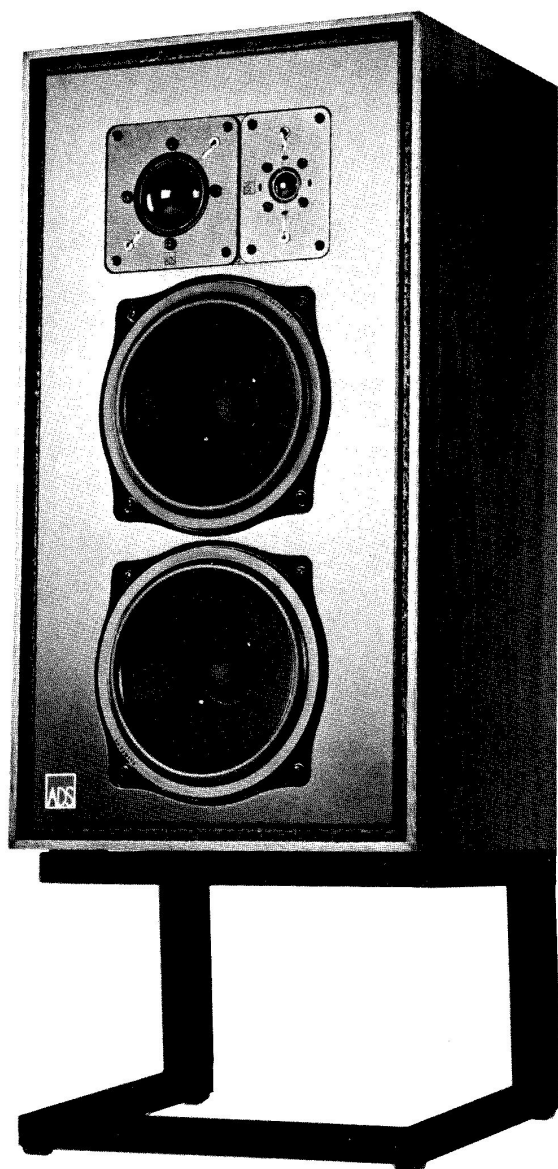


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ADS L810 High Fidelity Loudspeaker System on optional stand ADS F800

The ADS (Analog and Digital Systems) Company describes the sounds of its speakers as "invisible," meaning that the goal is to reproduce sound with as little coloration as possible. The ADS approach to design is aptly illustrated by their next-to-the-top model, the L810. This moderate-size system, though plainly intended for floor mounting, is no larger than some speakers that are offered as "bookshelf" models. It is a three-way system whose woofer section consists of two 8-inch drivers in separate, fully sealed, acoustically isolated compartments.

The L810 has a 12-dB-per-octave crossover at 550 Hz to a rather large dome mid-range driver. The 2-inch-diameter dome is described by ADS as being of "soft-tissue" construction and appears to be made of a fine-mesh fabric. It is covered with, and damped by, a sticky material. Since the dome is driven by a voice coil of the same diameter, it can handle considerable power.

The crossover to the tweeter at 4,000 Hz also has a 12-dB-per-octave slope. The tweeter is a 1-inch dome, similar in its construction and damping arrangement to the mid-range driver. The acoustic balance of the ADS L810 is set at the factory, and there are no user adjustments provided.

The ADS L810 system is exceptionally efficient, being rated to deliver a 93-dB sound-pressure level at 1-meter distance with a 1-watt input. The speaker's nominal power rating is 75 watts, and it can be driven by amplifiers rated at between 20 and 200 watts output. The impedance is rated at 4 ohms minimum and 6 ohms typical.

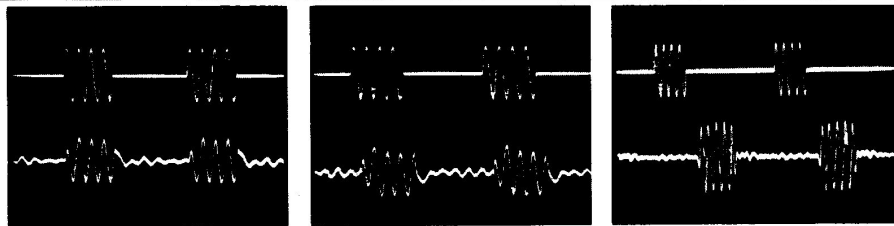
The ADS L810 is approximately 25½ inches high, 14 inches wide, and 12 inches deep. It weighs 46½ pounds. The cabinet is finished in walnut, and there is a removable grille covered in black cloth. Although it can be placed directly on the floor, better results are often obtained by raising it slightly. An optional black-metal stand for this purpose is available from ADS. The price of the ADS L810 is about \$360. The F800 base, sold in pairs, is \$64 per pair.

