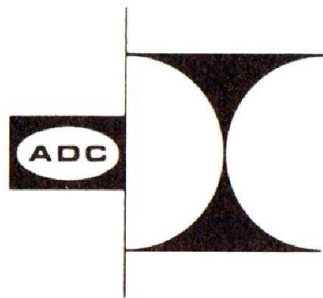


The ADC logo, featuring a stylized 'A' symbol followed by the letters 'ADC'.

Audio for Audiophiles...



ADC LOUDSPEAKER SYSTEMS

AUDIO DYNAMICS HIGH TRANSPARENCY LOUDSPEAKER SYSTEMS

The term “high transparency” is not intended as a gimmick. It is an attempt by analogy to explain those qualities most desirable in a high fidelity loudspeaker system.

A loudspeaker is analogous to a glass window. A perfectly clear, transparent window will enable light to pass through unimpeded, allowing an observer to view the scene beyond as though nothing were in between. In practice, however, the window may be dirty, the glass distorted, twisted and wavy; it may be discolored, or be highly reflective; all of which will impede the accurate viewing of the scene beyond.

In a similar manner, a perfectly accurate or transparent loudspeaker will allow the sound (presented in electrical form at the input terminals) to pass through the speaker as though nothing intervened.

In practice again, the speaker may be “dirty”, producing extraneous noises; it may be “twisted and wavy”, distributing the sound unevenly in the listening room; it may be “discolored or tinted” (i.e., uneven frequency response), coloring the resultant sound; or it may have many reflections leading to lack of clarity.

The removal or amelioration of these faults renders a speaker more transparent and this is the principal goal of ADC’s electro-acoustic engineers.

We believe all ADC loudspeaker systems have excellent transparency with the new ADC 450A being exceptional in this respect.

This transparency is achieved by a simple but highly refined design approach.

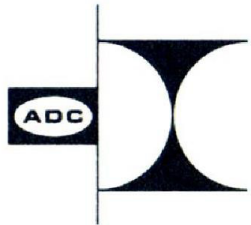
All ADC speaker systems are two-way systems. This avoids the use of complex crossover networks and the resultant phase distortion. It enables the majority of the audio spectrum to be radiated by the high frequency unit, essentially a single point source. This is the only correct and practical way to avoid beaming and random reflections with their resultant aural confusion.

Multiple speakers mounted on curved or angled surfaces indeed avoid beaming in one plane only, but produce severe phase cancellation and uneven response.

The low frequency driver is then left to do the demanding but uncomplicated job of reproducing the low and essentially unidirectional portion of the spectrum.

Of course, all reproduced sound, especially stereo-phony, is to some degree a controlled illusion. However, the more accurate the reproducing chain and particularly the loudspeakers, the more satisfactory the illusion and the closer it becomes to live sound.

We believe a transducer of the accuracy of the ADC series renders unnecessary and undesirable such practices as reflecting large proportions of the sound from nearby walls, etc., which is largely motivated by an attempt to spread the apparent sound source and avoid beaming. Like light through a decorative window, this spreads the sound around in a very pleasant manner, but is no substitute for true aural transparency.



ADC 450A LOUDSPEAKER SYSTEM

We believe that this speaker system is representative of "the state of the art" in bookshelf speaker design, while its low price makes it probably the best audio buy available today.

Like all ADC loudspeakers, this is a two-way system. The high frequency unit is a 3/4" dome radiator, with an exceptionally wide frequency range. Its radiating surface is small, compared to the wave lengths involved, providing superb dispersion at all frequencies where directionality is significant. Its very low moving mass, plus a highly efficient magnet system, results in almost perfect transient and decay characteristics.

The low frequency driver is a long voice coil, high compliance unit with a relatively light-moving structure and large magnet. It is loaded by a rigidly constructed fiberglass filled 2 cu. ft. cabinet to give clean response down to 25Hz, with the fundamental resonance critically damped.

