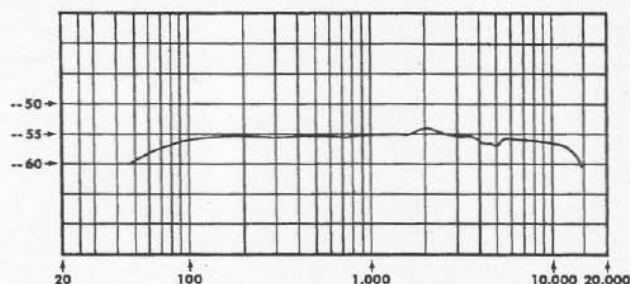


FIG. 3 — RESPONSE, MODEL 654

CASE: Sturdy, extruded tube. Finished in ebony black. Stud satin chromium.

DIMENSIONS: See Figure 2.

NET WEIGHT: Including Stud, 20 oz.

SPECIFICATIONS:

OUTPUT LEVEL: Power Rating:
(0 db = 6mw/10 dynes/cm²) —55 db.
RMA Sensitivity Rating: 151 db.

FREQUENCY RESPONSE:
50 to 14,000 cps. ± 2.5 db. See Figure 3.

POLAR PATTERN: Omnidirectional, becoming slightly directional at high frequencies.

DIAPHRAGM: Exclusive Acoustalloy, modified for optimum modulus of elasticity. Diaphragm diameter, $\frac{7}{8}$ ".

ELEMENT: Moving coil dynamic. Uses Alnico V in magnetic circuit. All parts precision ground to close tolerances.

WARRANTY: The E-V Model 654 is guaranteed against defects in workmanship or material.

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Litho in U.S.A.