

# WHAT THEY'RE SAYING ABOUT THE ADVENT LOUDSPEAKER

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*We can't recall having heard another speaker in its price class that can match it . . . .*

ELECTRONICS WORLD

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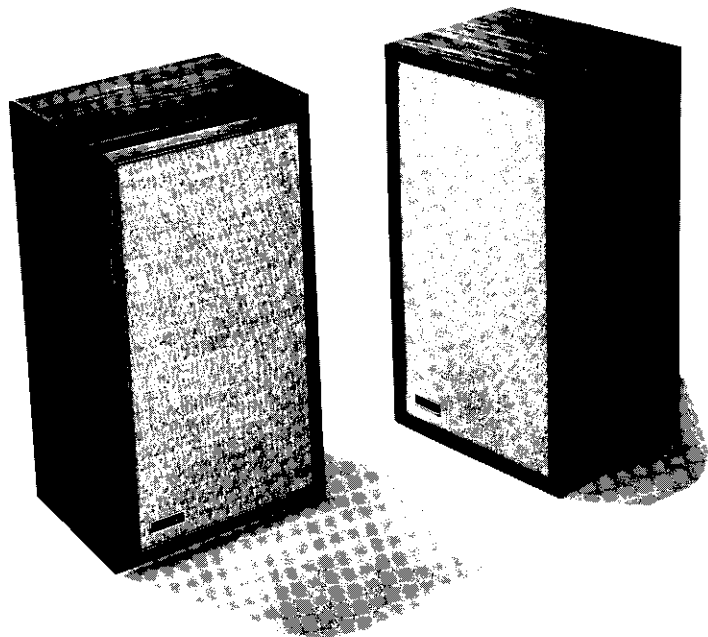
*One could say that at twice the price the Advent speaker would be a good value, but at \$116 it is a bargain.*

AUDIO

*The lows, . . . remained strong and clean all the way down to 20 Hz with very low distortion. . . . Without a doubt, the Advent is one of the smoothest and widest-range speaker systems we have had the pleasure of testing . . . .*

*The tone-burst response was excellent throughout, ranking with the best we have seen from any speaker.*

STEREO REVIEW



The Advent Loudspeaker is also available in a walnut finish vinyl clad utility cabinet.



# stereophile reports



o n e q u i p m e n t

## ADVENT SPEAKER SYSTEM

Type: Two-way direct radiator. Impedance: 8 ohms. Power capacity: 100 watts program. Crossover: 1,000 Hz. Balance control: Tweeter switch selects Flat, +3 dB, or -3 dB. Price: \$116 walnut, \$102 vinyl clad walnut finish. Mfr: Advent Corp., 377 Putnam Ave., Cambridge, Mass. 02139.

After a number of years of equipment reviewing, one gets rather blasé about "compact" loudspeakers. The appearance of yet another one that looks like hundreds of others and embodies no radically new innovations to pique one's curiosity is likely to be greeted with a passionate Ho-Hum.

That, at least, is how we felt about receiving a pair of Advent's speakers — their first product since the company was formed. Of course, we were pleased to see a new hi-fi manufacturer taking the plunge, and we wished them well, but, my God, not another oversized "bookshelf" loudspeaker! Who needs it? And at \$116, could it possibly be any good? Sure, the Dynaco A-25 was a pleasant surprise, but could there be another one so soon?

Dutifully, though, we hooked up the Advents and gave them a listen.

Our first reaction was Ho-Hum! They didn't send us. They seemed to have no character at all. But is that bad? Well, no, as a matter of fact. A speaker *shouldn't* have character. And indeed, the Advents did prove to be about as uncolored as anything we had ever heard. No squawk, honk or hollowness, no papery or metallic flavor from disc surface noise, no flabby mid-bass boom. The extreme low end was very deep, evidently good to at least 35 Hz, and the highs were extremely smooth, sweet and detailed.

After several weeks of listening, we *still* hadn't found anything to complain about. We couldn't even find any sonic characteristics to hang adjectives on, in order to

try to describe their sound. They were, in fact, the *least*-colored loudspeakers we have ever heard, and this includes the highest-priced systems currently available.

Probably for just that reason, the Advents proved eminently easy to live with, and sounded equally comfortable and natural at low or room-filling listening levels. Dispersion was excellent and so, as a consequence, was the stereo imaging. Driver blending, too, was excellent, and the speakers did an outstanding job of reproducing the front-to-back perspective in stereo *and* mono program material.