SPECIFICATIONS

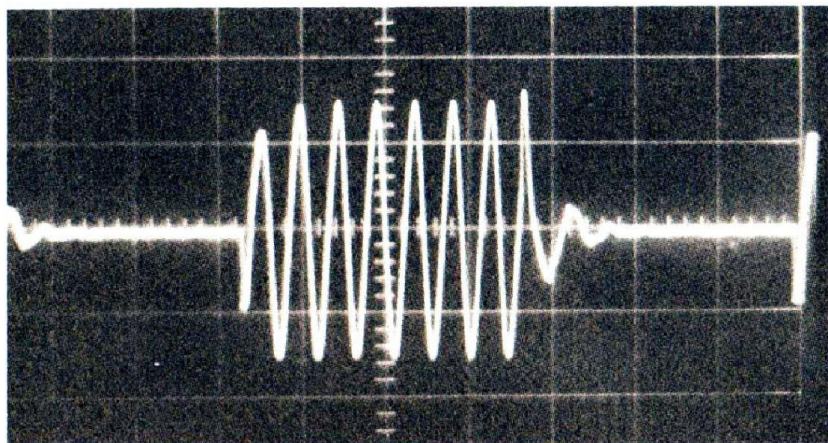
NOMINAL IMPEDANCE:	6 ohms
RESPONSE:	25 Hz to 30kHz \pm 3 dB in average listening room.
HIGH FREQUENCY DRIVER:	3/4" "point source" wide range radiator.
LOW FREQUENCY DRIVER:	12" viscous coated cone with high compliance foam suspension, long excursion voice coil, and low moving mass to magnet ratio.
MIDRANGE SWITCH:	Approx. 1 1/2dB change over the band from 1.2kHz to 2kHz.
TREBLE SWITCH:	Approx. 1 1/2dB change over the band from 2kHz to 30kHz.
ENCLOSURE:	Oiled walnut air-tight cabinet 25" x 14" x 12 3/8". Filled with controlled sound absorbent material. Shipping weight approx. 50 lbs. Grille cloth specially developed for AUDIO DYNAMICS has maximum visual opacity with no acoustic losses up to 9kHz, and less than 1 1/2dB loss from 9kHz to 30kHz.



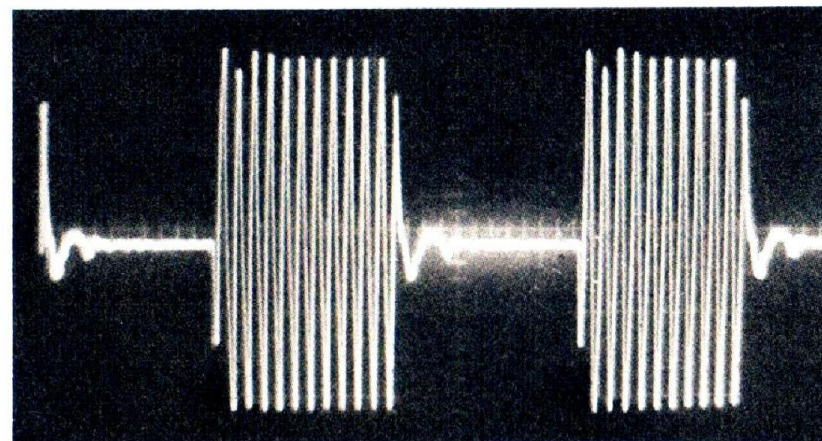
TONE BURST DIAGRAMS (450A):

The following traces were made using a gated (or interrupted) sine wave input to the speaker and they give an indication of the excellent transient response of the drivers in ADC speaker systems. Not only do they indi-

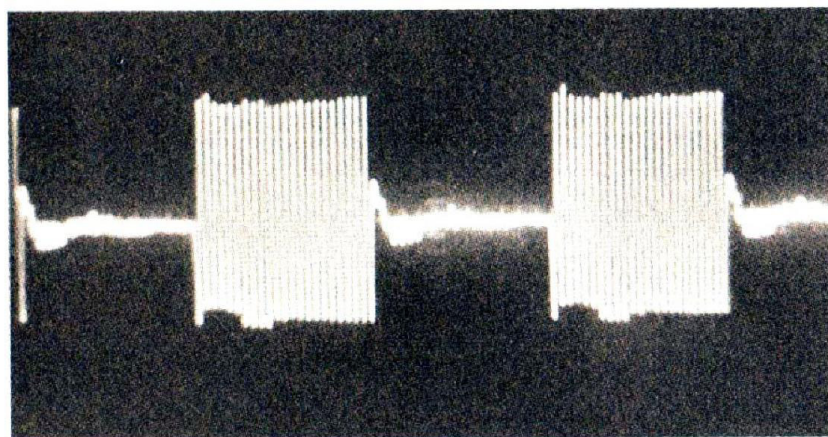
cate an absence of ringing and overhang, but they also show the excellent initial attack characteristics so important to the reproduction of percussion instruments, and for intelligibility of the human voice.



