



PZM™

A FUNDAMENTAL ADVANCE IN THE SCIENCE AND ART OF MICROPHONY

The 1980s will witness the widespread use of the first really fundamental advance in microphony in fifty years. The tremendous innovations of Wentz, Thuras, Olsen, Bauer and others in the late Twenties and early Thirties are the basis of every conventional microphone on the market today. Veneklausen's concept of the "flush-mounted" microphone for stage use, circa the late Sixties, led to a proliferation of useful mounting devices by Shure, EV, and others.

THE PRP BREAKTHROUGH

Ed Long and Ron Wickersham, in studying the behavior of flush-mounted microphones, uncovered a basic error in our thinking. Within a few millimeters of a large surface, sound levels from a pair of equal level signals *add coherently* because, in close proximity to the surface, the particles are still *in phase* as they accelerate after being brought to a stop by the boundary. This creates what is called a pressure field right at the surface of the boundary.

"A pressure field is one in which the instantaneous pressure is everywhere uniform. There is no direction of propagation." GenRad Microphones and Accessories Instruction Manual, 1977.

Long and Wickersham utilized this insight by mounting a ½" B&K *pressure* calibrated measuring microphone perpendicularly above a formica surface with only a few hundredths of an inch spacing between the microphone's diaphragm and the formica surface. They named this procedure and its method of utilization, Pressure Recording Process, PRP™.

Don Davis of Syn-Aud-Con suggested that a proprietary electret capsule available to Syn-Aud-Con graduates would be a suitable choice for such systems inasmuch as it was pressure calibrated and much less than 1/8" in size. (Syn-Aud-Con Newsletter Vol 5, # 3 and Tech Topic Vol 5, # 7. April 1978)

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