• **Laboratory Measurements.** The ADS L810 was tested on the F800 base, which raised the cabinet about 12 inches from the floor and tilted it back at a very slight angle. **The woofer response**, though not extending very low, **was exceptionally flat and smooth. It varied only ±1.5 dB from 50 to 600 Hz** and dropped at a 12-dB-per-octave rate below 60 Hz. The mid-range response measured in the reverberant field of the room was also flat and smooth, averaging about 4 dB below the woofer level from 700 to 5,000 Hz. At higher frequencies, the output rose smoothly, giving the system a very creditable overall frequency response within ± 5 dB from 40 to 15,000 Hz.

The high-frequency dispersion of the 1-inch dome tweeter was truly exceptional. In fact, we could see no significant difference between the frequency-response curves made on axis and about 30 degrees off axis, all the way up to our measurement limit of 15,000 Hz. In this measurement most speakers show at least 5 dB of difference between the two curves at the high end.

The efficiency was exactly as claimed, so that driving the ADS L810 with an octave of random noise centered at 1,000 Hz produced a 93-dB sound-pressure level at 1-meter distance. When we measured the bass distortion, the speaker was driven with a 2.8-volt signal (1 watt into a nominal 8-ohm load). However, given the lower-than-8-ohm impedance of the ADS L810, this yielded an effective drive level of about 2 watts. The distortion ranged from 1 to 2.5 per cent at frequencies between 100 and 45 Hz. It rose quite gradually at lower frequencies, reaching 10 per cent at 25 Hz (where the output was some 15 dB below mid-range levels).

The excellent tone-burst response of the ADS L810 at frequencies of (left to right) 100, 1,000, and 7,000 Hz. The upper trace is the input signal.



The high efficiency of the ADS L810 enables it to generate as much sound with the 2-watt input we used for our basic distortion measurement as most acoustic-suspension speakers can deliver with 10 watts. For a given sound-pressure level, the L810 actually has less distortion than many other speakers we have tested, yet it requires a much lower driving power from the amplifier. The actual minimum impedance of the L810 was 4 ohms, reached between 100 and 150 Hz and at 10,000 Hz. The low-frequency resonance at 50 Hz measured 10 ohms; there was an impedance rise to 20 ohms in the mid-range and a rise to 8 ohms at the second crossover frequency of 4,000 Hz.

The tone-burst response of the L810 was most interesting because of what it did not show. With most multi-driver speakers, the tone-burst appearance changes markedly with changes in frequency and microphone position, due to interference effects between the drivers. In the case of the ADS L810, the bursts were uniformly excellent, with no signs of ringing or interference even at the crossover frequencies. Except for the minor and predictable anomalies caused by the crossover networks, and some unavoidable room ringing between bursts, the tone-burst output of the L810 over the full audio range was as nearly perfect as we can recall seeing (and it was not affected by rather large changes in microphone position).

• *Comment.* As often happens, the sound of the ADS L810 could be predicted quite well from the general shape of its response curve. It has a slightly "distant" character, with strikingly clean, un-boomy bass and a crisp, detailed high end that compares very favorably with the sound of some of the most highly regarded and sophisticated speaker designs. Although there is no particular emphasis on any part of the spectrum, and the speaker's overall balance is outstanding, we felt that the clarity and definition of the high end was its most notable characteristic.

Our simulated "live-vs.-recorded" test confirmed this impression. These days, many speakers are surprisingly good in their ability to imitate our "live" sound source, but almost all of them seem to have some weak point — such as a heavy mid-bass, or a lack of extreme high-end response, or limited dispersion — that prevents them from simulating the original sound in a completely convincing manner.

The ADS L810 was one of the very few speakers we have tested in the past ten years or so that was so accurate that we could not distinguish its sound from the original in a side-by-side comparison. As we have pointed out on occasion, a speaker that has this ability will not necessarily suit every listener, since there are also personal taste (many people like coloration in their sound), individual room acoustics, and speaker performance below 200 Hz to be considered.

The apparent mid-range depression in the measured response of the ADS L810 is not audible as a defect of any sort, but rather as "an absence of presence" compared with the sound of many speakers that emphasize this region. Presence peaks may sell a lot of speakers in the showroom, but they tend to become tiresome in the home.

The bass coverage of the ADS L810 is certainly competent — but it may not satisfy pipe-organ and bass-drum buffs. For us, the smoothness and remarkable polar dispersion of the sound from the ADS L810 make it competitive with just about any other system we have heard, and much better than most.

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ADS manufactures a complete line of loudspeaker systems, active and passive, for home, mobile and studio applications, as well as the Model 10 Digital Time Delay System, priced between \$110 to \$1000 (approximately). ADS reserves the right to modify designs, equipment, and accessories without notice in the interest of technical progress.

MANUFACTURER'S COMMENTS

Since this test report was published, we have made a number of improvements in the speaker, now designated the L810 Series II. The woofer design has been revised for greater deep-bass output in the 30-60 Hz octave. The midrange driver's magnetic circuit has been refined for an even more musically accurate balance and projection of detail. And the speaker's already exceptional dispersion has been further improved with the introduction of our newly developed $\frac{3}{4}$ " dome tweeter, yielding remarkably "airy" imaging and highly detailed reproduction of musical overtones.



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