



**Electro-Voice®**  
a gulton company

## Model 621/622 Dynamic Microphone

### SPECIFICATIONS

**Element,**

**621/622:**

Dynamic

**Frequency Response,**

**621:**

70-10,000 Hz

**622:**

200-4,000 Hz

**Polar Pattern,**

**621:**

Omnidirectional

**622:**

Cardioid

Pressure-gradient,

Noise cancelling

**Impedance,**

**621:**

Hi or Lo-Z (150 ohm)

**622:**

Lo-Z only (150 ohm)

**Output Level,**

**621:**

Hi-Z -57 dB

(0 dB = 1 volt/Dyne/cm<sup>2</sup>)

Lo-Z -57 dB

(0 dB = 1 mW/10 dynes/cm<sup>2</sup>)

**622:**

-57 dB

(0 dB = 1 mW/10 dynes/cm<sup>2</sup>)

**EIA Sensitivity Rating,**

**621:**

Hi-Z -153 dB

Lo-Z -152 dB

**622:**

-152 dB

**Diaphragm,**

**621/622:**

Acoustalloy®

**Case,**

**621/622:**

Pressure-cast zinc  
and cyclolac

**Dimensions,**

**621/622:**

246.1 mm (9.69") high,

114.3 mm (4.5") wide,

122.2 mm (4.81") deep

**Finish,**

**621/622:**

Nonreflecting gray

**Net Weight,**

**621/622:**

822 g (1 lb, 13 oz)

**Switch,**

**621/622:**

Leaf, DPDT, switches

external circuit and shorts

or opens mike in "off" position

**Cable,**

**621/622:**

213 m (7 ft) long, 5-conductor,

2 shielded, vinyl jacket, black

### DESCRIPTIONS AND APPLICATIONS

The Electro-Voice Model 621 replaces the Model 619 and the Electro-Voice Model 622 replaces the Model 620. The Model 621 is a dynamic omnidirectional microphone especially designed for a wide variety of communications and paging applications. The Model 622 is similar except the 622 contains a noise cancelling dynamic microphone element. Both microphones are adaptable for amateur, CB, aeronautical, and commercial base station installations.

The wide range smooth frequency response (70 to 10,000 Hz) makes the Model 621 highly useful for public address applications like council and board meetings, and similar situations where multiple microphone installations require individual "on-off" operation.

The Electro-Voice Model 622 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 622 allows the user to speak closely into the microphone in a normal voice, while distant noise is greatly attenuated. Frequency response is designed to ensure excellent intelligibility and high level.

