

AR speaker at the 1958 Brussels World's Fair, selected for excellence in design as part of the U. S. exhibit.

AR INC.  
*acoustic suspension loudspeakers*

# HIGH FIDELITY at GRAND CENTRAL



These people are listening to AR speakers at one of Acoustic Research's permanent high fidelity displays, the AR Music Room on the west balcony of Grand Central Terminal. A second AR Music Room is operated at 52 Brattle Street in Cambridge, Massachusetts.

You are cordially invited to visit the Music Rooms. A variety of program material from Vivaldi concerti to Dixieland jazz (but no boat whistles or ping-pong games) is played continuously in stereo, through AR-2, AR-2a, and AR-3 speaker systems.

No sales are made or initiated at the Music Rooms, but AR personnel are on hand to answer any questions, technical or strictly amateur, that you may have.

The New York Music Room is open from 10:00 to 6:30 on weekdays, 11:30 to 5:30 on Saturday and Sunday. (Closed weekends July and August.) The Cambridge Music Room is open from 4:00 to 10:00 on Monday, 12:00 to 10:00 Tuesday through Friday, and 10:00 to 10:00 on Saturday.

**ACOUSTIC RESEARCH, INC.,** 24 Thorndike Street, Cambridge 41, Massachusetts

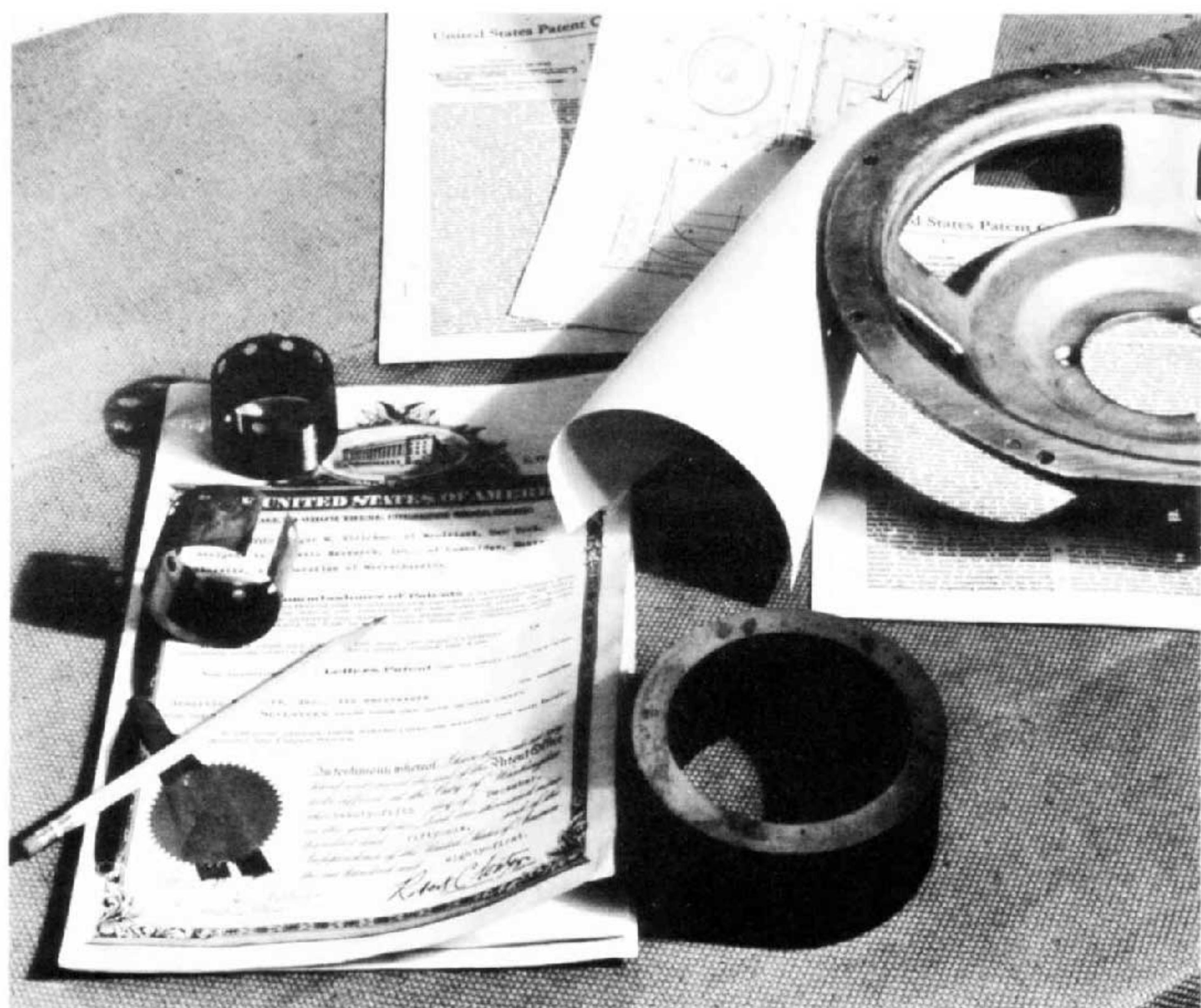
## THE AR ACOUSTIC SUSPENSION\* PRINCIPLE

The cone of an acoustic suspension speaker is mounted on very free suspensions, so compliant that they are unable to provide the elastic restoring force required in a speaker system.

This missing restoring force is then re-introduced by the cushion of air enclosed in the sealed cabinet. The speaker cone works against the elastic air cushion instead of against its own mechanical suspensions.

An acoustic suspension cabinet must be relatively small in order to provide the necessary air-spring. (The enclosed air in a larger cabinet would not form a cushion springy enough to be effective.) Since this air-spring introduces less distortion than mechanical suspensions do, the small enclosure size is accompanied by increased rather than compromised reproducing quality, especially in the bass.

In 1955, speaker systems designed for highest quality bass reproduction ranged in size from 6 to 15 cubic feet, and their prices ranged from \$400 to \$800. Today, owing mainly to AR's introduction of the acoustic suspension design, the giant enclosure has almost passed from the scene, and speaker prices are a quarter of what they were. Most important of all, it is possible to achieve an undistorted naturalness in musical reproduction that was not previously attainable.



