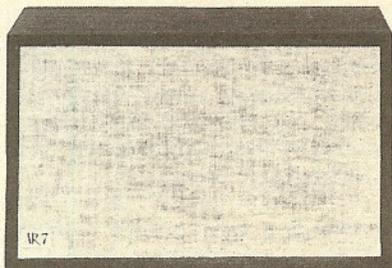


Acoustic Research AR-7 Speaker



● MOST “bookshelf” speakers are comparable in size and weight to a set of encyclopedias, and they must therefore be supported by correspondingly rugged shelves. In contrast, the new Acoustic Research AR-7 would be quite at home on a shelf of paperbacks. It measures 15 $\frac{3}{4}$ inches wide x 9 $\frac{3}{4}$ inches high x 6 $\frac{1}{4}$ inches deep, and weighs a mere 11 pounds. The walnut enclosure can also be hung directly on a wall, using picture hooks and the hardware furnished with the speakers.

The AR-7 is a two-way system, consisting of a wide-dispersion, 1 $\frac{1}{2}$ -inch tweeter (essentially the same as that used in the AR-6) and a newly designed 8-inch acoustic-suspension woofer. The crossover frequency is 2,000 Hz, and a two-position switch in the rear of the unit provides a choice of two tweeter levels, identified as FLAT and NORM. The system impedance is 8 ohms, and the moderately low efficiency requires an amplifier capable of at least 15 watts continuous output. The AR-7 comes packed two to a box, and carrying the standard AR five-year guarantee. Price: \$60 each.

● **Laboratory Measurements.** The AR-7's frequency response was measured in a “normal” reverberant environment that integrated the total energy output of the system. With the tweeter-level control set to FLAT, the measured curve was among the flattest we have charted—within ± 2 dB from 65 to 15,000 Hz. In the NORM position, the response went out as far as the flat curve, but

had about 2-dB less energy in the area above 3,000 Hz.

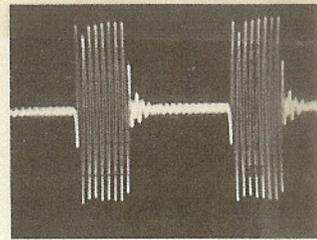
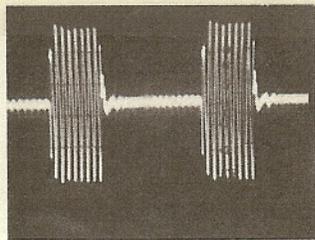
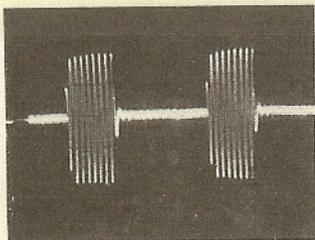
The output fell below 60 Hz, but the low-frequency harmonic distortion was quite low, reaching 5 per cent at about 50 Hz, using either a 10-watt drive level, or maintaining a constant 90-dB SPL (sound-pressure level) at a distance of three feet from the speaker. At lower frequencies (as could be inferred from the rapid decrease in output), the constant-output condition produced more distortion than the constant-drive test. We would judge the effective lower limit of the AR-7 to be about 40 to 45 Hz—which is a very respectable figure for a speaker system of its size.

The impedance ranged between 5 and 10 ohms at most frequencies, reaching its maximum of just over 10 ohms at the bass resonance of 70 Hz. The tone-burst response was on a par with that of the other AR speakers we have tested—about as close to ideal as can be measured in a “live” environment. The efficiency, though low, was slightly higher than that of the top-of-the-line AR speakers such as the AR-3a or AR-LST. A drive level of 3.5 volts at mid-frequencies (about 1.5 watts) was needed to produce a 90-dB SPL.

● **Comment.** The measured characteristics of the AR-7 were so outstanding that we were not surprised at its excellent performance using our simulated “live-vs.-recorded” test technique. The only audible difference between our original program and its reproduction through the AR-7 set to FLAT was a very slight dulling of the extreme highs above 10,000 Hz. Even though the AR-7 tweeter has very fine dispersion by contemporary standards, it was not quite the equal of the dome radiators used in the more expensive AR speakers. Our overall rating of the AR-7 in this test would be a “B+”. In this respect, it compares with many speakers selling for twice its price or even more—which clearly makes it one of the more outstanding under-\$100 speaker systems, irrespective of size.

AR has designed this speaker, we surmise, to satisfy
(Continued on page 34)

The AR-7's tone-burst response, shown here for (left to right) 70, 3,000, and 8,000 Hz, was excellent overall.



the special needs of the quadrasonic listener. It should be possible to install four AR-7's inconspicuously (and inexpensively) in almost any room, and the resulting sound quality should leave little to be desired. The efficiency and other characteristics of the AR-7 are quite compatible with the larger AR systems, thus making it suitable for use in the rear channels when a pair of AR-2ax or AR-3a speakers are used in the front. This compatibility was dramatically demonstrated when we switched

(in stereo) between a pair of \$60 AR-7's and a pair of excellent \$600 AR-LST's (see the LST test report in the October 1972 issue). The audible similarities between the two were much more apparent than were their differences—differences that occurred, naturally, at the very high and very low ends of the audio spectrum. There are not many speakers of any size or price that can acquire themselves so well side-by-side with the AR-LST.

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