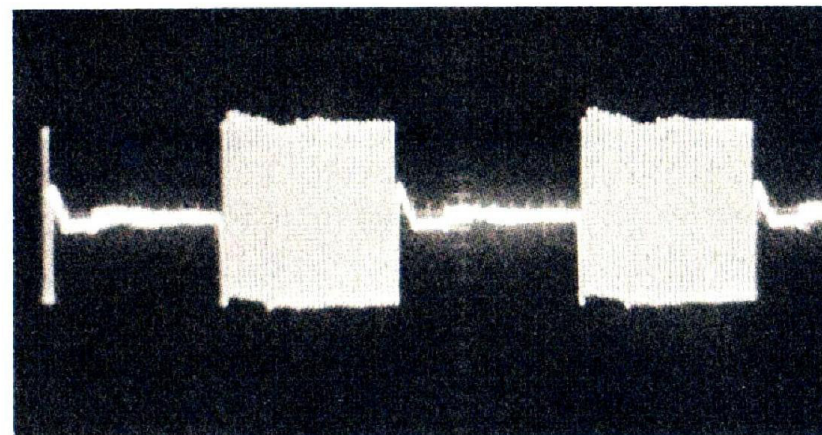
Tone Burst at 1000 Hz.



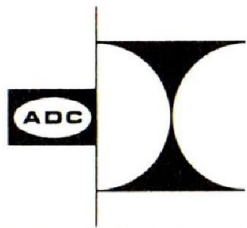
Tone Burst at 3500 Hz.



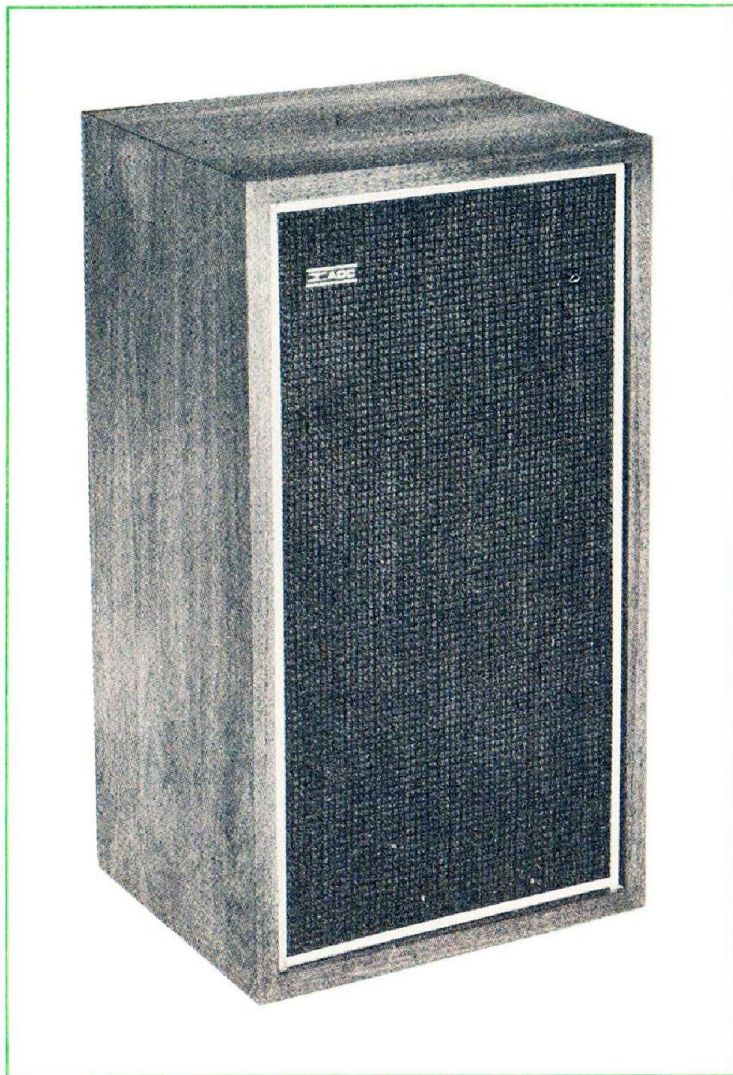
Tone Burst at 10 kHz.