\*U.S. Patent 2,775,309

# AR-3

The AR-3 consists of the AR 12-inch acoustic suspension woofer (originally used in the AR-1 and AR-1W) in combination with 2-inch and 1 $\frac{3}{8}$ -inch dome tweeters\* developed in AR's laboratory.

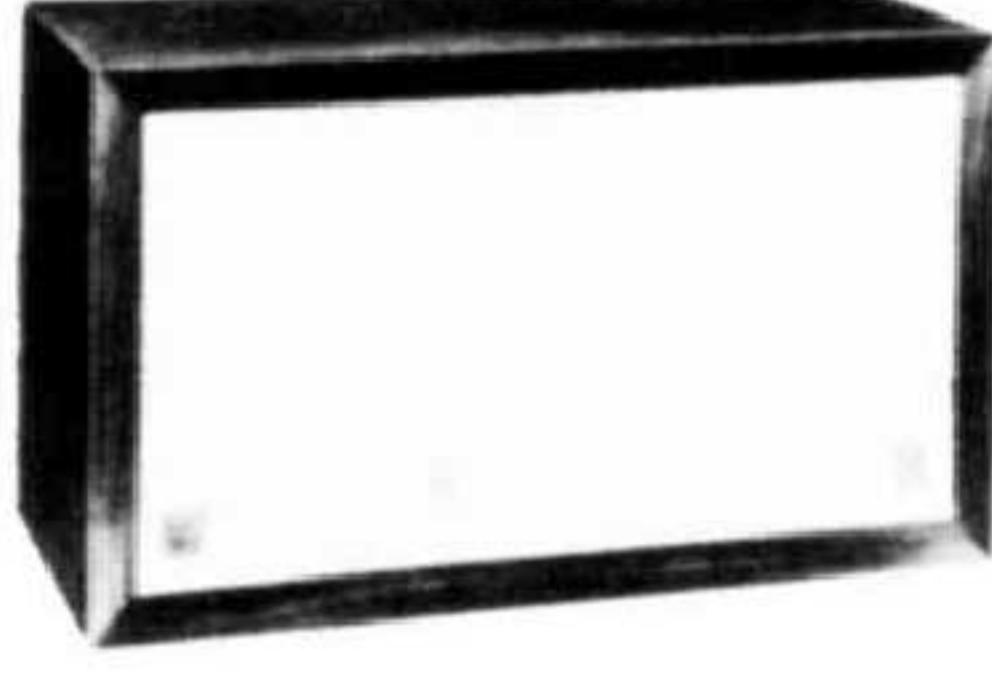
The AR-3 three-way speaker system is a no-compromise device. It is the most natural-sounding musical reproducer that we were able to design, regardless of cost.

**SIZE:** 14" x 25" x 11 $\frac{3}{8}$ " depth

**SUGGESTED AMPLIFIER POWER (RMS):** 25 watts minimum per channel

**TECHNICAL SPECIFICATIONS:** see page 4

<b>PRICES:</b> Mahogany or natural birch.....	\$216.00
Unfinished pine (not suitable for staining).....	203.00
Walnut, oiled walnut, cherry, korina, or teak.....	225.00



