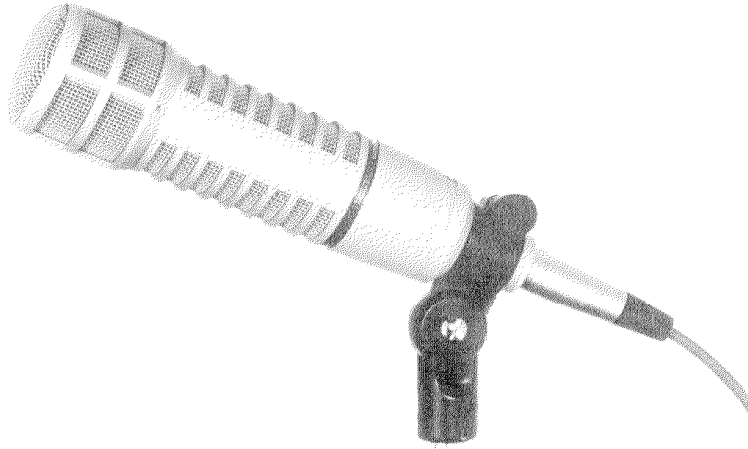


**Electro-Voice®**

a MARK IV company



## Model RE20 Variable-D® Dynamic Cardioid Microphone

### SPECIFICATIONS

Element:  
Dynamic  
Frequency Response:  
45-18,000 Hz  
Polar Pattern:  
Cardioid  
Impedance:  
50, 150 and 250 ohms  
changed by solder connections  
Sensitivity,  
Open Circuit Voltage:  
1.5 mV/Pascal at 1,000 Hz  
Power Level:  
- 57 dB at 1,000 Hz  
(0 dB = 1 mW/Pascal)

Case Material:  
Steel

Dimensions:  
216.7 mm (8.53 in.) long,  
54.4 mm (2.14 in.) widest diameter,  
49.2 mm (1.94 in.) body diameter

Finish:  
Fawn beige micomatte

Net Weight:  
737 g (1 lb, 10 oz) without cable

Cable:  
4.6 m (15 ft), 2-conductor shielded,  
rubber-jacketed, brown broadcast-type  
cable, supplied with Switchcraft A3F  
connector on microphone end

Accessories Furnished:  
81715 stand adapter

Optional Accessories:  
Model 309 shock mounted stand adapter  
for use with floor stand or  
recording boom

### DESCRIPTION AND APPLICATIONS

The Electro-Voice Model RE20 is a professional quality dynamic cardioid microphone created specially for recording, broadcast, and sound reinforcement applications requiring essentially flat response over a very wide frequency range. The wide frequency response, coupled with excellent transient response, makes the RE20 easily comparable to the finest condenser cardioid microphones, however, the RE20 is virtually free of bass-boosting "proximity effect" when used close, because in design it is a Continuously Variable-D microphone. An easily operated "bass tilt down" switch corrects spectrum balance for use in long-reach situations, or other applications where bass attenuation is needed.

A true cardioid microphone, the RE20 offers greatest rejection at 180° off axis — directly to the rear of the microphone. Directional control is so effective that the frequency response is nearly independent of angular location of sound source, creating virtually no off-axis coloration yet providing greatest possible rejection of unwanted sounds.

An integral blast and wind filter covers each acoustic opening on the RE20. At recording sessions and on stage, singers can "close talk" the microphone, singing with their lips almost touching the grille screen with no worry of "p-pops" or excessive sibilance. Part of the filter also shock mounts the internal microphone element, reducing the transfer of vibrations from external sources.

Using the mechanical nesting concept of design — the internal transducer parts are nested one within another — the RE20 is able to withstand all rigors of professional use.

The RE20 is supplied wired for 150 ohms impedance. Fifty- and 250-ohm impedances are available through a simple wiring change (see "Changing Impedance Connections" section).

### CHANGING IMPEDANCE CONNECTIONS

The RE20 is shipped wired for 150 ohms. Fifty or 250 ohms may be obtained, however, through the following procedure:

1. Refer to Figure 4. Insert a screwdriver in small hole "A" at the rear of the microphone. Turn counterclockwise until the captive screw "bottoms".
2. Gently remove insert "B" exposing rear cover holddown screw "C" (Allen head).
3. Disengage screw "C" from main microphone body with an Allen wrench.
4. Carefully remove rear cover "D" to expose several solder terminals as shown in Figure 5.
5. Impedance may now be changed by moving the red wire to one of the open solder terminals (marked 250 and 50).
6. Replace the rear cover by reversing Steps 1 through 4. Be sure that locating