Tone Burst at 15 kHz.



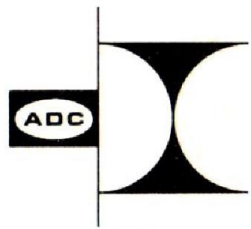
ADC 303AX LOUDSPEAKER SYSTEM



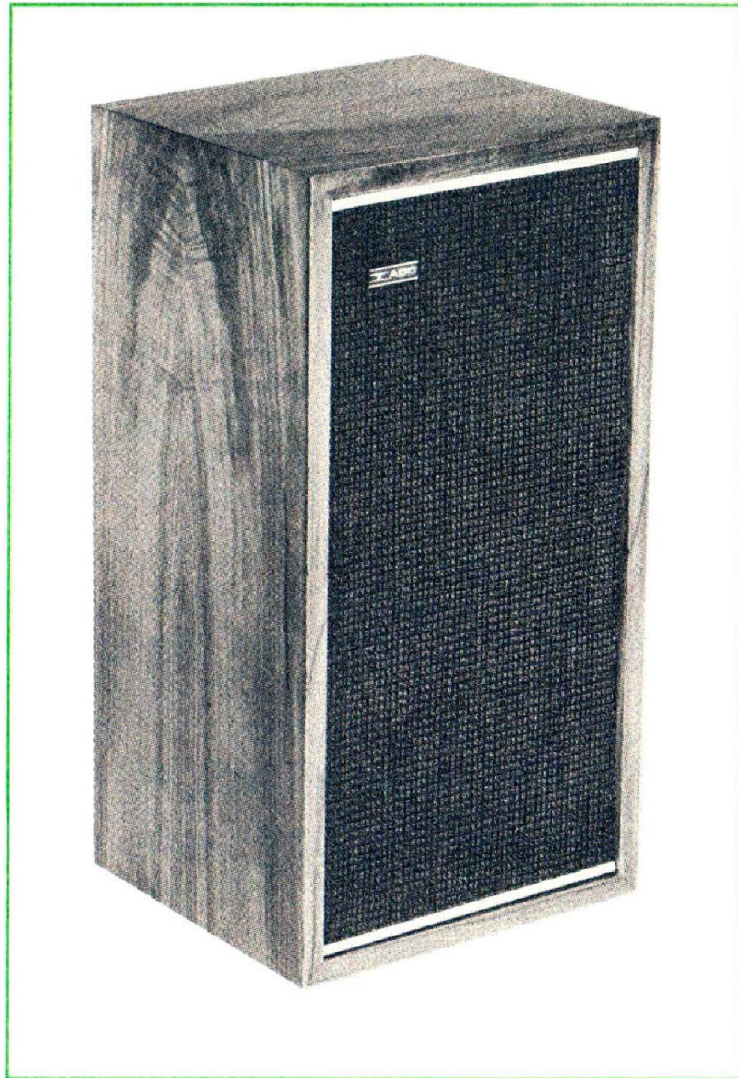
The ADC 303AX represents a superb value in a full-size bookshelf speaker system. We believe its performance to be greatly superior to any other system in its price range. It shares the same design philosophy as the 450A, and due to its amazing ability to reproduce clean, natural sound, it is often taken for a much more expensive system. To help achieve this, ADC has developed a high compliance 10" bass unit, using a specially developed cone and surround materials. The crossover frequency is approximately 1500Hz and the drivers are critically matched to provide smooth transition without irregularities.

SPECIFICATIONS

NOMINAL IMPEDANCE:	8 ohms
RESPONSE:	37Hz to 20kHz \pm 3dB in average listening room.
HIGH FREQUENCY DRIVER:	2½" viscous impregnated cone with 1½" Dia. effective radiating surface.
LOW FREQUENCY DRIVER:	10" viscous coated cone with a high compliance suspension and long voice coil.
MIDRANGE SWITCH:	Approx. 3dB change over the band from 200Hz to 2kHz.
TREBLE SWITCH:	Approx. 3dB change over the band from 2kHz to 20kHz.
ENCLOSURE:	Oiled walnut air-tight cabinet 23¾"H x 13"W x 11¾"D. Filled with controlled sound absorbent material. Shipping weight approx. 37 lbs.