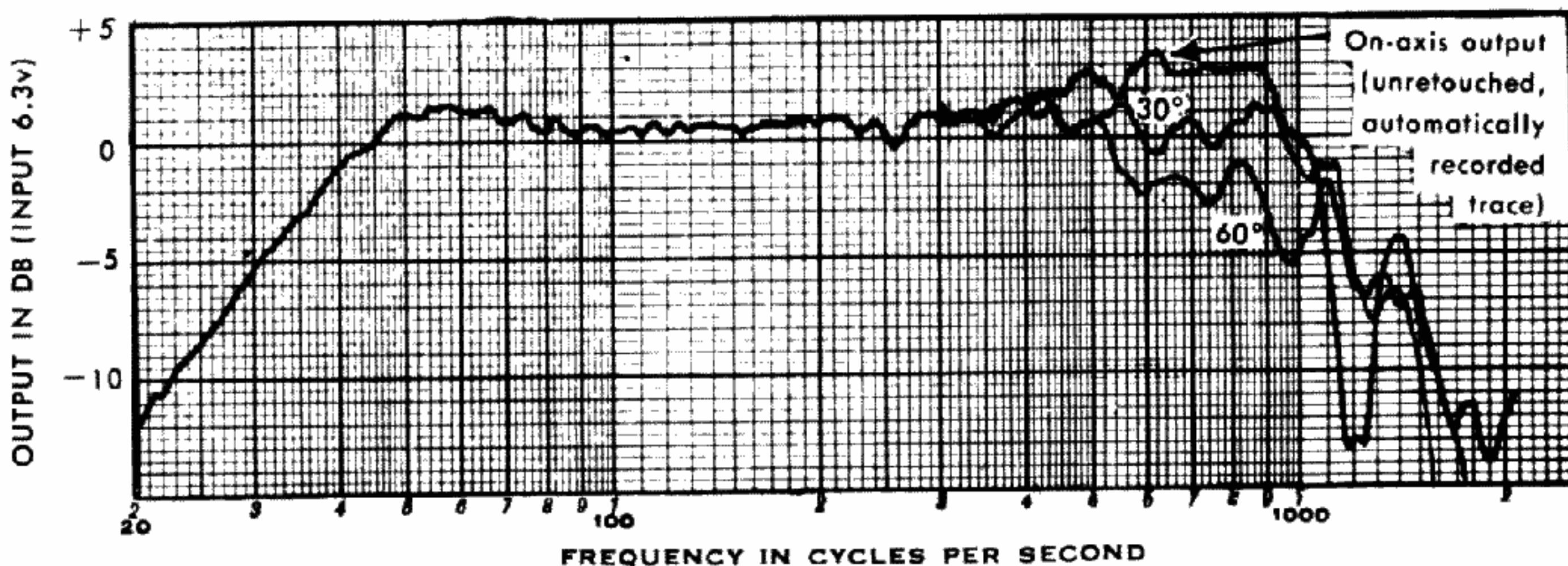
*(shown without grille cloth)*

**Note:** 5% higher in the West and Deep South

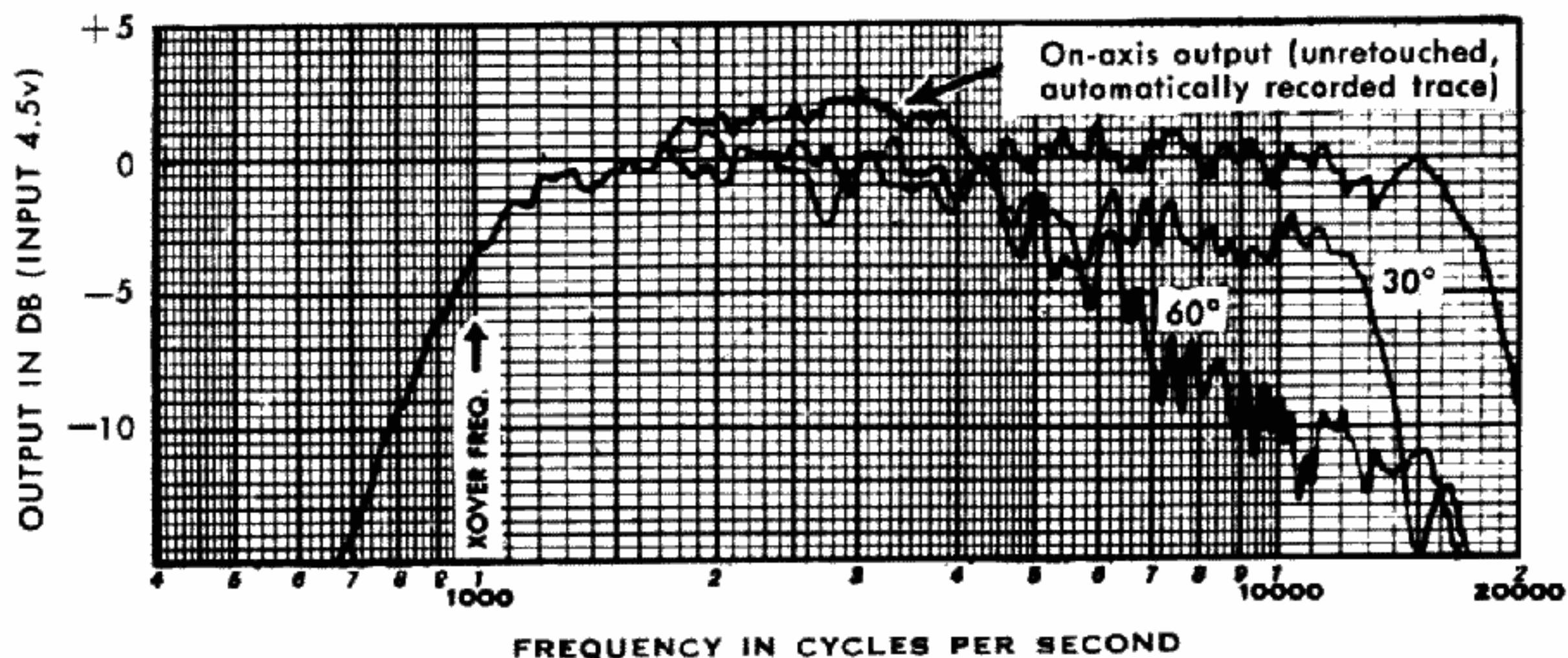
## AR-3 TECHNICAL SPECIFICATIONS

Impedance 4 ohms

### Woofer frequency response

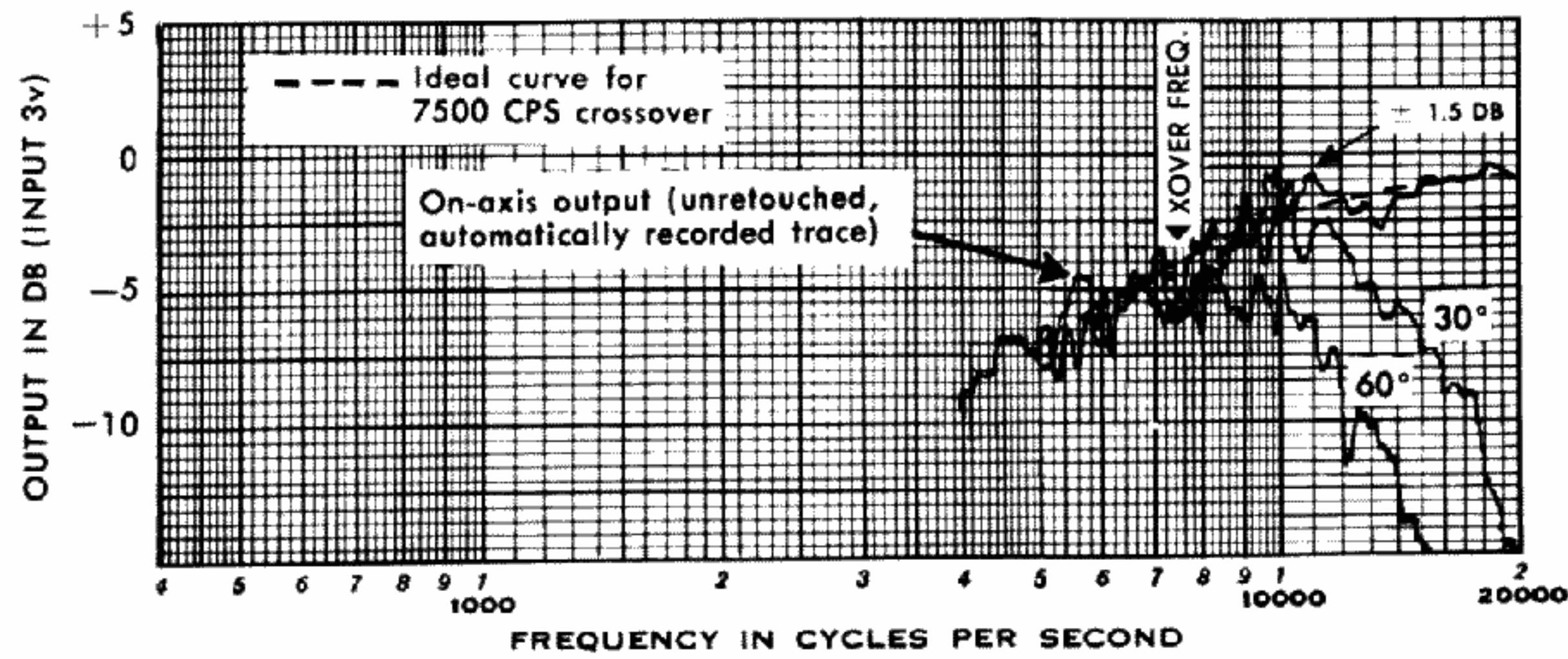


### Mid-range tweeter frequency response, measured in test baffle

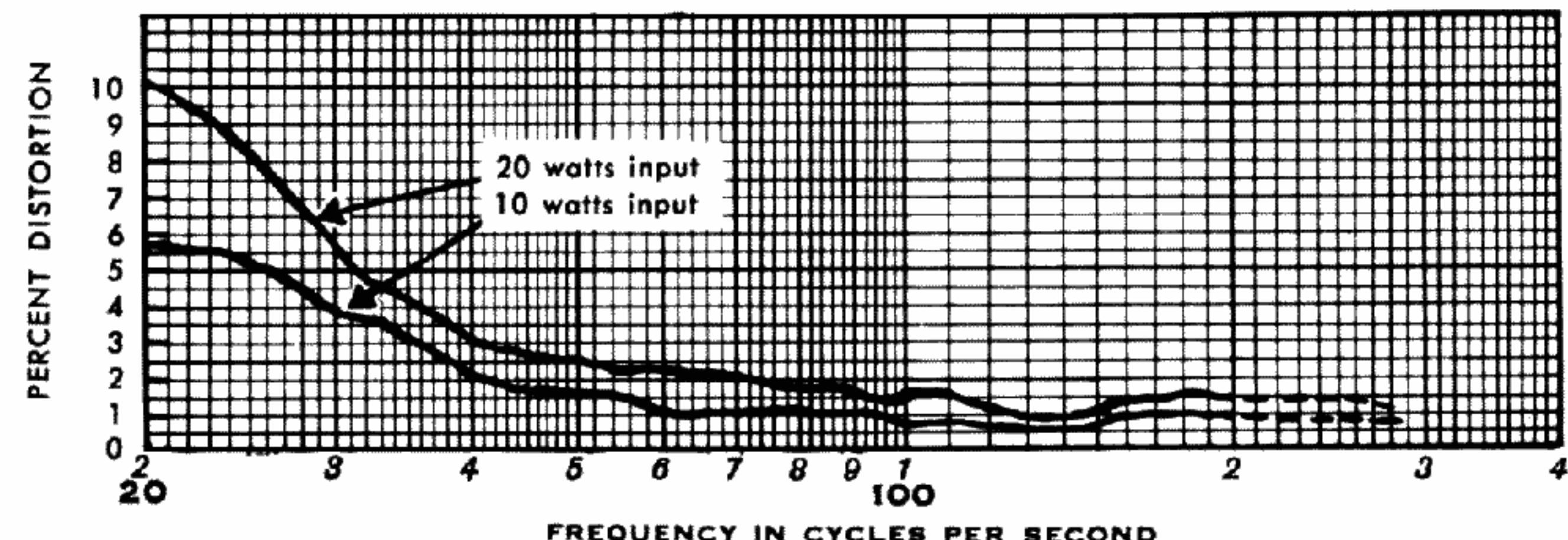


### Super-tweeter frequency response, measured in test baffle

(Overlap with response of the mid-range unit is to compensate for off-axis losses of the latter.)



### Woofer harmonic distortion



## **PRESS COMMENT on the AR-3**

### **high fidelity \*** *(Hirsch-Houck Labs)*

"The sounds produced by this speaker are probably more true to the original program than those of any other commercially manufactured speaker system we have heard."

### **AMERICAN record \* guide** *(Larry Zide)*

"Given a good stereo source, a pair of AR-3's comes as close to musical realism in the home, I believe, as the present state of the art permits. . . . In sum, until someone comes out with something better that doesn't take up the entire house, the AR-3 is for me **the** reference standard."

### **down beat** *(Charles Graham)*

"The best speaker to be bought today at any price for home use is Acoustic Research Model AR-3."

### **AUDIO** *(Edward Tatnall Canby)*

". . . I have been using the two AR-3 units since last June for most of my listening and intend to continue using them indefinitely. That's for the record and it's enough."

