

FM GUIDE

• THE HI-FI MUSIC BOOK •

VOL. 13, NO. 5

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THE FELDMAN LAB REPORT

ADS Model 810 Loudspeaker System

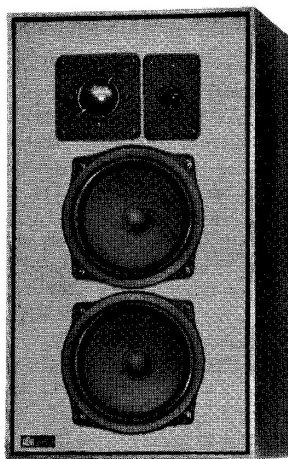


Fig. 2

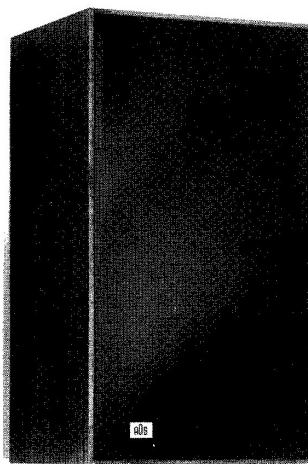


Fig. 1

The ADS 810 system tested in our lab retails for approximately \$349.50 per unit and, while it is primarily intended for use as a "bookshelf" system (it measures 25½" high by 14-1/8" wide by 11¼" deep), ADS makes available an attractive accessory speaker stand, Model 800LF, which raises the speaker off the floor by a few inches to prevent what ADS calls "unnatural bass boost" that is characteristic of all acoustic suspension systems when placed directly on the floor. The 810 system is pictured in Fig. 1 and features a removable black double-knit grill cloth assembly frame. The unit with grill removed is pictured in Fig. 2 and consists of two identical 8" woofers, a 2" soft-dome midrange driver and a 1" diameter soft-dome tweeter. Crossover frequencies are at 550 Hz and 4000 Hz and the crossover network provides 12 dB/octave slopes at each of these frequencies.

The two long-excursion woofers have a free air resonance of 20 Hz and each has a magnetic field of 9500 Gauss. ADS maintains that the double woofer design is equivalent to the use of a single 12" woofer, with added advantages of high power handling capacity, better transient response and greater efficiency.

The mid-range element uses a tissue dome for low system mass (2.5 grams), an extra heavy, powerful magnet and a single layer voice coil. The driver is completely sealed and damped and is therefore also classified as an acoustic suspension system.

The tissue-dome 1" diameter tweeter has a moving mass of only 0.2 grams and is also suspended in its own sealed acoustic chamber. A sticky sealant compound has been applied to the surface of the dome which is said to damp out resonances and eliminate "break-up" distortion. The 12 dB/octave crossover network uses air core inductors and metal-film capacitors for low power losses and long term stability. There are no resistive adjusting elements or switches for altering balance between woofer output and midrange or tweeter output. ADS maintains that the use of resistors between crossover networks and drivers lowers amplifier damping factor and often changes the desired crossover point and suggests that the only way to alter overall response of a speaker system is by means of the tone controls on your amplifier or receiver.

ADS lists the nominal impedance of the 810 system as 4 ohms and our plot of impedance versus frequency in Fig. 3 shows that the impedance dips slightly below this nominal value in the region between 100 Hz and 300 Hz and again between 6 kHz and 12 kHz. System resonance occurs at approximately 50 Hz, though a high impedance peak was noted at around 1 kHz, probably caused by reactive components in the crossover network. This rise in impedance had little or no effect upon the output of the system in this frequency region.

*Mr. Feldman is one of the most respected authorities on audio equipment and serves as the technical advisor to the Institute of High Fidelity.

