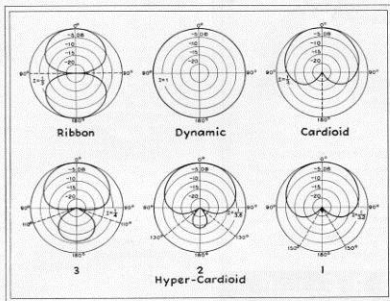


THE INDUSTRY IN REVIEW

New Multi-Pattern Cardioid Microphone



Response patterns available with the Western Electric Multi-Mike. The hyper-cardioid patterns are obtained by varying the attenuation of the dynamic unit relative to the ribbon unit

A NEW cardioid microphone, the Multimike (Type 639B) in which the response pattern is adjustable to the studio or auditorium conditions has recently been introduced by the Western Electric Co., 195 Broadway, New York. In addition to the three characteristics available with the original cardioid microphone, i.e., the non-directional, the bi-directional and the cardioid, the new instrument provides three new hyper-cardioid patterns, each with two areas of deadness extending radially from the rear of the Multimike. The desired pattern is obtained by means of a six position switch located on the rear of the casing and which changes the degree of attenuation of the output of the dynamic element. The accompanying diagram illustrates the shapes of the various patterns and indicates the dead spots in the three hyper-cardioids. The dead areas are actually dead volumes, that is, if they could be made visible, they would appear as cones of insensitivity radiating into space from the rear of the microphone.

The frequency range is from 40 to 10,000 cps and the output is minus 84 db referred to 1 volt per dyne per sq cm. The impedance is 30 ohms. The new instrument weighs 3 pounds and 4 ounces and its dimensions are 7½ inches high by 3⅝ inches wide by 4⅝ inches deep. It is finished in an aluminum gray color. There is available a complete line of desk, floor and

suspension stands and other accessories for quickly changing from one type of microphone to another without disconnecting the cord.

The usefulness of the new instrument is apparent in reverberent halls where the hollow sound usually associated

with such halls is reduced to a considerable degree. In public address work, use of the Multimike permits a material increase in the amplification before the system howls due to excessive feedback from the loudspeaker to the microphone. The increased amplification permissible with the use of the Multimike increases the maximum allowable distance from the microphone and permits the speakers or performers more freedom of motion. In public address work it is only necessary to point the dead spot of the microphone at the loudspeakers to reduce the feedback. In studios which are not completely sound treated, the dead spots are pointed at the sources of echo to reduce the undesired reverberation.

As the response pattern of the microphone is advanced through its various phases, an increasing discrimination against random reverberation is noted. This effect is at a maximum in hyper-cardioid pattern No. 3, as shown in the diagram. This is the case because the directivity characteristic changes as the response pattern changes. In position 3, the sensitivity to sound from the front exceeds the average sensitivity from all directions by four times. Therefore, sound directly from the front of the microphone is favored by a factor of four to one over sounds reflected from random points throughout the room.



The usefulness of this microphone is greatly enhanced by its several types of response patterns

News

✦ The new \$700,000 studio and laboratory annex of Columbia Broadcasting Company, New York City, is scheduled to open on May 15th. The annex will house seven studios, in which will be embodied every technical advance and innovations for improvement in quality of sound definition . . . A new engineering department devoted to the general commercial design and production of radio apparatus of all types, and associated products has been created by the Radio Division, Westinghouse Electric & Manufacturing Company at Baltimore, Md. This new department will be known as the Special Apparatus Engineering Section and will be under the direction of Ralph N. Harmon . . . A special design service on radio coils is being offered to radio engineers, experimenters and firms having use of a single, or many coils. Barber &