University Sound™

a MARK IV company

## SPECIFICATIONS

Element:
Dynamic

Frequency Response:
60-11,000 Hz (see Figure 1)

Polar Pattern:
Omnidirectional (see Figure 2)

Impedance:
150 ohms

Output Level:
−55 dB (0 dB = 1 mW/10 dynes/cm²)

Case:
Diecast zinc

Finish:
Non-reflecting blue/black

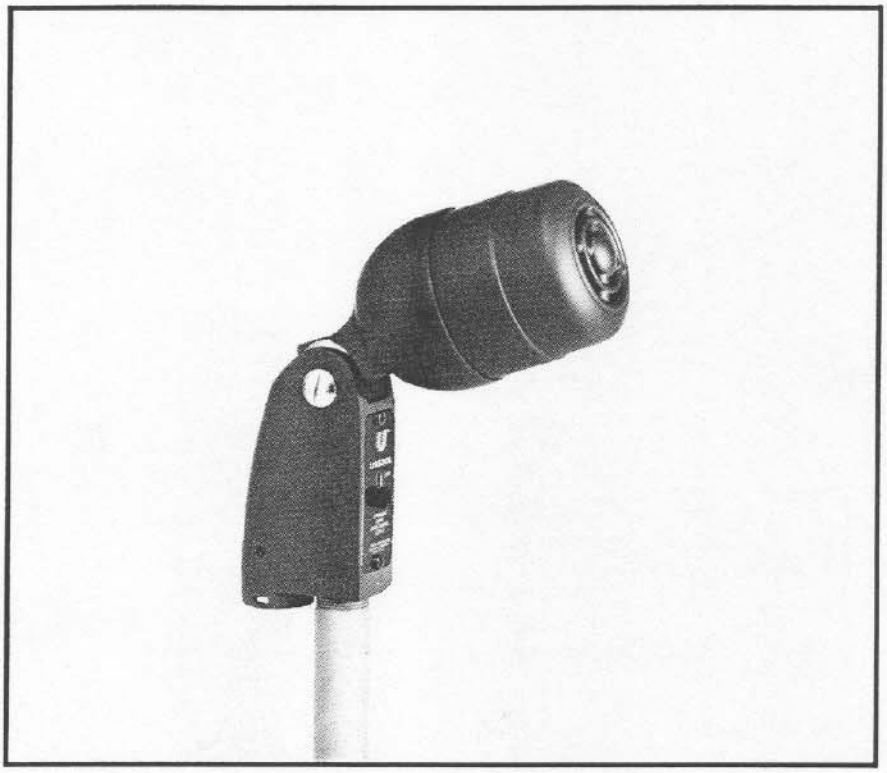
On/Off Switch:
DPDT, head shorted in OFF position

Connector in Mike:
XLR-type

Stand Coupler:
⅝"-27 thread

Dimensions,
Length:
158.8 mm (6.25 in.)
Diameter:
50.8 mm (2.0 in.)

Net Weight:
453.6 g (1 lb)



# US630L Omnidirectional Dynamic Microphone

## DESCRIPTION

The University Sound US630L microphone is specially designed for applications demanding extreme durability and low maintenance. The US630L is ideal for general public address work in auditoriums, fairgrounds, schools, general communication, and amature radio service.

The model US630L may be mounted on a floor or desk stand. The built-in stud mounted stand adapter allow the US630L a 90-degree vertical arc of freedom, enabling unlimited positioning of the microphone toward the sound source.

