

FIGURE 1 - Dimensions

DESCRIPTION

The Electro-Voice 620 is a pressure-gradient microphone with excellent noise-cancelling characteristics. It is especially designed for those paging, dispatching, and call systems in which background noise is extraordinarily high, or for elimination of feedback under difficult acoustical conditions. In such applications, the 620 allows the user to speak closely into the microphone in a normal voice, while distant noise is greatly attenuated. Frequency response is designed to insure excellent intelligibility and high level.

The diaphragm in the 620 is constructed of non-metallic Acoustalloy® material. It is practically indestructible, withstands high humidity, extreme temperature, and the corrosive effects of salt air. The mechanical nesting principle of design, by which the internal parts of the 620's transducer are closely fitted one within another, results in a mechanical structure that is unaffected by mechanical shock.

The attractively styled, rugged, die-cast stand is carefully balanced for hand-held use as a "grip-to-talk" microphone, yet will remain firmly positioned for "touch-to-talk" use. The lifetime switch assembly has survived many hundreds of thousands of use cycles—assuring the ultimate in reliability. Removal of a single mounting screw permits changing switching from "touch-to-talk" to "grip-to-talk". A unique feature permits locking the switch in the "on" position for "hands-free" operation in either "grip-to-talk" or "touch-to-talk" mode. If desired, this locking feature can be defeated by changing the position of the red switch bar. This operation is described on the next page.

SPECIFICATIONS

Element:	Dynamic
Frequency response:	200 to 4000 Hz
Impedance:	Available as 150 ohms or Hi-Z (150 ohms balanced to ground)
Output level,	
Low Impedance:	-57 dB (0 dB = 1 mw/10 dynes/cm ²) (measured at 1/4-inch)
High Impedance:	-57 dB (0 dB = 1 v/dyne/cm ²) (measured at 1/4-inch)
Case:	Cyclac and die-cast zinc
Dimensions:	9-11/16" (246mm) h., 4½" (114mm) w., 4-13/16" (122mm) d.
Finish:	Non-reflecting gray
Net Weight:	2 lbs., 4 oz. (1.02k)
Switch:	DPDT, long-life switch shorts microphone in "off" position, operates external relay in "on".

NOTE: See switch instructions for connections.

Cable,	
Low Impedance:	16' (4.87m), four-conductor, two shielded.
High Impedance:	6½' (1.98m), four-conductor, one shielded.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be an Electro-Voice 620 or equivalent. The microphone shall be noise-cancelling dynamic type with uniform frequency response from 200 to 4000 Hz. The diaphragm shall be of non-metallic Acoustalloy® material. The microphone shall have one of the following impedances: 150 ohms or high-impedance. High-impedance models shall work into a standard input impedance of .25 to 5 megohms. Low impedance shall be balanced to ground. The output level for high impedance

620 "PRESS-TO-TALK" DYNAMIC MICROPHONE

shall be -57 dB with 0 dB = 1 volt/dyne/cm². The output level for 150 ohms shall be -57 dB with 0 dB = 1 mw/10 dynes/cm². EIA sensitivity rating shall be -152 dB for 150 ohms and high impedance. Magnetic circuits shall be non-welded and shall employ Alnico V and Armeo magnetic iron.

A DPDT switch shall be provided, one section of which shall normally short-circuit the transducer when switch is in "off" position and remove short-circuit in the "on" position. (Provisions shall be made for connecting for normally open mode in "off" position and closing the microphone circuit for "on" position for multiple paging installations). A second section of the switch shall be provided with the capability of functioning either in the electronic switching mode or for operation of an external relay. A locking feature shall be provided by means of which the switch may be locked in "on" position. This locking feature may be defeated by changing the position of the switch bar. A 16-foot black plastic-jacketed, 4-conductor, two shielded cable shall be furnished with model 620 low impedance. A 6½-foot black, plastic-jacketed, 4-conductor, one shielded cable shall be furnished with model 620, high impedance.

The microphone case shall be of Cyclac with non-reflecting gray finish, and shall be mounted on an integral pressure-cast zinc table stand. The complete assembly shall be $9-11/16$ " (246mm) high, $4\frac{1}{2}$ " (114mm) wide, and $4-13/16$ " (122mm) deep. The finish of the integral stand shall be non-reflecting gray. Net weight shall be approximately $2\frac{1}{4}$ pounds with cable.

The Electro-Voice 620 (specify high or low impedance) is specified.

DEFEATING LOCKING FEATURE

In the push-to-talk configuration (with switch in microphone base), the locking action of the 620's red switch bar may be defeated by re-orienting the red switch bar as follows:

1. Remove two screws and cover plate from the bottom of the microphone.
2. Slip cable strain relief "H" from slot (Figure 7).