**The following comments on the AR-1W apply equally to the AR-3, which includes the AR-1W as woofer. They were written before the AR-3's appearance.**

### **"Atlantic** *(John M. Conly)*

"The AR-1W woofer gives the cleanest bass response I ever have heard."

### **The Audio League Report \*\*** *(Consumer testing organization, now defunct)*

"Speaker systems that will develop much less than 30% distortion at 30 cycles are few and far between. Our standard reference speaker system [*using the AR-1W as woofer*], the best we've ever seen, has about 5% distortion at 30 cycles."

### **Saturday Review** *(David Hebb)*

"Competent listeners, with trained professional ears, were fooled into thinking that the live portions were recorded,† and vice versa. . . . The extreme low notes were felt, rather than heard, without any 'loudspeaker' sound. . . ."

†At a demonstration of live vs. recorded pipe organ, in which the reproducing system included AR-1W's.

\*A reprint of the complete report is available for the asking.

\*\*Abbreviated reprint is available.

# AR-2

# AR-2a

The AR-2 is a lower cost version of our basic acoustic suspension design, with a 10-inch woofer and two 5-inch, specially treated cone tweeters to cover the treble range.

The AR-2a consists of an AR-2 speaker system to which the AR 1 3/8-inch super-tweeter (the same one used in the AR-3) has been added to extend the extreme high-frequency response. Mid-range units and super-tweeters are independently adjustable.

