

FIGURE 2: Distortion measurements of the JBL D130 15-inch speaker in a C40 short, rear-loaded horn enclosure. Insufficient loading caused distortion to rise rapidly at low frequencies. THD at 40Hz, 90dB SPL at 3 feet, was 8.5 percent.

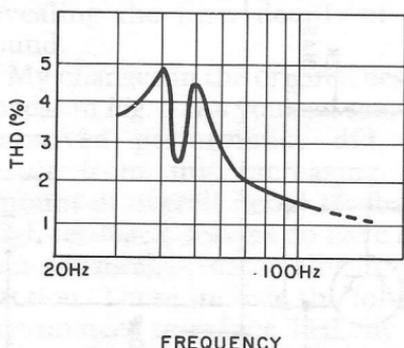


FIGURE 3: Distortion measurements with the D130 installed in a bass-reflex enclosure. Distortion was reduced, and low-frequency response was extended almost one octave. THD at 40Hz, 90dB SPL at 3 feet, was about 5 percent. At 45Hz, the system resonance, THD was 2.5 percent.

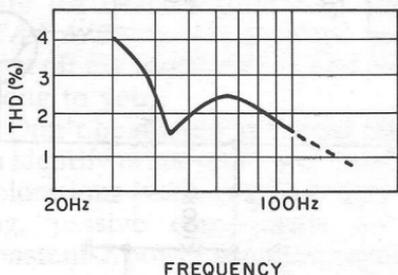


FIGURE 4: Distortion measurements with the same setup as in Fig. 3, but with the motional-feedback modification. THD at 40Hz was 2.6 percent and at 45Hz 1.6 percent. The low-frequency response was also extended slightly.

though damping factors can minimize the effect, varying impedance is one of the causes of coloration. □

#### ABOUT THE AUTHOR

Dick Marsh works at the Lawrence National Laboratory at Livermore, California, as a senior electronics technical coordinator of the Mirror Fusion Test Facility. Music and audio are his primary hobbies.

## Muses and Music

Since the music moves you, the muse is almost surely able to do so as well—the writer's muse, that is. Put pen to paper or better yet, typewriter ribbon to paper with a clear, orderly account of your adventure in audio construction, or any related field of endeavor leading to good listening. Send it along with a stamped return envelope. We pay modestly for articles, so write us about it and we'll answer promptly with suggestions and tell you whether or not we are interested. Some of our best articles come from people who have never before written for periodicals. And if your muse is as silent as a tomb, don't let that stop you. Write anyway and let's see what develops. We have a nice sheet of suggestions for authors which we will send to nearly anybody who asks for it.