Sweeping an audio oscillator through its range revealed no humps, dips or rattles. Bass response was very smooth down to around 37 Hz, and rolled off gradually below that, producing what we judged to be usable output down to 30 Hz. There was no trace of low-end distortion until the system was driven to what would normally be entirely excessive (for most people) listening levels.

In fact, the only respect in which we felt the Advents took a back seat to any other speaker system was in transparency. Compared with the KLH Nine full-range electrostatic, which has some other imperfections and costs over \$1,000 anyway, the Advents seemed to be playing through a velvet fog. It wasn't a matter of high-end response — the Advents actually had more of this than the Nine when the latter was oriented so its tweeter beams weren't aimed our way. It seemed more a matter of "focus," as though the Advents were slightly smudging transients in the sound.

Of course, the comparison with the Nine in this respect is patently unfair, because of the price discrepancy and because it has that quality of "focus" to a degree which is unsurpassed by any other speaker. But Advent's literature for their speaker invites comparison with the best available, and indeed, except for the slightly veiled sound, the Advent speaker has no need to feel embarrassed by such a comparison.

In terms of price, of course, the Advent speaker invites comparison with the Dynaco A-25, which we reported on three issues ago. The A-25 has somewhat

more transparency than the Advent, a very slightly forward sound (by comparison), a somewhat rougher and not-quite-so-extended high end, somewhat lower efficiency, and rather less capacity for producing deep bass at high listening levels.

Both systems tend to be noticeably amplifier-sensitive, in that their low-end performance is audibly affected by the power capability and damping factor of the driving amplifier, although the Advent seems a little less affected. The Dyna, however, seems to perform at its best with amps of moderate power and damping (50 to 80 watts per channel), and tends to thin out at the bottom when used with high-powered high-damping amplifiers. The Advents, in most environments, sound a shade heavy and underdamped at the bottom with a moderate-power amplifier, and are at their best with high-damping brute-force amplifiers like the Crown DC-300. The differences here are rather subtle and, due to the higher efficiency of the Advents, high-level listening requirements may tip the scales in favor of them when there is *not* a great deal of amplifier power available.

Certainly, it is no criticism of the Dyna speakers that their low-end performance is best with the kind of amplifier that most people would normally buy for use with inexpensive speakers. (The Dyna Stereo 120 amplifier is an ideal driver for the A-25's, not surprisingly). But the performance of the Advents with top-priced top-performance amplifiers suggests that it might not be at all absurd to consider using them and, say, a DC-300 in preference to a couple of \$300 speakers and a \$250 amplifier.

Since the Dyna speakers are often heavily discounted in the stores, it may not really be possible to make a meaningful price-versus-performance comparison between them, but there is no doubt in our editorial minds that each is a "best buy" in its usual price bracket. Where local pricing makes them fairly competitive, your specific installation requirements may force the choice between them. The Advents work best standing on the floor or raised a few inches above it, while the Dynas are generally at their best a few feet above floor level, which is appropriate for bookshelf-sized speakers. Otherwise, our own inclination would be to choose the Advents, if only because they seem more amenable to future up-grading of one's present power amplifier.

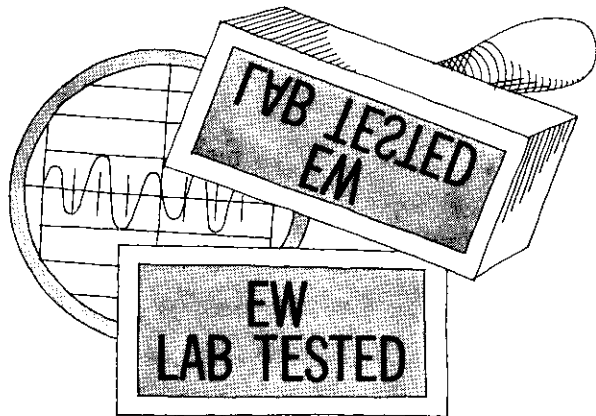
As for the Advents versus the top-of-the-line speakers, we can only say that you *may* prefer them to a pair of KLH Nines or Altec A-7's, or you may not. By all the accepted standards of evaluation (excepting efficiency, where the Altecs excel), the Advents are as *accurate* reproducers of sound as any top-line system we have heard. But we must face the fact that accuracy is no guarantee of personal satisfaction with a loudspeaker, and that many people value transparency above lack of coloration and find that a closer or more distant-sounding speaker conveys a more convincing illusion of realism than one that is completely neutral. We feel, though, that listeners who have no particular preference for a certain aspect of or kind of reproduced sound will be as happy with the Advents as with anything costing up to five times as much. Maybe even moreso.