ADC 303B LOUDSPEAKER SYSTEM

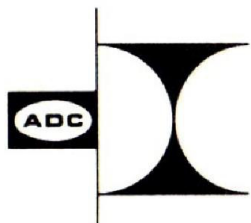


The ADC 303B is essentially an “economy” version of the popular 303AX, housed in a slightly smaller cabinet. Its performance characteristics are virtually identical to those of the AX, sacrificing only a small degree of extreme bass response and lacking the treble and mid-range level switches.

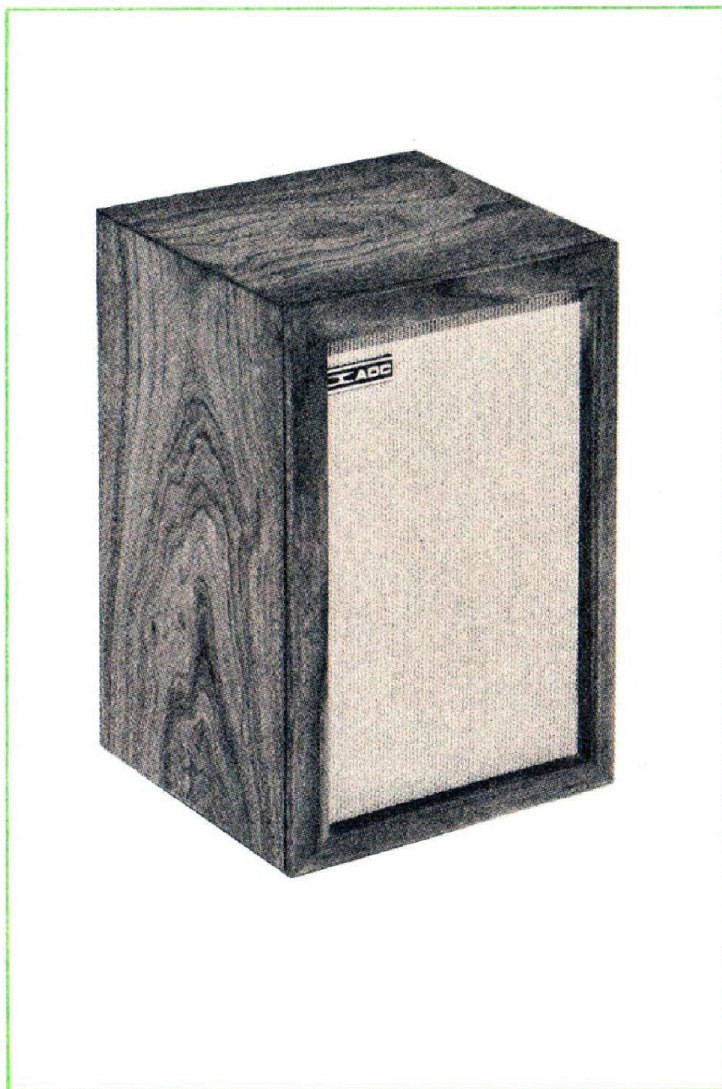
The lack of distortion and coloration which so often characterizes speakers in its price category provide the listener with open, transparent and thoroughly natural reproduction.

SPECIFICATIONS

- NOMINAL IMPEDANCE:** 8 ohms
- RESPONSE:** 40Hz to 20kHz \pm 3dB
in average listening room.
- HIGH FREQUENCY DRIVER:** 2½” viscous impregnated cone with 1½” Dia. effective radiating surface.
- LOW FREQUENCY DRIVER:** 10” viscous coated cone with a high compliance suspension and long voice coil.
- ENCLOSURE:** Oiled walnut air-tight cabinet 21¾”H x 12”W x 11”D.
Filled with controlled sound absorbent material.
Shipping weight approx. 35 lbs.



ADC 404A LOUDSPEAKER SYSTEM



The ADC 404A is an improved version of the much acclaimed ADC 404. Refinements of the drivers and the crossover network have resulted in improved sensitivity and an even smoother overall frequency response. In addition, the front grille assembly is removable, facilitating a change of grille cloth by the user if desired, together with easy access to the internal components should service ever be required. As with its predecessor, the 404A gives little hint of its unusually small size, and one could easily mistake it for a system of much larger physical dimensions—perhaps four times larger. A part of the reason for the remarkable performance of the ADC 404A is simply that its fundamental resonance is extremely low. This has been achieved by the critical matching of cone mass and suspension to the mass and elasticity of the air in the enclosure.