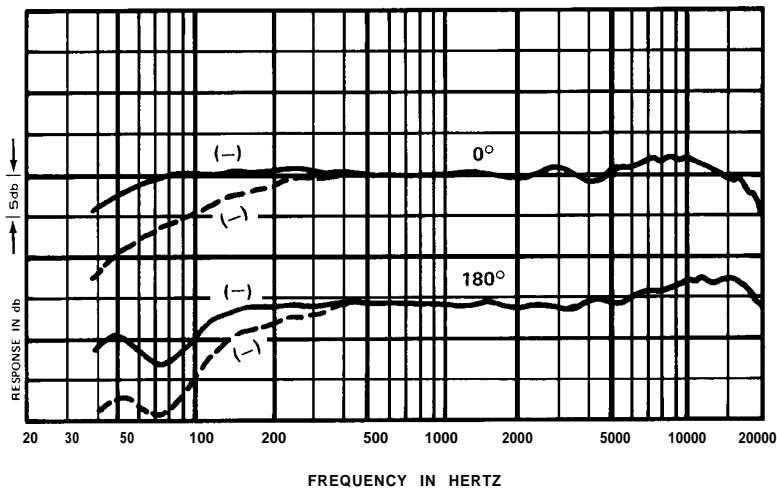


FIGURE 1 - Frequency Response

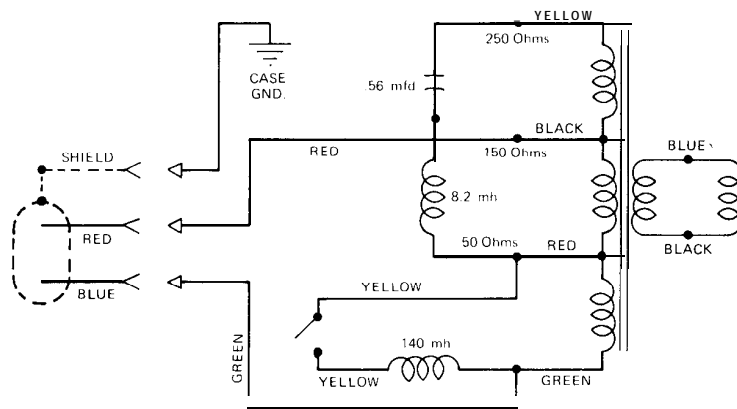


FIGURE 2 -Wiring Diagram

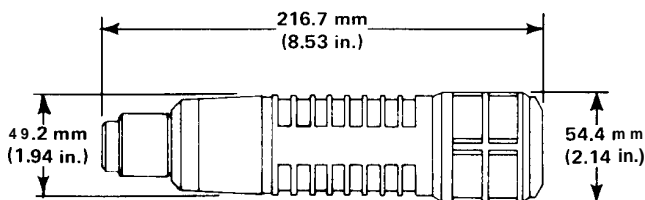


FIGURE 3 -Dimensions

pin "E" engages the rear cover "D" as the cover is re-installed. Be sure that no wires are pinched in the re-assembly process.

The RE20 is now ready for operation at the newly selected impedance.

#### ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a cardioid type with integral blast filter protecting all acoustic openings. The blast filter shall also serve as a shock mount for the internal microphone element. The microphone shall have a wide-range uniform frequency response from 45 to 18,000 Hz.

An integral passive network shall be provided so that when the filter switch is in the "on" position, low frequency response shall tilt down 4.5 dB from 400 to 100 Hz. With switch in "off" position, microphone shall be essentially "flat" from 80 to 6,000 Hz, with a broad 2.5 dB rise in response from 6,000 to 14,000 Hz, and nominally down 3 dB at 18,000 Hz. Response below 80 Hz shall be nominally down 3 dB at 45 Hz. Output level shall be - 57 dB (0 dB = 1 mW/Pascal). Nominal impedances of 50, 150, and 250 ohms shall be selectable by changing an internal solder connection

Response at any angular position away from the major axis shall be essentially similar to the response on the major axis, but attenuated uniformly at all frequencies by an amount appropriate to that angular position. Attenuation at frequencies from 45 to 10,000 Hz (refer to major axis signal value) shall exceed 15 dB at 180° from major axis in any plane. Attenuation above 10,000 Hz shall exceed 13 dB. Polar characteristics shall be sufficiently uniform in all planes so that it is, effectively, a cardioid of revolution.