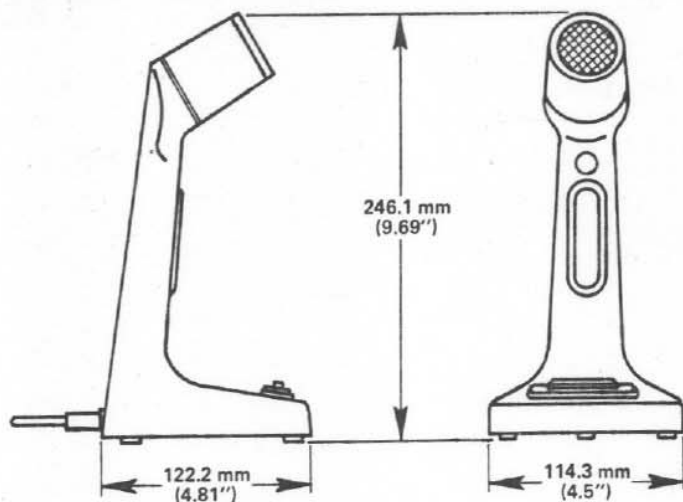


FIGURE 1 – Dimensions

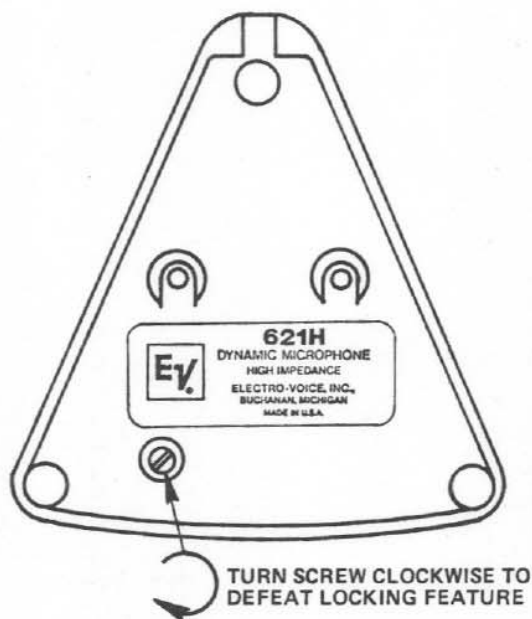


FIGURE 2 – Bottom View of 621/622

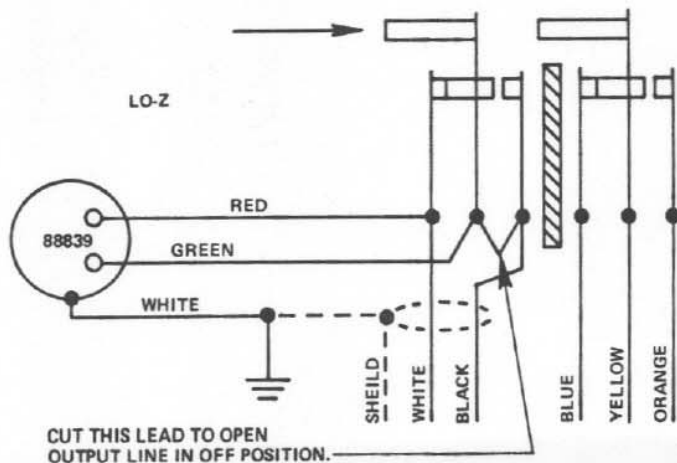


FIGURE 3 – 621 Lo-Z and 622 Wiring Diagram

The Models 621 and 622 feature the exclusive Electro-Voice Acoustalloy® diaphragm. This non-metallic diaphragm withstands high humidity, temperature extremes, and corrosive effects of salt air. The mechanical nesting principle of design by which the internal parts of the 621 transducer are closely fitted one within another, results in a mechanical structure that is nearly impervious to damage from 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. The entire switching mode can be changed from "touch-to-talk" to "grip-to-talk." The unique locking feature permits locking switch in the "on" position for "hands free" operation in either "grip-to-talk" or "touch-to-talk" mode. In addition there is an adjustment that permits the locking feature to be defeated. This control is accessible when the switch is used in the "touch-to-talk" position.

The Models 621 and 622 are shipped wired for operation of an external relay.

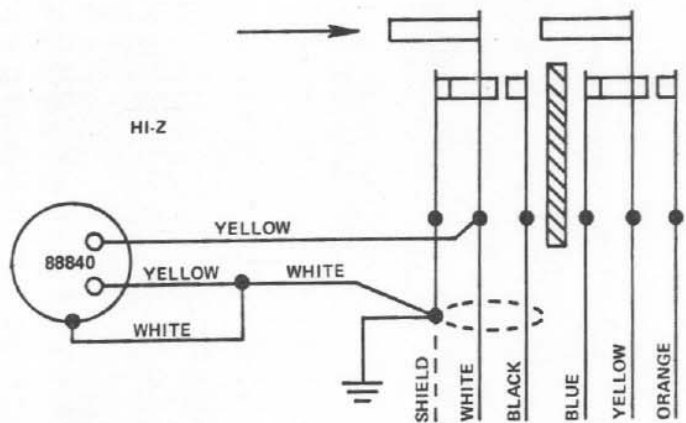
#### LOCKING FEATURE

In the "touch-to-talk" configuration the switch can be locked in the "on" position by depressing the switch bar and sliding to the right. When the switch assembly is mounted in the "grip-to-talk" position, the switch bar is depressed and slid upwards to lock. To unlock the switch bar the procedure is reversed.

#### DEFEATING THE LOCKING FEATURE

With the switch in the "touch-to-talk" configuration the locking feature may be defeated by an adjustment screw located through the access hole in the bottom plate. (See Figure 2) Rotating the screw fully clockwise defeats the locking feature.

To defeat the switch locking feature in the "grip-to-talk" configuration, the adjustment must be made prior to moving the switch assembly to the neck location. To restore the locking feature turn the adjustment screw counter-clockwise until locking is now possible.



USE SHIELD AND WHITE WIRE FOR SHORTED OUTPUT IN OFF POSITION. USE SHIELD AND BLACK WIRE FOR OPEN OUTPUT IN OFF POSITION.