If a further reason for the remarkable performance of the 404A is sought, the answer is to be found in the sheer quality of the components that go to make up this unit.

SPECIFICATIONS

NOMINAL IMPEDANCE:	6 ohms
RESPONSE:	45Hz to 20kHz \pm 3 dB in average listening room.
HIGH FREQUENCY DRIVER:	2½" viscous impregnated cone with 1½" Dia. effective radiating surface.
LOW FREQUENCY DRIVER:	6" viscous coated cone with high compliance suspension.
ENCLOSURE:	Oiled walnut air-tight cabinet 11⅞"H x 7⅞"W x 8⅜"D. Filled with controlled sound absorbent material. Shipping weight approx. 11 lbs.

TECHNICAL INFORMATION about ADC Speaker Systems

POWER REQUIREMENTS:

A minimum RMS power of 10 watts per channel should be sufficient to drive any ADC speaker system to normal volume levels in an average room. Please note, however, that many manufacturers rate their amplifiers using standards other than RMS which may possibly cause confusion. In practice, you will find these speakers to be compatible with virtually any “component” amplifier or receiver made by a reputable manufacturer.

POWER HANDLING CAPACITY:

All of the ADC speaker systems are easily capable of handling the power input required for even the loudest sound volumes encountered in domestic listening conditions. Where sustained sound levels of a particularly high order are required, the 450A will radiate sound at approximately 100dB within reasonable distortion levels.

The following table is to provide an indication of the maximum input which the speaker systems are capable of handling without undue risk of damage. It is assumed that the input will consist of normal program material, i. e., music or speech, where the major portion of the power is concentrated in the lower part of the spectrum. Under

unusual conditions where all, or the greater part of the power is above approximately 2kHz, then the rating should be divided by 3. This is due to the fact that the vast majority of the load would fall on the tweeter which, as one would expect, is not capable of so much power dissipation.

Model	Maximum Continuous Input (RMS equivalent)	Maximum Short Term Input (RMS equivalent, 20 seconds)
404A	15 W	26 W
303B	25 W	45 W
303AX	25 W	45 W
450A	40 W	100 W

GRILLE CLOTH:

The grille cloths used on ADC loudspeaker systems are selected both for their decorative value and their acoustic qualities. Unfortunately, many grille cloths used on today’s loudspeakers interfere considerably with the sound propagation. To avoid this problem, ADC grille cloths have been very carefully developed so as to be virtually acoustically transparent.

BASS ENCLOSURE:

All ADC speaker systems use a totally sealed “infinite baffle” enclosure, where the enclosed air mass is utilized to create part of the restoring force for the woofer suspension. The enclosure is packed with a carefully determined amount of shredded fiberglass which serves both to lower the fundamental resonance of the system and damp out reflections and standing waves in the mid-range.

FREQUENCY RESPONSE ADJUSTMENT:

On those speakers where we provide for a level adjustment of mid-range and treble, the degree of boost or cut has been restricted to only a db or so. ADC’s engineers have been at great pains to provide a loudspeaker system having the smoothest possible frequency response, and we believe that if adjustment of this response is necessary, then this is properly the function of the control amplifier. A slight degree of adjustment at the speaker can sometimes be desirable (although even this is questionable) in order to provide some matching of room acoustics and to suit personal preferences. However, it must be borne in mind that such controls can only boost or depress the individual low or high frequency drivers and, if excessive adjustment is permitted, will produce a sharp discontinuity of the frequency response at the crossover point, resulting in highly unnatural reproduction.

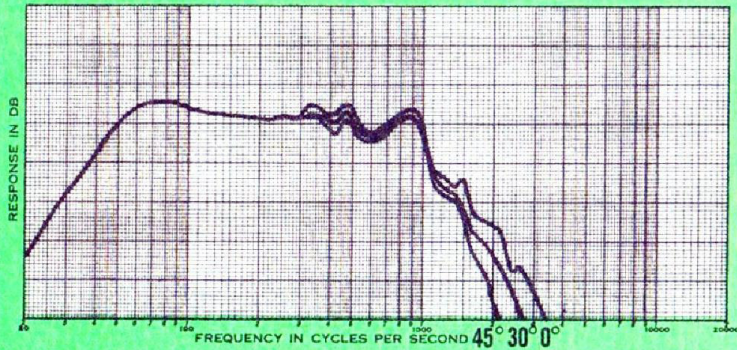
DRIVER MOUNTING:

The individual drivers in all ADC speaker systems are front-mounted flush with the baffle surface and as close to the grille cloth as possible to virtually eliminate the effects of cavitation resonances and reflections which might otherwise negate the exceptional performance of which these units are capable.

