

*McMartin*

## 500 cardioid dynamic microphone



### specifications:

- Type:** Cardioid Dynamic
- Impedance:** 150 ohm (matches 50 to 250 ohm inputs) and high impedance (40,000 ohms).
- Output Level:** —55 db. below 1 volt/dyne/cm<sup>2</sup> (high impedance)
- Frequency Response:** 40-15,000 c.p.s. See Fig. 4.
- Discrimination:** Typically 20 db. to 25 db. over the frequency range.
- Connector:** Cannon 4 pin XLR-4-11C
- Cable:** Detachable 20 ft., three conductor, shielded, black PVC jacketed.
- Case:** Die cast zinc alloy.
- Finish:** Satin chrome
- Mounting:** 5/8"-27 thread.
- Weight:** 12 ounces without cable.
- Dimensions:** Diameter — 1 17/32"  
Length — 6 13/16"
- Switch:** Available with on-off switch as model S-500.

The model 500 microphone is a directional type microphone that is designed for use in broadcasting, recording, night clubs, public address or any applications where unwanted background noise creates a problem.

The model 500's directional characteristics are such that it is "live" to sound originating in front of it and "dead" to sounds arriving from the rear. (See fig. 2 and 3 for polar patterns).

This cardioid feature is a distinct advantage in many ways. In broadcast or recording it will appreciably reduce the pickup of unwanted audience noises, and background noises from mechanical equipment. It is especially advantageous in small broadcast areas such as booths at sporting events where reflecting surfaces would be a problem with non-directional microphones. In public address work the 500 microphone is especially useful as it helps eliminate acoustical feedback thus allowing higher volume levels of operation.

The active element of the model 500 is a single moving coil on a "DYNAFLEX" plastic diaphragm. Concealed ports allow entrance of the sound to the rear of the diaphragm to provide the controlled combination of pressure and phase shift that results in the cardioid pickup pattern.

The magnetic structure employs an Alnico-V-Magnet and Armco pole pieces. A high quality transformer matches the 16 ohm voice coil to 150 ohms (matches 50 to 250 ohm inputs) and high impedance (grid) termination.

The model 500 is a well built, shock mounted microphone. It will withstand severe mechanical shock as well as extreme temperature and humidity.

The exclusive design of the model 500 thus combines excellent fidelity, unusual sensitivity along with modern styling and durability and will give excellent performance.

500 cardioid dynamic microphone  
S p e c i f i c a t i o n s

*McMartin*

McMARTIN INDUSTRIES, INC.  
Omaha, Nebraska, U.S.A.

# McMARTIN model 500 microphone specifications

## architects' - engineer specifications:

The microphone shall be a McMARTIN model 500 or equivalent. The microphone shall be a dynamic type with a uniform frequency response of 40-15,000 c.p.s. The microphone shall have an output level of -55 db. below 1 volt/dyne/cm<sup>2</sup> at high impedance and -79 db. below 1 volt/dyne/cm<sup>2</sup> at low impedance. EIA sensitivity rating shall be -151 db. The microphone shall have a cardioid type pickup pattern with a rear response that is down typically 20 db. to 25 db. over the frequency range. The diaphragm shall be of "DYNAFLEX" plastic having very high impact strength and shall be free from the effects of temperature variations and humidity. Case finish of the microphone shall be of satin chrome. The microphone will mount on a stand having 5/8"-27 thread. The microphones shall have a maximum diameter of 1 17/32", a length of 6 13/16", and a weight of 12 oz., less cable.

