



SHURE

222 HARTLEY AVE., EVANSTON, ILL. 60204 U.S.A.

MICROPHONES AND ELECTRONIC COMPONENTS

AREA CODE 312/328-9000 • CABLE: SHUREMICRO

DATA SHEET

MODEL ES50

UNIDIRECTIONAL DYNAMIC MICROPHONE FOR ACOUSTICALLY EQUALIZED SOUND

General: The basic role of the microphone in an equalized sound system is to pick up the program source without disturbing the uniformly distributed sound-adjustment which has been performed on the system. The feedback threshold, measured in half-octave bands, gives an overall picture of the performance potential of the microphone used in an equalized sound system. This measurement *includes* the effects of *frequency response* and *polar response*.

The design of the Model ES50 microphone has been specifically optimized to operate in equalized sound systems and to maintain a uniform feedback threshold characteristic.

The feedback threshold curve of the Model ES50 is shown in Fig. A.

NOTE that the feedback threshold in the useful operating range of 110 Hz. to 5000 Hz. is maintained at uniform level. This factor is imperative for optimum results from an equalized system at minimal costs. In the critical range above 5000 Hz. the response of the ES50 has been smoothly tailored to increase the feedback rejection in this region.

A further requirement of a microphone for use in an equalized system is its uniform phasing—the Model ES50 is 100% phase checked.

The microphone features:

- Response specially tailored for use in equalized sound systems
- True cardioid pickup pattern: symmetrical about axis and uniform at all frequencies
- Cartridge shock mounted for quiet operation
- Versatility—for use in the hand or on a stand
- An adjustable swivel adapter that enables you to aim the microphone where you want it. Swivel also allows for quick removal for use as a hand microphone

The Model ES50 is low impedance and is designed for connection to a 25 to 200 ohm line or input. This is recommended where long cable lengths are required or where there are conditions of severe hum disturbance. To use Model ES50 with a high impedance amplifier, use a Shure Model A95A Line Matching Transformer.



FURNISHED ACCESSORIES

Swivel Adapter A25B

OPTIONAL ACCESSORIES

Line Matching Transformer A95A
 Vibration-Isolation Stand S39A
 Desk Stand S33B
 Quick Disconnect Isolation Unit A47

ARCHITECT'S SPECIFICATIONS

The microphone shall be Shure Model ES50 or equivalent. A moving coil (dynamic) microphone with a frequency and polar response especially tailored for equalized sound systems, this unit shall have a cardioid polar characteristic. The feedback threshold measured in half-octave bands, shall be uniform from 110-5000 Hz. Above 5000 Hz, its response shall be peak free and smoothly rolled off. The cancellation at the sides shall be approximately 6 db and the cancellation at the rear shall be 15 to 20 db. The microphone shall have an impedance of 150 ohms for connecting into microphone inputs rated at 25 to 200 ohms. The microphone output shall be:

150 ohms impedance — 60.0 db

(0 db = 1 milliwatt with 10 microbars)

The microphone rating Gm (sensitivity) at 1000 Hz. shall be — 153.0 db

EIA Standard SE-105, August 1949

The microphone shall be provided with an adjustable swivel adapter. The microphone swivel adapter shall mount on a stand having a 5/8"-27 thread. The overall dimensions shall be 6-5/16 inches (160.3 mm) in length and 1-15/32 inches (37.3 mm) in diameter.

SPECIFICATIONS

Type:

Dynamic

Polar Pattern:

Cardioid (Unidirectional). Uniform with frequency, symmetrical about axis.

Feedback Threshold:

Uniform from 110 Hz. to 5000 Hz. Above 5000 Hz., its response shall be peak free and smoothly rolled off.

Microphone Rating Impedance:

150 ohms for connections into microphone inputs rated at 25 to 200 ohms.

Output Level:

1000 Hz. response

Model ES50 (150 ohms impedance)

Open Circuit Voltage—81.5 db*(.085 mv)

Power Level—60.0 db**

EIA Microphone Rating

Gm (Sensitivity)—153.0 db***

*0 db = 1 volt per microbar

**0 db = 1 milliwatt with 10 microbars

***0 db = EIA Standard SE-105, August 1949

Shock Mount:

Cartridge shock mounted for quiet operation.

Case:

Die-cast and "Armo-Dur".

Case Finish:

Non-reflecting gray paint.

Connector:

Professional three-pin male audio connector designed to mate with Cannon XL series, Switchcraft A3 (Q.G.) series, or equivalent connector.

Dimensions:

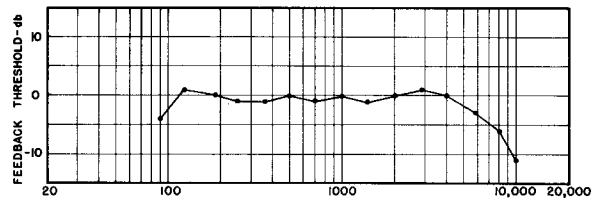
See Figure B.

Weight:

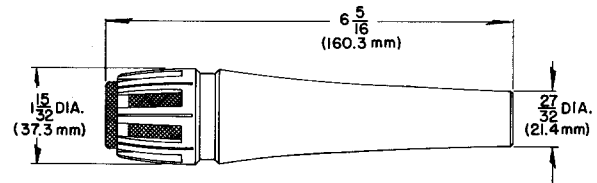
10½ ounces (297 grams)

Guarantee: This Shure product is guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from the date of purchase. Please retain proof of purchase date. This guarantee includes all parts and labor.

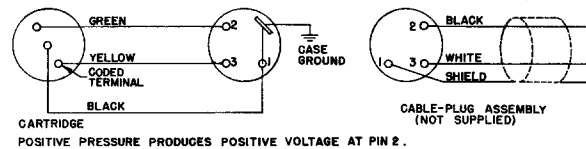
Shipping Instructions: Carefully repack the unit and return it prepaid to the factory. If outside the United States, return the unit to your dealer or Authorized Shure Service Center for repair. The unit will be returned to you prepaid.



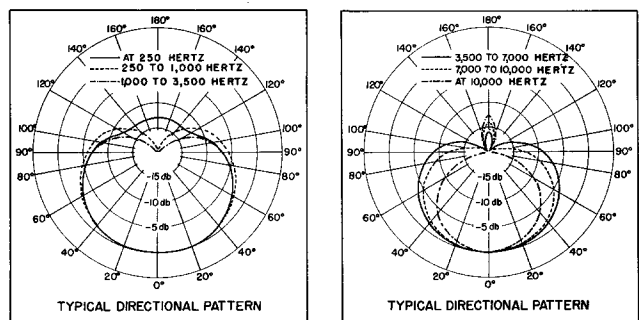
HALF OCTAVE FEEDBACK THRESHOLD
FIGURE A



OVERALL DIMENSIONS
FIGURE B



INTERNAL CONNECTIONS
FIGURE C



POLAR PATTERN
FIGURE D