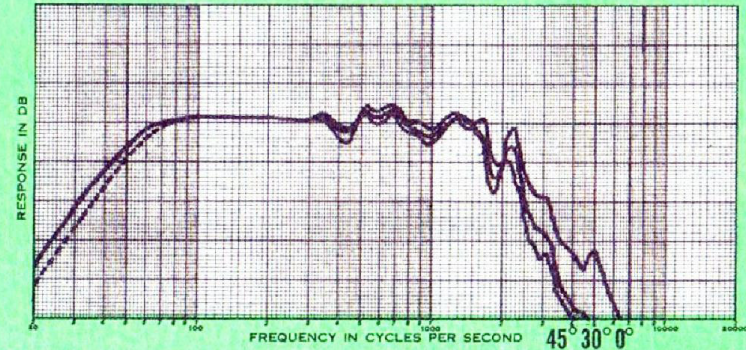
RESPONSE CURVES:

The diagrams on the following page are of actual, automatically recorded traces of the individual drivers used in ADC speaker systems. In the case of the woofers, these traces were made in the open air with the speaker buried in the ground flush with the surface and with the microphone suspended three feet above the woofer on or off the axis as indicated. Tweeter responses were taken in an anechoic room three feet away from the speaker on and off the axis.

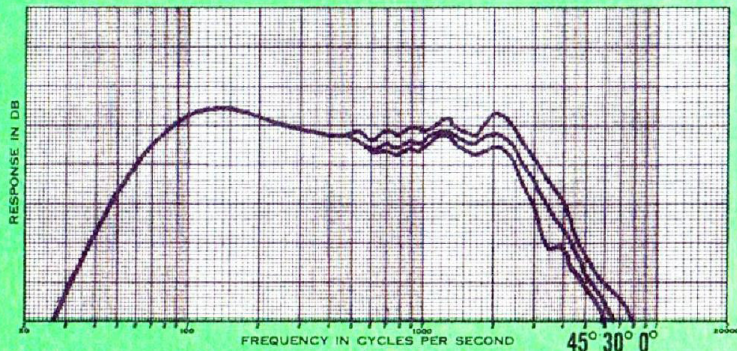
In each diagram the traces are identified to show the degree by which they are off the axis of the speaker, and it should be noted that in the case of both woofer and tweeter there is exceedingly little loss at quite an extreme deviation from the on axis position. This is particularly noteworthy in the case of the tweeter used on the ADC 450A. This characteristic of ADC speakers not only greatly enhances the naturalness of the reproduction, but also tends to assist in the formation of a firm stereo image over a wide area of the listening room.



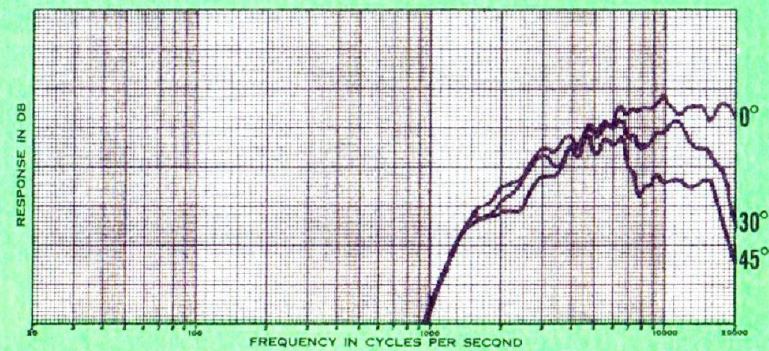
Frequency Response of ADC 450A 12" Driver
(Major divisions equal 5 dB)



