

Stereo Review

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Epicure 400 Speaker System



• The Epicure 400 is one of a broad line of speaker systems manufactured by Epicure Products, Inc. Their somewhat unusual approach to speaker design is to use a basic module, consisting of a small woofer (6 or 8 inches in diameter) and an unconventional tweeter (1 inch in diameter), whose efficiency and natural crossover-frequency requirements closely match those of the woofer. A number of Epicure systems employ one, two, or four of these modules in different physical configurations.

The Epicure 400, or "Mini-Tower," is a scaled-down version of their huge (and expensive) "Tower" system. It is a rectangular column, 14 inches square and 38 inches high, and it weighs about 90 pounds. On each of the four sides, near the bottom of the column, there is a six-inch, longthrow woofer and a single 1-inch tweeter. The system impedance is nominally 8 ohms. It is normally used in a free-standing position rather than against a wall or in a corner, and it is effectively omnidirectional in the horizontal plane.

Although the individual woofers are small, all four operate in unison to extend the low-frequency response to about 30 Hz. The crossover to the tweeters occurs at 1,800 Hz, with a cut-off slope of 18 dB per octave. However, this is primarily due to the natural roll-off characteristics of the drivers; the only electrical crossover component is a single small capacitor in series with the tweeter voice coil. A toggle switch under the base of the column provides a choice of three high-frequency response characteristics. The tweeter, unlike most we have seen, has a concave diaphragm which is driven around its full circumference by a 1-inch voice

coil. The multiple driver array also permits the Epicure 400 to operate at high volume levels, and it can be used with amplifiers capable of delivering continuous outputs of 30 to 200 watts per channel. Price: \$399.

• *Laboratory Measurements.* The omnidirectional characteristics of the Epicure 400 lend themselves admirably to our "quasi-reverberant" measuring environment. This was confirmed by the virtually identical response curves obtained at a single microphone location from two speakers set up at different distances and directions relative to the microphone. With the tweeter-level control set at HI the overall response was ± 4 dB from 50 to 15,000 Hz, with a slightly rising characteristic from 3,000 to 10,000 Hz. In the MED position of the switch the level dropped 3 to 5 dB at frequencies above 3,000 Hz, and in the LO position the output dropped another 3 to 5 dB in the same frequency range.

The low-frequency response of a multi-woofer system such as this is difficult to measure in a simple or direct manner, since we can only measure the output of one woofer with a closely spaced microphone. For what the information is worth, our curve showed a broad rise of about 4 dB in the 100- to 150-Hz range, and the output fell off steadily below 60 Hz. In practice, however, all four woofers are contributing to the audible output, which is subjectively strong down to about 30 Hz. The low-frequency distortion measurement was limited by the same factors that affected our response measurements in that range. The distortion was under 5 per cent down to 40 or 50 Hz, rising quite steeply to 10 to 20 per cent in the region of 35 to 37 Hz. We suspect the actual effective behavior of this system in the low bass is somewhat better than these figures would indicate; to our ears the Epicure 400 is richly endowed with extended, clean bass output.

The only clearly identifiable anomaly in the measured response of the Epicure 400 was a dip of about 4 dB between 1,300 Hz and 2,000 Hz. This was evidently because of a gap in the crossover characteristics of the woofers and tweeters. It was not audible in our listening tests. The tone-burst response

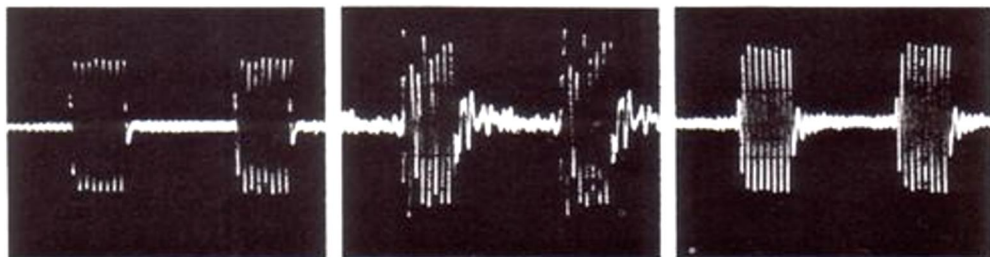
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was excellent at all frequencies except in the crossover region, where interference effects between the two drivers were unavoidable. The electrical impedance was relatively uniform, varying somewhat about its nominal 8-ohm value, but never exceeding the lower and upper limits of 5 and 20 ohms (the latter at the bass-resonance frequency of 50 Hz). The speaker ef-

given room without loss of effectiveness, but, by the same token, their overall sonic balance can be strongly affected by the high-frequency absorption of the listening room.

• *Comment.* It is interesting to note that, in the small group of extraordinarily good speaker systems we have

The Epicure 400's tone-burst response, shown here for (left to right) 100, 1,500, and 5,000 Hz, was generally excellent



iciency was moderately low (typical of most acoustic-suspension systems), with 1.3 watts of power input required at mid-frequencies for a 90-dB sound-pressure level three feet from the speaker.

In our simulated "live-vs-recorded" tests, the Epicure 400 earned an "A" rating. Best results were obtained with the tweeter level ± 1 dB, and the sound at middle and high frequencies could rarely be distinguished from the original program. At lower frequencies we noted a slight tendency toward "heaviness" in the upper bass, probably the result of the increased output between 100 and 150 Hz.

The spatial characteristics of the Epicure 400 are immediately identifiable as true "omni" sound. A firm stereo image is created, independent of the listener's position in the room. Like other omnidirectional speakers, these can be placed almost anywhere in a

come across during the past several years, all have been either true omnidirectional, have used a combination of direct and reflected sound, or have simply had exceptional dispersion characteristics. Unlike many other controversial (and often arcane) speaker properties—such as phase shift, time-delay distortion, and doppler distortion—the unique sound character of a very wide dispersion speaker can be heard by anyone, under almost any circumstances.

In our judgement, wide dispersion at all frequencies is the major factor separating an excellent speaker from a merely good one. The airy, open quality of the Epicure 400 not only sets it apart from the vast majority of conventional forward-radiating speakers, but in our view earns it a place in the select group of superb speaker systems.

For complete article, see February 1973 issue of STEREO REVIEW.

The Model 400 has been revised into the EPICURE MODEL 400 PLUS. The "A" rated 400 is now even smoother and more transparent . . . look for the 400+.

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