**MFR'S COMMENT:** We are very grateful that *Stereophile* has evaluated the Advent loudspeaker on the basis of absolute sound quality rather than restricting comparisons to its price peers.

We are a bit confounded by the statement that the speaker is "noticeably amplifier sensitive," because this does not agree with our experience. The Advent loudspeaker is critically damped, having an almost ideal system Q of slightly less than 1. As a result, it does not change character when used with different amplifiers which differ only in damping factor, so long as each of them has a minimum damping factor of 10. Any speaker will sound heavier in the bass, for better or for the worse, with a low-damping-factor amplifier.

We wonder how many amplifiers *Stereophile* used with the Advent speakers. The two mentioned in the review have been noted in prior *Stereophile* reports as having sonic differences when auditioned on other speakers. We suspect that what the reporter heard with the Advents were the previously-noted differences between these amplifiers, rather than differences between otherwise-similar amplifiers that were caused by the Advent speakers.

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# HI-FI PRODUCT REPORT

TESTED BY HIRSCH-HOUCK LABS

In view of the fact that Henry Kloss was a co-founder of *Acoustic Research*, and the "K" of *KLH*, it is not too surprising to find him heading a new company with an imaginative approach to high-fidelity product development. *Advent Corporation* has announced its first product, a loud-speaker system with several noteworthy features, and there is promise of several other interesting items (not speakers) in the near future.

Building on years of experience in developing speakers, the company has devoted its initial efforts to producing a relatively low-cost system with performance rivaling far more expensive units. It is an 8-ohm, two-way system, using an acoustic-suspension woofer in a relatively large sealed enclosure. Its dimensions of 25½" by 14¼" by 11½" are probably the largest that could be accommodated on a bookshelf, even a specially designed one. However, it is equally adaptable to floor mounting, in which case its size can be considered as an advantage, from an aesthetic standpoint.

The woofer diameter is nominally 10 in. The cone surround is a specially processed polyurethane, instead of the rubber-like materials used on most highly compliant cone suspensions. The tweeter has a 2-in phenolic-impregnated paper cone, offering wide polar dispersion and extended frequency response. A three-position toggle switch on the rear of the cabinet selects normal high-frequency response, or reduced or extended highs to suit the user's preference. The high-frequency adjustment is moderate, amounting to about  $\pm 2$  dB at frequencies above a few kilohertz, but is clearly audible in its effect.

The indoor frequency-response curve, obtained by averaging eight microphones throughout our test room, is noteworthy for its smoothness and extended range. It is difficult, if not impossible, to separate the effects of the room at low frequencies from the true response of the speaker, but even

without attempting this, the response measured within  $\pm 5$  dB from 20 to 15,000 Hz (ignoring a slight peak at 120 Hz which we could definitely attribute to the room). The shape of the curve above 6 kHz corresponds almost exactly to the calibration curve of our microphone, which indicates that the true response of the speaker is virtually flat to well beyond 15 kHz.

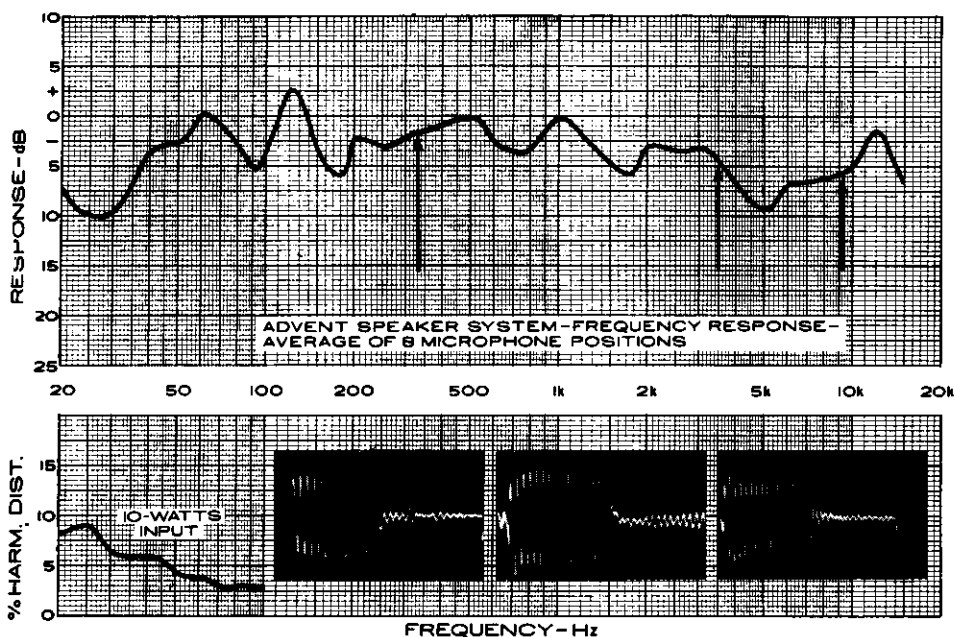
The low-frequency performance of the speaker system is even more impressive than its high end. The flat, extended response to below the lowest audible frequencies is genuine, not the result of added distortion products which can make an inferior speaker seem better than it really is. The harmonic distortion of the speaker, with a 10-watt drive level, remains under 10% all the way down to 20 Hz, and is only 6% at 30 Hz. Heretofore, we have measured this order of bass distortion only with the most expensive acoustic-suspension speaker systems, or with other types such as horn-loaded speakers which are still costlier.