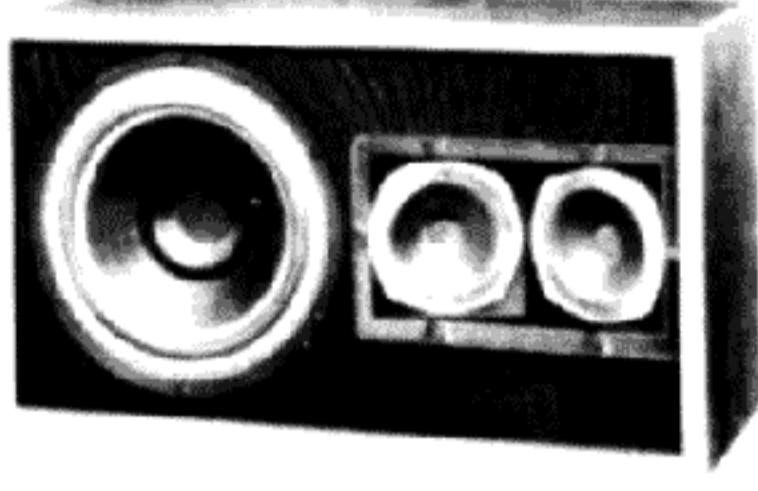
The performance standard used in design of the AR-2 and AR-2a was the same as that for the AR-3: musically natural, unexaggerated reproduction. But where quality in the AR-3 is limited only by the state of the art and our engineering skill, here price is also a consideration.

**SIZE:** 13 1/2" x 24" x 11 1/2" depth

**SUGGESTED AMPLIFIER POWER (RMS):** 20 watts minimum per channel

**TECHNICAL SPECIFICATIONS:** see page 8

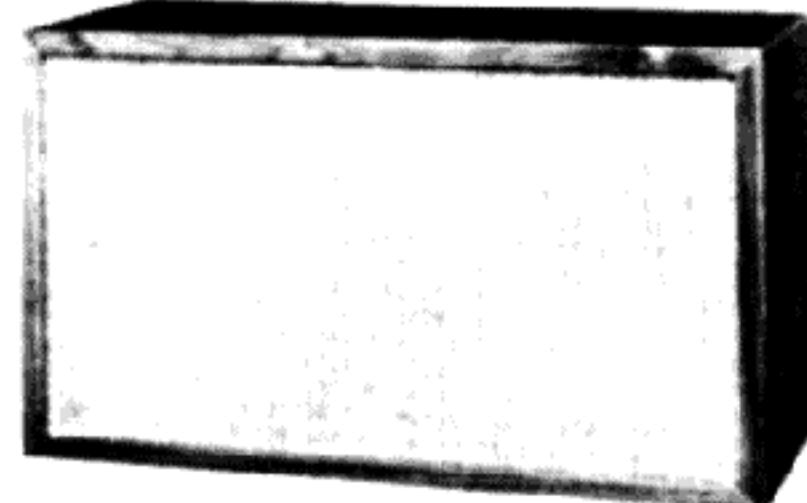
	<b>AR-2</b> (3 sides finished)	<b>AR-2a</b> (4 sides finished)
<b>PRICES:</b> Mahogany or natural birch	\$ 96.00	\$122.00
Unfinished pine (not suitable for staining)	89.00	109.00
Walnut, oiled walnut, cherry, or korina	102.00	128.00
Teak (AR-2a only)		128.00



**AR-2**  
(shown without grille cloth)



**AR-2a**  
(shown without grille cloth)



**AR-2a**

**Note:** The AR-2 horizontal underside is unfinished. AR-2a finish is on 4 sides. 5% higher in the West and Deep South.

## PRESS COMMENT on the AR-2 and AR-2a

### Winnipeg Free Press\* (Ken Winters)

"I chose the AR-2a speakers over other extremely good systems because of their self-effacing dispositions. They seemed to intrude less in the music than did other speakers with more markedly individualistic sound-producing natures."

### high fidelity (Hirsch-Houck Labs)

"The low frequency harmonic distortion of the AR-2a is remarkably low, and in our experience has been surpassed only by the AR-1. . . . The super-tweeter response is such that our microphone is incapable of measuring its limits."

### down beat

AR-2a selected as best medium priced speaker system in 1960 "Picks of the Year."

### review of recorded music (Fred Grunfeld)

"If I seem carried away by these [AR-2] loudspeakers that is because they have a wonderfully natural quality. . . . They are particularly the answer for anyone who demands a very clean string tone. . . ."

### THE DIAPASON (Joseph S. Whiteford, President, Aeolian-Skinner Organ Co.)

" . . . the problem of reproducing very low frequency organ tone without distortion or coloration was considerable. 'Electronic' sound would not do. Acoustic Research speaker systems [10 AR-2's installed permanently in a synthetic reverberation device at Christ Church, Cambridge, Mass.] provided an ideal solution."

### AUDIO (Edward Tatnall Canby)

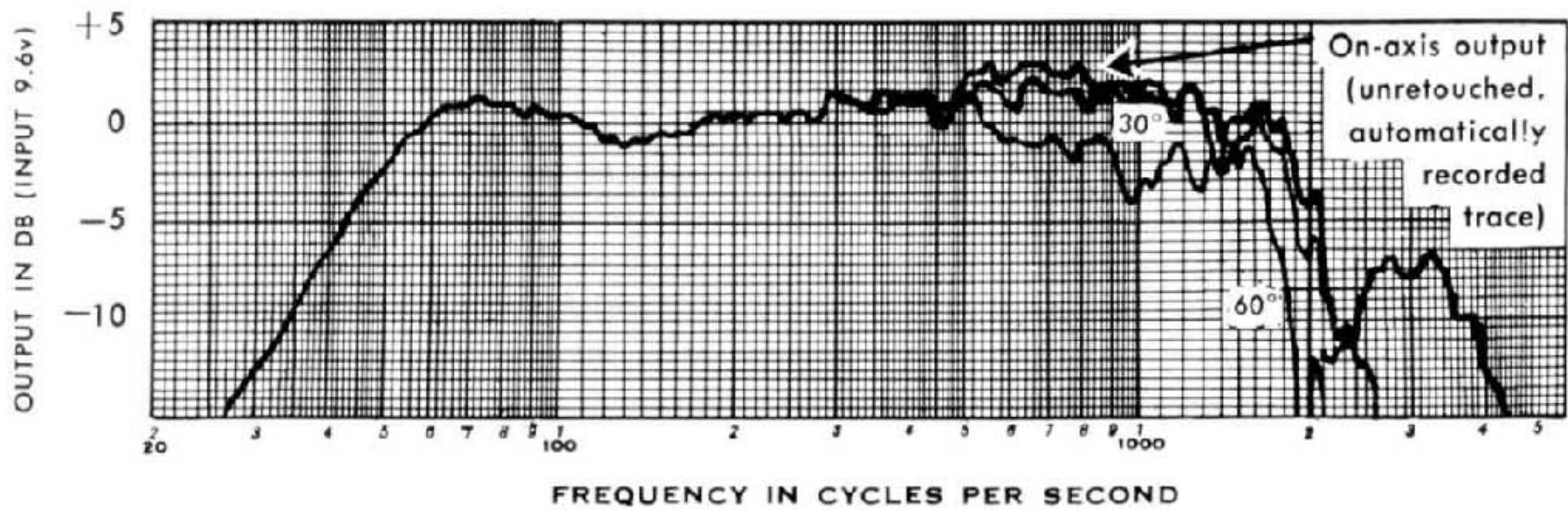
"I find AR-2 . . . remarkably clean and unobtrusive in its sound, easy on the ears for long-period listening, easy also to ignore in favor of the music itself. . . . Excellent illusion!"