Figure 2

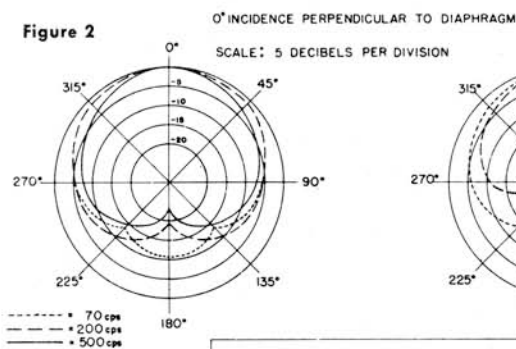


Figure 3

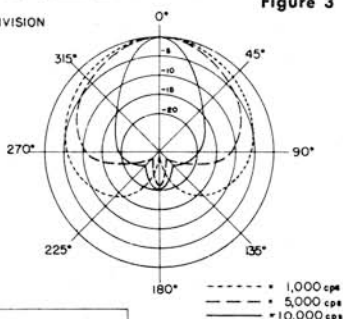


Figure 4

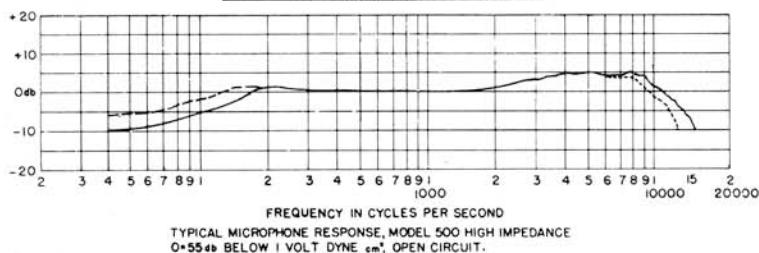


Figure 5

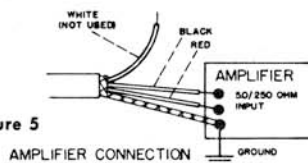


Figure 6

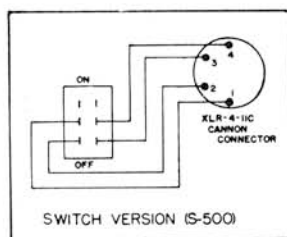
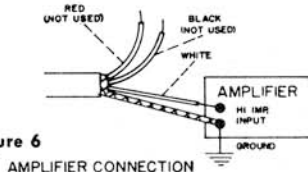


Figure 8 INTERNAL WIRING

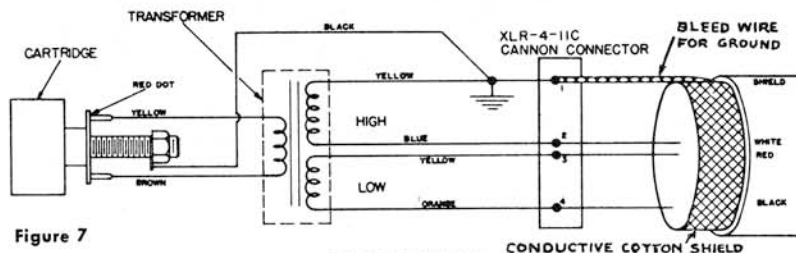


Figure 7

### GUARANTEE:

All McMARTIN microphones are individually and thoroughly tested before leaving the factory and are guaranteed against defective materials and workmanship for

one year providing that instructions are fully complied with and that units are not opened or tampered with in any way.

## installation:

The model 500 may be used with any amplifier having a high impedance input of 100,000 ohms or more or a low impedance input of 50 to 250 ohms. When long lines are used, care should be taken to see that the cable does not parallel A.C. power lines for long distances to avoid A.C. hum induction. The recommended cable length is 20' on high impedance. Longer cable may be used but there will be some loss in response above 5,000 c.p.s. For low impedance the cable length is practically unlimited. You may choose either the 150 ohm connection or the high impedance connection at the terminal end of the cable as follows: (See figures 5 and 6)

1. 150 ohm — connect to black and red cable conductors, shield grounded.
2. High (40,000 ohms) — connect to the white cable conductor, shield grounded.

NOTE: in the event that the microphone is to be used with the low impedance connection only, it is suggested that the white cable conductor be disconnected permanently at the microphone end of the cable. This is because some deterioration of response above 5,000 c.p.s. unavoidably results from having cable capacity connected across the high impedance transformer winding.

## caution:

Be sure to insulate any unused cable conductors with electrical tape to avoid accidental short-circuiting of the microphone.

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