

## OMNIDIRECTIONAL DYNAMIC MICROPHONES

**General:** The Models 51 and 51S are rugged microphones built to provide good reproduction of music and voice. The microphones are pressure dynamic type and have omnidirectional pickup characteristics.

The Models 51 and 51S are highly recommended for tape, wire, and disc recording, fixed or mobile public address paging systems, amateur communications and general communication service.

The microphones feature:

- High output and a response effective for announcing, narration, vocal music, and combo groups.
- A strong detachable cable, especially selected for good shielding from "hum" pickup.
- Very rugged mechanical design for reliable operation under severe conditions of use.
- A self-tensioning swivel which permits tilting so microphone can be aimed at source of sound.
- Built-in "On-Off" switch (Model 51S)

The Models 51 and 51S are multi-impedance for connecting into microphone inputs rated at 25 to 50 ohms, 150 to 250 ohms, or into high impedance microphone inputs.

The low impedances are recommended where long cable lengths are required or under conditions of severe hum disturbance. The permissible cable length is practically unlimited, since neither response nor level is appreciably affected. For use with high impedance amplifiers, Shure Model A95A Line Matching Transformer is available for coupling the low impedance line to the amplifier input.

### Impedance Selection

Selection of the various impedances is accomplished by changing the position of the switch at the front of the microphone. The switch positions are marked "L" for low impedance (25-50 ohms), "M" for medium impedance (150-250 ohms), and "H" for high impedance (35,000 ohms).

### OPTIONAL ACCESSORIES

- Line Matching Transformer .....A95A
- Vibration-Isolation Stand.....S39A
- Desk Stand.....S36A
- Quick-Disconnect Isolation Unit..... Model A47

**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.

### ARCHITECT'S SPECIFICATIONS

The microphone shall be the Shure Model 51S (51) or equivalent, A moving coil type microphone with a frequency range of 60 to 10,000 Hz. The microphone shall have an omnidirectional polar characteristic. The unit shall have a three-position impedance selection switch for selecting the microphone rating impedance f 25-50 ohms, 150-250 ohms, or 35,000 ohms.



The microphone output shall be:

- L -- 25-50 ohm impedance ..... -51.0 db\*
- M - 150-250 ohm impedance..... -51.0 db\*
- H-- High.....-48.5 db\*\*

\*0 db = 1 milliwatt per 10 microbars

\*\*0 db = 1 volt per microbar

The Model 51S shall have a built-in "On-Off" switch. The Model 51 shall have no "On-Off" switch. The microphone rating Gm (sensitivity) at 1,000 Hz. Shall be within ± 3 db of the following levels:

- "L" Position of switch ..... -144.0 db
- "M" Position of switch..... -143.0 db
- "H" Position of switch ..... -145.0 db

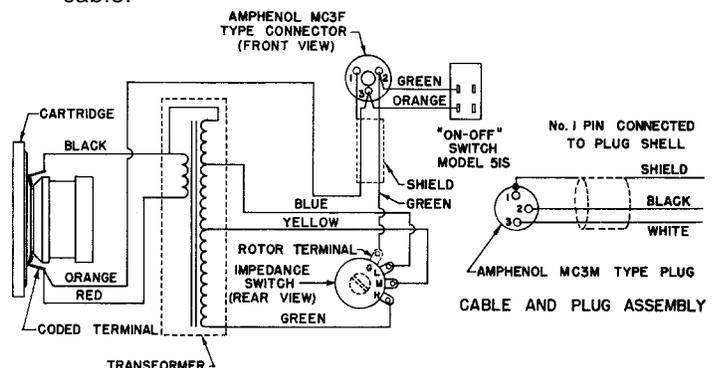
EIA Standard Rating SE-105 August 1949

The microphone shall be provided with a swivel adjustable from horizontal to 80° backward. It shall have a detachable cable connector capable of connecting to a two-conductor shielded cable. The microphone shall mount on a stand having 5/8"-27 thread. The overall dimensions shall be 4-17/32" (115.1 mm) high, 3 1/8" (79.4 mm) wide, and 3%" (98.4 mm) deep.