\*A reprint of Mr. Winters' article, on a complete medium-cost stereo system, is available on request.

## AR-2, AR-2a TECHNICAL SPECIFICATIONS

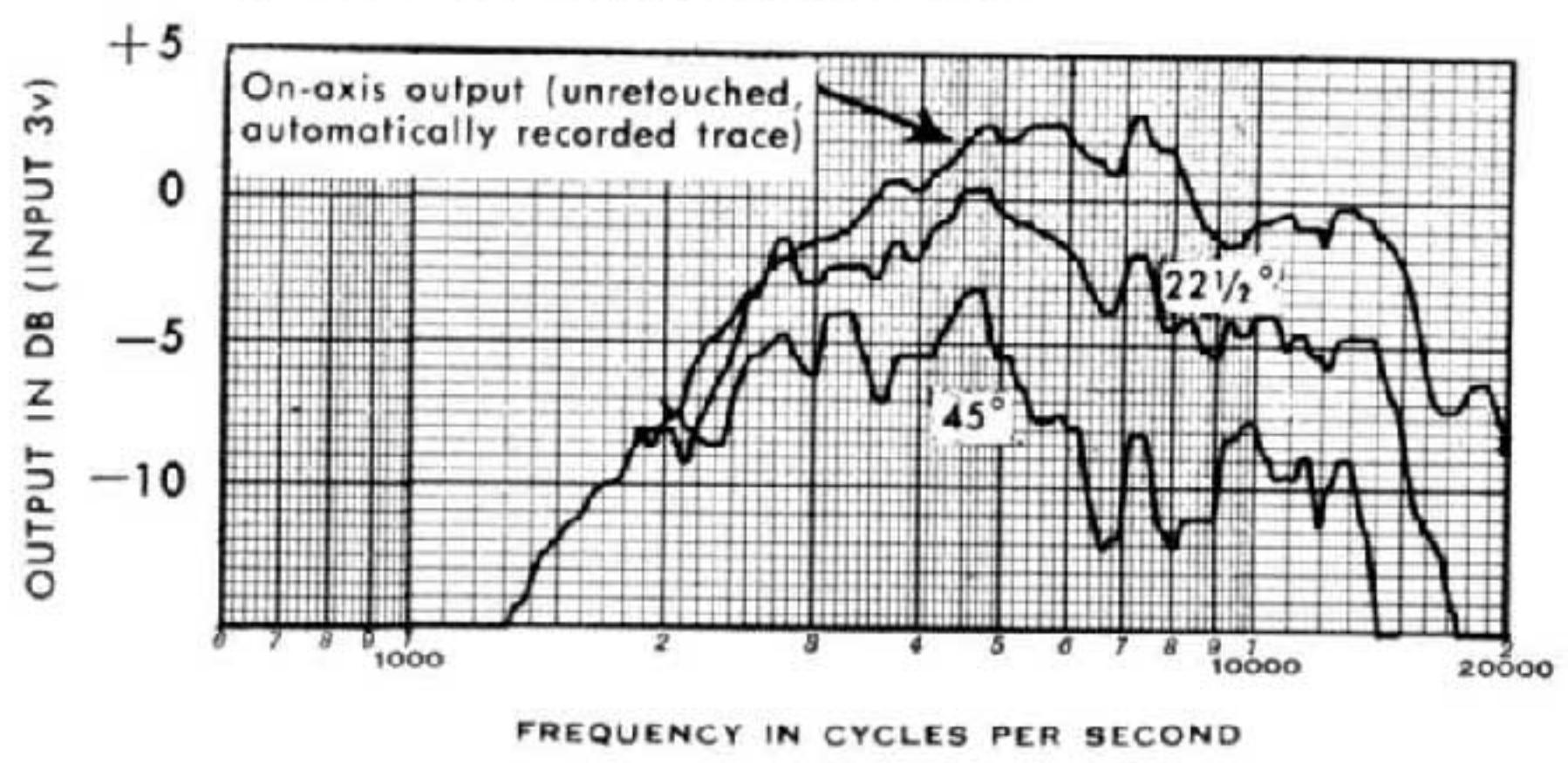
Impedance 8 ohms

### Woofer frequency response

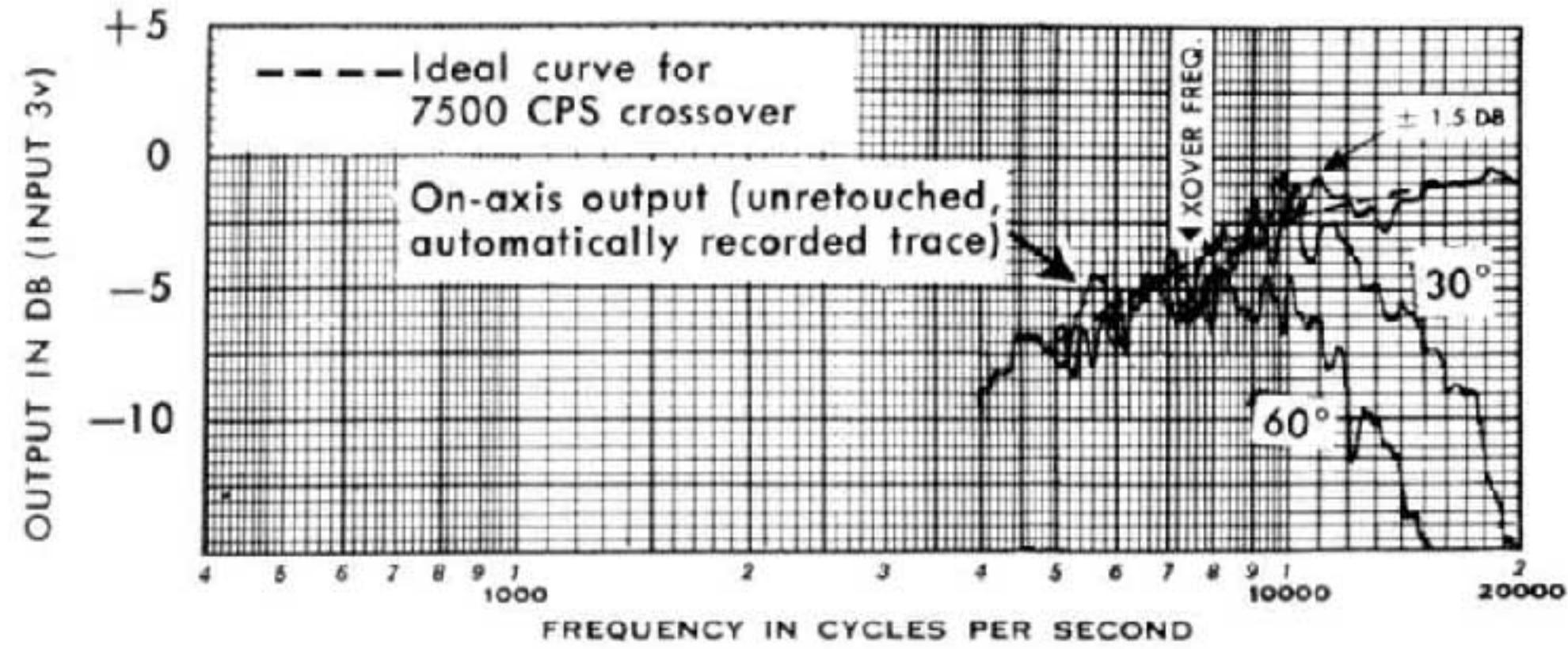