FIGURE 4 - 621 Hi-Z Wiring Diagram

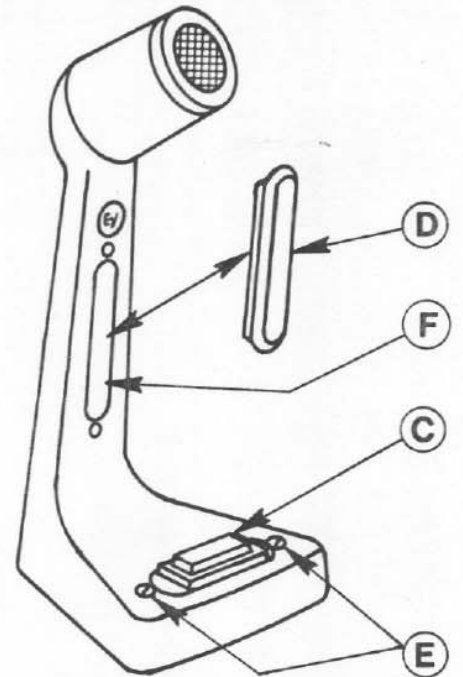


FIGURE 6 - Location of switch, cover, and Mounting Holes

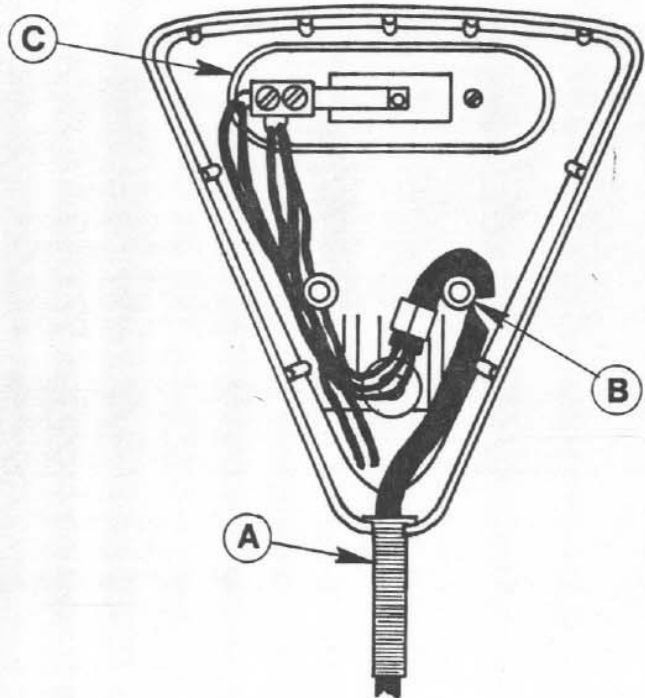


FIGURE 5 - Bottom side of Microphone Showing Switch in "Touch-to-Talk" Position

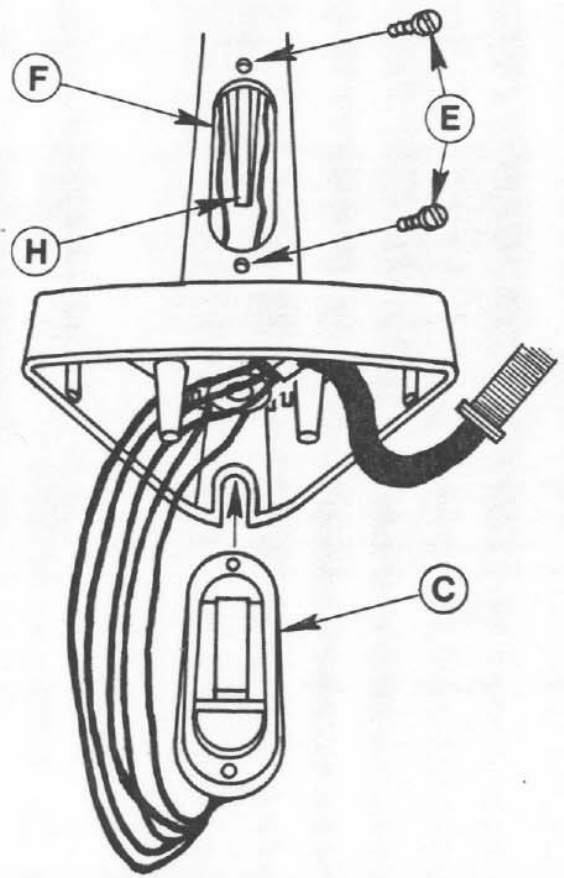


FIGURE 7 - Orientation of Switch for Mounting in "Grip-to-Talk" Position

## CHANGING SWITCH CONNECTIONS

The 621 Lo-Z and 622 are shipped with switch connections as shown in Figure 3. The 621 Hi-Z is shipped as shown in Figure 4. As shipped the 621 Lo-Z and 622 microphones have shorted outputs in the "off" position. The 621 Hi-Z has a shorted and open output in "off" position available at the end of the cable. See Figures 3 and 4 for complete instructions.

The switch assembly is easily accessible for wiring revisions. First remove the bottom cover plate, then remove the two switch assembly screws to release the assembly for easy access to switch terminals. See Figure 5.

### Parallel Operation of 621 Lo-Z and 622.

If the 621 Lo-Z or 622 are to be used in applications such as multiple microphone paging installations (where several units are connected in parallel to a single microphone input) changes should be made as shown in Figure 3. Cutting the short wire "opens" the microphone output when the switch is in the "off" position. Note: "open-when-off" operation is not advisable with the 621 Hi-Z due to the high susceptibility of high-impedance circuits to induced hum. However, the capability is available as noted in Figure 4.

## CHANGING SWITCH LOCATION

These microphones are designed for "touch-to-talk" or "grip-to-talk" operation. When received from the factory, the switch is mounted on the base for "touch-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 "D" (Figure 6) 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.
2. Remove two screws and the cover plate from the bottom of the microphone.
3. Slip strain relief "A" (Figure 5) from slot.
4. Remove two screws "E" (Figure 6).

Gently lift switch assembly "C" away from microphone housing.

5. Now turn entire switch assembly so top surface of the switch bar faces the front of the microphone with wires protruding from bottom of switch as shown in Figure 7. Making sure all leads from microphone cartridge are neatly positioned at back of microphone neck along rib "H" (Figure 7), push the switch assembly into the neck until the switch button is aligned with the opening "F" (Figure 7).
6. Secure switch assembly in neck with the two screws "E" (Figure 7).
