

SHURE

MICROPHONES AND ELECTRONIC COMPONENTS

EVANSTON PHONE DA 8-9000 • CHICAGO PHONE SH 3-1600

DATA SHEET**Models**
440 and 440SL

General: Model 440 and Model 440SL microphones are pressure operated units using the balanced armature controlled magnetic principle and especially designed to have high intelligibility for radio communications and are especially designed for the narrow audio frequency range required for single side band transmission. The microphones have high output level, smooth response, and a semi-directional pickup characteristic.

The Model 440SL is an integral assembly of a microphone, a grip-to-talk, slide-to-lock switch (see operation) and a desk stand. The grip-to-talk switch is similar to the Shure A88A, having the same long-life features to withstand the most severe field requirements of paging and dispatching systems. The switch has a large comfortable grip bar which minimizes hand and finger fatigue. After the bar is pressed, a positive downward pressure on the grip bar locks the switch. The switch cannot be accidentally locked, and the unit can be picked up without actuating the switch.

The microphone case, switch case, and the stand are of die cast metal and are streamlined for improved acoustical performance and modern appearance.

Applications: The Model 440 and the Model 440SL are particularly suited for use in single side band transmission as used in mobile and fixed station use in Police, Fire, Utility, Forestry Transportation Services and Amateur Communications. The response cuts off sharply below 300 c.p.s. and above 3000 c.p.s. with an average rising characteristic for speech intelligibility. This response characteristic is especially effective in the presence of noise.

The Model 440 and 440SL are, also, suitable for public address, call systems and radio telephone.

Installation: The Model 440 microphone has a standard $\frac{5}{8}$ "—27 thread and can be mounted on any desk or floor stand.

In the Model 440SL assembly, the microphone and switch are pre-assembled, but the base and cable and plug assembly are separate. To assemble base to switch use the following instructions:

1. Place microphone switch assembly in the recess at the top of the base. Fasten switch to base by means of special attachment screw included. Use a large screw driver or coin to turn screw down tightly.
2. Insert cable-connector plug into microphone receptacle. Turn locking ring down tightly.
3. Place cable in groove in the bottom rear of the base. Clamp cable to base by means of the clamping plate and two machine screws which are furnished.

Connections: Most amateur equipment is wired to use either VOX (voice operated relay control) or a push-to-talk switch. The Model 440SL has been designed to provide maximum flexibility with both types of operation.

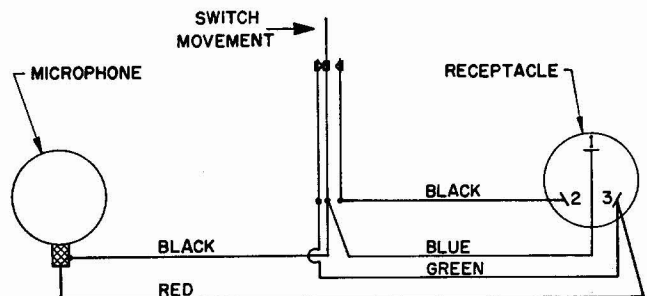


FIG. A

- A. Using the microphone as supplied, the grip-to-talk switch operates both the microphone circuit and an external relay or control circuit. Connect all leads to the proper terminals of the equipment. (See equipment manual). By using the white and shield leads (microphone circuit) or by connecting the shield and black leads together and connecting to the proper terminals, the grip-to-talk switch will operate the microphone circuit but the external relay or control circuit is not operated, and the microphone can be VOX operated with the microphone being muted by the switch.
- B. By the minor modification of cutting the green lead (see Figure A and instructions below) the microphone circuit is removed from the switch action and the switch will operate the external relay or control circuit in push-to-talk operation. The microphone can be used for VOX operation and the microphone can not be muted.

The modification is made as follows:

1. Remove the integral assembly of the microphone and switch from the desk stand.
2. Remove the 4-40 phillips head screw from the bottom of the switch case and pull out the bakelite receptacle.
3. Disconnect the green wire from pin #3, insulate the bare end of the wire, and put the wire back into the switch case.
4. Replace the bakelite receptacle and the 4-40 phillips head screw.
5. Assemble the microphone and switch to the desk stand.

To obtain optimum flexibility between either VOX or push-to-talk operation.

- C. The Shure Model A87K Kit will modify the microphone by placing a switch in the black lead from the receptacle. The grip-to-talk switch of the microphone can then be used to operate the microphone circuit and the external relay or control circuit can be operated or NOT operated by grip-to-talk switch by changing the position of the A87K switch. This will permit instant change-over from VOX operation to push-to-talk operation and still retain the microphone circuit switch to mute the microphone in either operation.

Operation: No special precautions beyond ordinary care are necessary in the operation of the Models 440 and 440SL Microphones. They will operate satisfactorily under ordinary conditions in hot and cold climates. To retain the full strength of the permanent magnet and to maintain alignment of structure, dropping or other severe mechanical shocks should be avoided.

The 440SL microphone, as supplied, has a switch which is a momentary contact (non-locking) type. For use as a grip-to-talk switch, grasp the switch with hand pressing the bar with fingers. If desired, the switch may be converted to a grip-to-talk, slide-to-lock switch. This may be done by loosening the number 5-40 Phillips Head machine screw, directly beneath the switch bar, rotating the "Stop-Plate" one-half turn and retightening the machine screw. To lock, press the bar and simultaneously apply force downward with the index finger until the switch bar slides and is locked in position. To unlock, slide bar up with fingers.

Specifications:

	MODEL 440	MODEL 440SL
Height Overall	2½" (61.1mm) Dia.	9¾" (238.1mm)
Length Overall	3¼" (82.6mm)	7" (177.8mm)
Width Overall	2½" (61.1mm) Dia.	5" (127mm)
Finish	Gray and Chrome	Gray and Chrome
Net Weight with 7' (2.1m) Cable	¾ lb. (340g)	2½ lbs. (1134g)
Shpg. Weight with 7' (2.1m) Cable	1½ lbs. (680g)	5 lbs. (2272g)

Voltage Sensitivity

Model 440 and 440SL

Open circuit voltage— 52.5 db * (2.38 mv)

E.I.A. Microphone Rating G_M

Sensitivity—142.3 db**

* odb = 1 volt per microbar

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

Microbar = one dyne per square centimeter

Frequency Response: 300 to 3000 c.p.s.

Recommended Load Impedance:

100,000 ohms or more

Guarantee: Each microphone is guaranteed to be free from electrical and mechanical defects for a period of one year from date of shipment from the factory, provided all instructions are complied with fully. In case of damage, return the microphone to the factory for repairs. Our guarantee is voided if the microphone case is opened.

SHURE

The Mark of Quality