### AR-2 tweeter (AR-2a mid-range) frequency response—single speaker in test baffle

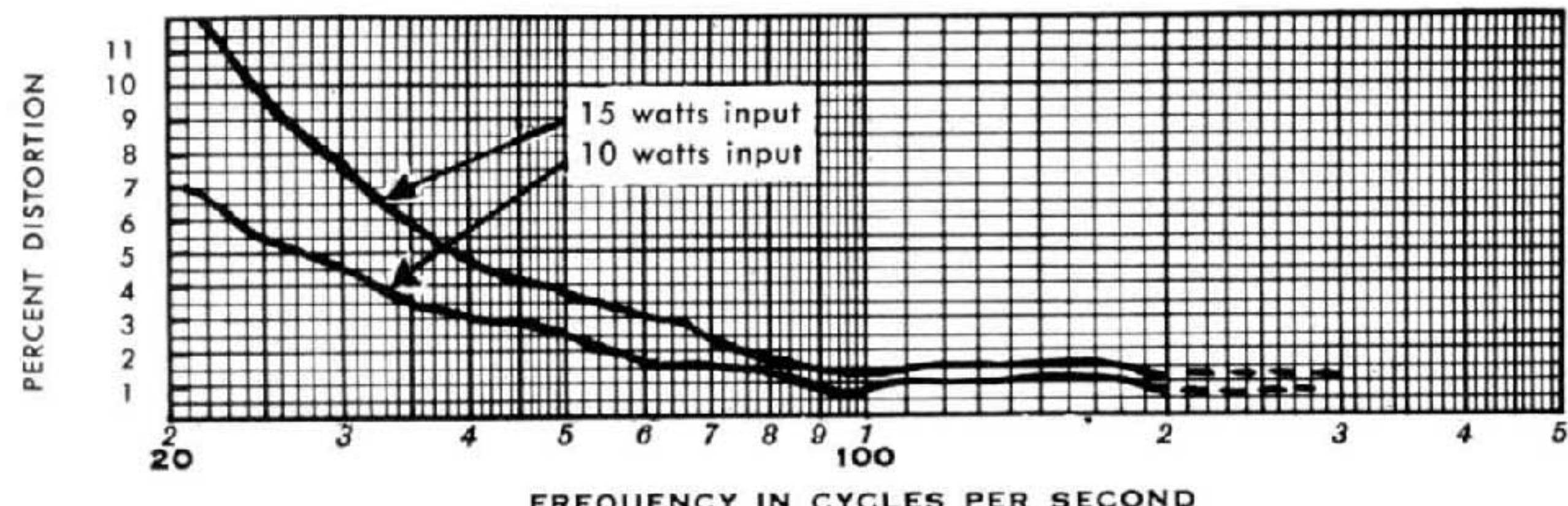
Two of these tweeters are used, each radiating 20° off-axis in opposite directions.



### AR-2a super-tweeter frequency response



### Woofer harmonic distortion



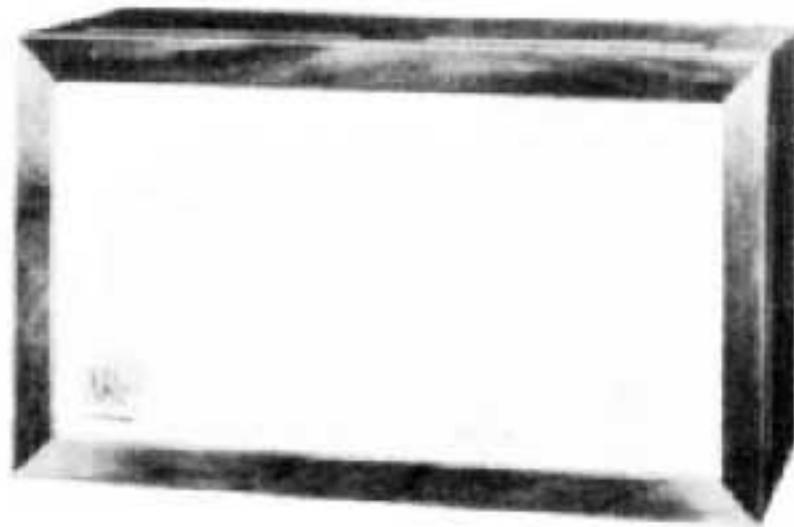
Recording microphone is W.E. 640 AA.