7. Check the action of the switch to ensure that all wires are properly seated and have not become entangled in the switch assembly.
8. Loop cable around boss "B" and seat strain relief spring "A" (Figure 5) at rear of base and replace bottom plate with two screws.
9. Place the black plastic cover "D" 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 order the steps outlined above.

## ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphones shall be Electro-Voice Models 621/622 or equivalent. The Model 621 shall be an omnidirectional, dynamic type with wide range uniform response from 70 to 10,000 Hz. The Model 622 shall be a noise cancelling dynamic with uniform response from 200 to 4000 Hz. The microphone output impedance shall be (specify 150 ohm or high for 621 and Lo for 622). The output level shall be -57 dB with 0 dB equalling (specify: 1 volt/dyne/cm<sup>2</sup> at high impedance or 1 mW/10 dynes/cm<sup>2</sup> at 150 ohms.) EIA sensitivity rating shall be (specify: -153 dB at high impedance or -152 dB at 150 ohms). The microphone case shall be cyclac and pressure-cast zinc, and it shall include a pressure-cast table stand integral with the microphone case. The complete assembly shall be 246.1 mm (9.69") high, 114.3 mm (4.5") wide, and 122.2 mm (4.81") deep.

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 microphone paging installations.) A second section of switch shall be provided with the capability to function either in an electronic switching mode or for operation of external relay. A locking feature shall be provided by means of which switch may be locked in "on" position. A 2.13 m (7 ft) black plastic jacketed, five-conductor, two-shielded cable shall be furnished. The finish of the integral stand and microphone shall be non-reflecting gray. Net weight shall be 822 g (1 lb, 13 oz).

The Electro-Voice Model 621/622 is specified.

## WARRANTY (Limited) —

Electro-Voice General Purpose Microphones are guaranteed without time limit against malfunction in the acoustic system due to defects in workmanship and materials. (Any active electronics incorporated in a microphone is guaranteed for three years from date of original purchase against such malfunction.) 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 repair information and service locations, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone 616/695-6831) or 7473 Avenue 304, Visalia, CA 93277 (209/625-1330,-1).

Electro-Voice also maintains complete facilities for non-warranty service of E-V products.

Specifications subject to change without notice.