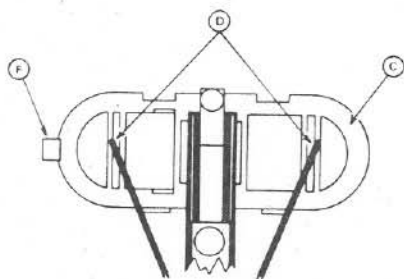


FIGURE 2 -

Switch Bar Oriented for Locking/Non-Locking Operation

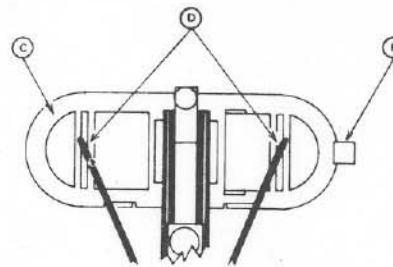


FIGURE 3 -

Switch Bar Oriented for Non-Locking Operation

3. Remove screw "A" and gently lift switch assembly "B" and red switch bar "C" away from microphone housing (Figure 7).
4. Separate red switch bar "C" from switch assembly by lifting switch legs "D" away from the microphone housing (Figures 2 and 7).
5. Replace red switch bar "C" for non-locking operation so that tab "F" is at the opposite side of the switch assembly, as shown in Figure 3. Figure 2 shows switch bar "C" in the locking/non-locking position, as shipped.
6. Carefully replace switch assembly "B" and red switch bar "C".
7. Align screw "A" with brass cable strain relief, switch mounting hole and threaded hole from which it was removed, and tighten securely.
8. Check the action of the switch to insure that all wires are properly seated and have not become entangled in the switch assembly.
9. Make sure the cable strain relief grommet is properly seated at the rear of the base, and replace bottom plate with two screws.

The 620 is now ready for non-locking operation. To restore locking/non-locking operation, perform in reverse and in reverse order the steps outlined above.

CHANGING SWITCH CONNECTIONS

The 620 Lo-Z is shipped with switch connections as shown in Figure 4. The 620 Hi-Z is shipped as shown in Figure 6. Both arrangements short the microphone output in the "off" switch position.

The switch assembly is easily accessible for wiring revisions. First remove the bottom cover plate, then remove the single switch assembly "hold down" (Phillips) screw to release the assembly for easy access to switch terminals.

Parallel Operation of 620 Lo-Z. If the 620 Lo-Z is to be used in applications such as multiple microphone paging installations (where several units are connected in parallel to a single microphone input) connections should be revised as shown in Figure 5. This connection "opens" the microphone output when the switch is in the "off" position. Note: "open-when-off" operation is not advisable with the 620 Hi-Z due to the high susceptibility of high-impedance circuits to induced hum.

1. Move yellow cable conductor from switch terminal No. 2 to switch terminal No. 3. Connect green lead from microphone head to switch terminal No. 2. Red lead from microphone heads should remain connected, with orange cable conductor, to switch terminal No. 1.
2. Return switch assembly to proper position and tighten switch assembly "hold down" screw.

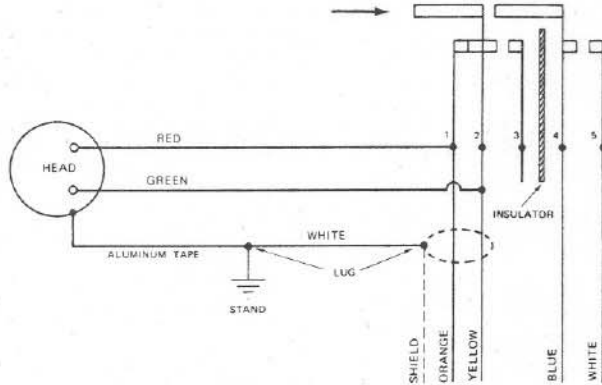


FIGURE 4 - Lo-Z Wiring, as Shipped

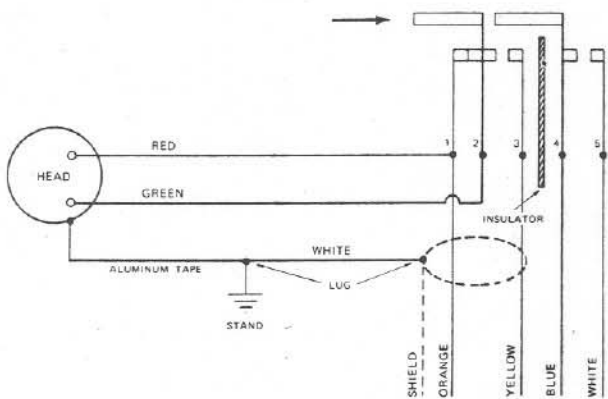


FIGURE 5 - Lo-Z Wiring, Modified for "Head-Open-When-Off" Operation

CHANGING SWITCH LOCATION

This microphone is designed for push-to-talk or grip-to-talk operation. When received from the factory, the switch is mounted on the base for push-to-talk use. If desired, the switch may be relocated without any wiring changes to the neck of the microphone for grip-to-talk operation.