The tone-burst response of the speaker, in keeping with its smoothness (a requirement for good over-all

transient response) is very good. The examples shown are typical of its behavior throughout its range.

In designing this speaker, the manufacturer had the goal of producing a speaker comparable in performance to the best acoustic-suspension types previously available, at a substantially lower price. We listened to the speaker by itself, and in A-B comparisons with some considerably more expensive types, and we feel that the company has essentially achieved its aims. It has a silky smooth, balanced sound with well-dispersed highs, and lows which can really be felt, rather than merely heard. We can't recall having heard another speaker in its price class that can match it (though obviously we haven't heard them all, nor have we compared it side-by-side with more than a few), and would consider that it ranks in sound quality with most speakers at twice its price. By all means listen to the speaker if you are contemplating purchase of any compact speaker system in the \$100 to \$250 price class.

The *Advent* speaker system is priced at \$116.



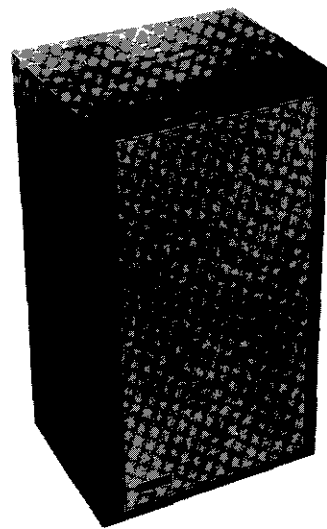
# TECHNICAL TALK

By JULIAN D. HIRSCH

Although the Advent Corporation is new to the high-fidelity scene, its president is well known to anyone who has followed audio developments during the past fifteen years. Henry Kloss, a co-founder of Acoustic Research and later of KLH, is back with what promises to be an unusually diversified line of audio components. To no one's surprise, one of the first Advent products is a speaker system. It is more evolutionary than revolutionary in design, incorporating new materials and processes rather than new principles. The Advent speaker (it has no model number) is a rather large bookshelf-style unit measuring  $25\frac{1}{2} \times 14\frac{1}{4} \times 11\frac{1}{2}$  inches, and is suitable for use on the floor or on a bookshelf. It's a two-way system, with a newly designed woofer that has an effective cone diameter of  $7\frac{1}{2}$  inches, although its overall diameter would usually cause it to be classified as a 10-inch speaker. The cone surround (outer suspension) is a specially processed polyurethane, quite different from the rubber-like compounds used with most speakers. The woofer's smallish diameter did not impair its low-frequency performance in the least, as our tests subsequently proved.

The tweeter is a direct radiator with a phenolic-resin cone 2 inches in diameter, also designed specially for this system. A three-position toggle switch in the rear of the cabinet selects normal highs, reduced highs, or extended highs, to suit one's taste. The crossover frequency is nominally 1,000 Hz and the speaker impedance is 8 ohms.

Our frequency-response measuring technique, involving as it does the use of a normal "live" room, is not able to resolve the fine detail in a speaker's response curve. In fact, the minor irregularities we observed in the response of the Advent speaker could have been caused to a great degree by external effects. Averaging the outputs of eight microphones, we obtained a frequency-response curve that was within  $\pm 6$  dB from 30 to 15,000 Hz. Impressive though this is, it does not adequately describe the speaker's response. The lows, whose smoothness cannot really be determined with accuracy in an acoustically live room, remained strong and clean all the way down to 20 Hz with very low distortion. This is a noteworthy achievement for any speaker system, and nothing less than remarkable for one with a smallish woofer. Without a doubt, the Advent is one of the smoothest and widest-range speaker systems we have had the pleasure of testing.



