NEW K-400 HORN

A paper presented for publication in IEEE — Professional Group on Audio (Transactions) described a new acoustic horn which was originally designed to improve low midrange response and which yields a bonus benefit in extended upper range. This horn was originally primarily proposed for midrange application, but experiments with limited-power mid-tweeter driver units indicate that polar and amplitude response is useful out to at least 16000 cycles per second.

Applications include 2-way and 3-way full range loudspeaker systems for theater-auditorium-convention environments. In one configuration, a single horn covers the 200-16,000 cps range for high clarity voice re-enforcement. Design parameters may be chosen to optimize performance deemed desirable for audio reproduction. This horn with a wide-range driver would afford high intelligibility voice reproduction and re-enforcement.

A comparison of claims and actual performance may be of interest at this point. The wide-range driver unit used in some of the experiments was claimed by its maker to afford response to 22000 cycles per second. Using the recommended horn, the measured response was down to 10 db at 10 KC. Peak-trough range was about 18 db between 600 and 1000 cps. Our experimental prototype horn reduced the peak-trough to less than 10 db over the 300 - 15000 cps Range.

We feel that this is a significant step forward; it may open the door to practical 2-way loudspeaker systems; it may constitute a technological and/or economic “breakthrough” in the true sound reproduction art.

It should be pointed out that the KLIPSCHORN has afforded superior performance characterists since about 1948. “The Hard Way” may have been the way it was done; “The Hard Way” is not necessarily “The Right Way”, but where the question arose, “The Right Way” was the choice. Perhaps the new horn will offer an easier means to maintain “The Right Way”.

Brief Specifications: — low cutoff 230 cps; crossover 400 upper limit, none, length under 21 inches.

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