### REPLACEMENT COMPONENTS

Cable and Plug Assembly.....Model C55  
**Important:** Shure Microphone Cables are selected after exhaustive tests to insure superior performance in microphones because of low capacities, superior shielding properties and unusually long life under severe use.

Cables with plastic insulation should not be subjected to excessive soldering-iron heat. Carefully clean and tin the conductors and the connections to which the conductors are to be soldered. The soldering operation can then be done with a minimum of heat, thereby avoiding any possibility of damage to the cable.

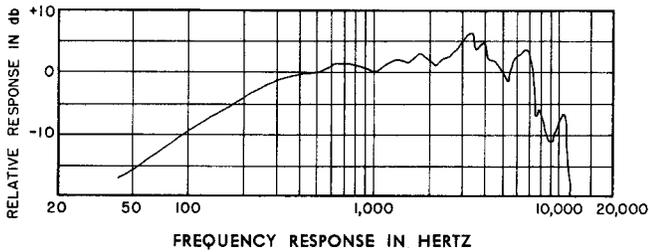


INTERNAL CONNECTIONS  
**FIGURE A**

## SPECIFICATIONS

**Type:**  
Dynamic

**Frequency Response:**  
60 to 10,000 Hz. See Figure B.



**FIGURE B**

**Polar Pattern:**  
Omnidirectional.

**Output Level:**  
1,000 Hz. Response

Models 51 and 51S "L" Position:

Open Circuit Voltage Level .. - 78.5 db\* (0.118 mv)  
Loaded with 40 ohms ..... - 85.0 db\*  
Power level into 40 ohms..... - 51.0 db\*\*  
E.I.A. Microphone Rating  
Gm (Sensitivity)..... -144.0 db\*\*\*

Models 51 and 51S "M" Position:

Open Circuit Voltage Level .. - 71.5 db\* (0.265 mv)  
Loaded with 250 ohms ..... - 77.0 db\*  
Power level into 250 ohms... - 51.0 db\*\*  
E.I.A. Microphone Rating  
Gm (Sensitivity)..... -143.0 db\*\*\*

Models 51 and 51S "H" Position:

Open Circuit Voltage Level .. - 48.5 db\* (3.75 mv)  
Loaded with 100,000 ohms.. - 51.0 db\*  
E.I.A. Microphone Rating  
Gm (Sensitivity)..... -145.0 db\*\*\*

\* 0 db = 1 Volt per Dyne per sq. cm.

\*\* 0 db = 1 Milliwatt with 10 Dynes per sq. cm.

\*\*\* E. I. A. Standard SE-105, August 1949.

### Microphone Rating Impedance:

Equipped with multi-impedance switch, furnishing a choice of 3 impedances: "L" for connections into microphone inputs rated at 25 to 50 ohms; "M" for connections into microphone inputs rated at 150 to 250 ohms; and "H" for connections into high impedance microphone inputs.

### Cable:

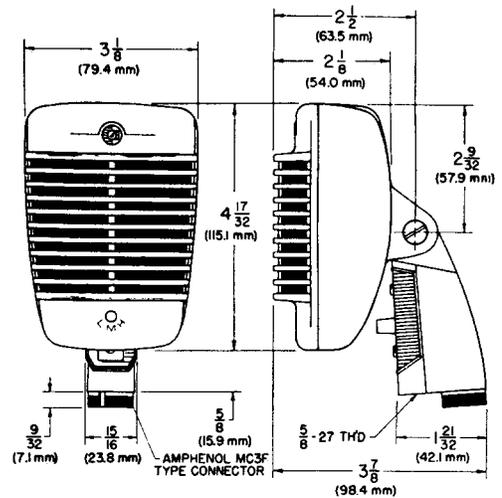
15 foot (4.6 m) two-conductor shielded with Amphenol MC3M type microphone plug on the microphone end

### Case:

Chrome-plated die cast.

### Dimensions:

See Figure C.



**OVERALL DIMENSIONS**

**FIGURE C**

### Switch:

Model 51 None

Model 51S Built-In "ON-OFF" switch to control microphone circuit. The switch is an integral part of the receptacle assembly and is a slide-to-talk locking type switch.

### Net Weight (Less Cable):

1 3/4 pounds (794 grams)

### Packaged Weight:

3 1/8 pounds (1,417 grams)