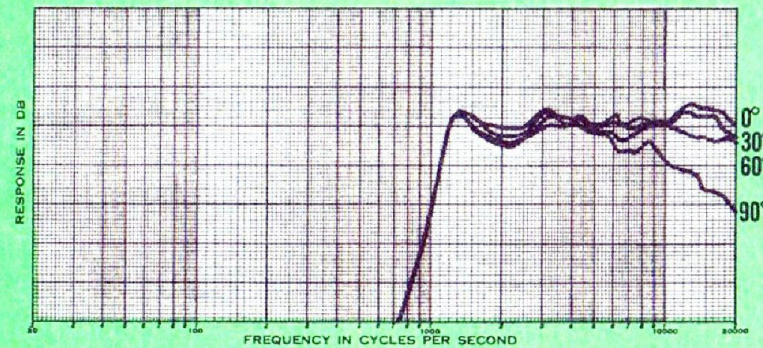
Frequency Response of ADC 303AX and 303B 10" Driver.
Dotted line indicates 303B response. (Major divisions equal 5 dB)



Frequency Response of ADC 404A 6" Driver.
(Major divisions equal 5 dB)



Frequency Response of Tweeter used in ADC 303AX, 303B and 404A.
(Major divisions equal 5 dB)



Frequency Response of Dome Tweeter used in ADC 450A.
(Major divisions equal 5 dB)

All ADC loudspeaker systems described in this booklet are sold with the following guarantee:

GUARANTEE

Audio Dynamics Corporation guarantees that this loudspeaker system will perform satisfactorily for a period of five years from the original date of purchase. The enclosed guarantee card must be filled out and returned to us within ten days of purchase, otherwise this guarantee will not apply. Should any operating defect occur under normal use within the five year period, the unit will be repaired or replaced without cost. This guarantee will be nullified if the speaker has been subjected to abuse, or is returned without first obtaining our Return Authorization. This guarantee also covers all necessary freight costs in both directions, providing the above requirements have been complied with.

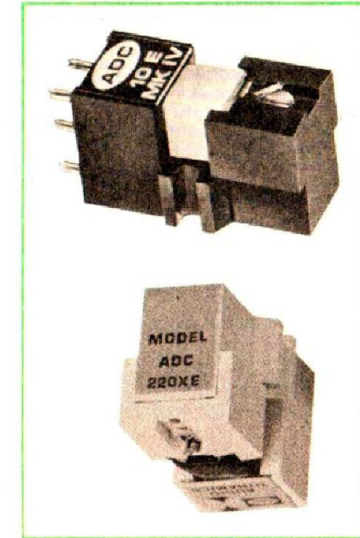
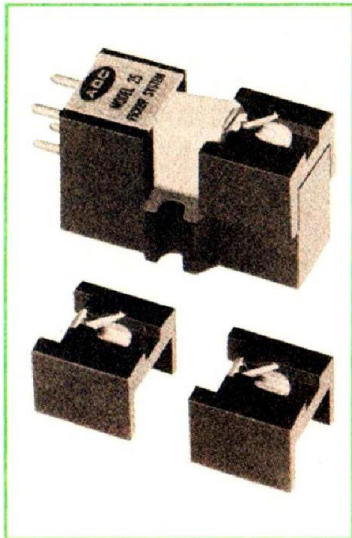
Other ADC Products

ADC STEREO MAGNETIC CARTRIDGES

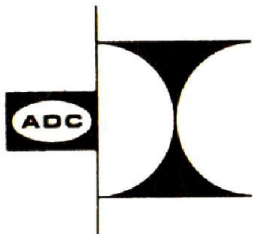
As you are probably aware, Audio Dynamics Corporation has, since its inception, been a leader in the manufacture and development of high performance magnetic phonograph cartridges. Today, ADC manufactures a complete range of stereo cartridges, from the superb ADC 25 pickup system and the highly popular ADC 10E MK IV to the economical ADC 220XE.

All of these cartridges share the same exclusive induced magnet construction and each in its price range provides performance at least as good as any of its competition.

The induced magnet design makes possible a considerably lower moving mass than that of competing designs. Consequently, the ADC series of cartridges excels in perfect tracking at very high recorded velocities, and therefore, distortion (particularly at the troublesome mid- and high-range frequencies) is greatly reduced, resulting in a very clean and transparent sound.



For further information on any Audio Dynamics Corporation product, please write to Dept. 17, Customer Service Dept.



AUDIO DYNAMICS CORPORATION

PICKETT DISTRICT ROAD

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