FULL-RANGE MUSIC AND PA SYSTEMS
STUDIO MONITORING • SCHOOLS • CHURCHES • CLUBS • MUSIC ROOMS

With the introduction of the patented Biflex® principle — an Altec exclusive — the problem of obtaining full frequency reproduction from a single-cone loudspeaker is now considered solved. Whereas, in the past, it was necessary to provide a compromise between the smaller cone, of minimum weight and diameter, best for HF reproduction, and the larger, heavier cone — optimum for bass response — the Altec Biflex loudspeakers utilize the principle of damped mid-cone compliances, wherein the entire area of the speaker cone propagates the low frequencies, the smaller central cone, the high frequencies.

Below 1000 cycles, the stiffness of the mid-cone compliance is such that it couples the inner and outer sections into a single moving element. Above 1000 cycles, the balanced mass of the outer section prevents the transmission of sound beyond the mid-compliance and the outer portion of the cone uncouples at this point, permitting the inner section to operate independently (as shown in the diagram, above). The Biflex design (U.S. Patent 2394424), coupled with the famed Altec precision standards, produces a loudspeaker whose specifications far exceed those of many two and three-way units.

Both the 412C and 415C employ Alnico V magnets for maximum efficiency; the voice coil of each is of edge-wound aluminum, situated in a deep magnetic gap to maintain proper cone control and linearity, resulting in extremely low distortion — even during excessive cone excursion.

In addition to providing outstanding performance as full-range units, Altec Biflex speakers may also serve as fine low frequency reproducers, requiring only the addition of a suitable Altec high-frequency driver unit (such as the 802D or 804A) and associated dividing network (N-500D; N-800D). Because of this valuable dual purpose feature, Altec Biflex are ideal for the initial reproducer of high-quality music systems which may be expanded into two-way speaker systems at a later time — with the overall system response extended beyond 22,000 cycles.

Either the 412C or 415C Biflex provides both the serious listener and the audio engineer with high efficiency, wide range, and smooth response over an unusually wide distribution area — all at moderate cost.