

# ≈ EQUIPMENT TEST REPORTS ≈

By Hirsch-Houck Laboratories

## RECTILINEAR III SPEAKER SYSTEM



The generally excellent tone-burst response of the Rectilinear system is demonstrated by these bursts at 540 and 10,500 Hz.

● THE Rectilinear III is a fairly large, floor-standing speaker system measuring 35 inches high, 18 inches wide, and 12¼ inches deep; it weighs a solid 85 pounds. It is a four-way system, with six drivers and no external level adjustments. The woofer has a 10-pound magnetic structure, a resonance of 20 Hz in the enclosure, and a 1-inch cone-excursion capability. The mid-range driver, operating from 250 to 3,000 Hz, is mounted in a fiber sub-enclosure within the main cabinet. Two tweeters cover the 3,000- to 11,000-Hz range, and two super-tweeters take over above 11,000 Hz.

The designers of the Rectilinear III state that they set as their goal matching the performance of the best full-range electrostatic speakers, while avoiding their problems of fragility, power supplies, special amplifier requirements, and styling drawbacks. Our side-by-side comparison with a full-range electrostatic speaker (Quad), which we consider to be one of the finest reproducers available, proved to our satisfaction that the two could not be told apart except in the low bass, where the Rectilinear III was clearly superior.

In the area of high-fidelity equipment testing, objective measurements are necessarily tempered and qualified by personal opinions. This is particularly true in the case of loudspeakers. It is our position that no adequate purely objective method of evaluating high-fidelity speakers has yet been devised. There are many reasons for this situation, and the Rectilinear III is an excellent case in point.

The Rectilinear III ranks as one of the most natural-sounding speaker systems I have ever used in my home. Over a period of several months, we have had the opportunity to compare it with a number of other speakers. We have found speakers that can outpoint the Rectilinear III on any individual characteristic—frequency range, smoothness, distortion, efficiency, dispersion, or transient response. However, in my judgment, none of the speakers combine all of these properties in such desirable proportions as the Rectilinear III.

The above is the personal opinion of the writer (JDH). My partner, Gladden Houck, an engineer less given to emotional involvement with the products we test, agrees that this is an outstandingly fine loudspeaker system.

Frequency-response measurements backed up the verdict of our ears. We used a slight variation of the multiple-microphone-position measurement setup that we have employed for some time. Four microphones were employed simultaneously, with a microphone mixer combining their outputs. This was repeated with the microphones relocated, giving the equivalent of eight different microphone positions in two automatic sweep measurements, which were averaged to form a single response curve.

Except for a peak at 90 Hz, the response of the Rectilinear III was within  $\pm 3$  db from 37 to 15,000 Hz. We believe that the 90-Hz peak is a property of the test environment, since this speaker has none of the boom or boxy qualities associated with peaks in this region.

The harmonic distortion was very low, not exceeding 6 per cent even at 20 Hz. The output fell off below 40 Hz, but with none of the breakup or sudden increase of distortion exhibited by most speakers at very low frequencies. The tone-burst response was excellent at all frequencies, with no sign of prolonged ringing of spurious output.

The sound of the Rectilinear III was almost perfectly neutral. It had absolutely no hollow or boomy quality on male voices and possessed the light, open, airy character that we have always liked in a speaker. The highs were crisp and slightly more prominent in our listening room than those of most speakers. The total absence of stridency or accentuated hiss indicated that this is due to the wide, flat frequency response rather than to a peak in the high-frequency range. Even when the highs were cut back with tone controls or filters, the basic character of the sound remained unchanged. The Rectilinear III can be driven by any amplifier capable of 20 watts output, which includes practically all integrated receivers, yet can handle the output of the largest amplifiers.

At \$279, the Rectilinear III is not inexpensive, and since speaker preferences are intensely personal in nature, we do not doubt that many people would prefer one of the other available speakers to the Rectilinear III. Nevertheless, in our opinion, we have never heard better sound reproduction in our home, from any speaker of any size or price. Perhaps next month we will have to amend that statement, but as of now, it stands.

As Seen In

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