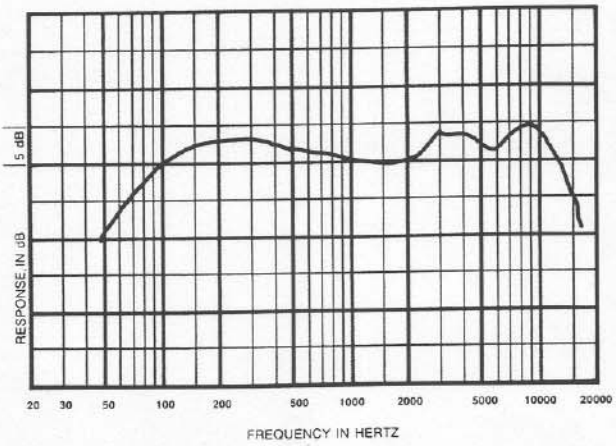



**FIGURE 1**
**Frequency Response**

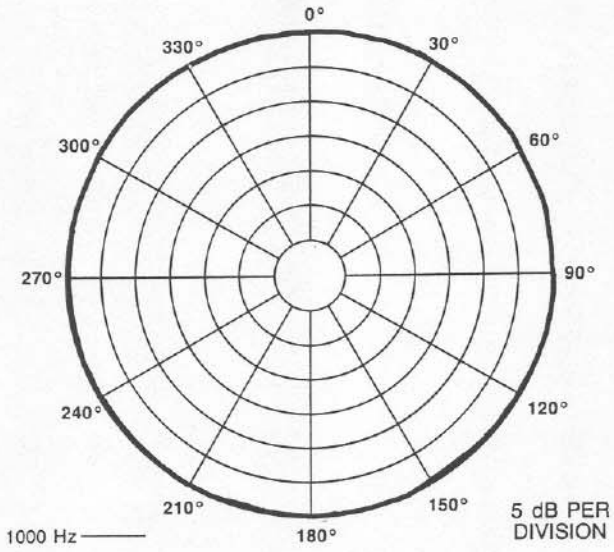



**FIGURE 2**
**Polar Response**

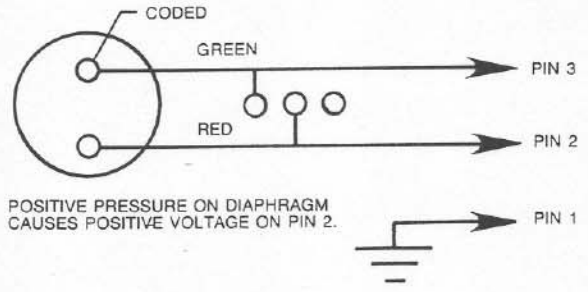



**FIGURE 3**
**Wiring Diagram**

## ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a dynamic cardioid type, with uniform frequency response from 60-11,000 Hz. The impedance shall be 150 ohms. The output level shall be −55.0 dB with 0 dB = 1 mW/10 dynes/cm$^2$).

The case shall be pressure-cast zinc. The microphone shall have a diameter of 50.8 mm (2.0 in.), a length of 158.8 mm (6.25 in.), including stud, and a weight of 453.6 g (1 lb). Finish of the microphone shall be non-reflecting blue/black.

The University Sound model US630L is specified.

WARRANTY (Limited) — University Sound Commercial Microphones are guaranteed for two years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to University Sound. 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 University Sound will void this guarantee. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Service and repair information for this product: University Sound, Inc., Phone 818/362-9516, FAX 818/367-5292.

Applications and technical information for University Sound products: University Sound, Inc., Technical Coordinator, Phone 818/362-9516, FAX 818/367-5292.

Specifications subject to change without notice.

# MICROPHONE SELECTION AND APPLICATION GUIDE

## HOW DO MICROPHONES GENERATE THEIR ELECTRICAL VOLTAGE?

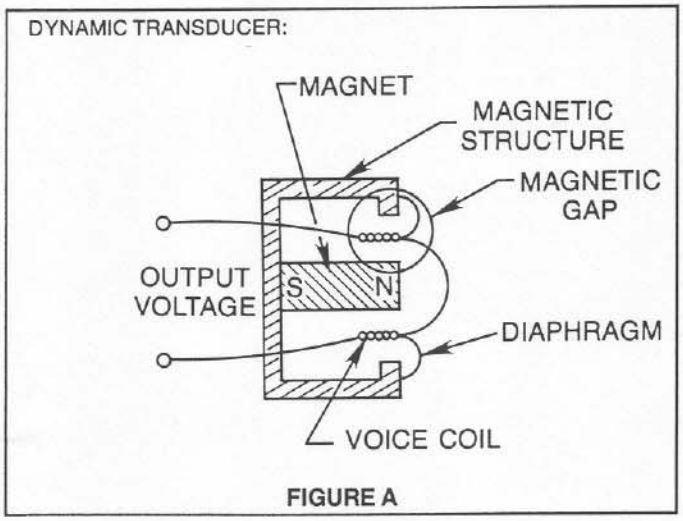



**FIGURE A**

The diaphragm of a dynamic microphone is a thin formed-plastic membrane. Attached to the diaphragm is a coil of wire, known as the "voice coil." As sound pressure moves the diaphragm/voice coil assembly within the magnetic gap, a very small voltage is generated. This small, induced voltage is the output of the microphone.

Dynamic microphones are used in a wide range of applications from public address to professional recording. The dynamic microphone provides excellent fidelity, extremely stable performance characteristics and ruggedness—all at a reasonable price to make the dynamic an excellent choice for any application.

### POLAR PATTERN

A microphone's polar pattern is three dimensional in character. Omnidirectional microphones pick up sound from all directions. Unidirectional microphones reject or reduce sound from their sides and rear.

### OMNIDIRECTIONAL POLAR PATTERN

The polar pattern of an omnidirectional microphone may be visualized as an inflated balloon with the microphone at the center.

Usually the polar pattern is represented on polar graph paper, as illustrated in Figure B. The polar pattern shows the loss in output level (in dB) experienced as the microphone is rotated 360° with a constant-output sound source at a fixed distance and frequency.

### OMNIDIRECTIONAL MICROPHONE ADVANTAGES

In many systems where loudspeakers are located 20 to 40 feet away from the microphone—as at the top of a proscenium arch—a directional microphone is likely to show only negligible advantages with respect to feedback over an omnidirectional microphone. This is especially true where extremely close working distances are employed, say one-eighth to six inches.

The omnidirectional microphone, where it can be used, has several advantages in its favor:

1. For a given price, an omnidirectional microphone generally has a smoother frequency response than its unidirectional counterpart. Such smoothness of response is important because any roughness invites feedback.
2. An omnidirectional microphone is significantly less susceptible to breath pop than its unidirectional counterpart.
3. An omnidirectional microphone is significantly less sensitive to mechanical shock than its unidirectional counterpart.
4. An omnidirectional microphone is often more rugged than its unidirectional counterpart.

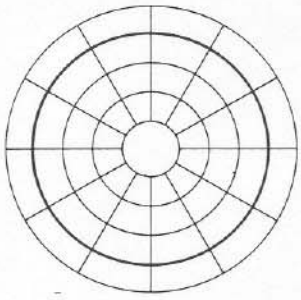


**FIGURE B**
**Polar Pattern**