There shall be a shield to prevent dust and iron particles from reaching the diaphragm. The case shall be made of steel. The microphone shall have a maximum diameter of 54.4 mm (2.14 in.), a body diameter of 49.2 mm (1.94 in.), and a length of 216.7 mm (8.53 in.). Finish shall be non-reflecting fawn beige micomatte. A 15 ft., two-conductor shielded, broadcast-type, synthetic rubber-jacketed cable with Switchcraft A3F connector installed, shall be provided. The

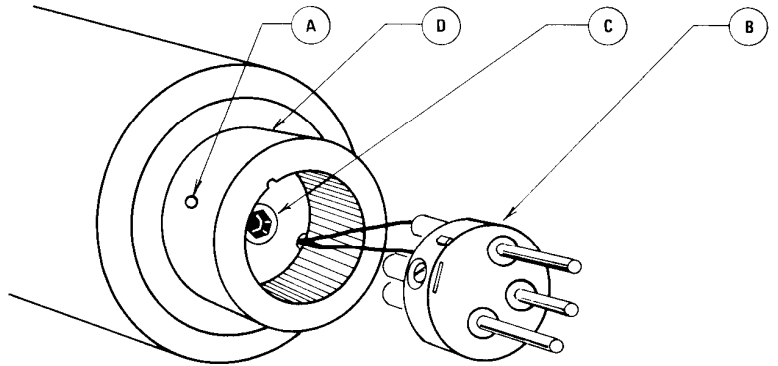
microphone shall have a built-in connector similar or equivalent to the Switchcraft A3M. A No. 81715 stand adapter shall be supplied. The Electro-Voice Model RE20 is specified.

**WARRANTY (Limited)**

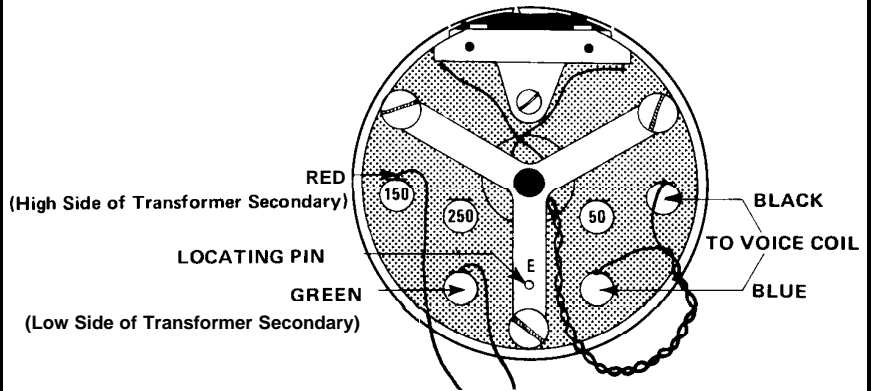
Electro-Voice Professional, PL & BK Series Microphones are guaranteed against malfunction from any cause for a period of two years from date of original purchase. Also, these microphones are guaranteed without time limit against malfunction in the acoustic system due to defects in workmanship and material. Any active electronics Incorporated in the microphone are guaranteed for three years from date of original purchase for parts and labor 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 extend to finish, appearance items, cables, cable connectors, switches, or malfunction due to abuse or operation under other than specified conditions, nor does it extend to incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. Repair by other than Electro-Voice or its authorized warranty service agencies will void this guarantee. A list of authorized warranty service centers is available from Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107 (AC/616-695-6831); or Electro-Voice West, 8234 Doe Avenue, Visalia, CA 93291 (AC/209-651-7777). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Service and repair address for this product: Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107.

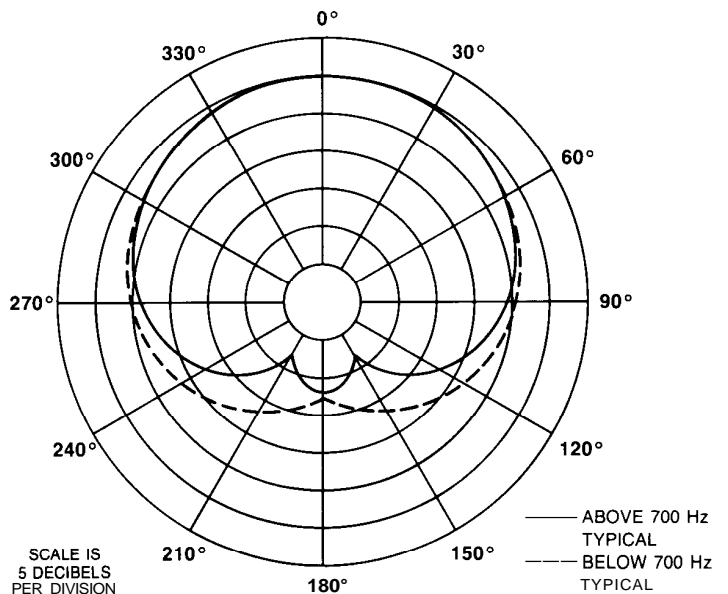
Specifications subject to change without notice.



**FIGURE 4 - Disassembly**



**FIGURE 5 - Changing Impedance Connections**



**FIGURE 6 Polar Response**