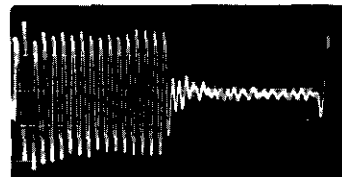
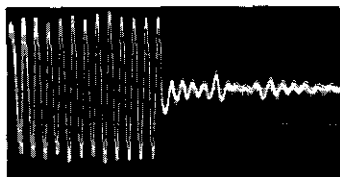
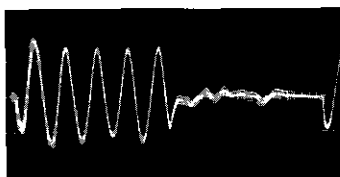
## ADVENT SPEAKER SYSTEM

The efficiency of the Advent speaker is moderately low, in keeping with its acoustic-suspension design. With a 10-watt input signal level driving the speaker, the harmonic distortion was under 5 per cent down to 45 Hz, and reached its maximum of only 9 per cent at 25 Hz. The tone-burst response was excellent throughout, ranking with the best we have seen from any speaker. We preferred to operate the Advent speaker with the maximum high-frequency level setting.

In listening tests it had the essential quality of some of the other fine acoustic-suspension speakers for which its designer was also in part responsible. Its sonic character was very smooth, balanced, and easy to listen to. Advent feels that its speaker can compete with any three-way acoustic-suspension system. We were able to compare it with several others, priced between \$100 and \$250, and we tend to agree. Some more expensive systems, in our view, are slightly better at the extreme high-frequency end, but the sonic differences are small, the price differences large.

In any event, the extreme low-bass reproduction, which is one of the most expensive characteristics to build into a speaker system, sets the Advent speaker apart from anything else in its price class. In this respect it can only be compared to the best acoustic-suspension speakers selling for twice its price — or more. The Advent loudspeaker is priced at \$116.

Oscilloscope photos of tone bursts at (from left to right) 120, 320, and 9,000 Hz show the Advent speaker's uniformly excellent response.



# Equipment Profiles

## ADVENT LOUDSPEAKER

Advent, a new name among hi fi products, has a long history of well known audio designs in the person of Henry Kloss behind it. Among his list of credits are the KLH Model 6 loudspeaker and the KLH Model 8 FM radio, the first home product to use active equalization to compensate for speaker shortcomings.

The new Advent loudspeaker does not represent any "breakthroughs," but is rather the highly refined product coming from years of accumulated experience. The enclosure houses a 10" woofer working on the acoustic-suspension principle, crossing over at 1000 Hz to the 2" tweeter. The woofer cone is a 7.5" piston formed by a new low-vacuum process, with high internal damping which goes a long way to eliminate "cone cry." This, incidentally, is the second low-frequency speaker to employ this new molding process—one that will probably attract more attention in the future. The annulus is of heat-formed polyurethane, permitting maximum linear cone travel at the lowest frequencies. The 7.5" diameter of the woofer cone ensures piston action as well as good dispersion up to the crossover frequency. The treble portion of the spectrum is handled by the 2" high-frequency direct radiator. The diaphragm looks something like a 2" doughnut with a 0.75" dome in its center; the surface is coated with a lacquer-like substance to increase its radiating efficiency.

The tweeter assembly mounting is forward of the front panel. This is to prevent unwanted reflections from the front of the enclosure so as to minimize response irregularities. The grill cloth, held in place by six Velcro pads, incorporates a fine wire screen in front of the tweeter to protect it from prying fingers.

Amplifier connection is via knurled nuts in a recessed rectangle on the speaker's rear panel, thus making it possible to push the speaker flat against the wall. A three-position switch permits tweeter level adjustment, whose effect is shown in Fig. 2. All four sides of the enclosure are finished in oiled walnut, permitting vertical or horizontal use.