## OTHER AR SPEAKER PRODUCTS

### AR-3t

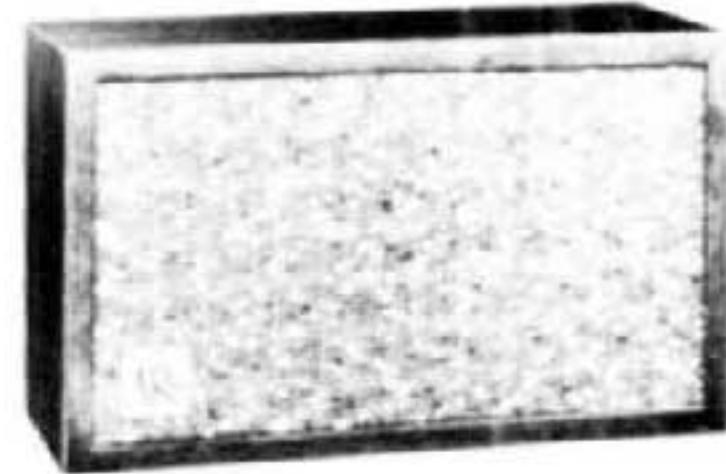
This is the tweeter system of the AR-3 (mid-range and super-tweeter), including crossover network, level controls, and cabinet. It converts an AR-1 or AR-1W to the equivalent of an AR-3. Dimensions are 7 $\frac{7}{8}$ " x 14" x 6 $\frac{3}{4}$ ".

Mahogany or birch.....	\$92.00
Unfinished pine.....	\$87.00
Walnut, oiled walnut, korina, or cherry.....	\$96.00



### AR-3st

Super-tweeter only of the AR-3 or AR-2a, including crossover network, level control, and cabinet. Converts an AR-2 to the equivalent of an AR-2a, or can be used to extend the high-frequency range of an AR-1. Dimensions are 6 $\frac{1}{2}$ " x 11 $\frac{1}{2}$ " x 5 $\frac{1}{8}$ ".

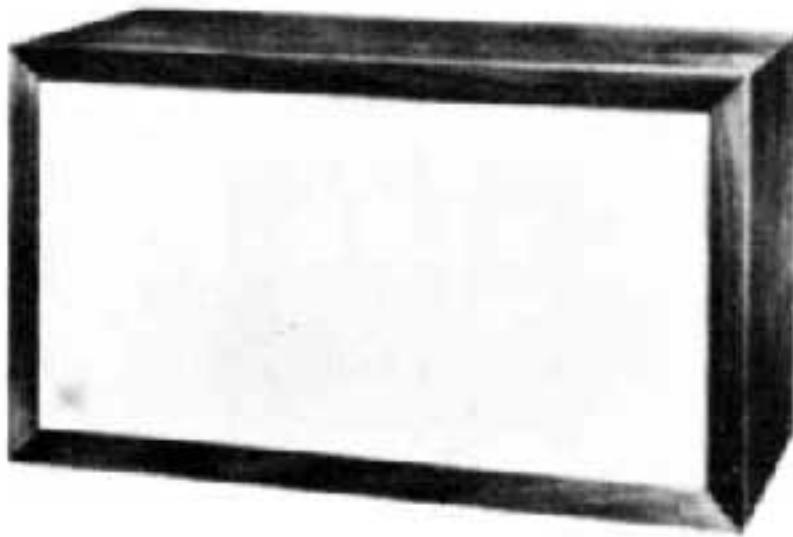


Mahogany or birch.....	\$35.00
Unfinished pine.....	\$32.00
Walnut, oiled walnut, korina, or cherry.....	\$38.00

### AR-1W

The woofer portion of the AR-3. 12-inch acoustic suspension woofer in an AR-3 cabinet.

Mahogany or birch.....	\$145.00
Unfinished pine.....	\$132.00
Walnut, oiled walnut, korina, or cherry.....	\$154.00



### SPEAKER STAND

Suitable for horizontal mounting of any model of AR speaker. Must be assembled; supplied with hardware, assembly tool, and instruction sheet. Dimensions are 29" high x 30 $\frac{1}{2}$ " wide x 15 $\frac{3}{8}$ " deep. All finishes \$30.00.

### SPEAKER BASE

Where space limitations require mounting near the floor, this base provides improved acoustics. Dimensions are 11" high x 14 $\frac{1}{2}$ " wide x 13" deep. Oiled walnut and unfinished birch (suitable for staining), \$7.50.



If you cannot obtain the stand or base from your dealer, you may order direct from the factory, shipment prepaid. A list of local dealers is available on request.

# *Quality Control at AR*

The frequency response of every AR speaker is checked in an anechoic chamber before it is shipped. (Other tests, of course, are also made—from measuring resonant frequency to checking for air leaks in the cabinet.)



Silvano Cannavacciuolo, AR inspector, checks a speaker response curve at one of AR's anechoic chambers. The response curves of the individual drivers in the system he is testing have already been recorded and found acceptable at the main anechoic chamber.

The purpose of such careful quality control is to make sure, as far as is possible, that AR speakers provide natural reproduction of music, without rattles, buzzes, distortion, or pseudo-hi-fi exaggerations.

## **5-YEAR GUARANTEE**

AR speakers are sold under a five-year guarantee covering both materials and labor. Freight costs are reimbursed.

## **AR SPEAKER RENTAL PLAN**

**A**coustic Research has always believed that speakers should be selected on the basis of prolonged, careful listening to varied types of music. We have set up AR Music Rooms in two cities—New York and Cambridge—where visitors can listen, at leisure, to musical program material ranging from solo violin to massed voices.

In line with this approach we have introduced a speaker rental plan, so that a person can try AR speakers at home before deciding whether or not to purchase them. The only requirement is that he have suitable equipment to use with the speakers.

Any participating AR dealer will allow AR speakers to be taken home for a week, at a rental of \$1 per speaker. If the prospective customer decides to buy the speaker or speakers, the rental is applied toward the purchase price. If he decides to return them, he has paid for his trial period and can feel completely free of obligation or pressure to keep the speakers. (The dealer, in addition to the rental fee, will collect a further sum from AR for his trouble.)