To relocate the switch, proceed as follows:

1. Remove the black plastic cover from the neck of the microphone by gently lifting one end with a flat blade. This will expose the grip-to-talk switch opening. Save the cover - it will be needed for the opening on the base of the microphone.

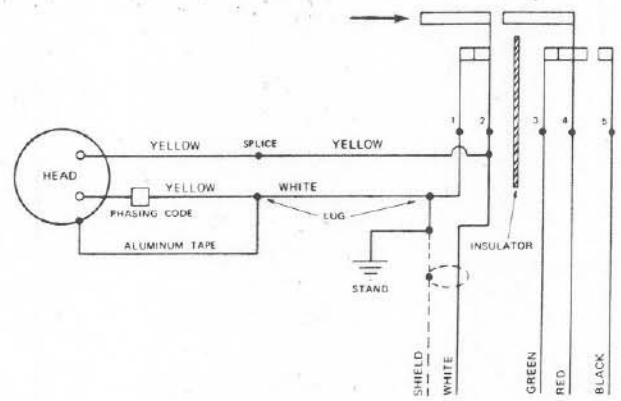
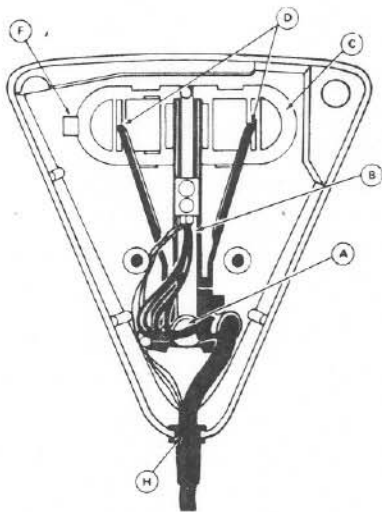


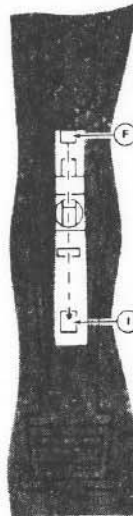
FIGURE 6 - Hi-Z Wiring for Relay Operation, as Shipped

2. Remove two screws and the cover plate from the bottom of the microphone.
3. Slip strain relief "H" (Figure 7) from slot.
4. Remove screw "A" (Figure 7) and gently lift switch assembly "B" and red switch bar "C" away from microphone housing.
5. Separate red switch bar "C" from switch assembly by lifting switch legs "D" away from the microphone housing (Figure 7).
6. Rotate the red switch bar 90 degrees. Insert tab "F" on switch bar in slot "1" on switch assembly (Figure 8). Squeeze legs "D" together and insert in slot on switch bar.
7. Now turn entire switch assembly so top surface of the switch bar faces the front of the microphone and, making sure all leads are neatly positioned at back of microphone neck along rib "J", push the switch assembly into the neck until the switch button is aligned with the opening (Figure 9).
8. Align screw "A" with brass cable strain relief, switch mounting hole and threaded hole from which it was removed, and tighten securely.
9. Check the action of the switch to ensure that all wires are properly seated and have not become entangled in the switch assembly.
10. Make sure the cable strain relief grommet is properly seated at the rear of the base, and replace bottom plate with two screws.
11. Place the black plastic cover in the opening (from which red switch bar was previously removed) on the base by inserting the two tabs into the opening and snapping into position.

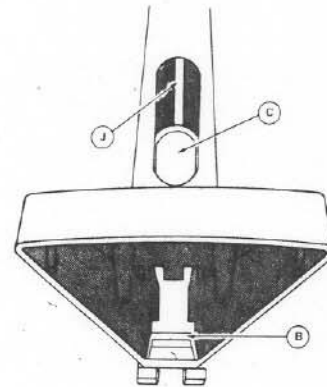
The microphone is now ready for grip-to-talk operation. To restore touch-to-talk operation, perform in reverse and in reverse order the steps outlined above.



**FIGURE 7 - Switch in
"Push-to-Talk" Position**



**FIGURE 8 - Switch in
"Grip-to-Talk" Position**



**FIGURE 9 - Inserting Switch
Assembly for "Grip-to-Talk"**

WARRANTY

Electro-Voice microphones are guaranteed for the life of the microphone against malfunction due to defects in workmanship and materials. If such malfunction occurs, microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish, appearance items, cables, cable connectors, or switches and does not cover malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For correct shipping address and instructions on return of Electro-Voice products for repair and locations of authorized service agencies, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Mich. 49107 (Phone: 616/695-6831).

Electro-Voice also maintains complete facilities for non-warranty service.

Part No. 535692 - 351

a Gulton COMPANY ELECTRO-VOICE, Inc., 600 CECIL ST., BUCHANAN, MICH. 49107.

MANUFACTURING PLANTS AT ■ BUCHANAN, MICH. ■ NEWPORT, TENN. ■ SEVIERVILLE, TENN. ■ GANANOQUE, ONT. ■ LITHO IN U.S.A.