Electro-Voice
MICROPHONES
ELECTRO-VOICE, INC.
Buchanan, Michigan

TECHNICAL DATA SHEET NO. 20
MODEL 726—CARDYNE I
MODEL 731—CARDYNE II
TYPE *DYNAMIC*

The CARDYNE microphones are cardioid uni-directional dynamic types operating on the E-V Mechanophase principle. They utilize dual phase shifting diaphragms to produce a high degree of uni-directivity at all frequencies.

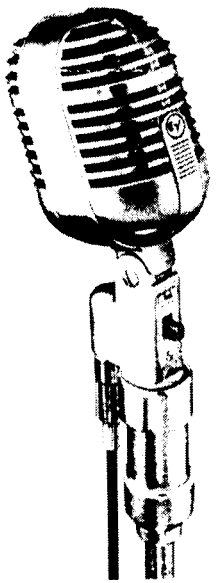


Fig. 1. Model 731

The CARDYNE models are designed for extremely accurate reproduction of music and speech. The directivity gives it unusual versatility in increasing the working distance from the user by reducing reverberation and acoustic feed-back. High output provides an excellent signal-to-noise ratio for broadcasting studio pick-up.

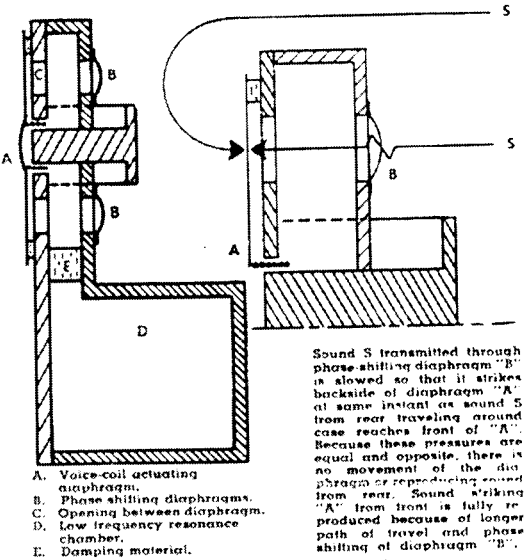
ACOUSTICAL The anechoic (echo-free) housing precludes internal reflection of sound and defraction. This assures full utilization of the inherent advantages of the Mechanophase principal and a wide, smooth frequency response. In no case should the back be covered as it will reduce the degree of uni-directivity. The air-foil case and dual grille cloths are scientifically designed to minimize wind and breath noise. The directional properties (Fig. 5) of the CARDYNE are not to be confused with that of a conventional pressure microphone which is directional only on the high frequencies. The CARDYNE is uni-directional at all frequencies.

PHYSICAL The Electro-Voice CARDYNE utilizes the proven Mechanophase principle now applied to the moving coil dynamic type microphone. By the nature of its design, the magnetic assembly is positively sealed against dirt and stray iron particles. No adjustment for directivity is ever required.

The die castings are of highest purity pressure cast Zamak 3 and have excellent dimensional stability. The magnetic circuit is fabricated from Armco magnetic iron. The energizing magnet is Alnico V.

The Acoustalloy diaphragm, another Electro-Voice development, aids in providing the wide flat response, and in addition is practically indestructible. It will withstand high humidity, extremes of temperature, corrosive effects of salt air, and terrific mechanical shocks.

The head of the CARDYNE is tiltable so that it may be directed toward the sound source for selective pickup. Large bearing surfaces give smooth adjustment without the use of thumb nuts. Screw at side provides takeup for wear. Large mounting stud provided to utilize Model 345 external shock absorber. CARDYNE I stod equipped with MC-3 sliding contact connector. CARDYNE II equipped with Cannon XL-3 type connector. Cable length is 20 ft. shielded and synthetic rubber jacketed.



A. Voice-coil actuating diaphragm.
B. Phase shifting diaphragms.
C. Opening between diaphragm.
D. Low frequency resonance chamber.
E. Damping material.

Sound S transmitted through phase-shifting diaphragm "B" is slowed so that it strikes backside of diaphragm "A" at same instant as sound S from rear traveling around case reaches front of "A". Because these pressures are equal and opposite, there is no movement of the diaphragm or reproducing sound from rear. Sound striking "A" from front is fully reproduced because of longer path of travel and phase shifting of diaphragm "B".

Fig. 2. Mechanophase Principle

ELECTRICAL The frequency response of the CARDYNE model (Fig. 3) is held very closely in production. The electrical output is unusually high for a microphone of this quality and is due to the efficient Acoustalloy diaphragm and excellent magnetic circuit.

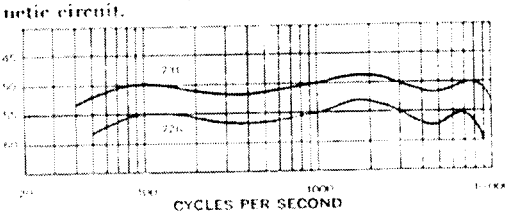


Fig. 3. Frequency Response.

*Electro-Voice Patents Pending.