We measured frequency response, placing the speaker upright on a 2-foot-high stand, flat against the wall, tweeter control in increase position. We ran two response curves, one with the condenser microphone aimed at the geometric center of the front panel, and the other with the microphone 45 degrees off axis, both from a 3-foot distance. The test signals were 25 bands of 1/3 octave pink noise, fed to the speaker at a 2-volt-input level. This level produced 90 dB, SPL, 3 feet on axis. We have come to prefer this method, since it is less prone to produce the misleading peaks and dips that result with swept sinewave testing, which reflect mostly room effects and not the true

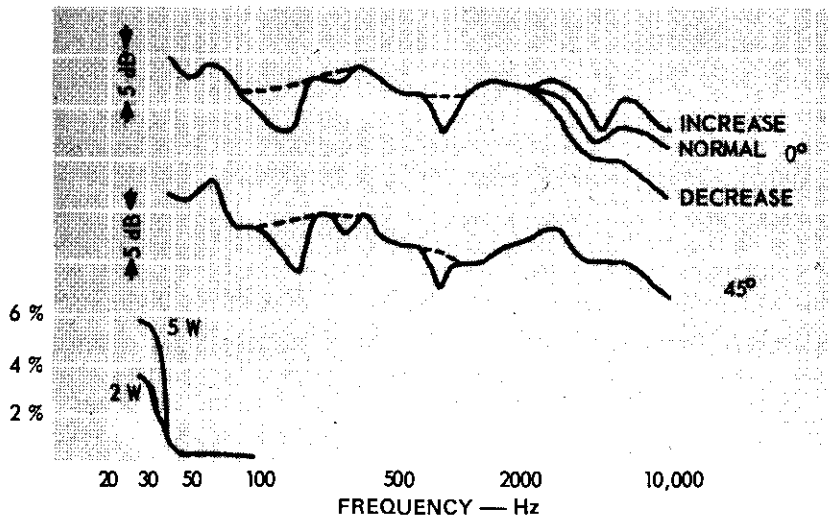


Fig. 2—The upper curve shows the on-axis frequency response with effect of tweeter level control in its three positions. Middle curve shows the 45-deg. off-axis response to the same 1/3-octave band pink noise. The lowest curve shows third-harmonic distortion at low frequencies.

loudspeaker response. The results thus obtained agreed closely with the subjective impression formed during the listening part of the test.

As evident in Fig. 2, the frequency response was flat, with only  $\pm 3$  dB variations over the major portion of its range. What is more important is that the 45-degree off-axis response follows the on-axis response to a remarkable degree, denoting excellent high-frequency power response. While the desirability of good high-frequency dispersion is not a new idea, (Ed Villchur's article in *AUDIO* Oct. 1958), it is a goal that has, for the most part, eluded the majority of loudspeaker designers until very recently.

The low-frequency aberrations shown in the response, between 100 and 320 Hz are due to room effects. When measuring another highly regarded bass reproducer in the same position we found virtually identical response in that range.

Harmonic distortion measurements were made using a 4-volt input and the same microphone position. See Fig. 2. Above 40 Hz, third-harmonic distortion ran under 1%. With 6.5-volt input, TDH at 32 Hz was 6%. We consider this frequency to be the low limit of the speaker. 40 Hz distortion remained under 1%.

Efficiency of the Advent speaker is average for an acoustic-suspension unit. 6.5 volts into a nominal impedance of 8 ohms, representing 5 watts, was enough to rattle windows with this speaker. While a good 25-watt-per-channel amplifier should be sufficient, 50 to 75 watts is not excessive.

Oscilloscope photos of tone bursts are shown in Fig. 3. They reflect, favorably, the transient response of the speaker. Since the foregoing data indicated this to be an excellent reproducer, we looked forward to the listening session.

We played excerpts from Copland's *Rodeo*, Turn. 34169, Stravinsky's *Petrouchka*, Col. MS-6332, and Handel's *Messiah*, PHS-3-992, among others. It was gratifying to note that our ears confirmed the measured result. Particularly noteworthy is the high-frequency dispersion, resulting in excellent definition and adding spaciousness to the sound.

One could say that at twice the price the Advent speaker would be a good value, but at \$116.00 it is a bargain. An auspicious beginning indeed, for a new company. *A. R.*

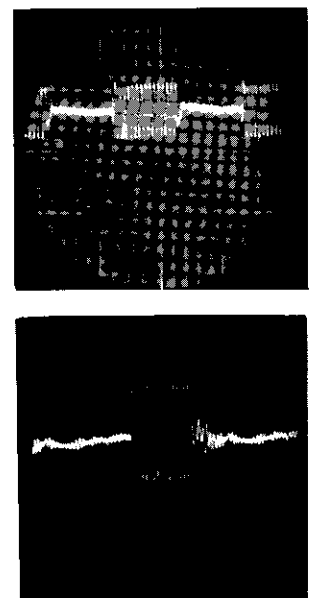


Fig. 3—Tone-burst response at 12,000 Hz and 5000 Hz.